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# *The University of Dayton* **Bulletin**



August 1998  
Undergraduate Issue

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University Office of Admission (937) 229-4411  
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# *The University of Dayton Bulletin*



*Undergraduate Issue August 1998*

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## 1998-99 ACADEMIC CALENDAR

### FIRST TERM

Sun, Aug 2	Summer Diploma Exercises
Thu, Aug 20	New Faculty Orientation
Sat-Tue, Aug 22-25	New Student Orientation
Tue, Aug 25	Last day to complete registration
Tue, Aug 25	New Student Convocation at 9:00 a.m.
Wed, Aug 26	Classes begin at 8:00 a.m.
Thu, Sep 3	Last day for late registration, change of grading options and schedules
Fri, Sep 4	General Faculty Meeting at 3:00 p.m.
Mon, Sep 7	Labor Day — no classes
Tue, Sep 8	Last day to change second session and full Third Term grades
Wed, Sep 16	Last day to withdraw without record
Tue, Sep 29	Last day to submit candidacy for graduation in December
Mon, Oct 12	Columbus Day — no classes except those held Monday only
Fri, Oct 16	First-year students' midterm progress grades due in Registrar's Office by 4:00 p.m.
Wed, Oct 21	Winter 1998-99 registration begins
Fri, Nov 13	Last day to withdraw with record of W — no registration
Fri, Nov 20	Faculty Meeting: Budget plans at 3:00 p.m.
Tue, Nov 24	Thanksgiving recess begins after last evening class
Sat, Nov 28	Saturday classes meet
Mon, Nov 30	All classes resume
Tue, Dec 1	Last class for Tuesday classes that meet once per week
Mon, Dec 7	Last class for Monday classes that meet once per week
Tue, Dec 8	Faculty Development Day
Wed, Dec 9	Last class for Wednesday classes that meet once per week
Wed, Dec 9	Last class for all classes that meet on both Monday and Wednesday
Thu, Dec 10	Last class for Thursday classes that meet once per week
Thu, Dec 10	Last class for all classes that meet on both Tuesday and Thursday
Fri, Dec 11	Last class for all classes that meet on Monday, Wednesday, and Friday
Sat, Dec 12	Examinations for Saturday classes
Mon-Fri, Dec 14-18	Examinations
Wed, Dec 16	Senior grades due at noon
Fri, Dec 18	First Term ends after final examinations
Sat, Dec 19	Diploma Exercises at 10:00 a.m.
Mon, Dec 21	Grades due in Registrar's Office at 9:00 a.m.
	Deficiency slips due in Deans' Offices
Wed, Dec 23	Grades ready
Fri, Jan 29	Last day to change First Term grades

### SECOND TERM

Wed, Dec 30	Last day to complete registration
Mon, Jan 4	Classes begin at 8:00 a.m.
Tue, Jan 12	Last day for late registration, change of grading options and schedules
Mon, Jan 18	Martin Luther King, Jr. Day — no classes
Fri, Jan 22	Faculty Meeting: Budget decisions at 3:00 p.m.
Mon, Jan 25	Last day to withdraw without record
Fri, Jan 29	Last day to change First Term grades
Fri, Feb 5	Last day to submit candidacy for graduation in May
Wed, Feb 24	First-year students' midterm progress grades due in Registrar's Office by 4:00 p.m.
Sat, Feb 27	Mid-term break begins after last class — Saturday classes meet
Sat, Mar 6	Saturday classes meet
Mon, Mar 8	Classes resume at 8:00 a.m.
Tue, Mar 9	Bro. Joseph Stander Symposium
Wed, Mar 10	Bro. Joseph Stander Symposium
Tue, Mar 23	Summer 1998-99 registration begins
Wed, Mar 24	Last day to withdraw with record of W — no registration
Thu, Mar 25	Fall 1999-2000 registration begins

Wed, Mar 31	Easter recess begins after last class
Mon, Apr 5	Monday only classes held 4:30 p.m. and after meet
Tue, Apr 6	Classes resume at 8:00 a.m.
Fri, Apr 9	General Faculty Meeting at 3:00 p.m.
Tue, Apr 20	Last class for Tuesday classes that meet once per week
Wed, Apr 21	Last class for Wednesday classes that meet once per week
Mon, Apr 26	Last class for Monday classes that meet once per week
Tue, Apr 27	Last class for all classes that meet on both Tuesday and Thursday
Wed, Apr 28	Last class for all classes that meet on both Monday and Wednesday
Wed, Apr 28	Last class for all classes that meet on Monday, Wednesday, and Friday
Thu, Apr 29	Last day of classes
Fri, Apr 30	Study Day
Sat-Fri, May 1-7	Examinations—Second Term ends after final examinations
Wed, May 5	Senior grades due at noon
Sun, May 9	Commencement Exercises at 10:00 a.m.
Mon, May 10	Grades due in Registrar's Office at 9:00 a.m.
	Deficiency slips due in Deans' Offices
Thu, May 13	Grades ready
Fri, Jun 11	Last day to change Second Term grades

### THIRD TERM—FIRST SESSION

Fri, May 14	Last day to complete registration
Sat, May 15	Saturday classes begin
Mon, May 17	Classes begin at 8:00 a.m.
Thu, May 20	Last day for late registration, change of grading options and schedules
Wed, May 26	Last day to withdraw without record from first session courses
Mon, May 31	Memorial Day—no classes
Fri, Jun 11	Last day to change Second Term grades
Mon, Jun 14	Last day to withdraw with record of W from first session courses
Thu, June 24	Last day of classes
Fri-Sat, Jun 25-26	Examinations—Full Third Term classes do not meet
Sat, Jun 26	First session ends after final examinations
Tue, Jun 29	Grades due in Registrar's Office at 9:00 a.m.
	Deficiency slips due in Deans' Offices
Fri, Jul 2	Grades ready
Fri, Jul 2	Last day to submit candidacy for graduation in August
Thu, Jul 8	Last day to withdraw without record from full Third Term courses
Mon, Aug 2	Last day to change first session grades

### THIRD TERM—SECOND SESSION

Fri, Jun 25	Last day to complete registration
Sat, Jun 26	Saturday classes begin
Mon, Jun 28	Classes begin at 8:00 a.m.
Thu, Jul 1	Last day for late registration, change of grading options and schedules
Fri, Jul 2	Last day to submit candidacy for graduation in August
Mon, Jul 5	Independence Day observed — no classes
Thu, Jul 8	Last day to withdraw without record from second session and full Third Term courses
Thu, Jul 22	Last day to withdraw with record of W from second session and full Third Term courses
Mon, Aug 2	Last day to change first session grades
Wed, Aug 4	Senior grades due at noon
Thu, Aug 5	Last day of classes
Fri-Sat, Aug 6-7	Examinations — Second session ends after final examinations
Sun, Aug 8	Diploma Exercises at 10:00 a.m.
Tue, Aug 10	Grades due in Registrar's Office at 9:00 a.m.
	Deficiency slips due in Deans' Offices
Fri, Aug 13	Grades ready
Tue, Sep 14	Last day to change second session and full Third Term grades

# 1999-2000 PROPOSED ACADEMIC CALENDAR

## FIRST TERM

Wed-Sat, Aug 18-21	New Student Orientation
Mon, Aug 23	Classes begin at 8:00 a.m.
Mon, Sep 6	Labor Day — no classes
Mon, Oct 11	Columbus Day — no classes
Tue, Nov 23	Thanksgiving recess begins after last class
Mon, Nov 29	Classes resume at 8:00 a.m.
Tue, Dec 7	Last day of classes
Wed, Dec 8	Feast of the Immaculate Conception — Christmas on Campus
Thu-Wed, Dec 9-15	Examinations
Sat, Dec 18	Diploma Exercises

## SECOND TERM

Mon, Jan 3	Classes begin at 8:00 a.m.
Mon, Jan 17	Martin Luther King, Jr. Day — no classes
Sat, Mar 11	Mid-term break begins after last class
Mon, Mar 20	Classes resume at 8:00 a.m.
Wed, Apr 19	Easter recess begins after last class
Tue, Apr 25	Classes resume at 8:00 a.m.
Thu, Apr 27	Last day of classes
Fri-Thu, Apr 28-May 4	Examinations
Sun., May 7	Commencement

## THIRD TERM— FIRST SESSION

Mon., May 15	Classes begin at 8:00 a.m.
Mon., May 29	Memorial Day — no classes
Thu., Jun 22	Last day of classes
Fri-Sat., Jun 23-24	Examinations

## THIRD TERM — SECOND SESSION

Mon., Jun 26	Classes begin at 8:00 a.m.
Tue, Jul 4	Independence Day — no classes
Thu, Aug 3	Last day of classes
Fri-Sat, Aug 4-5	Examinations
Sun, Aug 6	Diploma Exercises

## TABLE OF CONTENTS

1998-99 Academic Calendar .....	2
1999-00 Proposed Academic Calendar .....	4
 I The University of Dayton .....	11
Mission .....	11
Brief History .....	12
Statement of Purposes .....	15
Basic Academic Structure of the University .....	16
Libraries .....	18
Accreditation .....	19
Institutional Membership .....	19
Southwestern Ohio Council for Higher Education .....	20
Related University Services .....	20
Academic Calendar Year .....	21
 II Student Life and Services .....	23
Offices of Residential Programs and Residential Services .....	23
Food Service .....	23
Office of Student Activities .....	24
John F. Kennedy Memorial Union .....	24
Student Health Center .....	25
Counseling Center .....	25
Critical Issues Education .....	25
Services for Diverse Student Populations .....	26
Learning Assistance Center .....	26
Flyer Express .....	26
New Student Orientation .....	27
Public Safety .....	27
Parking .....	27
Student ID/Campus One Card .....	27
Student Handbook .....	28
Campus Ministry .....	28
Athletics .....	28
Intramural and Recreational Sports .....	28
Career Placement Center .....	29
Commuter Student Services .....	29
Office for Students with Disabilities .....	30
 III Admission .....	31
Application for Admission .....	31
Considerations for Admission .....	31
Transfer Students .....	33
Veterans .....	33
International Students .....	33
Programs for Select At-Risk Students .....	34
Special Admits Program .....	34
Advanced Standing by Examination .....	34
Advanced Placement (AP) .....	34
College-Level Examination Program (CLEP) .....	35
High School Scholars .....	35

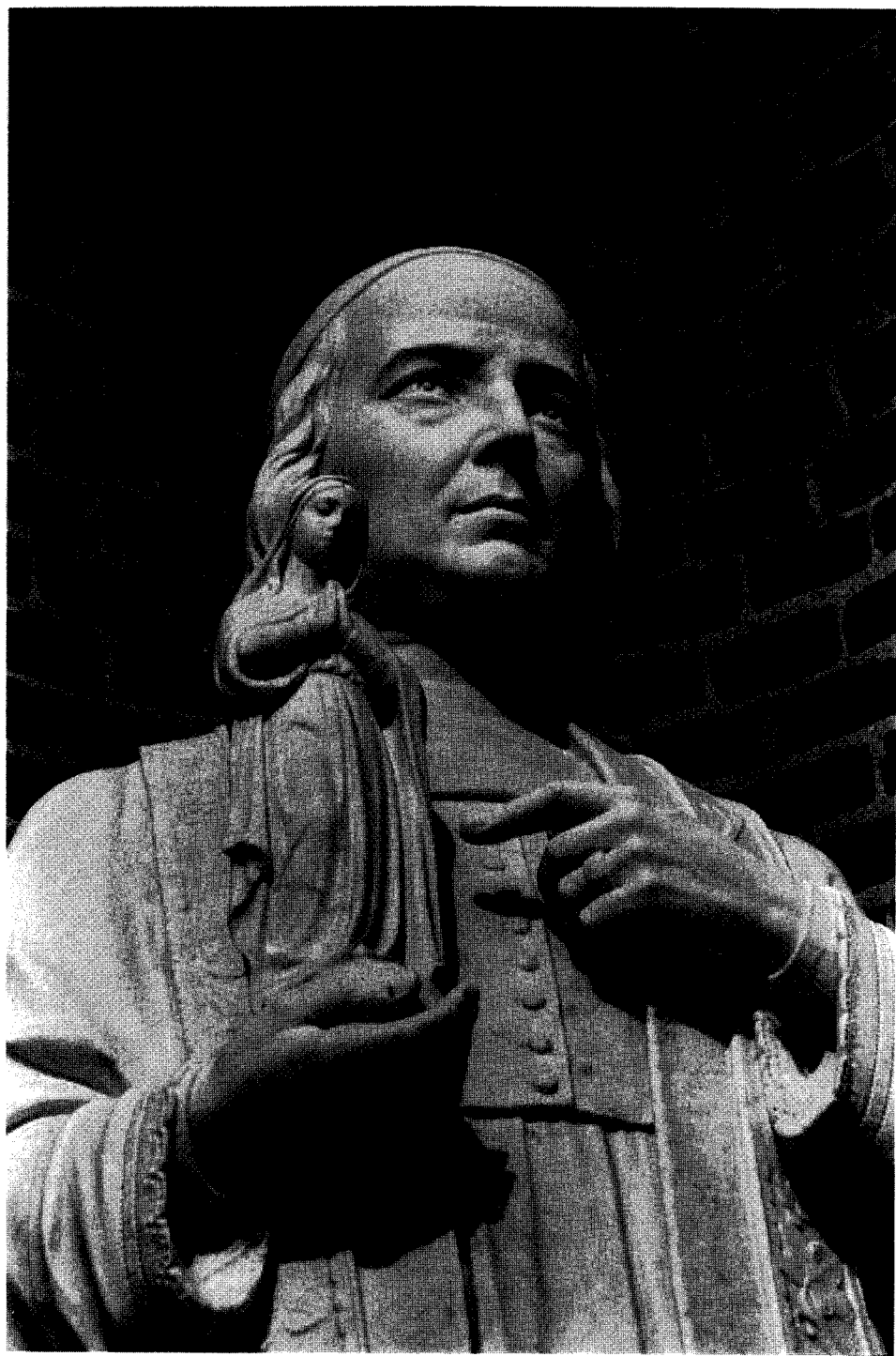
IV Financial Information .....	37
General Policy .....	37
Undergraduate Tuition and Fees .....	37
Cancellation and Refunds .....	39
Residence Facilities Policy .....	40
Room and Board .....	40
Special Payment Plans .....	41
Expenses .....	42
Financial Aid Policy .....	42
Academic Scholarships .....	43
Other Scholarship Opportunities .....	44
Applying for Need-based Financial Aid .....	44
Grants .....	44
Loans .....	45
Tuition Reductions .....	46
Employment .....	46
Additional Opportunities .....	47
V Academic Regulations .....	49
General Requirements .....	49
Basic Skills Requirements .....	49
General Education Requirements .....	50
Grades and Scholarship .....	60
Grade-Point Averages .....	62
Academic Standing .....	63
Dean's List .....	63
Honors .....	63
Commencement .....	64
Class Attendance Policy .....	64
Student Records .....	65
Transcripts .....	66
Awards .....	66
VI College of Arts and Sciences .....	75
Majors and Minors .....	76
Foreign Language Entrance Requirement .....	76
General Requirements for All Bachelor of Arts Programs .....	79
General Requirements for All Bachelor of Science Programs .....	81
Degree Requirements .....	82
Graduation Requirements .....	82
Internship Program .....	82
American Studies (AMS) .....	83
Anthropology (ANT) .....	85
Biology (BIO) .....	87
Chemistry (CHM) .....	96
Classics (CLA) .....	102
Communication (CMM) .....	103
Computer Science (CPS) .....	110
Criminal Justice Studies (CJS) .....	116
Economics (ECO) (See also Chapter VII) .....	122
English (ENG) .....	123
Family Development (FDV) .....	131



General Studies (GEN) .....	132
Geology (GEO) .....	133
History (HST) .....	139
Humanities Studies (HMS) .....	147
Interdisciplinary Studies (ASI) .....	148
Integrated Natural Science (SCI) .....	150
International Development Studies (IND) .....	152
International Studies (INS) .....	153
Languages (LNG) .....	156
French (FRN) .....	157
German (GER) .....	160
Italian (ITA) .....	162
Latin (LAT) .....	162
Russian (RUS) .....	163
Spanish (SPN) .....	164
Mathematics (MTH) .....	166
Military Science (MIL) .....	172
Music (MUS) .....	175
Philosophy (PHL) .....	190
Physics (PHY) .....	196
Physics-Computer Science (PCS) .....	201
Physical Science (PSC) .....	202
Political Science (POL) .....	203
Prelaw (PLW) .....	208
Premedicine (MED) and Predentistry (DEN) .....	210
Psychology (PSY) .....	212
Religious Studies (REL) .....	218
Social Work (SWK) .....	225
Sociology (SOC) .....	227
Teacher Certification (EDT) (See also Chapter VIII) .....	232
Theatre (THR) .....	233
Visual Arts (VAR) .....	236
Women's Studies (WST) .....	252
VII School of Business Administration .....	255
Admission to the School of Business Administration .....	255
Transfer Students .....	255
Returning Students .....	256
Requirements for the Baccalaureate Degree .....	256
Grading Option .....	257
First- and Second-Year SBA Program .....	257
Upper-Level Programs .....	258
Certificate in International Business .....	258
Minor in International Business .....	259
Minor in Business Administration .....	260
Internship .....	261
Cooperative Education .....	261
Accounting (ACC) .....	262
Decision Sciences (DSC) .....	266
Economics (ECO) .....	268
Finance (FIN) .....	272
Interdisciplinary Studies (BAI) .....	275
Management (MGT) .....	276

Management Information Systems (MIS) .....	281
Marketing (MKT) .....	285
Teacher Certification (EDT) (See also Chapter VIII) .....	289
<b>VIII School of Education .....</b>	<b>293</b>
Degree Requirements .....	294
Advising and Scheduling .....	295
University Policies .....	295
Student Teaching .....	295
Teacher Placement .....	295
Teacher Licensure .....	296
Athletic Certification .....	296
Baccalaureate Programs .....	296
Graduate Programs .....	297
Health and Sport Science (HSS) .....	298
Physical Education (EDP) .....	299
Exercise Science and Fitness Management (EES) .....	300
Exercise Science and Pre-Physical Therapy (EPT) .....	301
Sport Management (ESM) .....	303
Health Education (EDH) .....	305
Health Information Specialist (EHS) .....	306
State Curriculum in Athletic Training .....	307
Food and Nutrition (EHZ) .....	308
Health and Sport Science .....	311
Teacher Education (EDT) .....	321
Early Childhood Education (ECE) .....	321
Middle Childhood (EMS) .....	323
Adolescents to Young Adult Education (EYA) .....	325
Intervention Specialist (EMM) .....	326
Music Education .....	328
Special Programs K-12 .....	328
Reading (Endorsements) and Validations .....	328
Licensure for Students in Arts and Sciences .....	328
<b>IX School of Engineering .....</b>	<b>339</b>
Optional Cooperative Education .....	339
Undergraduate Engineering Programs .....	339
Transfer Students .....	340
Minors in Engineering .....	340
Engineering First-Year Requirements .....	341
Degree Requirements .....	342
5-year Combined Bachelor's-Master's Engineering Program .....	343
Chemical Engineering (CME) .....	345
Civil Engineering (CIE) .....	348
Electrical and Computer Engineering (ELE/CPE) .....	353
Mechanical Engineering (MEE) .....	360
Service (EGR, EGM, ISE) and Interdisciplinary (ENI) Courses .....	366
Engineering Technology .....	369
Electronic Engineering Technology (EET) .....	371
Industrial Engineering Technology (IET) .....	376
Manufacturing Engineering Technology (MFG) .....	380
Mechanical Engineering Technology (MCT) .....	384
Service Courses (SET) .....	389

X Interdisciplinary, Experimental, and Special Areas .....	391
Affirmative Action Office .....	391
Air Force ROTC .....	391
Center for International Programs .....	391
Center for the Study of Family Development .....	392
Computer Facilities and Services .....	392
Continuing Education .....	392
Cooperative Education .....	392
CORE .....	393
Developmental Skills (DEV) .....	394
General Studies (GEN) .....	394
Graduate Guidance Center .....	394
Home-Study Courses .....	394
Institute for Pastoral Initiatives .....	395
Interdisciplinary Studies (UDI) .....	395
Marian Library/International Marian Research Institute .....	396
Minicourses .....	397
Office of Educational Services .....	397
Prelaw .....	398
Research Institute (UDRI) .....	398
Reserve Officers Training Corps (ROTC) .....	398
Strategies for Responsible Development (SRD) .....	398
Study Abroad .....	399
University Honors .....	400
University Scholars .....	401
XI Directories .....	403
Governing and Advisory Bodies .....	403
Officers of the University .....	404
Office of the President .....	404
Academic Affairs .....	404
Academic Departments .....	405
Academic Programs .....	406
University Libraries .....	406
Research .....	406
Campus Ministry .....	407
Administration .....	407
Student Development .....	408
University Advancement .....	408
Athletic Programs and Facilities .....	409
Faculty .....	410
Deans Emeriti .....	410
Professors Emeriti .....	410
Registrar Emeritus .....	413
Distinguished Service Professors .....	413
Distinguished Teaching Professor .....	414
Ranked Faculty .....	414
Research Staff .....	446
Index .....	459
Photo Credits .....	463
Map of the University of Dayton Campus .....	Inside back cover



# I The University of Dayton

Founded in 1850

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

The main campus of over a hundred landscaped acres, is on a hill overlooking the city of Dayton, Ohio. The campus is made up of a well integrated architectural mix of old and new buildings that are both attractive and well-equipped. The faculty are excellent scholars who pursue knowledge in its rich variety and fine instructors dedicated to student learning and educational excellence. The University enrolls students from diverse social, ethnic, and economic backgrounds who are capable of and committed to learning, leadership, and service.

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

## MISSION

*The University of Dayton is a comprehensive Catholic university, a diverse community committed, in the Marianist tradition, to educating the whole person and to linking learning and scholarship with leadership and service.*

The University of Dayton is a comprehensive university committed to offering a broad range of programs in liberal arts, the sciences, and the professions at the undergraduate level, to providing selected programs on the graduate level to meet the needs of the community and region, and to sponsoring timely continuing education programs. As comprehensive, the University views learning and scholarship as a shared task of discovering, integrating, applying and communicating knowledge at the intersections of liberal and professional education, across the disciplines, and through combining theory with practice.

As Catholic, the University commits itself to a distinctive vision of learning and scholarship that includes: a common search for truth based on the belief that truth can be more fully known and is ultimately one; a respect for the dignity of each human person created in the image and likeness of God; and an appreciation that

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<sup>1</sup>The Society of Mary, founded in France in 1817 by Father William Joseph Chaminade, presently conducts schools throughout the United States and in Africa, Canada, Europe, India, Japan, Korea, and Central and South America. The Society operates Chaminade University in Honolulu and St. Mary's University in San Antonio.



God is manifested sacramentally through creation and the ordinary things in life. Ultimately, a Catholic vision of the intellectual life is based upon the acceptance of the revelation of God in Jesus Christ as it has been received and handed on by the Church. This challenge calls for integration of the human and the divine, reason and faith, and promotes true understanding through a person's head and heart. The University welcomes persons of all faiths and persuasions to participate in open and reflective dialogue concerning truth and the ultimate meaning of life.

Founded in the Marianist tradition, the University is committed to a vision of a distinctive educational community. As Marianist, the University focuses on educating the whole person in and through a community that supports and challenges all who become a part of it. The University forms an educational community thriving on collaboration by people from diverse backgrounds with different skills who come together for common purposes. The University as Marianist challenges all its members to become servant-leaders who connect scholarship and learning with leadership and service.

This university community—comprehensive, Catholic and Marianist—exists not for itself, but to render service. The University creates an environment in which its members, working in a scholarly manner, are free to evaluate the strengths and weaknesses of their own work and the work of others. In partnership, through the Research Institute, Campus Ministry, as well as numerous student organizations, the University works with others to improve the human community.

## BRIEF HISTORY

In the summer of 1849, Father Leo Meyer and Brother Charles Schultz, the first Marianist missionaries to America, journeyed from Alsace to Cincinnati, where they intended to establish a base for the order in this country. But they arrived during an epidemic of cholera, and Bishop John Purcell of Cincinnati soon sent Father Meyer to Dayton, to minister to the sick of Emmanuel Parish. Here he met John Stuart, whose little daughter died of cholera the year before. Mr. Stuart wanted to sell his Dayton property and return with his wife to Europe. On March 19, 1850, the feast of St. Joseph, Father Meyer purchased Dewberry Farm from him and renamed it Nazareth. Mr. Stuart accepted a medal of St. Joseph and a promise of \$12,000 at 6% interest in return for 125 acres, including vineyards, orchards, a mansion, and various farm buildings. Meanwhile, more Marianists arrived, and Nazareth became the first permanent foundation of the Society of Mary in the western hemisphere.

The University of Dayton had its earliest beginnings on July 1, 1850, when St. Mary's School for Boys, a frame building that not long before had housed farm hands, opened its door to fourteen primary students from Dayton. In September, the classes moved to the mansion, and the first boarding students arrived. Father Meyer was administrator, Brother Maximin Zehler was teacher, Brother Schultz was cook, and Brother Andrew Edel was farmer-gardener.

Five years later the school burned to the ground, but within a year classes resumed. By 1860, when Brother Zehler became president, enrollment approached one hundred. The Civil War had little direct effect on the school; most of the students were too young to serve. St. Mary's grew; college preparatory courses were started in 1861; then came a novitiate and a normal school for Marianist candidates. An old history refers to the period of 1860-75 as "the brick-and-mortar years." The Chapel of the Immaculate Conception was completed in 1869. In 1870, visitors marveled at new St. Mary's Hall, the largest building in Dayton, and called it "Zehler's Folly." The new "college department" moved into it in 1871. (St. Mary's Hall is now listed in the National Register of Historic Places.)

In 1882, the institution was incorporated and empowered to confer collegiate degrees under the laws of the State of Ohio. In 1883, another devastating fire visited the campus, but this time some of the buildings were saved. The statue now known as Our Lady of the Pines was erected in gratitude, and the following year St. Joseph's Hall was built, symbolizing the renewed confidence of the Dayton Marianists. In a more famous emergency, the school was spared by water as it had not been by fire. Because of its hillside location, it survived the Great Flood of 1913 untouched and was able to give shelter to 600 refugees.

St. Mary's had reorganized in 1902 into four departments—classical, scientific, academic, and preparatory. In 1905 it added the Commercial Department, which would become the Department of Commerce and Finance in 1921, the Division of Business Organization in 1924, and ultimately the School of Business Administration. Four engineering departments, appearing from 1909 to 1920, were to become the Engineering Division. In 1915, the Marianist training program (novitiate and normal school) was moved to Mount St. John's (now Bergamo Center).

Known at various times as St. Mary's School, St. Mary's Institute, and St. Mary's College, the school assumed its present identity in 1920, when it incorporated as the University of Dayton. The same year, the elementary division was closed, the Division of Education was organized, and the University started its tradition of evening and Saturday classes, to serve the adult members of the surrounding community. In 1922, the College of Law opened, also with evening classes. Other graduate programs followed, to augment the professional degree programs which distinguished the University from many of Ohio's other independent institutions of higher learning. In 1923, the first summer session was held; its classes, like those of the law college were open to women as well as men.

The 1930s, with the Great Depression, were in many ways a time of retrenchment for the University of Dayton as for most other American schools. But the Dayton Marianists had survived cholera, smallpox, and influenza, wars, fire and flood, and (in 1924) a Ku-Klux-Klan cross-burning on the campus. In 1935, even as the University turned its preparatory school functions over to Chaminade High School and graduated what was to be its last class in law for almost forty years, it inaugurated a college for women, with sisters of Notre Dame in charge of twenty-seven entering female students. Two years later, the college for women closed; all divisions opened to women, and the University became fully co-educational.

Enrollment had passed a thousand when World War II broke out. By 1950, with the return of the veterans, it was more than 3,500. In 1967, it was over 10,000. But then, with the expansion of a community college and the establishment of a state university nearby, enrollment declined, and the resulting retrenchment was exacerbated by rising inflation and the energy crisis. Nor did the social turbulence and activism of the late 1960s and early 1970s bypass the University of Dayton. Some students and faculty protested against the Vietnam War, compulsory ROTC, and defense-related research activities. They campaigned also for changes in the curriculum, seeking more opportunities for meeting personal needs and goals. In response, the University gave greater responsibility to students for their own academic decisions, and it initiated interdisciplinary programs, self-directed learning, and various experimental courses and methods. Meanwhile, the profile of the student body changed. The 1960s saw significant increases in female and minority students. In the 1970s, there was a shift to a largely residential student body, and at the same time many more "nontraditional" (older) students matriculated. By the mid-1970s, total enrollment steadied at over 10,000, with about 6,000 full-time undergraduates.

To keep pace with the University's growth, a series of building programs has

more than tripled the number of major facilities since the Centenary Year of 1950. The University held its first general public campaign in order to erect Wohlleben Hall in 1958 and Sherman Hall in 1960. Both campus and off-campus residences — dormitories, apartments, and houses — were added and improved as such emergency accommodations as surplus Army barracks and an adapted Army hospital (renamed the West Campus) were phased out.

A long-range environmental design has helped integrate new buildings and old, and made the campus more livable by increasing its beauty as well as its efficiency. In 1986, old and new combined in the much heralded architectural design of the Anderson Center between Rike Hall and Miriam Hall. When fire ravaged St. Joseph Hall in 1987, the University was able to rebuild and restore it without harming the architectural integrity of that historic corner of campus. Keeping pace with the needs of the University, the Jesse Philips Humanities Center opened in 1993, and plans are in the making to revitalize the University's existing science complex. Opening in 1997, longterm development included the construction of new facilities for the School of Law on the northwest property of the University.

The edifices are not the only changes seen at the University of Dayton. In 1960, the University reorganized academically and administratively. Administrative changes saw the formation of the College of Arts and Sciences from what had been two separate units. Other divisions became the Schools of Business Administration, Education and Engineering. In 1970, the University charter was amended and members from the lay community now joined the Marianists (who today constitute 20 percent of the governing body of the University), on the Board of Trustees. In 1974, when the School of Law reopened, the University achieved its present configuration.

Academically, the University has continued to expand and enrich its offerings and support services, especially since mid-century. Graduate studies, abandoned during World War II, resumed in 1960, with the School of Education leading the way. In 1969, the Department of Biology inaugurated the first doctoral program since 1928. The School of Engineering introduced two doctoral programs in 1973, and in December, 1992, the first doctoral degrees in Educational Leadership were awarded.

In 1975, the Marian Library, which had grown to international reknown since its inception in 1943, founded the International Marian Research Institute (IMRI), which was incorporated in 1984 as a branch of the Marianum in Rome. IMRI is empowered to confer licentiate and doctoral degrees in theology, with a specialization in Mariology.

For all undergraduates, a general education plan was adopted in 1983 to foster integration of the liberal arts in a professional education. To further this course of action, in 1990, the Academic Senate approved a revision of the general education requirements that called for an integrated base of four humanities courses complemented by clusters of other courses, requiring various disciplines to focus on a single theme.

In 1986, the School of Business Administration established the Center for Business and Economic Research. With an advanced information systems laboratory among its resources, the center provides contract research services for local business, government, and other organizations and support for faculty research.

The University has always maintained a tradition of innovation. In 1874, St. Mary's Institute's new Play House gymnasium was the only one of its kind in Ohio, and it is probable that the first organized basketball game in the state took place there. A system of elective studies was inaugurated in 1901. In 1924, the University was the first school to be granted a charter by the National Aeronautical Association.

It was one of the first in the nation to offer a course in biophysics (1935). In 1948, it was a pioneer in student ratings of professors, and in 1952, it invited persons over 60 to attend its evening classes as guests. Its graduate program in laser optics was one of the earliest in the country. It was one of the first educational institutions to adopt electronic data-processing equipment and to offer degrees in computer science. The University Library, in the service of scholarship, continues to adopt new technology, including an online catalog which became fully operational in 1988.

But more than just a breeding ground for academic excellence, the University responds to the needs of the surrounding communities as well. Sponsored research at the University began in 1949 with a few faculty members and student assistants doing part-time research for industry and government agencies. In 1956, the University of Dayton Research Institute (UDRI) was formed to consolidate the administration of the growing research activities. Annual research volume has increased from \$3,821 in 1949, to nearly \$50 million at the present time.

## STATEMENT OF PURPOSES

Approved by the Board of Trustees, May 14, 1969.

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

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

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

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

The University of Dayton recognizes its responsibility to support, with means appropriate to its purposes, the legitimate goals and aspirations of the civic community and to cooperate with other agencies in striving to attain them. It assists in promoting the intellectual and cultural enrichment of the community; it makes available not only the resources of knowledge that it possesses, but also the skills and

techniques used in the accumulation and dissemination of knowledge; and, above all, it strives to inspire persons with a sense of community and to encourage men and women of vision who can and will participate effectively in the quest for a more perfect human society.

## BASIC ACADEMIC STRUCTURE OF THE UNIVERSITY

The University of Dayton now includes the College of Arts and Sciences and four professional schools, each with a dean: the School of Business Administration, the School of Education, the School of Engineering (including Engineering Technology), and the School of Law. The deans, through their departmental chairpersons, administer the undergraduate and graduate programs. The vice president for graduate studies and research and dean of graduate studies has the overall responsibility for all graduate programs. At the head of the academic structure of the University is the provost.

The University of Dayton awards the following baccalaureate, professional, and graduate degrees:

Bachelor of Arts	Master of Science in Civil Engineering
Bachelor of Chemical Engineering	Master of Science in Education
Bachelor of Civil Engineering	Master of Science in Electrical Engineering
Bachelor of Electrical Engineering	Master of Science in Electro-Optics
Bachelor of Fine Arts	Master of Science in Engineering
Bachelor of General Studies	Master of Science in Engineering Management
Bachelor of Mechanical Engineering	Master of Science in Engineering Mechanics
Bachelor of Music	Master of Science in Management Science
Bachelor of Science	Master of Science in Materials Engineering
Bachelor of Science in Art Education	Master of Science in Mechanical Engineering
Bachelor of Science in Business Administration	Master of Science in Teaching
Bachelor of Science in Computer Engineering	Educational Specialist
Bachelor of Science in Education	Juris Doctor
Bachelor of Science in Engineering Technology	Doctor of Engineering
Bachelor of Science in Environmental Engineering	Doctor of Philosophy in Biology
Master of Arts	Doctor of Philosophy in Educational Leadership
Master of Business Administration	Doctor of Philosophy in Electro-Optics
Master of Computer Science	Doctor of Philosophy in Engineering
Master of Public Administration	
Master of Science	

## College of Arts and Sciences

The College of Arts and Sciences includes the following departments and programs: American Studies, Biology, Chemistry, Communication, Computer Information Systems, Computer Science, Criminal Justice Studies, Economics, English, General Studies, Geology, History, International Studies, Languages, Mathematics, Military Science, Music, Philosophy, Physical Science, Physics, Political Science, Psychology, Religious Studies, Sociology, and Visual Arts.

Preprofessional courses are offered in medicine, dentistry, optometry, veterinary medicine, music therapy, law, foreign service, and radio and television broadcasting.



Programs leading to the Master of Arts or the Master of Science are offered in American studies, biology, chemistry, communication, English, humanities, mathematics, pastoral ministry, political science, psychology, and theological studies. The Department of Computer Science offers the Master of Computer Science. The Department of Physics, as part of the Center for Electro-Optics, offers graduate courses in support of the Master of Science in Electro-Optics and the Ph.D. in Electro-Optics. The Interdisciplinary professional degree Master of Public Administration is also offered. The Department of Biology offers the Doctor of Philosophy.

### School of Business Administration

The School of Business Administration offers undergraduate majors in accounting, economics, finance, management, management information systems, and marketing. On the graduate level, the School awards the Master of Business Administration degree.

### School of Education

The School of Education prepares teachers for the elementary and secondary levels and for specialized fields such as art, music, speech, business, health and physical education, food and nutrition, pre-physical therapy and education of the handicapped. It conducts retraining and post-graduate programs and offers graduate programs leading to the degrees of Master of Science in Education, Master of Science in Teaching, Educational Specialist, and Doctor of Philosophy in Educational Leadership. These programs are designed to prepare school administrators, school counselors, school psychologists, elementary teachers, high school teachers, and special educators for both public and private schools nationwide.

### School of Engineering

The School of Engineering includes the departments of Chemical and Materials Engineering, Civil and Environmental Engineering and Engineering Mechanics, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, and Engineering Technology. The School offers four-year curricula leading to the degrees of Bachelor of Chemical Engineering; Bachelor of Civil Engineering; Bachelor of Electrical Engineering; Bachelor of Mechanical Engineering; Bachelor of Science in Computer Engineering; Bachelor of Science in Environmental Engineering; and Bachelor of Science in Engineering Technology with specialities in Electronic Engineering Technology, Industrial Engineering Technology, Manufacturing Engineering Technology, and Mechanical Engineering Technology. The School offers graduate programs leading to the degrees of Master of Science in Engineering, Master of Science in Aerospace Engineering, Master of Science in Chemical Engineering, Master of Science in Civil Engineering, Master of Science in Electrical Engineering, Master of Science in Electro-Optics, Master of Science in Engineering Management, Master of Science in Engineering Mechanics, Master of Science in Management Science, Master of Science in Materials Engineering, Master of Science in Mechanical Engineering, Doctor of Engineering, Doctor of Philosophy in Engineering, and Doctor of Philosophy in Electro-Optics.

## School of Law

The University of Dayton School of Law offers the Juris Doctor and two joint degree programs: Juris Doctor-Master of Business Administration and Juris Doctor-Master of Science in Education (Educational Administration).

## LIBRARIES

The University of Dayton Roesch Library houses the University Library with its book, journal, government documents, and microform collections for both graduate and undergraduate students. The University Library's main collections are automated and available through an online public access catalog. Its holdings number 1,000,000 resource items including its 5,000 journal titles. The Marian Library, other rare and special collections, and the University Archives are also part of this facility. It is open 98 hours a week, provides almost continuous reference service, and offers online bibliographic searching. Comfortable study areas are convenient to the open stacks, and typewriters, photocopiers, seminar rooms, and faculty and graduate student carrels are available. The Libraries are a member of OhioLINK, a cooperative venture of university libraries and the Ohio Board of Regents. OhioLINK partners have created a common information network providing rapid physical and telefacsimile access and delivery to over 9,000,000 volumes and numerous bibliographic and full-text databases.

The University's active membership in the Online Computer Library Center and the Southwestern Ohio Council for Higher Education has significantly augmented the library resources available to its students. All of the libraries affiliated with the Council provide on-site borrowing privileges to students and faculty associated with the University.

The Marian Library, on the seventh floor of the Roesch Library building, houses the world's largest collection of works on the Virgin Mary. Its resources in over fifty languages include 71,000 books and pamphlets (some 6,000 printed before 1800), 125 periodicals, a clipping file of over 52,000 items, and a growing number of microforms. These works are supplemented by smaller collections: slides, medals, postcards, postage stamps, and illustrations of various kinds. In addition to these materials dealing with Mariology, the library has significant holdings in national and regional bibliographies, reference works on the Bible, ecclesiastical and dogmatic history, church art (especially of the Eastern Churches and Medieval Europe), and the history of the book.

The University of Dayton School of Law Library is located in Joseph E. Keller Hall. Its collection contains over 150,000 volumes and 63,000 physical units of microforms. The open-stack arrangement of the Law Library permits easy access to all materials.

Academic Technology Services are located in the Jesse Philips Humanities Center and in Miriam Hall. The Media Group of Academic Technology Services provides a range of audio-visual equipment to classrooms as well as consultative assistance in the effective use of instructional technology. The Instructional Computing Group of Academic Technology Services provides consultation and assistance with the integration of computer applications and hardware in support of learning.

The Curriculum Materials Center, which houses the specialized collections of the School of Education, is on the first floor of Chaminade Hall. It offers a wide selection

of elementary and secondary textbooks, filmstrips, records, transparencies, cassettes, charts, material kits, and teaching aids.

## ACCREDITATION

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

The Accreditation Board for Engineering and Technology, Inc., for the programs in chemical, civil, electrical, and mechanical engineering and in electronic, industrial, manufacturing engineering technology, and mechanical engineering technology

The American Assembly of Collegiate Schools of Business (AACSB) for the baccalaureate, accounting and Master of Business Administration programs of the School of Business Administration

The American Bar Association for its School of Law

The Association of American Law Schools for its School of Law

The Human Factors Society for the master of arts program in experimental-human factors psychology

The National Association of Schools of Music

The National Council for Accreditation of Teacher Education

The North Central Association of Colleges and Schools

The State of Ohio Department of Education

The University has the approval of the following:

The American Chemical Society

The American Dietetic Association

The National Association for Music Therapy

The League of Ohio Law Schools for its School of Law

## INSTITUTIONAL MEMBERSHIP

The University holds institutional membership in the following:

The Academy of Criminal Justice Sciences

The American Assembly of Collegiate Schools of Business

The American Association for Higher Education

The American Association of Colleges for Teacher Education

The American Association of Collegiate Registrars and Admissions Officers

The American Association of University Administrators

The American Council on Education

The American Dietetics Association

The American Home Economics Association

The American Library Association

The American Society of Criminology

The American Society for Engineering Education

The Association of American Colleges and Universities

The Association of American Law Schools

The Association of Catholic Colleges and Universities

The Association of College and University Housing Officers

The Association of Governing Boards of Universities and Colleges

The Association of Independent Colleges and Universities of Ohio

The Catholic College Coordinating Council

The College Entrance Examination Board  
The College and University Personnel Association  
The Comparative and International Education Society  
The Cooperative Education Association  
The Council for Advancement and Support of Education (CASE)  
The Council for the Advancement of Experiential Learning  
The Council of Graduate Schools  
The Dayton Area Chamber of Commerce  
The Dayton Art Institute (sponsoring)  
The Institute of International Education  
The League of Ohio Law Schools  
The Midwestern Criminal Justice Association  
The National Association of College and University Food Services  
The National Association of College Auxiliary Services  
The National Association for Foreign Student Affairs  
The National Association of Independent Colleges and Universities  
The National Association of Student Personnel Administrators  
The National Catholic Education Association  
The National Council of Catholic Bishops  
The National Scholarship Service and Fund for Negro Students  
The North Central Association of Colleges and Schools  
The Ohio Academy of Science  
The Ohio Association of Colleges for Teacher Education  
The Ohio Association of Private Colleges for Teacher Education  
The Ohio College Association  
The Ohio Continuing Higher Education Association  
The PBS Adult Learning Satellite Service  
The Society for the Advancement of Education  
The Southwestern Ohio Council for Higher Education

## SOUTHWESTERN OHIO COUNCIL FOR HIGHER EDUCATION

Several corporations and numerous institutions of higher learning, including the University of Dayton, have organized the Southwestern Ohio Council for Higher Education (SOCHE). The participating institutions seek to increase inter-institutional cooperation, improve curricula, develop new courses and programs, share library resources, minimize cost, and centralize selected functions, by using computers, modern educational technology, and communication media.

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

## RELATED UNIVERSITY SERVICES

Besides the regular day sessions, the University conducts special as well as regular evening and summer sessions and offers short-term workshops, institutes, and conferences. All credited courses, whenever offered or in whatever form,

conform to the same standards and are governed by the same policies and regulations prevailing during the regular day sessions.

Continuing Education especially serves the part-time students of the Dayton community, to make the University and its course offerings, both credit and noncredit, more easily available to them. Similarly, the Office of International Services serves students from other countries who are enrolled at the University.

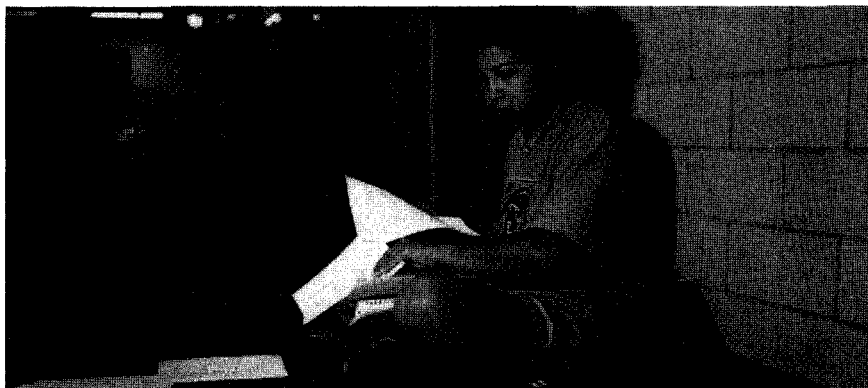
To foster interdisciplinary efforts, the Office of the Provost administers courses designated UDI (University of Dayton Interdisciplinary) to accommodate interschool offerings and experimental programs. (UDI courses are listed and described in Chapter X, as are other special offerings.)

The Research Institute, an integral, not a separate, component of the University of Dayton, provides important resources and reinforcement for all levels of academic endeavor, as does Administrative Computing and Telecommunication Services. (See Chapter X.) A unit of the Army Reserve Officers Training Corps, also based on the campus, offers its academic program through the Department of Military Science. (See MIL, Chapter VI.)

## ACADEMIC CALENDAR YEAR

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

The advantages of such a calendar are many. Students may enroll for the traditional fall and winter semesters and have a four-month summer vacation; or they may add half terms or full terms to enrich their programs or speed the completion of their degree requirements. (The University holds graduation ceremonies at the end of each term.) Students who must earn their own money can have extra time for employment in spring and summer; or they may enroll for the third term and work during the fall or the winter term, when the employment market is not crowded with other college students.







## II Student Life and Services

### OFFICES OF RESIDENTIAL PROGRAMS AND RESIDENTIAL SERVICES

One of the most challenging and growth-oriented experiences available to students is residential living. The University strives to provide a co-curricular environment which is conducive to optimal personal growth, allowing students to reach their fullest potential. Respect for the rights of other people and a willingness to cooperate contributes to an atmosphere of friendliness and mutual respect that encourages academic success and allows for positive community building.

Professional, graduate and undergraduate student staffs coordinate with the Offices of Residential Programs and Residential Services in administering University residence halls, suites, houses, and apartments. An elected council represents students' opinions and provides programmatic initiatives in each living area. Counseling and consultation, as well as the celebration of Mass, are provided in the residence halls by Campus Ministry to the students residing in the various residential living areas.

All first-year and sophomore students are required to live in the University residence system unless they are married, are twenty-one years of age or over, or are local residents living with their legal guardian. Junior and senior students have the opportunity to arrange their own housing in University apartments and houses or to choose non-university housing.

Upon a student's official acceptance to the University of Dayton, the Office of Admission sends all new students applications, contracts, and instructions for securing residential living accommodations. However, any questions regarding obtaining housing should be directed to the Office of Residential Services. Questions regarding residential living issues should be directed to the Office of Residential Programs.

### FOOD SERVICE

The University of Dayton Food Services operates three full-service student dining facilities located in Kennedy Union, Marycrest Complex, and the Virginia W. Kettering Residence Hall. Students may use their Student ID/Campus One Card in any of these facilities during scheduled meal hours. Food Services offers extended services in the Kennedy Union and Marycrest Food Courts to provide student food/snack requirements beyond the regular meal periods.

All students living in a traditional residence hall are required to purchase a meal contract. Contract options are as follows:

- Any 12 Meal Plan— Provides any 12 meals, breakfast, lunch or dinner, over seven days, starting with the first day of classes.
- Any 15 Meal Plan — Provides any 15 meals, breakfast, lunch or dinner over seven days, starting with the first day of classes.
- All 21 Meal Plan— Provides breakfast, lunch and dinner over seven days, starting with the first day of classes.

Note: Only one meal per meal period is allowed. For example, two lunches on the same day is not permitted with the meal plan options.

In addition to the selected meal plan, most resident students open a declining balance account to supplement their needs beyond the scheduled meal periods.

## OFFICE OF STUDENT ACTIVITIES

The Office of Student Activities sponsors and coordinates campus-wide extra-curricular and co-curricular activities to enrich and enhance academic life and foster a spirit of community. It is the central resource for information about activities, organizations and campus-wide programming. In addition, the office registers all student-sponsored events. The Office of Student Activities grants recognition to student organizations, approves funding and space allocations, ensures organizational conformity to University policies, provides assistance for organization advisors and awards the Top Organization awards. The Organizations Advisory Council, composed of student leaders, works with student organizations to maintain their recognition. It also plans programming on leadership education and offers resources and assistance in organizational management. Campus Activities Board is the programming unit for the office. Student program coordinators are responsible for developing educational, cultural, social and recreational events.

Student Activities supervises all operations of the social Greek life, advises student media groups and is involved in other University-wide programming such as College Bowl, Christmas On Campus, Distinguished Speakers Series and the Arts Series. Student Activities sponsors educational forums on current issues, visual and performing art programs, and entertainment in The Pub. It produces weekly and monthly calendars which list campus events and musical, dramatic, artistic and other public events in the community. The office also coordinates student activity postings on the "Flyer TV" Information Channel and approves publicity materials for posting.

## JOHN F. KENNEDY MEMORIAL UNION

The John F. Kennedy Memorial Union, centrally located on the campus, offers comfortable surroundings and a variety of services for the University community. Lounges provide free space for discussion, studying, and socializing. The Union operates a games room with bowling lanes, pool tables, and video games. The ground-floor food court includes a pizzeria, a bakery, a delicatessen, a mini-snack bar, and a pub. An information kiosk in the main lobby accesses student schedules, records, etc. Three automatic teller machines, display cases, and vending machines are housed in the Union, as are student offices for Student Government Association, *Flyer News*, *Daytonian*, Flyer Radio, OAC, Greek councils, The Pub entertainment, and a lounge for the commuter students. Other offices in the Union are those of the Information Center, Box Office, Gift Shop, KU Food Service, Catering Services, and the Travel Agency. Meeting rooms, a ballroom, a theatre, and University vans are available for use and can be reserved by contacting 229-3333 (Kennedy Union Room 241). Numerous and varied cultural, educational, social, and recreational activities are presented in the Union regularly. Among the continuing programs are recitals and concerts by students and faculty, theatrical productions, and dance ensemble concerts.

## STUDENT HEALTH CENTER

During the academic year, the Student Health Center, in Gosiger Hall, is open 8:00 a.m. to 8:00 p.m., Mon-Fri., except University holidays and provides a broad range of medical services to students. In the summer, it is open during regular University business hours. A full-time and part-time physician are available during weekdays. The Health Center maintains a large stock of commonly used medicines, dispensing these to patients by order of the physician.

## COUNSELING CENTER

The main purpose of the Counseling Center is to assist students in self-development, including career planning, personal adjustment, and social skills building. All students in need of objective insights or merely "a listening ear" are encouraged to make use of the Center's services. No student's concern is too minor to explore. This is usually accomplished through one-to-one counseling, although there are opportunities for group interaction on certain topics and outreach programming for student, faculty, and staff groups. The Center also provides career and personality testing services.

Because counseling often involves sensitive personal matters, discussions between counselors and students are strictly confidential. An exception occurs when students who have life-threatening problems are required to receive psychiatric evaluation and/or counseling. Such problems may include but are not limited to suicide attempts, chemical dependency, anorexia nervosa, bulimia nervosa, and psychotic behavior. The University and the student may enter into a contract to establish conditions regarding required treatment. The student may decide to use the services offered by the University or to receive treatment elsewhere. In the latter case, periodic review by the University is required to confirm that contract conditions are met. For the welfare of the student, problems warranting treatment more intensive than the University can offer may require temporary medical withdrawal from the University. The student may be readmitted to the University upon acceptable completion of contract conditions. In life-threatening circumstances, the University assumes the position that the parents or guardians of the student should be notified, and it will initiate such notification if the student has not done so within an appropriate time or refuses to do so. Life threatening problems involving minor students are cause for immediate notification of parents or guardians.

A one-time counseling fee charged to all matriculating undergraduate students covers the cost of services by the Counseling Center while they are at the University. Graduate and nonmatriculated undergraduate students pay charges on a fee-for-service basis. The Center is accredited by the International Association of Counseling Services, Inc.

## CRITICAL ISSUES EDUCATION

The Office of Educational and Special Programs coordinates educational efforts on the topics of alcohol, relationships and sexuality. Critical Issues Education is a program that seeks to educate students about some of their most basic life experiences, decisions and developmental processes. Unique to the University of Dayton is that the traditional "alcohol and other drug prevention office" or a health

education program no longer exists. Instead, the program combines the issues of alcohol and other drug use, sexuality, relationships, gender issues, communication, self esteem, and peer pressure together in all of its programs.

Critical Issues Education includes the sexual assault prevention program; a peer education program called START (Students Talking About Real Topics); an educational theater program (Theater and Thought); the critical issues committees on AIDS awareness, relationships issues, and alcohol and other drug prevention; a major speakers series; and visual education projects. The director of Educational and Special Programs collaborates with other areas of the University community to program on critical issues topics.

## SERVICES FOR DIVERSE STUDENT POPULATIONS

The University of Dayton is committed to creating an environment that celebrates cultural diversity while focusing on the Marianist philosophy of service, leadership and community. The division of Student Development provides facilities and services to support African-American students and Latin-American students through the office of Diverse Student Populations. This support often assumes the form of special programming that reflects the cultural heritage of these populations, as well as supplemental counseling and advising. The Diverse Student Populations staff works closely with academic deans, faculty and other administrative offices to provide a nurturing community that promotes a better understanding of racial/cultural understanding.

## LEARNING ASSISTANCE CENTER

The Learning Assistance Center offers three courses—Critical Reading and Study Skills, Developmental Mathematics, and Developmental Writing—and other services to accommodate both the academic and the personal development of each student and to provide all students an opportunity to enjoy their maximum academic success. (See also DEV, Chapter X.)

Learning Support Services offers individualized tutoring for entry-level courses. Academic assistance on a drop-in basis is available from the Write Place for any kind of writing project in any subject. There is no charge for any of these services.

## FLYER EXPRESS

Flyer Express is a pre-paid purchase plan designed strictly for University of Dayton students. Flyer Express is easy and convenient; the initial deposit is made into the account and charges are deducted as purchases are made. Flyer Express is safe, it eliminates the need to carry cash. Flyer Express is accepted at locations on and off campus; i.e., UD Bookstore, vending, laundry, Rudy's Fly-Buy, pizza delivery, snack bars, game rooms and UD Printing and Design. New market areas are being researched to better serve UD student needs.

## NEW STUDENT ORIENTATION

Each year new undergraduate students arrive a few days before the opening of the academic year to participate in the New Student Orientation Program. Its purpose is to familiarize students with the campus and to assist them in their transition to student life by providing a variety of academic and social functions. The New Student Orientation Program is conducted by the Office of Educational and Special Programs.

## PUBLIC SAFETY

The Office of Public Safety is the recognized, lawful, professional police agency on all University property. Its objective is to make the University a comfortable, efficient, and safe place. The University of Dayton Public Safety staff are dedicated to the preservation of freedom of movement and communication without the fear of property loss or personal injury. Those in need of emergency assistance or ambulance service should call 911 on campus or the Office of Public Safety at 229-2121.

## PARKING

Campus parking facilities are limited. Commuting students are issued permits to park in Lots S1 and S2. Parking permits will be issued to residence hall students on a SPACE AVAILABLE, first-come, first-served basis to those who can validate a special need. Students with off-campus jobs must present a letter of employment on company letterhead. Others will be placed on a waiting list upon request. Drivers with unusual problems will be given special consideration.

In Campus South, the Garden Apartments, and UD houses, one parking permit per apartment/house will be allocated. In the event additional parking permits become available due to under-utilization, these permits will be issued on a first-come, first-served basis. Permits are issued through the department's division of Parking Services located in Gosiger Hall, 2nd floor.

## STUDENT ID/CAMPUS ONE CARD

All students must secure his/her Student ID/Campus One Card at the beginning of their first term at the University of Dayton. The Student ID/Campus One Card is used to access numerous University services. It provides official student identification; access to meal plans, Dining Dollar accounts and Flyer Express accounts; library, PAC, computer lab privileges. The original Student ID/Campus One Card is issued at no charge. Replacement fees apply to any additional cards.

The Student ID/Campus One Card is issued and administered by the Department of Food Service. If a student withdraws from the University during the academic year, the Student ID/Campus One Card should be returned to the Office of Student Development.

## STUDENT HANDBOOK

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

Student handbooks are available at the opening of the fall term in University housing, the McGinnis Center, and the Kennedy Union.

## CAMPUS MINISTRY

Campus Ministry seeks to lead the University in fostering an active faith community among its members. This faith is manifested in personal and communal devotion to God, especially as revealed in Jesus Christ; in common worship; in the growing awareness of religious values and response to issues of social justice; and in service to the community and the Church.

In order to realize this goal, Campus Ministry, in cooperation with other segments of the University, provides a number of services to all who are part of the University community. It provides opportunities for prayer, for the celebration of the sacraments, for retreat experiences, and for pastoral counseling. It sponsors events, classes, and seminars that concern the deepening of faith, the awareness of social justice issues, and opportunities for ministry—with special emphasis on student-to-student ministry. It coordinates the efforts of more than two dozen student organizations that offer opportunities for service to the local community and beyond. Though specifically Roman Catholic, it cooperates with and helps foster other religious groups on campus.

## ATHLETICS

Many people throughout the country have come to know the University of Dayton through the accomplishments of its intercollegiate athletic teams. Participation in athletics is part of the educational development the University offers all students. There are seven men's intercollegiate sports: football, soccer and cross country in the fall; basketball in the winter; and baseball, golf and tennis in the spring. There are nine women's intercollegiate sports: volleyball, soccer and cross country in the fall; basketball and indoor track in the winter; and softball, golf, tennis and outdoor track in the spring. Cheerleading tryouts, open to all students, are held each year.

Any athlete—male or female—who anticipates trying out for any varsity sport must submit a complete physical and medical history, signed by a doctor, before he or she may participate in any tryouts and must be certified through the NCAA Initial-Eligibility Clearinghouse.

## INTRAMURAL AND RECREATIONAL SPORTS

The Recreational Sports Department provides a variety of intramural activities in which anyone can find exercise surrounded by a unique spirit of fun and competition. Activities include softball, football, indoor soccer, volleyball, basketball, tennis, racquetball and many others. All students are invited to participate;

ability is not important—just the desire to play. The Intramural Office is located on the second floor of the Physical Activities Center and students are invited to stop in at any time.

The Thomas J. Frericks Center/Physical Activities Center houses intramural competition, informal recreation and sports clubs. Inside the PAC is a 25-yard pool; handball, racquetball, and squash courts; men's and women's carpeted locker rooms; weight rooms; one tennis court; and three basketball courts surrounded by a 1/9 mile track. The newly constructed cardiovascular/aerobic fitness center is located on the second floor. The center contains twenty-eight machines, four T.V. monitors, two separate sound systems, state of the art suspended wood floor, carpet and air-conditioning. The center is open for student usage daily. A student lounge overlooks both the Collins Gymnasium and Lackner Natatorium. The PAC is connected to the Thomas J. Frericks Athletic and Convocation Center where there are an additional free weight room, four basketball and volleyball courts, a multi-use room, and a modern conditioning center.

One of the quickly developing features of the Recreational Sports Department is the Sports Club Program. Currently, there are twenty-four recognized clubs on campus. The Sports Club Program offers students the opportunity to participate on a competitive level, while at the same time learning and developing new skills. Anyone interested in joining a sport club or starting a new one is encouraged to come in and speak with the Sports Club coordinator.

Students are permitted to use the University's recreational facilities whenever they are not being used for organized programs such as classes, intercollegiate practices or games, intramural sports and special events. Schedules concerning free play hours and scheduled events may be secured from the Recreational Sports office.

## CAREER PLACEMENT CENTER

The services of the Career Placement Center, available to seniors, graduate students, and alumni seeking career positions in business, industry, and government, include the following:

1. Personal employment guidance on resume writing, interviewing and job search strategies
2. Literature describing opportunities with employers
3. A listing of current job openings
4. Direct referral of alumni and alumni data networks
5. Campus interviews by representatives of business, industry, and government. These interviews are conducted from October through March; they are announced in a monthly calendar which can be obtained in the Career Placement Center in the Caldwell Street Center.

Part-time and summer employment are the responsibility of the Student Employment Coordinator, Room 218, Powerhouse. Teacher placement is handled by the Teacher Placement Office, School of Education.

## COMMUTER STUDENT SERVICES

Commuter Student Services provides an essential aspect to the University of Dayton campus. Commuter students knowledge and pride of the Dayton area help make out-of-town students feel more comfortable and at home while at the

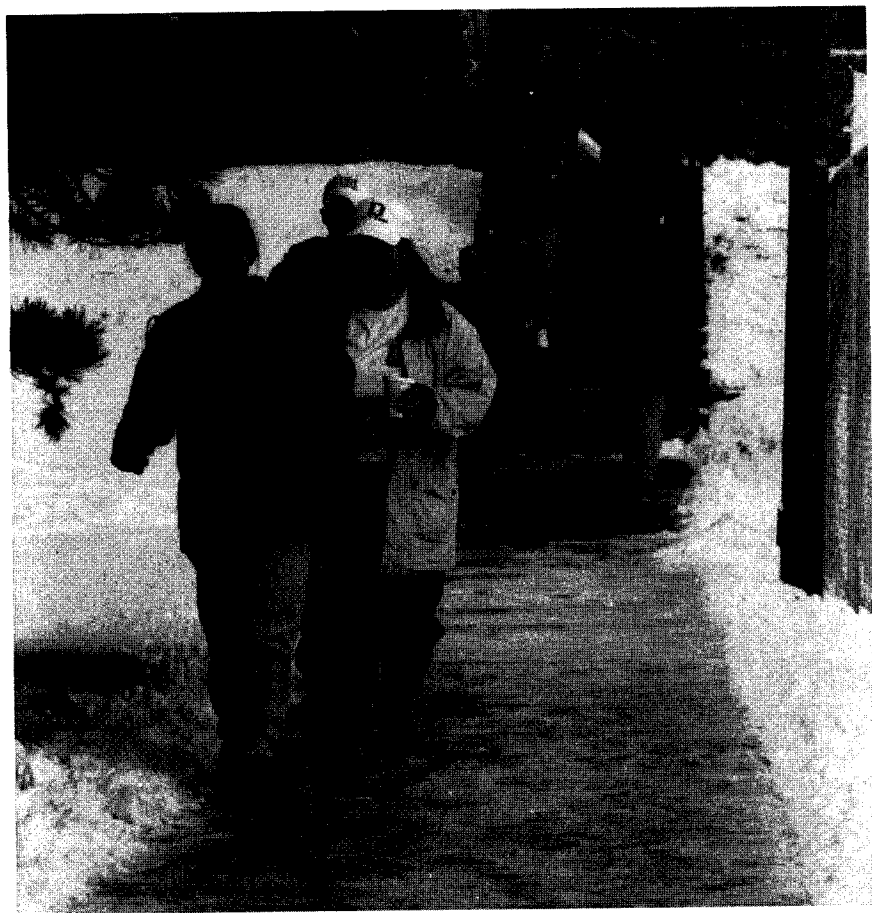


University. A lounge for commuter students is located in Kennedy Union (118) which is used for study, relaxation, and meeting friends. A message center, telephone, microwave, and refrigerator are provided for the convenience of commuter students.

The Assistant Director of Student Activities is advisor to the commuter students and provides services and facilities to meet the educational, developmental and physical needs of these students and maintains contact with the academic and nonacademic areas of the University to increase understanding of these specific needs.

## OFFICE FOR STUDENTS WITH DISABILITIES

The Office for Students with Disabilities provides assistance and counseling for prospective and enrolled students with physical or learning disabilities. It assists with the identification of special needs and the coordination of special services and related aspects of campus adjustment. All physically and learning disabled students requiring assistance are encouraged to contact the coordinator.



### III Admission

Each application for admission to the University of Dayton is considered individually. The Admission Committee reviews the academic achievement, aptitude, and interest of every applicant with the goal of admitting students who possess the intellectual ability and the motivation to profit best from their attendance at the University of Dayton.

#### APPLICATION FOR ADMISSION

All applications for admission must be submitted to the director of admission on forms supplied by the University of Dayton. Approved electronic applications also are permitted. Applicants are encouraged to submit applications early in the senior year of high school.

The applicant must also present an official transcript of courses and grades in secondary school and the results of either the Scholastic Assessment Test (SAT-I) or the American College Test (ACT). Any person whose native language is not English must submit an acceptable score in the Test of English as a Foreign Language (TOEFL). Exceptions to this policy may be made for students whose education has been in schools where English is the principal language of instruction.

Admission is based on the total information submitted by the applicant in his or her behalf. It is the applicant's responsibility to see that complete information has been provided to the director of admission.

When submitting the completed application to the high school counselor or principal for the inclusion of the transcript, the applicant should attach a check or money order for \$30.00 payable to the University of Dayton. This application fee is nonrefundable.

#### CONSIDERATIONS FOR ADMISSION

The applicant must have graduated from a high school accredited by a regional accrediting agency or by a state department of education or by the equivalence, and have a total record indicating a likelihood of success at the University of Dayton. The General Education Development (GED) certificate is also recognized for consideration by the admission committee.

The quality of the academic record is shown by the applicant's grades, standing in class, and selection of courses. Although no set pattern of courses is required for admission, a well prepared candidate will have had from 15 to 18 units in English, social sciences, mathematics, foreign language and laboratory science. Those who plan to major in one of the natural sciences, mathematics, computer science, business administration or engineering will find a strong mathematics background most helpful.

Additional indicators of academic aptitude are scores received on the Scholastic Assessment Test (SAT-I), the American College Test (ACT), and, when applicable, the Test of English as a Foreign Language (TOEFL).

The admission committee is very interested in the applicant's personal traits and record as a school citizen. The recommendation of the high school guidance counselor concerning ability, motivation and character is carefully reviewed by the admission committee.

Each applicant is encouraged to visit the campus for an interview with an admission counselor. A visit also will provide an opportunity to see the campus and ask questions of the students and faculty.

ENTRANCE UNIT RECOMMENDATIONS											
Numbers represent academic units (years) of recommended high school preparation.											
COLLEGE MAJOR	English	Foreign Language	Algebra I	Geometry	Algebra II, Trigonometry	Mathematics IV	Biology	Chemistry	Physics	Laboratory Science	Additional academic units
Business (all majors)	4		1	1	1					1	8
Engineering (all majors)	4		1	1	1	1		1	1		6
Engineering Technology (all majors)	4		1	1	1						9
Education	4		1	1	1		1			1	7
Dietetics, Nutrition	4		1	1	1	1	1	1			6
Exercise Science & Fitness Management Exercise Science/Fitness & Nutrition Exercise Science & Pre-Physical Therapy	4		1	1	1	1	1	1	1		5
American Studies, Art History, Communication, Criminal Justice Studies, Economics, English, Fine Arts, Foreign Languages, History, Music, Music Therapy, Philosophy, Photography, Political Science, Psychology, Religious Studies, Sociology, Theatre, Visual Communication Design, Undeclared	4	2	1	1	1					1	6
Biochemistry, Biology, Chemistry, Environmental Biology, Nuclear Medicine Technology, Pre-Dentistry, Pre-Medicine	4	2	1	1	1	1	1	1	1		3
Computer Science, Mathematics, Physical Science, Physics	4	2	1	1	1	1		1	1		4
Computer Information Systems	4	2	1	1	1			1	1		5
Geology, Environmental Geology	4	2	1	1	1	1		1			5

## TRANSFER STUDENTS

Students from accredited institutions may be considered for transfer to the University of Dayton provided they are in good standing socially and academically (minimum of a C average—2.0 cumulative grade point average).

Transfer students will be considered for admission after they have followed the regular admission procedure. Scholastic Assessment Test (SAT-1) or American College Test (ACT) scores are required only of transfer applicants under 21 years of age. All transfer candidates must submit official transcripts from all institutions previously attended. The Office of Admission will evaluate the transcript(s) to determine the number of transferable credits. In general, all college credits earned with a "C" or higher from any regionally accredited college or university will transfer and be included on the University of Dayton transcript. No credit will be given for a course in which the student earned below a "C." The evaluation to determine which courses will be accepted toward the degree will be completed by the dean's office of the appropriate college or school.

A student with transfer credit from a two-year institution will be required to have at least 54 semester hours from a four-year institution for any baccalaureate degree. A transfer student is considered for a degree only if the last 30 semester hours have been taken on the University of Dayton campus and other requirements for graduation have been met.

## VETERANS

All departments at the University have been approved by the State Approving Agency for Veterans' Training. The Veterans Affairs Office is located in St. Mary's 202 and will assist in processing the necessary forms for educational benefits. Each semester the Veterans Schedule Form must be submitted and any changes in program be reported in writing. Failure to follow this procedure may result in cancellation of benefits by the V.A. For the conditions for good academic standing, see "Academic Standing," Chapter V. If a veteran on probation fails to acquire the required cumulative grade-point average at the end of the veteran's next full-time term, the benefits from the V.A. cease.

## INTERNATIONAL STUDENTS

Undergraduate students who are not United States citizens or permanent residents of the United States are expected to submit international student admission application forms. They need to follow the general admission procedure outlined above and the specific procedures outlined in the application brochure. The applicant whose native language is not English must demonstrate a score of 525 on the Test of English as a Foreign Language (TOEFL).\*

A student unable to demonstrate an acceptable TOEFL score of at least 525 at the time of application may be considered for conditional admission. Such a student will be expected to attend the English Language and Multicultural Institute (ELMI) as a full-time student, successfully complete the program and obtain a TOEFL score of 525 or better before full admission will be granted.

International student applicants must present their academic credentials in official English translation along with their transcripts in the original language. The applicant must also present certification of financial resources available to support an education at the University of Dayton.

Other pertinent information may be obtained from the director of enrollment management operations and international admission.

\*In July 1998, the scoring scale will be revised for the computer-based test.

## PROGRAMS FOR SELECT AT-RISK STUDENTS

The University has planned academic support programs for a limited number of students who are judged to need special support to be successful at the University of Dayton.

Some students are conditionally accepted to the University and are required to successfully complete the Summer Trial Enrollment Program (STEP) in order to be accepted for the fall term. These students take two specially selected courses in the summer and are required to participate in academic support sessions. Successful completion of the summer program includes grades of C or better in each course. Students admitted to this program are selected by the admission committee.

Some students are recruited by the University for their special talents in the performing and visual arts and in athletics. When these students are judged to need academic support, they are required to complete a summer program of two specially selected courses and academic support sessions and/or participate throughout the year in a University academic enhancement program.

## SPECIAL ADMITS PROGRAM

The University Special Admits Program serves entering first-year students who are capable of academic success but because of deficiencies in their academic background need additional support to realize their full potential. Each year the Office of Admission in collaboration with each academic division (College of Arts and Sciences, Schools of Business Administration, Education, and Engineering) sets guidelines for accepting a limited number of first-year undergraduates as Special Admit students. Each academic division has developed support programs to help Special Admit students to succeed academically in college. Depending on the academic division, the Special Admits Program may include careful course placement, special advising, supplemental instruction (SI) in designated courses, study tables, math workshops, and cohort formation. The Office of Admission and the deans' offices can provide more specific information about the Special Admits Program in each academic division.

## ADVANCED STANDING BY EXAMINATION

### ADVANCED PLACEMENT (AP)

The University accepts the advanced placement program offered to secondary schools under the auspices of the Advanced Placement Committee of the College Entrance Examination Board.

The University will give not only advanced placement, but also credit to students enrolled in the program, if such students have taken the tests provided and scheduled by the College Entrance Examination Board and have received appropriate scores from the Educational Testing Service.

Students wishing to receive advanced placement under this program are to arrange that test scores be sent to the University of Dayton AP Coordinator. Advanced standing with credit in appropriate subject areas is awarded as follows:

For a score of 4—one term of advanced standing with credit.

## Admission

For a score of 3—one term of advanced standing with credit is awarded in the following: Computer Science, French, German, Latin, Physics, Psychology, Spanish and Statistics.

Scores below 3 do not entitle the applicant to either credit or advanced standing.

## COLLEGE-LEVEL EXAMINATION PROGRAM (CLEP)

The University of Dayton cooperates with the College Level Examination Program (CLEP) of the College Entrance Examination Board (CEEB). Academic credit is available to students who achieve scores of 480 or above on any of the four acceptable areas of the General Examinations as indicated below:

English—no credit

Mathematics—maximum of 3 semester hours of credit

Natural Sciences—maximum of 7 semester hours of credit

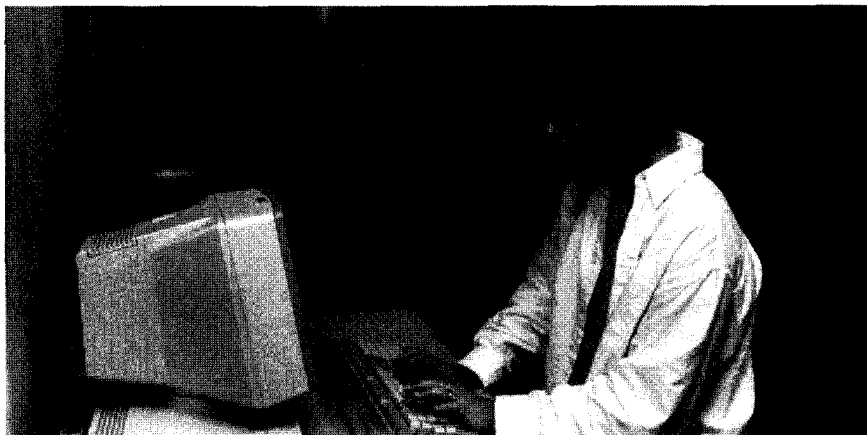
Social Sciences and History—maximum of 6 semester hours of credit

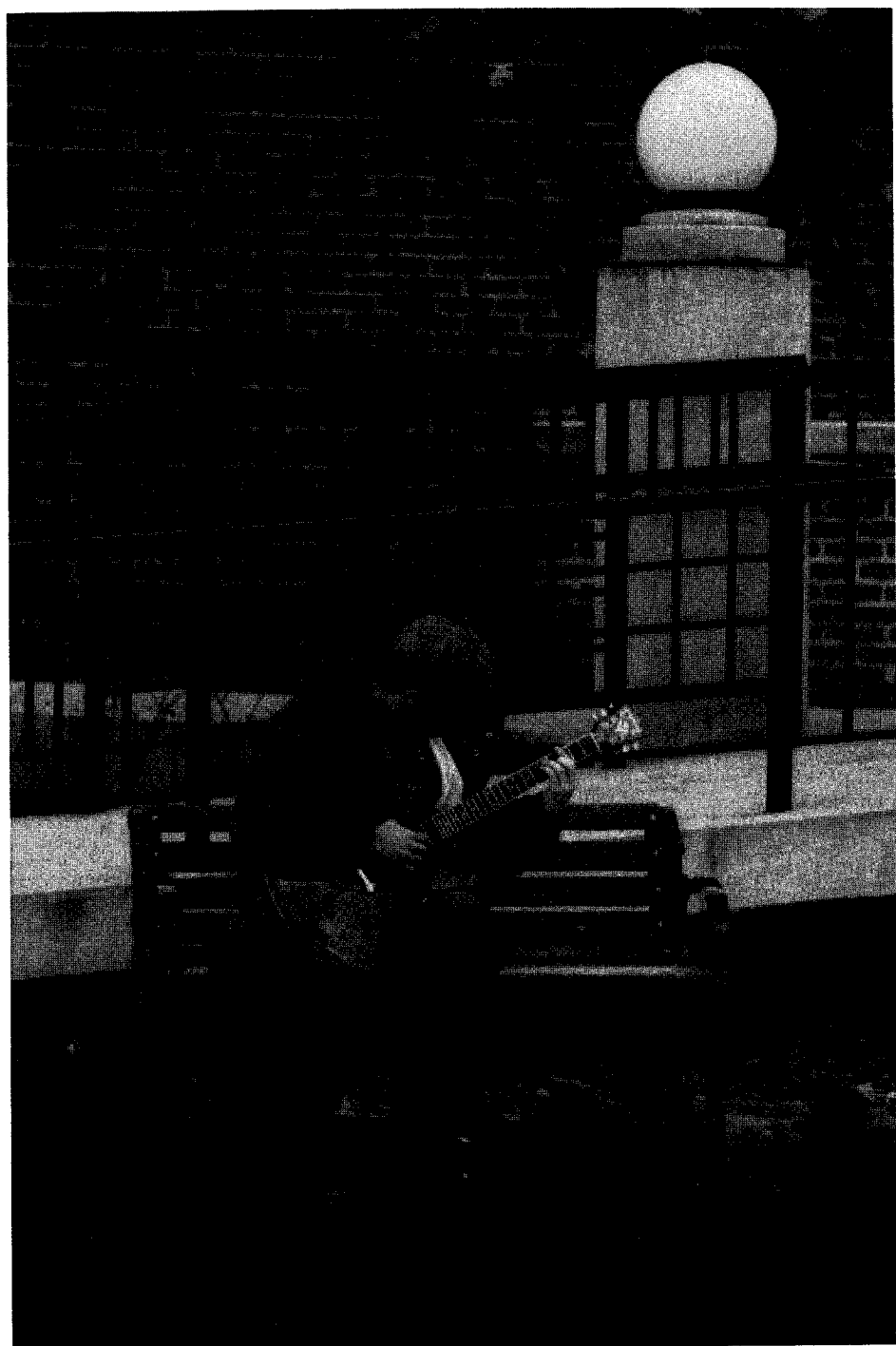
Humanities—maximum of 6 semester hours of credit

Academic credit is also available to students who achieve scores above a specified minimum on certain subject examinations. Since not all subject examinations are acceptable and some subject examinations require the Free Response (essay) section, it is advisable to consult the University coordinator for AP and CLEP.

## HIGH SCHOOL SCHOLARS

The University of Dayton participates in the program established by Ohio Senate Bill 140, which allows high school juniors and seniors to enroll in college courses while still enrolled in high school. This program is also known as the Post-secondary Enrollment Options program. It is selective and limited to a specific number of students. Interested students must submit applications for the High School Scholars program. These applications are available in the Office of Admission or in high school guidance offices of Dayton-area high schools.





## IV Financial Information

### GENERAL POLICY

The tuition and fee charges of the University are set at the minimum permissible for financially responsible operation, and in general these charges are less than the actual costs incurred. Gifts and grants received through the generosity of industry, friends, and alumni help to bridge the difference between income and costs. The trustees of the University reserve the right to change the regulations concerning the adjustment of tuition and fees at any time the need arises and to make whatever changes in the curricula they may deem advisable.

Payment of tuition, fees, room, and board is due at the time of final registration for the term or in accordance with current deferred payment terms. All checks should be made payable to the UNIVERSITY OF DAYTON. The student's name and social security number should be shown on the face of each check to insure proper credit.

An assessment of \$25.00 will be made for payment of tuition and fees by a bad check or for any other returned check from any area at the University. This assessment is made each time a check is dishonored.

Registration for a new term, transcripts of credit, and honors of graduation may be permitted only for students whose financial University records are clear.

### UNDERGRADUATE TUITION AND FEES AUGUST 1998 THROUGH JULY 1999

#### Fees Payable One Time

Application fee, payable once, upon application .....	\$30.00
Application Fee, international students .....	30.00
Counseling Center fee, payable once, at entrance .....	90.00
Orientation fee, payable once, first-year resident students only .....	90.00
Orientation fee, payable once, first-year commuter students only .....	82.00
Miscellaneous deposit (refundable after graduation or dropout) .....	50.00

#### Tuition Charges in Terms I and II

Full-time undergraduate student (12-17 semester hours), per term .	\$7,085.00
Each semester hour over limitations stated above .....	472.00
Three-fourths-time undergraduate student (8-11 semester hours), per term .....	5,315.00
Part-time undergraduate student (1-7 semester hours), per semester hour .....	472.00
Audit course, per semester hour .....	236.00



### Basic University Fee, Terms I and II

Full-time and 3/4-time student (8 or more semester hours), per term ....	\$250.00
Part-time student (1-7 semester hours), per term .....	25.00

### Laboratory Fees, Terms I and II

Laboratory fee, per laboratory clock hour as listed in composite (not to exceed \$250.00 per term; not applicable to engineering and engineering technology students) .....	\$ 50.00
Engineering surcharge fee (incorporating laboratory charges) full-time and 3/4-time engineering and engineering technology students, each term .....	495.00

### Course Fees, Terms I and II

Fees are listed with the course names and times in each term's course composite. Following are some examples of the types of courses for which there are special course fees.

Studio fee for certain courses in art, design, and photography .....	\$20.00-65.00
Physical Education (scuba diving, skiing, etc.) .....	variable
Music fees .....	50.00-225.00
Certain courses in theatre .....	5.00-35.00
Student teacher fees:	
Elementary or secondary education .....	125.00
Special education or special arrangements .....	90.00
Concurrent registration .....	215.00
Elementary and secondary block fees for specified courses — per course .....	60.00

### Tuition and Fees, Term III

Tuition per semester hour . .....	\$472.00
Basic University fee .....	25.00
Laboratory and course fees—Same as in Terms I and II but no sur- charge for engineering; laboratory fees will be charged per clock hour.	

### Other Charges

Late registration service charge:	
Full-time and 3/4-time students—25.00 per week to a maximum of ...	75.00
Part-time and summer students—15.00 per week to a maximum of ...	45.00
Credit by examination, per semester hour .....	25.00
CLEP per credit hour .....	25.00
Graduation fee, undergraduate students .....	75.00
Books and supplies .....	variable
Transcript of credits, first copy of order .....	2.00
Each additional copy of same order .....	1.00
Co-op student fee, per work term .....	65.00
Finance charge—1% monthly on ending balance if total amount due is not paid by the last business day of the month following the month of initial charge.	

## FULL-TIME AND 3/4-TIME STUDENTS

A student with an academic schedule of at least 12 semester hours is considered a full-time student. A student with an academic schedule of 8-11 semester hours is considered a 3/4-time student. With this status and upon payment of the tuition and applicable fees, the student is entitled to the benefits of the various activities and student services as available.

## PART-TIME STUDENTS

A student with an academic schedule of fewer than 8 semester hours is considered a part-time student.

## SPECIAL STUDENTS

Special students and nonmatriculated students (continuing education) are subject to the various expenses outlined above for full-time, 3/4-time, or part-time students.

## CANCELLATION AND REFUNDS

If registration and housing are cancelled before the first day of classes, full refunds will be made, with the exception of admission deposits.

Cancellation must be in writing on the proper form, the withdrawal or "drop" form for registration or in written form to the Residential Services Office for housing. For nonlocal students a letter to the appropriate dean may be used as notification of cancellation. Students who do not attend classes and do not officially complete withdrawal procedures during the cancellation period will be responsible for the full amount of the applicable tuition and fees.

During the four-week cancellation period for the first and second terms, tuition and housing credits will be given according to the following schedule:

During first week of classes .....	80%
During second week of classes .....	60%
During third week of classes .....	40%
During fourth week of classes .....	25%
During or after fifth week of classes .....	0%
(The 1st week starts on the first day of a term; the 2nd week begins 7 days later, etc.)	

Special course fees are fully refundable through the Friday of the first full calendar week of the term and not refundable thereafter.

Laboratory fees are fully refundable through the Friday of the first full calendar week of the term and refundable on the same schedule as tuition thereafter.

During the two-week cancellation period for each six-week session of the split third term, tuition and housing credits will be given according to the following schedule:

During first week of classes .....	65%
During second week of classes .....	30%
During or after third week of classes .....	0%

Cancellations for a full third term course have a four week cancellation period and will be on the same schedule as cancellations for the first and second terms.

Financial adjustments for tuition are based on the date the drop (withdrawal) form is finalized in registration.

Financial adjustments for housing are based on the date of checkout from housing, if applicable.

In a summer term, special course fees are fully refundable through the first three days of the term and not refundable thereafter.

In a summer term, laboratory fees are fully refundable through the first three days of the term and refundable on the same schedule as tuition thereafter.

Special rules may apply for students who withdraw and who received Title IV funds. Please contact the Office of Financial Aid if additional information is needed.

After classes have begun, the University fee for student activities is not refundable. All tuition refund requests and appeals must be in writing and directed to the attention of Nancy V. Graft, Bursar.

Students suspended/dismissed from the University or from University residence facilities as a result of disciplinary action are not eligible for any refund of tuition and fees or room and board charges under the University's Cancellation and Refund policy. Exceptions to this position will be made to comply with refund requirements of federal financial aid programs.

## RESIDENCE FACILITIES POLICY

Each unmarried first-year and second-year student under 21 years of age, not living at home in the Dayton area with his/her parents or legal guardian, is required to live in University housing.

Each student applying for a University residence facility must complete a residential living contract card with the Residential Services office. The contract covers both the fall and winter terms of the academic year. Once a contract is signed, it may not be cancelled as long as the student is enrolled at the University.

Those students dropping all courses and checking out of housing during the first four weeks of school will be authorized refunds as stated under "Cancellation and Refunds."

All students living in housing facilities are required to observe all University regulations and specific regulations of each facility. Residents will be held responsible for any damages to the residential structure which are due to their own negligence and will share responsibility with other residents of the structure for unidentified common area damages. The same conditions shall also hold for any loss or damage to the University grounds, fixtures, furnishings, or other property provided by the University for use by the students.

Students may reside in their rooms, suites, apartments or houses without additional charge during Thanksgiving and Easter vacations. All University residences are closed during Christmas vacation period and during the Spring-term break.

## ROOM AND BOARD, PER TERM, TERMS I AND II AUGUST 1998 THROUGH MAY 1999

<u>Residence Halls</u>	<u>Single</u>	<u>Double</u>	<u>Triple</u>
Marycrest Complex .....	\$1,690.00 .....	\$1,240.00 .....	\$1,015.00
Stuart Hall .....	1,690.00 .....	1,240.00 .....	NA
Founders Hall .....	1,690.00 .....	1,240.00 .....	NA

### Apartments, Suites, Houses

Campus South Apartments .....	\$1,490.00 per occupant
Garden Apartments (2 students per apartment) .....	2,230.00 per occupant

## Financial Information

Garden Apartments (4 or 6 students per apartment) .....	\$1,490 per occupant
Virginia W. Kettering Residence Hall .....	1,460 per occupant
Residential Properties (undergraduate) .....	1,445 per occupant
Residential Properties (single bedroom option) .....	1,795 per occupant

## Food Service

All students living in residence halls must have one of the following:

Any 12 MEAL PLAN (12 meals per week) .....	\$1,095.00
Any 15 MEAL PLAN (15 meals per week) .....	1,185.00
All 21 MEAL PLAN (3 meals per day, 7 days) .....	1,255.00

In addition to the selected meal plan, most resident students open a Dining Dollars account to supplement their needs beyond the scheduled meal periods.

Non-resident students may purchase meal plans, Dining Dollars accounts or make their own daily arrangements. The Kennedy Union and Marycrest Food Courts provides service on weekends, unless otherwise posted.

## SPECIAL PAYMENT PLANS

For those who prefer to budget annual school costs out of monthly income, the following are some of the options:

*Credit Cards*— Payment for any University charges may be made by MasterCard, Visa, and / or Discover within the credit limits for those cards.

*Pre-Payment Plan* — The University of Dayton's monthly pre-payment plan, which is serviced through Key Education Resources, is a convenient alternative to lump sum semester payments. Any parent, guardian or student is eligible for this plan. Application materials may be obtained by calling 1-800-KEY-LEND (539-5363). Features of the plan include:

- Ten monthly level payments (which can be revised at anytime)
- Payments begin May 1st (you may also enroll after this date)
- No interest charges and no credit review
- Low cost — \$40 application fee
- Direct Debit Option available
- College Completion Protection insurance option

*Deferred Payment Plan* — The University offers an open credit arrangement with installment provisions. All students are eligible for this plan. Students complete a one-time Credit Account Agreement form which is automatically sent prior to the first term of enrollment. Features of the plan include:

- Five monthly payments per semester
- Payments begin July 25 for fall term and December 23 for winter term
- Low interest charge of 1% per month on the ending balance
- No application fee and no credit review

## PRIVATE ALTERNATIVE LOANS:

Private loans for educational expenses are also available. The University of Dayton works closely with a group of preferred lenders and endorses their Private loans. Each program offers competitive interest rates, flexible repayment schedules and differing co-signer requirements. If interested in a Private Alternative loan, feel

free to contact the lenders listed below or the Financial Aid Office for more information and a comparative benefits chart.

CitiAssist Loan  
Citibank  
1-800-745-5473

Signature Student Loan  
Bank One or  
Chase Manhattan Bank  
1-800-828-0290

Key Alternative Loan  
Key Bank  
1-800-539-5363

Private National Collegiate Loan  
PNC Bank  
1-800-762-1001

Educaid Extra Premier Loan  
Educaid  
1-800-338-2253

## EXPENSES

The University of Dayton operates on a "split third-term calendar." Tuition and fees for full-time students during the 1998-99 academic year (fall and winter terms) will total about \$14,670.00 plus laboratory and/or special course fees where applicable. Room and board on campus for this period would be approximately \$4,870.00, based on double room occupancy, any 12 meals a week plan, and a Dining Dollars account for weekends. Books and supplies will cost approximately \$300 each term. In addition, the student will need funds to satisfy personal expenses and extra meals on the weekends.

Expenses for commuting students will include tuition, fees, supplies, and miscellaneous living costs. Transportation to and from the University as well as lunches should be considered in the budget.

## FINANCIAL AID POLICY

The University of Dayton desires to assist all qualified students who seek financial assistance in order to continue their education. Assistance based on financial eligibility is available in the forms of nonrepayable grants, educational loans and part-time employment. A parent loan program and a University-sponsored payment plan are also available.

Eligibility for various federal, state and University-sponsored financial aid is determined by comparing the total cost of attending UD with a family's anticipated ability to cover the expenses. Financial aid is considered supplemental to the student's efforts and those of the family to meet the cost of attendance.

To assure an equitable distribution of financial aid resources, the standardized financial need analysis provided by the Free Application for Federal Student Aid (FAFSA) is used. The contribution expected of the student and his/her family is determined after careful review of the family's income and other circumstances which consider the family's financial situation. All information provided is carefully and confidentially reviewed.

The FAFSA forms are available in the Office of Scholarships and Financial Aid. Students should mail completed forms to the federal processor and request that the results be sent to the University of Dayton. Priority is given to students

## Financial Information

whose completed applications are received by May 1. Financial aid is awarded annually. A new FAFSA must be submitted each year.

## ACADEMIC SCHOLARSHIPS FOR FIRST-YEAR STUDENTS

The President's Scholarship, the Dayton Area Scholarship, the Marianist Scholarship, the Deans' Awards, and the Leadership Awards were established to recognize excellent high school achievement by incoming first-year students. Applicants receive consideration for these scholarships on the basis of (1) high school academic performance; (2) SAT or ACT scores; (3) demonstrated service to school, community, and church; (4) proven leadership ability; and (5) citizenship. Each scholarship is renewable for eight consecutive undergraduate terms provided the recipient maintains the required cumulative grade-point average and participates in University-sponsored extracurricular activities (other than social).

### Application Procedure

This procedure is to be followed in applying for these scholarships:

1. Between September 15 and December 30 of your senior year in high school, request an application from the Office of Admission, University of Dayton, Dayton, Ohio 45469-1611. Complete the application and return it to the Office of Scholarships and Financial Aid before January 15.

2. Arrange to take the Scholastic Aptitude Test (SAT) or the American College Test (ACT) no later than December. Indicate that your scores are to be sent to the University of Dayton. Scores from earlier tests are also acceptable if your high school sends the results.

All forms—the application and the recommendation section—should be completed as early as possible, but must be available to the University of Dayton Scholarship Committee by January 15.

Each scholarship applicant will be notified by March 15 of the decisions of the Scholarship Committee.

## ACADEMIC SCHOLARSHIPS FOR RETURNING STUDENTS

Students in full-time attendance who have completed at least 12 semester hours on campus at the University of Dayton are eligible to apply for Upperclass Scholarships, which have been established to reward upperclass students for outstanding academic achievement and to recognize service to the University. Recipients are selected on the basis of academic accomplishments, leadership, demonstrated service to the University, and the strength of the recommendations of faculty and staff members. Each year approximately 75 students are chosen to receive these scholarships, which are awarded for a period of one academic year and range from \$500 to \$2,000.

### Application Procedure

Upperclass scholarship applications are available in the Office of Scholarships and Financial Aid, Room 202, St. Mary's Hall, from January 15 through March 15 each year.

The application and two recommendations must be received by March 15.

Each scholarship applicant will be notified by June 15 of the result of the upperclass scholarship application.

## OTHER SCHOLARSHIP OPPORTUNITIES

*Athletic Scholarships:* The University of Dayton offers scholarships in some men's and women's intercollegiate sports to students who have demonstrated special athletic and academic promise. Recommendations for scholarship awards are made to the scholarship committee by the coach who has the responsibility for administering the particular sport. Correspondence should be directed to the head coach of the sport in which the applicant is interested.

*ROTC Scholarships:* U.S. Army and Air Force scholarships can be used at The University of Dayton. Students can compete for 4-yr., 3-yr., and 2-yr. awards.

*Music and Art Scholarships:* Music awards are awarded to both music majors and nonmajors who distinguish themselves as outstanding performers. Visual art scholarships are awarded to students who demonstrate outstanding promise in the visual arts and plan to pursue a degree in this field. Scholarships for musical and visual art talents are determined by the faculties of the appropriate academic departments.

*Additional Scholarships Administered by The University of Dayton:* The University is authorized to select students as nominees for scholarships offered by certain corporations, business firms, service groups, and friends of the University.

## APPLYING FOR NEED-BASED FINANCIAL AID

Application forms for grants, tuition reductions, loans, and employment may be obtained from the Office of Scholarships and Financial Aid, University of Dayton, Dayton, Ohio 45469-1621. The following procedure must be completed each academic year. Priority deadline is May 1.

1. File a Free Application for Federal Student Aid (FAFSA). (Forms may be obtained from the high school counselor or from the University of Dayton Office of Scholarships and Financial Aid upon request.) Be sure to designate the University of Dayton as the recipient of the financial analysis.

## GRANTS

*Federal Pell Grants:* The Pell Grant Program makes funds available to eligible undergraduate students attending post-high-school institutions. To apply, you must complete a free application for federal student aid annually (You may get this form from post-secondary educational institutions, high schools, and public libraries.)

*Federal Supplemental Educational Opportunity Grants:* These federally supported, University-administered grants are provided to undergraduate students who have financial need. Eligibility for the grant and the stipend is governed by the rules and

## Financial Information

regulations of the United States Department of Education. The student must also receive assistance from certain other sources, in an amount at least as great as the amount of the grant. The value of this grant ranges from \$200 to \$2,000 per year. The completion of an annual free application for federal student aid assures the applicant of consideration for this type of assistance.

*Ohio Instructional Grants:* are intended to encourage Ohio residents to attend institutions of higher education within the state of Ohio. Residents with annual family incomes less than \$30,000 are eligible to receive this type grant from the state of Ohio for up to ten semesters of undergraduate enrollment at the University of Dayton. They presently range from \$702 to \$4,296 for students at private colleges and universities (such as the University of Dayton). Each recipient of the Ohio Instructional Grant must (1) be a resident of Ohio, (2) be enrolled or accepted for enrollment as an undergraduate student in an Ohio institution of higher education, (3) be making "appropriate progress" toward a bachelor's degree, and (4) meet the financial guidelines established by the Ohio Student Aid Commission. Students enrolled in courses of study leading to degrees in theology, religion, or other fields of preparation for a religious profession are not eligible. An application packet may be obtained from the high school counselor or the Office of Scholarships and Financial Aid at the University of Dayton. To apply, complete the free application for federal student aid annually.

*Ohio Student Choice Grant:* Ohio residents who meet the eligibility requirements are eligible to receive this grant from the State of Ohio for up to ten semesters of full-time, undergraduate enrollment at the University of Dayton. Students must complete the Ohio Residency Form (provided by the University of Dayton) within 30 days after the first semester of enrollment to confirm eligibility; renewal for the remaining semesters is automatic for full-time students. The family financial situation is not a factor in this award.

*Founder's Grants (University):* The University of Dayton offers nonrepayable grants to undergraduate students with demonstrated financial need. The University assumes that the student will accept self-help in the form of loans and school-year employment. The Founder's Grant is intended to cover a portion of the financial need. The free application for federal student aid is required annually for consideration.

*President's Grant:* The University has funds available which are reserved for students in extreme or exceptional financial need. Although recipients are not required to repay these grants, they should, when they achieve sufficient financial status, accept the obligation of reimbursing the University so that other deserving students may stay in school.

*Kettering Grant:* Graduates of Montgomery County (Ohio) high schools in the upper 40% of their graduating class who come to the University of Dayton as full-time entering first-year students and who demonstrate financial need may be eligible for the Kettering Grant.

## LOANS

*Federal Perkins Loans* are available to those applicants who have demonstrated need. The maximum loan for undergraduates is \$3,000 per year of undergraduate work.



and \$15,000 total. The recipient enters the repayment cycle nine months after ceasing to carry at least half the normal full-time academic load. When the recipient enters the repayment cycle, a five percent simple interest charge is included. Recipients who teach economically, emotionally, mentally, or physically handicapped children may receive cancellations of the loan. Other cancellation privileges are available.

*Federal Stafford Loans (formerly Guaranteed Student Loans)* are made available to all students. The maximum loan is \$2,625 per year for the first year, \$3,500 for the second year and \$5,500 per year for the junior and senior years. Repayment begins six months after the recipient ceases to be enrolled at least half-time. During the repayment period a variable interest rate, not to exceed 9%, is charged. Repayment can be spread over a ten-year period.

*Federal Parent Loan for Undergraduate Students (PLUS)* provides a source of financing to all families regardless of the family income. All credit-worthy parents of undergraduate students may borrow up to the cost of education minus financial aid per academic year for each student attending an accredited college. Repayment begins within sixty days after the disbursement of the check. During the repayment period a variable interest rate, not to exceed 10%, is charged. In general, a lender will allow a borrower at least five years, but not more than ten years, to repay a loan. Minimum payments on the loan principle are \$50 per month.

*Emergency Loans* are available to students who encounter unexpected financial problems during the year. No interest is charged on these loans, which are contingent upon sufficient funds.

## TUITION REDUCTIONS

*Employee Reductions:* Unmarried dependent children and the spouses of full-time employees, as well as the employees themselves, are eligible for tuition reductions for undergraduate courses. Employees and spouses of administrative, professional, or faculty employees are also eligible for tuition reductions for graduate courses. Interested students should contact the Office of Human Resources to complete necessary forms or to get further information regarding eligibility.

*Senior Fellows:* Students 60 years of age and over are eligible to apply to University Continuing Education at the University of Dayton for remission of tuition.

## EMPLOYMENT

*The Federal Work-Study Program (federally supported)* provides on-campus work opportunities for full-time and 3/4-time students who demonstrate financial need. Such a student may work up to 20 hours per week during the school term and will receive payroll checks semi-monthly for these services. When possible, a student will be employed by the University in a job related to his or her educational objectives.

*University Employment* opportunities for students who do not qualify for the Federal Work-Study Program are available through the Student Employment Office, Room 218, Powerhouse. Any interested student should complete an Application for

## Financial Information

Employment and schedule an appointment with the Student Employment Coordinator. Interviews should be scheduled as soon as the student knows what his or her class schedule will be for the period of employment.

*Cooperative Education* ("the co-op system") allows students to alternate terms of on-campus study and terms of off-campus work at jobs related to their academic concentrations. Several departments at the University of Dayton participate. See Chapter X, Cooperative Education.

## ADDITIONAL OPPORTUNITIES

### *Veteran Benefits*

- Students who enlisted in the military as Active Duty or as Selected Reserve Status may qualify for the Montgomery G.I. Bill Benefits.
- Students of a parent who is/was a military veteran may qualify for Educational Assistance Benefits.
- Contact nearest Veteran Affairs Regional Office for additional information.

*Vocational Rehabilitation:* State vocational rehabilitation agencies arrange the training of handicapped persons for gainful employment. Requests for information on rehabilitation services should be directed to the State Director, Vocational Rehabilitation Agency, the State Capitol.

*The U.S. Army Reserve Officers Training Corps (ROTC)* program is offered on campus by the Department of Military Science. All students who complete the basic course (first and sophomore years) may enroll in the advanced course (junior and senior years), leading to a reserve commission in the Army at the time of graduation. During the advanced course, the student who has agreed to accept the commission and serve two years' active duty receives \$150 a month subsistence. For further information, see MIL, Chapter VI.

### *Ohio National Guard Program*

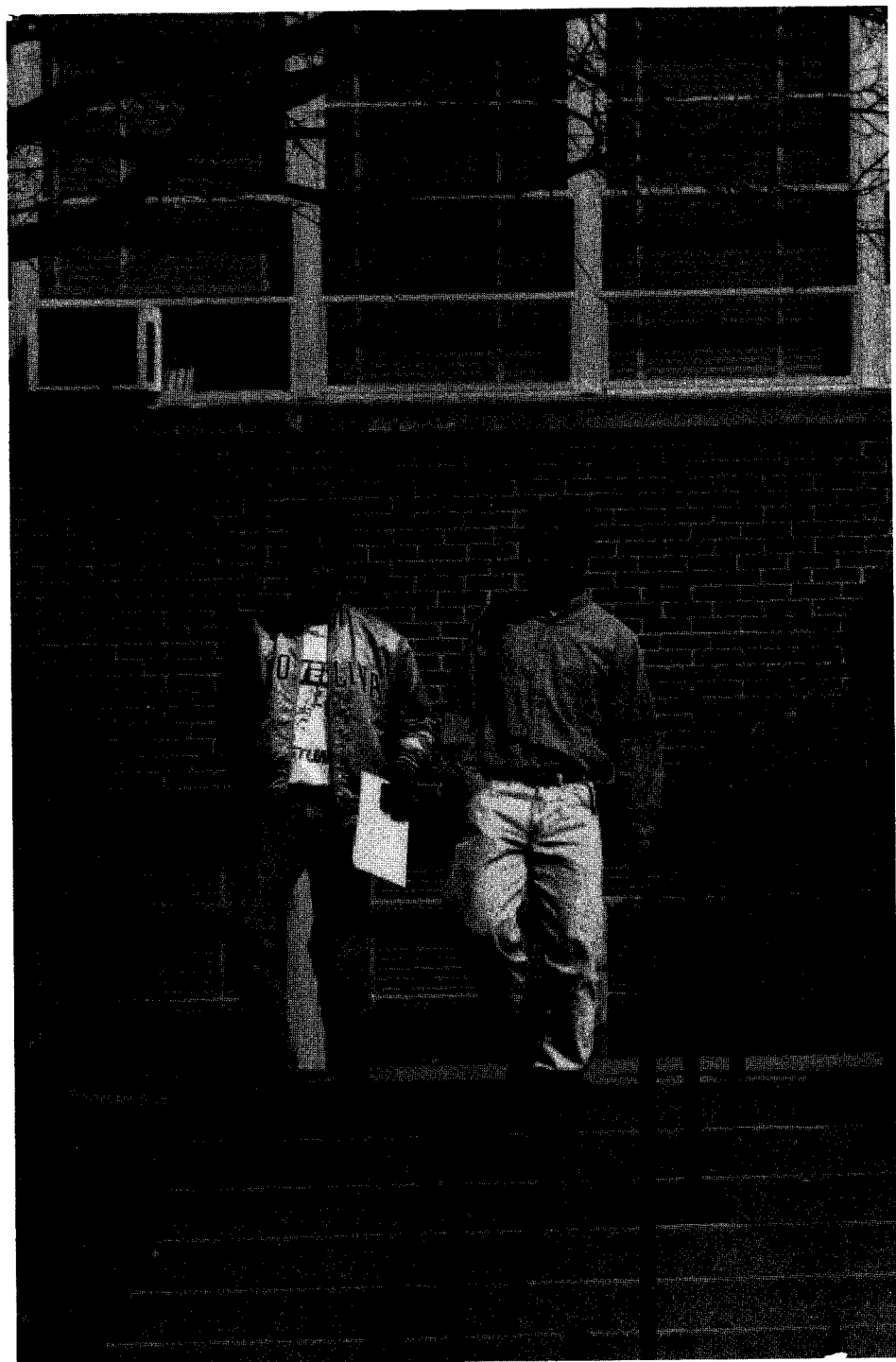
- NOT based on financial need
- Available to Ohio residents enlisted in the Ohio National Guard
- Apply by contacting your local National Guard recruiter or call 1-614-889-7032
- Anticipated award \$2,374/yr.

### *Ohio Safety Officers Grant*

- NOT based on financial need
- Available to children of Ohio Peace Officers or Ohio Firefighters killed in the line of duty
- Apply by contacting UD's office of scholarships and financial aid
- Anticipated award \$2,928/yr.

### *Ohio War Orphans*

- NOT based on financial need
- Available to children of deceased/disabled Ohio war veterans
- Apply by contacting your local high school
- Anticipated award \$3,360/yr.
- Deadline July 1



# V Academic Regulations

## GENERAL REQUIREMENTS

All bachelor's degrees granted by the University of Dayton require a minimum of 120 semester hours of credit with a cumulative grade point average of at least 2.0.

Specific requirements for the various degrees are listed under the schools granting the degrees. See Chapters VI-IX.

One year (thirty semester hours) of residence is a minimum requirement for any bachelor's degree.

The semester hour is the unit by which the University measures its course work, and the number of semester hours is determined by the number of hours a week in class and the number of weeks in the session. One semester hour is assigned to a class which meets fifty minutes a week over the period of one term.

Students enrolled in the University as candidates for degrees should not take courses at other colleges or universities without first obtaining written permission from their respective deans. If the permission is granted, the dean will request "transient status" for such students at designated institutions. The University reserves the right not to accept credits for such courses when this procedure has not been followed.

The Bachelor of Science in Education may be awarded to holders of nonprofessional degrees from the University of Dayton with the completion of a minimum of thirty semester hours prescribed by the School of Education beyond the requirements of the nonprofessional degree. The Bachelor of Arts or Bachelor of Science may be awarded to holders of professional degrees from the University of Dayton upon the completion of the requirements for such degrees. Any student wishing to obtain a second bachelor's degree may do so by completing the requirements for the second degree as determined by the faculty of the college or school in which this degree is offered.

Ordinarily a student who earned a first bachelor's degree or an associate degree at another institution must complete six semester hours of philosophy and/or religious studies at the University of Dayton. Such a student may be required to complete the prescribed twelve semester hours of philosophy and/or religious studies, if in the judgment of the dean, equivalent coursework had not been earned as a part of the program leading to the first degree.

All students following four-year programs are required to complete successfully the University requirements in Basic Skills and General Education as explained below.

## BASIC SKILLS REQUIREMENTS

### READING AND WRITING SKILLS

The University requirement in reading and writing skills is satisfied by the completion of ENG 101 and ENG 102. Students whose verbal scores on the SAT or ACT are sufficiently high to warrant placement in ENG 114 upon admission to the University or whose acceptance into the University Honors Program places them in ENG 198 satisfy the University requirement with those one-semester courses.

Students who are placed in ENG 114 or ENG 198 do not receive credit for ENG 101 but are free to take elective course work in place of the waived first semester of composition. Students whose verbal scores on the SAT or ACT do not meet placement criteria for ENG 101 must enroll in a developmental writing course. (See DEV, Chapter X.) Students for whom English is a second language must take a placement test administered by the Department of English. Particulars about the first-year courses and testing procedures can be obtained from the chairperson or the coordinator of composition, Department of English.

## ORAL COMMUNICATION

The University requirement in oral communication skills is satisfied by successful completion of CMM 101. Some entering students may demonstrate sufficient evidence of these skills and qualify to take a special waiver examination for the course. Students desiring information on eligibility for the waiver examination should inquire in the offices of their respective deans.

## MATHEMATICAL SKILLS

All students at the University of Dayton are required to demonstrate a knowledge of basic algebraic manipulations. Many students will satisfy this requirement by taking the more advanced mathematics courses that their school, college, or major programs require. Students whose programs would not otherwise require them to take mathematics courses can satisfy the Basic Skills requirements in mathematics with MTH 102. The requirement can also be satisfied by passing a competency examination of the material covered in the MTH 102 course. Students whose mathematical skills are weak may need some special assistance. The Learning Assistance Center (see Chapter II; see also DEV, Chapter X), can provide help in such instances.

## GENERAL EDUCATION REQUIREMENTS

Within the context of the University's Catholic and Marianist educational philosophy, the General Education requirements are central to the full intellectual, social, moral and spiritual development of every student. The purpose of these requirements is to make students aware of the diversity of intellectual thought and theory represented by the sciences, the humanities, and the social sciences. Further, the General Education component of the undergraduate curriculum offers the student an opportunity to integrate and evaluate information from various disciplines and thus enhance the study of a specific profession, field or major. These requirements, are integral to the University's goal of preparing students for a life of leadership and service, of helping students to grow not only in knowledge, skills, and professional competence, but also as morally responsible decision makers who are aware of the needs of the global community.

## DOMAINS OF KNOWLEDGE

To achieve these goals, the University requires the completion of General Education courses in five domains of knowledge.

*Arts Study:* The experience of generations confirms that life is enriched immeasurably by experiencing the world through the arts. Every student should develop some understanding of the importance of this experience and must take one course in the arts and/or language as a means of aesthetic and/or cultural expression. Performing or production courses do not fulfill this requirement.

*Historical Study:* A person with a knowledge of history can relate ideas and events to one another within a context understood by the community of educated men and women. Therefore, every student at University of Dayton must take two history courses. One of those courses, History 101, History 102 or History 198, will be taken as part of the Humanities Base.

*Philosophy and Religious Studies:* As a Catholic and Marianist institution of learning, the University regards religious studies and philosophy as serving a special function. Students should have an opportunity to deepen their knowledge of the religious and philosophical traditions that shape their shared heritage. Study of these areas, especially when conducted through interdisciplinary courses, can also help students integrate their knowledge of the themes and institutions of societies through the ages. Since every student should be encouraged to go beyond the introductory level in either or both of these areas, every student must take four courses in religious studies and philosophy. Philosophy 103 and Religious Studies 103 are required as part of the Humanities Base.

*Physical and Life Sciences:* The physical and life sciences and technology have affected the quality of life in every age, but never more than in the present. The potential of science and technology for both good and evil will undoubtedly increase in the future. It is essential, therefore, that educated citizens understand the methods of science and its application through technology. For these reasons students must take two courses in the physical and life sciences and technological applications.

*Social Sciences:* Educated members of society need to understand the dynamics through which people relate to each other as individuals, in groups, and as producers and consumers of goods and services. Effective relationships sustain us as members of families, professions, nations, and the global community. Students, therefore, must take at least one course in the social sciences.

## STRUCTURE OF GENERAL EDUCATION REQUIREMENTS

To achieve the goals of raising fundamental questions about human existence, encountering these questions in a meaningful context and encouraging significant integration, students must complete the Humanities Base and a thematic cluster as part of their General Education requirements.

*Humanities Base:* General Education raises a set of questions that challenges students to develop and formulate their own conception of what it means to be human. These questions may be considered in any number of disciplines, but they are essential to the humanities. Consequently, all undergraduates must complete, preferably during their first year, a Humanities Base of one course in each of the following disciplines.

- History: HST 101, History of Western Civilization from Its Classical  
Roots to 1715  
or  
HST 102, History of Western Civilization Since 1715  
or  
HST 198, History Honors Seminar
- Philosophy: PHL 103, Introduction to Philosophy
- Religious  
Studies: REL 103, Introduction to Religion  
(choice of Catholic, comparative religion, or scripture option)
- English: ENG 102, College Composition II  
ENG 114, Freshman Writing Seminar  
ENG 198, Freshman Honors Seminar

*Thematic Clusters:* To facilitate an integrated view of the domains of knowledge and to encourage students to understand the broad world around them, all undergraduates must complete one thematic cluster. A thematic cluster is a series of courses from the domains of knowledge, focusing on an issue central to the human condition. To fulfill the thematic cluster requirement, students must complete a minimum of three approved courses in a single cluster, representing three different domains of knowledge. For the purpose of thematic clusters, philosophy and religious studies are considered separate domains of knowledge. Students will receive specific information about thematic clusters from their faculty advisors. Students must have the approval of their advisors before selecting and registering for a thematic cluster. *The Guide to the University General Education Program* describing all approved clusters and their course offerings is distributed to all students.

*Completing General Education Requirements:* At the maximum, students could enroll in as many as seven thematic cluster courses in the appropriate domains of knowledge. These courses, combined with the Humanities Base, would fulfill all General Education requirements. In most cases, however, students will have to complete some domain of knowledge requirements outside of the courses serving a thematic cluster. With their advisors' approval, students may elect to take any designated General Education course within the appropriate domain to help satisfy requirements. Many of the courses listed as approved courses under a domain of knowledge will also serve the same purpose as a course in a thematic cluster.

Courses that have been approved by the University for General Education credit are listed below according to the parts of the domains of knowledge that they serve to satisfy. These courses are marked by asterisks (\*) where their descriptions appear under Courses of Study in individual departmental sections of this *Bulletin*. See also current issues of the Undergraduate Composite of Courses or *The Guide to the University General Education Program* for additional approved General Education courses.

Each department determines whether its majors are free to choose from among all the approved nonrestricted courses, or are to choose from among a limited number of approved courses, or are required to take only specific approved courses. The University has approved some courses for certain majors exclusively, and those courses are therefore restricted to those majors for General Education credit. For example, English majors may not take HST 370, Economic History of the United States, to satisfy the historical study requirement. Students should consult their advisors to learn which courses are permissible in their own majors.

## ARTS STUDY

All students must complete one arts study course to satisfy General Education requirements. This requirement may be satisfied by arts study courses that are either included in or independent of a thematic cluster. Approved General Education courses that satisfy the arts study domain of knowledge outside a cluster are:

			<i>Restrictions</i>
CMM	355	Rhetoric of Social Movements	
ENG	151	Introduction to Literature	
ENG	198	Freshman Honors Seminar	for honors program students exempted from first-year composition requirement only
ENG	203	Major British Writers	
ENG	204	Major American Writers	
ENG	205	Major World Writers	
ENG	320	Contemporary Drama	
ENG	322	Masterpieces of World Literature	
ENG	323	Literature of the Christian Tradition	
ENG	333	Women and Literature	
ENG	334	Modern Men: Images	
ENG	335	Modern Black Literature	
ENG	336	Gender in Fiction	
ENG	340	The Prison in Literature	
ENG	350	European Literature and Antiquity	
ENG	351	European Literature of the Middle Ages	
ENG	353	Literature of the Renaissance	
ENG	354	Literature of the Enlightenment	
ENG	355	Literature of the Romantic Age	
ENG	356	European Literature of the Nineteenth Century	
ENG	357	European Literature of the Early Twentieth Century	
ENG	358	Contemporary Literature of Europe	
ENG	362	Shakespeare	
ENG	380	The Tragic Dilemma	for CORE only
ENG	382	Mozart's Operas	
ENG	384	Christianity and Modern Poetry	
FRN	352	French Literature in Translation —The Old World Meets the New	
FRN	361	Survey of French Literature I	
FRN	362	Survey of French Literature II	
FRN	452	French Literature—The Old World Meets the New	
GER	361-362	Survey of German Literature I, II	
HMS	360	Latin America through Literature	
HMS	395	Contemporary Intellectual Trends —Europe	
MUS	201	Music in Concert	
MUS	203	Sights and Sounds of Music	
MUS	205	Music, Instruments, and Technology	
MUS	302	Music History and Literature II	
MUS	304	History of American Music	
MUS	305	African-American Sacred Music	



MUS	306	History of American Jazz
MUS	307	Development of American Popular Song
MUS	309	Opera History and Literature
MUS	350	Sacred Music
RUS	361	Survey of Russian Literature
THR	105	Introduction to the Theatre
VAH	101	Introduction to the Visual Arts
VAH	201	Survey of Art I
VAH	202	Survey of Art II
VAH	203	Survey of Art III

## HISTORICAL STUDY

All students must complete two historical study courses to satisfy General Education requirements. The first historical study course, HST 101, HST 102, or History 198, forms part of the Humanities Base. The second historical study course can be part of a thematic cluster or serve simply to satisfy that domain of knowledge requirement of General Education. The restrictions on certain historical study courses apply both to the majors indicated and to secondary education majors whose teaching fields are in those disciplines. (Education students should see checklists.) Approved General Education courses that satisfy the historical study domain of knowledge outside a cluster are:

### *Restrictions*

AMS	301	Interpretations of American Culture	
CMM	350	Propaganda Analysis	
CMM	416	Development of Mass Media	for CMM only
EDT	300	History of Education Since 1789	for education only
ENG	301	Survey of Early English Literature	
ENG	302	Survey of Later English Literature	for ENG only
ENG	305	Survey of American Literature	
ENG	306	Survey of Continental Literature	
GER	341	German Culture and Civilization	
HSS	275	History of Physical Education and Sport	for HSS only
HST	101	History of Western Civilization from its Classical Roots to 1715	
HST	102	History of Western Civilization Since 1715	
HST	198	Honors History Seminar	
HST	251	American History to 1865	
HST	252	American History Since 1865	
HST	302	History of Ancient Greece	
HST	303	History of the Roman Republic and Empire	
HST	305	Medieval Europe	
HST	307	Renaissance and Reformation	
HST	314	Modern Europe in Decline, 1890-1945	

## Academic Regulations

HST	315	Europe in the Post-War Era, 1945 to the Present
HST	322	History of England
HST	327	National Cultures of the Soviet Union and Its Successor States
HST	328	History of Eastern Europe
HST	330	History of East Asia
HST	337	History of Africa: 19th Century to the Present
HST	340	History of Science
HST	341	Historical Perspectives on Science, Technology, and Society
HST	342	Environmental History of the Americas
HST	343	History of Civil Engineering
HST	344	History of Science, Technology, and the Modern Corporation
HST	346	History of American Aviation
HST	349	Conflicts Across Culture: Technology and the Culture of War
HST	351	History of American Women
HST	352	History of the American Family
HST	353	Women in European Society
HST	355	American Urban History
HST	357	Latin America in the Twentieth Century
HST	358	Social and Cultural History of Latin America
HST	360	U.S. Legal and Constitutional History I
HST	361	U.S. Legal and Constitutional History II
HST	370	Economic History of the United States
HST	372	History of Religion in the United States
HST	374	Ireland and America
HST	376	Social and Cultural History of the United States
HST	380	History of the American Indian
HST	391	American Architectural History and Preservation
HST	398	History of African-Americans in the United States to 1900
HST	399	History of African-Americans in the United States since 1900
MUS	301	Music History and Literature I
PSY	471	History of Psychology
THR	415	History of Theatre I
VAH	360	Women Artists: An Historical Survey
VAH	382	History of Photography I
VAH	470	Nineteenth-Century Art I
VAH	471	Nineteenth-Century Art II
VAH	480	Twentieth Century Art

## PHILOSOPHY AND RELIGIOUS STUDIES

Having completed Philosophy 103 and Religious Studies 103 as part of the Humanities Base, students are required to take an additional two courses in philosophy and/or religious studies courses to satisfy General Education requirements. (At least one of these must be an upper-level (300-400) course.) Advising guidelines are available from the Department of Philosophy and the Department of Religious Studies. Again, this domain of knowledge may be satisfied by philosophy and/or religious studies courses that are either included in or independent of a thematic cluster. Approved General Education courses that satisfy the philosophy and religious studies domain of knowledge outside a cluster are:

			<i>Restrictions</i>
ASI	101	Development of Philosophy and Religion in the West I	for CORE only
ASI	102	Development of Philosophy and Religion in the West I	
EDT	335	Catholic Philosophy of Education	for education only
EDT	419	Philosophy of Education	for education and E11 only
PHL	201	Practical Logic	
PHL	302	Symbolic Logic	
PHL	304	Philosophy of Human Nature	
PHL	306	Philosophy of Knowledge	
PHL	307	Philosophy and Women	
PHL	308	Metaphysics	
PHL	309	Philosophy of Mind	
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 Modern War	
PHL	318	Family Ethics	
PHL	319	Information Ethics	
PHL	320	Philosophy of Art	
PHL	321	Environmental Ethics	
PHL	323	Philosophy and Literature	
PHL	324	Philosophy and Film	
PHL	325	Philosophy of Music	
PHL	327	Philosophy of Peace	
PHL	330	Philosophy of Science	
PHL	331	Science, Objectivity, and Values	
PHL	332	Technology and Values	
PHL	333	Philosophy and Cognitive Science	
PHL	344	CORE Seminar in Philosophy	for CORE only
PHL	345	Honors Seminar in Philosophy	for honors program only
PHL	350	Classical Greek Philosophy	
PHL	351	Medieval Philosophy	
PHL	352	Modern Philosophy	
PHL	353	Contemporary Philosophy	
PHL	355	Eastern Philosophy	
PHL	356	Christian Philosophy	
PHL	357	Radical Philosophy	
PHL	358	Marxist Philosophy	
PHL	359	Phenomenology	
PHL	360	Existentialism	
PHL	361	American Philosophy	
PHL	370	Political Philosophy	
REL	201	Selected Religions of the East	
REL	202	Religions of the Middle East	
REL	211	Old Testament in Modern Study	
REL	212	New Testament in Modern Study	
REL	265	Christian Ethics	
REL	266	Christian Ethics: Ecocentric Approach	

## Academic Regulations

			<i>Restrictions</i>
REL	305	Ancient Near Eastern Religions	
REL	306	Buddhism and Christianity	
REL	307	Judaism	
REL	310	The Pentateuch	
REL	311	The Prophets	
REL	312	The Psalms and Wisdom Literature	
REL	315	The Gospels	
REL	316	The Synoptic Gospels	
REL	317	Studies in John	
REL	318	Studies in Paul	
REL	319	The Book of Revelation	
REL	323	History of Christianity I	
REL	324	History of Christianity II	
REL	327	U.S. Protestant and Jewish Experience	
REL	328	U.S. Catholic Experience	
REL	329	African-American Religion	
REL	340	The Church	
REL	341	Significance of Jesus	
REL	343	The Sacraments	
REL	344	Christian Marriage	
REL	356	The Christian Tradition of Prayer	
REL	361	CORE Religion Seminar	for CORE only
REL	362	Christian Family Values and Television	
REL	363	Faith and Justice	
REL	367	Christian Ethics and Health Care Issues	
REL	368	Christian Ethics and the Business World	
REL	369	Christian Ethics and Engineering	
REL	371	The New Religions and Personal Transformation	
REL	372	Religion and Film	
REL	373	Religion and Literature	
REL	374	Religion and Art	
REL	376	Theology and the Social Sciences	
REL	377	The Inner Journey in Myth, Bible, and Literature	
REL	383	Philosophy of Religious Education	
REL	385	Lay Ministry	
REL	406	Jewish Thought	
REL	441	Theology of Mary	
REL	447	Selected Catholic Doctrines	
REL	466	Theology of Sexuality	
REL	471	Women and Religion	
REL	472	Ecology and Religion	
REL	474	Women and the Global Church	
REL	477	Religion and Science	
REL	488	Spirituality and Religious Education	

## PHYSICAL AND LIFE SCIENCES

All students must complete two physical and life sciences courses to satisfy General Education requirements. This requirement may be satisfied by physical and

life science courses that are included in or independent of a thematic cluster. Approved General Education courses that satisfy the physical and life sciences domain of knowledge outside a cluster are:

			<i>Restrictions</i>
ASI	299	Honors Science Seminar	for honors program only
BIO	101	General Biology I	
BIO	102	General Biology II	not for BIO, DEN, MED
BIO	151	Concepts of Biology I	
BIO	152	Concepts of Biology II	
BIO	301	Evolution	
BIO	390	Physiology of Sex and Fertility Regulation	for FDV minor only
BIO	395	Global Environmental Biology	
BIO	398	Heredity and Society	
BIO	412	General Genetics	
CHM	115	College Preparatory Chemistry	
CHM	123	General Chemistry	
CHM	124	General Chemistry	
CHM	200	Chemistry and Society	
CHM	496	Professional Practices Seminar	for CHM only
CPT	122	General Chemistry	for EET, IET, MFG, MCT only
CPT	214	General Chemistry with Case Studies	
CPT	215	The Chemical Industry—Technology and Issues	
EGR	201	Technology and the Engineering Method	not for engineering
GEO	103	Principles of Geography	not for BIO, CHM, GEO, PHY, or those who have taken GEO 109 or 115
GEO	109	General Geology	
GEO	115	Physical Geology	
GEO	116	Historical Geology	
GEO	208	Environmental Geology	
GEO	218	Engineering Geology	
HSS	305	Human Anatomy	
HSS	306	Human Physiology	for HSS, MUT only
PHY	105	Physical Science	
PHY	108	Physical Science of Light and Color	
PHY	201	General Physics	
PHY	202	General Physics	
PHY	203	Modern Technical Physics	
PHY	206	General Physics I—Mechanics	
PHY	206H	General Physics I—Mechanics	for honors program only
PHY	207	General Physics II—Electricity and Magnetism	
PHY	207H	General Physics II—Electricity and Magnetism	for honors program only
PHY	208	General Physics III—Mechanics of Waves	
PHY	208H	General Physics III—Mechanics of Waves	for honors program only
PHY	250	Descriptive Astronomy	
SCI	190	The Physical Universe	

## Academic Regulations

SCI	210	The Dynamic Earth
SCI	220	The Chemical World
SCI	230	Organisms, Evolution and the Environment
SCI	240	Biology and Human Health

## SOCIAL SCIENCES

All students must complete one social science course to satisfy General Education requirements. This requirement may be satisfied by social science courses that are either included in or independent of a thematic cluster. Approved General Education courses that satisfy the social science domain of knowledge outside a cluster are:

### *Restrictions*

AMS	300	American Cultures	
ANT	150	Cultural Anthropology	
ANT	300	Evolution of People and Culture	
ASI	298	Honors Social Science Seminar	for honors program only
CMS	414	Global Communication	
CMS	415	Women and Communication	
ECO	203	Principles of Microeconomics	
ECO	204	Principles of Macroeconomics	
ECO	310	Economics and the Environment	
EDT	351	School, Self and Society	
EHZ	300	Cultural Aspects of Food	
EHZ	305	Global Nutrition	
POL	101	Global Politics	
POL	306	Public Policy Analysis	
POL	331	Nationalism and Ethnopolitics	
POL	450	Civil Liberties	
POL	471	Environmental Policy	
PSY	101	Introductory Psychology	
PSY	341	Social Psychology	
PSY	375	Psychology of the Arts	
PSY	443	Psychology of Women	
PSY	444	Environmental Psychology	
PSY	445	Technology, Environment, and Behavior	
PSY	450	Psychology for Ministry	
SOC	204	Modern Social Problems	
SOC	321	Sociology of Work and Occupations	
SOC	322	Sex Roles and Society	
SOC	326	Law and Society	
SOC	328	Racial and Ethnic Minorities	
SOC	331	Marriage and the Family	
SOC	332	Sociology of Women	
SOC	339	Social Inequality	
SOC	341	Self and Society	
SOC	343	Mass Communication in Modern Society	
SOC	352	Community	
SWK	101	Social Welfare and Society	
SWK	331	Death, Dying, and Suicide	

## GRADES AND SCHOLARSHIP

Final grades are submitted at the end of the term, and these are made part of a student's permanent record in accord with the option chosen by the student. Copies of these reports are given to the students and deans. A progress report of every first-year student in each of the classes is submitted to the Registrar by every instructor at the middle of each term.

Undergraduate students are permitted a selection from two alternative grading options. The course grading options are as follows:

Option 1—A, B, C, D, F

Option 2—S/NC—Satisfactory (A, B, C)/No Credit (D, F)

Option 3—EM—Examination Credit

In addition to those courses which must be taken under Option 2, a student may take a maximum of fifteen semester hours under Option 2 within the hours required for graduation in the degree program. A student may take any course beyond the minimum hours required for graduation in the degree program under Option 2. All courses that are used to fulfill General Education and Basic Skills requirements must be taken under Option 1. The college/school or department may place further restrictions on the use of Option 2. Exceptions to this policy may be made by the dean (or the dean's designee) of the college/school in which a student is enrolled. NOTE: Studies have shown that Satisfactory/No Credit grades (Option 2) on one's academic record may be a negative factor in the evaluation of application for transfer to some undergraduate schools, for admission to most professional schools (law, medicine, etc.) and many graduate schools, and for employment in some fields.

The official marks with their meanings and quality-point values are as follows:

- A — *Excellent*; for each semester hour, four quality points are allowed.
- B — *Good*; for each semester hour, three quality points are allowed.
- C — *Fair*; for each semester hour, two quality points are allowed.
- D — *Poor but passing*; for each semester hour, one quality point is allowed.
- F — *Failed*. This mark indicates poor scholastic work, or failure to report withdrawal from a course. In such cases, required courses must be repeated or retaken, preferably at the next opportunity.
- S — *Satisfactory*. This mark indicates credit given for a course taken under grading Option 2, C or above. The S credit shall be counted as hours only and shall not be considered in determining a student's cumulative point average.
- NC—*No Credit*. This mark indicates no credit given for a course taken under grading Option 2, below C. In such cases, required courses must be repeated or retaken, preferably at the next opportunity.
- I— *Incomplete*. This grade indicates that the student has obtained the instructor's recommendation, subject to the chairperson's approval, to complete some portion of the work of the term that for reasons beyond the student's control was not completed before the end of the term, provided that the rest of the work has been of satisfactory grade. An I must be removed within thirty days from the date listed on the grade report, or it will be changed to an F or NC (option 2) on the student's permanent record. The time limit may be extended under exceptional circumstances, with the approval of the dean, if application for the extension is made within the thirty-day period noted.

- W— *Withdrawn*. During the first three weeks of a full term (or the first eight class days of a split term) a student may withdraw from a class without record by obtaining a drop (withdrawal) form from the Registration Office, having it signed by the academic advisor, and processing it. Beginning with the fourth week of the term and continuing through the fourth week after mid-term (or the ninth class day of a split term and continuing through the fourth week of the split term), a student may withdraw with a W by the same process, except that the drop form must have the approval signature of the instructor as well as that of the advisor. For the remainder of the term, until the last day of classes, a student may withdraw with a W only by making a formal request to the dean, who consults with the student's instructor before granting such a request. During this period a W will be permitted only for special nonacademic reasons, which include, but are not limited to, poor personal health, financial difficulties, family matters of health, and change in career objectives. When a student finds it necessary to withdraw from the University, for any reason whatsoever, it is important that the dean be notified immediately. Financial adjustments, if allowed, will be made only from the date on the withdrawal form. Total withdrawal from all classes requires the processing of the drop form. This requires one signature from the student's Academic dean. It is the student's responsibility to initiate and process all withdrawals; the faculty do not initiate withdrawals for students except for auditors. (See X below.) In addition, the student is urged to process the withdrawal as soon as possible after deciding to drop a course. Students cannot assume that withdrawals are granted automatically if they stop attending class. Any failure to process the drop (withdrawal) form will incur a grade of F for the course or courses involved. The F's so accumulated are always included in the cumulative point average.
- P — *In Progress*. This symbol is used in lieu of a grade for a course which has not terminated at the end of a term or summer session. A grade with corresponding credit and quality points (see grading Options 1 and 2) will be assigned when the course has been completed.
- N— *No grade was reported by the instructor*.
- K— *Credit*. This mark is used only for credits accepted as transfer credit from other institutions. No quality points are allowed. K credit is not allowed for English courses taken at institutions in countries where the native language is other than English.
- X— *Audit*. This mark indicates that the student has registered to audit the course. No credit hours or quality points are awarded for this mark. Any course taken for audit may not be retaken for credit. If, in the opinion of the instructor, a student has not attended and participated in a sufficient number of classes, the instructor will assign a W.
- R— *Retaken*. An undergraduate student who receives a grade of D or F in a course taken under Option 1 at the University of Dayton may retake that course under Option 1 at the University of Dayton and remove the original D or F from the cumulative GPA. When a course has been retaken and the subsequent grade is higher than or equal to the previous grade, the previous grade will not count towards the student's cumulative GPA henceforth. There will be no retroactive adjustment to GPAs. The transcript will reflect this event with a strikethrough over the entire line containing the original grade. A retaken course is indicated by an R placed immediately after the grade. When



a course in which a D was received has been retaken, and an F is earned, the initial D will be used in the student's cumulative GPA calculation, and the entire line containing the F will receive a strike through. A student may have no more than 15 semester hours of R or strikethrough grades.

If a student retakes a course in which the topics vary, it must be demonstrated that the retaken course contains the same material as the original course in which the student received a D or F. Courses taken by students prior to the initiation of this policy, and before completion of an undergraduate degree, may be retaken within the guidelines of this policy. Exceptions to this policy may be made by the dean (or the dean's designee) of the school or college in which the student is enrolled.

*Addendum to Retake Policy:* When a student retakes a course which he or she has taken more than once previously, the retaken course will serve to replace both previous grades (if it is the same as or higher than each). The number of "retaken hours" will be counted as the total hours for the two courses in which the grades are replaced. E.g., if a student retakes PSY 101 in which he or she had previously earned F two times, the new passing grade will replace both Fs, but will count as 6 credit hours taken instead of 3. This student will then be able to take up to 9 additional course grades.

EM—*Examination.* This mark indicates University of Dayton credit given to a student on the basis either of the Advanced Placement Program of the CEEB or of examinations taken prior to or after admission to the University. The required level of achievement on these examinations is determined by the department in which the course is taught. This credit shall be assigned only on authorization of the registrar. No quality points are allowed. A student must be registered at the University of Dayton to obtain credit. EM credit is limited to 24 semester hours (exclusive of AP and CLEP General Examination credits).

NO GRADE CHANGE OF ANY KIND IS PERMITTED AFTER THIRTY DAYS FROM THE DATE LISTED ON THE GRADE REPORT.

The University reserves the right to change the grading system.

## GRADE-POINT AVERAGES

The SEMESTER GRADE-POINT AVERAGE is the total number of quality points divided by the number of semester credit hours carried by the student under Option 1.

The CUMULATIVE GRADE-POINT AVERAGE is the total number of cumulative quality points divided by the number of cumulative credit hours carried by the student under Option 1. If a course is *repeated*, the grade points for both the original grade and the new grade are computed. If a course is *retaken* (see R) and the subsequent grade is higher than or equal to the previous grade, the previous grade will not count towards the student's CGPA henceforth. Marks of I, K, N, P, S, W, X, NC, and EM are disregarded in the computation of the CGPA.

The CUMULATIVE ACADEMIC UNIT GRADE-POINT AVERAGE includes only those courses completed at the University of Dayton and required for the specific degree obtained and/or approved for inclusion by the students's school or

college. The Cumulative Academic Unit GPA will appear at the end of the transcript or upon graduation.

## ACADEMIC STANDING

The student's academic standing is determined by the cumulative grade-point average at the end of each term.

1. To be in good academic standing, a student must have a cumulative grade-point average of (a) at least 1.7 at the end of the first and second terms, (b) at least 1.8 at the end of the third term, (c) at least 1.9 at the end of the fourth term, and (d) at least 2.0 at the end of the fifth and succeeding terms. For part-time and transfer students, a block of 12 semester hours of credit is considered one term. A cumulative grade-point average of at least 2.0 is required for graduation.

2. A cumulative grade-point average below the one required will place the student on academic probation. The student's academic dean will notify the student of his or her probationary status. A student on probation must follow a restricted academic program not to exceed 15 semester hours.

3. It is the responsibility of any student on academic probation to complete a contract with the dean for the purpose of determining the nature and limitations of the student's future academic and extracurricular activities.

4. Students whose academic performance has seriously impaired their ability to succeed academically at the University of Dayton are subject to dismissal. A student who is subject to academic dismissal can be dismissed only by his or her academic dean, who authorizes the dismissal and notifies the student of his or her status. Students who are subject to dismissal include (a) those who fail to achieve good standing at the end of a term on probation and (b) those who have a term point average of less than 1.0, regardless of cumulative grade-point average.

5. The registrar will post "Academic Dismissal" on the permanent record of any student who is dismissed.

## DEAN'S LIST

At the conclusion of the fall and the spring terms, in both the college and the professional schools, any full-time student who has achieved a superior academic record (a grade-point average of 3.5 or above) for the term just ended is named to the dean's list. Any part-time student with the required grade-point average (3.5 or above) is eligible for the dean's list after completing 12 or more semester hours of credit and will subsequently be named to the dean's list each time an additional increment of 12 or more semester hours of credit is completed. No dean's list is compiled for the summer term.

## HONORS

1. To graduate with honors, a student must have completed a minimum of 60 semester hours at the University of Dayton and have an academic degree program grade-point average at the University of Dayton of 3.50 or higher, based on a 4.00 scale. The academic degree program grade-point average includes all courses taken at the University of Dayton under grading Option 1 and accepted as graduation

credits by the student's academic unit, i.e. school or college. Determination of a student's honors category is made on the basis of the student's academic record at the conclusion of the term preceding the student's last term at the University or on the basis of the student's academic record at the conclusion of his or her last term.

2. If a student qualifies for honors or moves into a higher category of honors on the basis of his or her academic degree program grade-point average, mention will be made at the commencement exercises, notation will be made on the transcript and permanent record, and an appropriate honors key will be awarded.

3. Honors status will be determined by the academic degree program grade-point average and will include only those courses completed at the University of Dayton. Students who transfer to the University of Dayton under the terms of an articulation agreement with a community college will be eligible for honors at graduation even if they have not completed the minimum of 60 semester hours at the University provided that they have met all terms of the articulation agreement.

4. The notation of honors is made in the commencement program, on the diploma, on the student's permanent record, and on the transcript, as follows:

*Cum Laude*—if the academic degree program grade-point average is greater than or equal to 3.50 but less than 3.70;

*Magna Cum Laude*—if the academic degree program grade point average is greater than or equal to 3.70 but less than 3.90;

*Summa Cum Laude*—if the academic degree program grade-point average is greater than or equal to 3.90.

5. Any exceptions to this procedure are the decision of the dean of the student's academic unit.

## COMMENCEMENT

Commencement at the University of Dayton is formal recognition of students who are graduating from the University. Consequently, University policy limits participation in commencement to students who have completed all the requirements for their degree. Exceptions to this policy are granted only under the most extraordinary circumstances. Receiving an incomplete or failure in a course necessary for graduation or personal conflicts with scheduled commencements are, for example, not considered extraordinary circumstances.

Students wishing to appeal this policy can do so by submitting a written request to the Associate Provost for Faculty and Academic Affairs. The final decision concerning any appeal is made by the Graduation Appeals Committee consisting of the Associate Provost, a faculty representative, and an undergraduate student selected by the Student Government Association. All appeals must be submitted at least two weeks before the graduation ceremony in question.

## CLASS ATTENDANCE POLICY

It is desirable for students to attend all classes. Listening to the lectures of instructors and being involved in classroom discussions should (1) provide guidelines and goals in the course of study, thus lending direction to the study activities of the student; (2) provide instances of the way of thinking and methodology employed by an academic discipline in formulating and solving problems; and (3) stimulate an awareness of and interest in the course topics beyond the level

acquired by textbook reading. Because textbook material is generally beneath the level of the current state of knowledge, instructors acquaint the student with new ideas and integrate this material into the course topics.

Students are responsible for being aware of the proceedings and material covered in each class period. Students must attend all announced tests and submit assigned written work on the date set by the instructor; it is recommended that the instructor announce such tests and assignments at least a week in advance. The action taken as a consequence of missing a test or an assignment will be determined by the instructor and will be based on a consideration of the individual circumstances involved.

To assist first-year students in their transition to college responsibilities, it is felt that a policy of compulsory attendance is necessary. Therefore, first-year students will be permitted only a limited number of absences. For first-year students, the allowable number of absences in the first term or in the second term will be equal to twice the meeting times a week (or four class days in any third-term session). A student exceeding this number will be referred to the student's dean for possible counseling and appropriate action. Any undergraduate student who has not accrued 30 semester hours of credit is considered a first-year student.

In addition to the first-year-student policy, faculty may institute an attendance requirement. This may be done for any course (including seminars, laboratories, performance courses, clinical field-based courses, and the like) provided that the policy is approved by a faculty committee of the department and/or the department chair. If attendance is used as a grading component, the instructor is obligated to clarify his or her classroom policy regarding absences in writing in the syllabus provided during the first full week of the semester. Let it be noted that to insure accuracy of records, every student must be present at class during the first week of each term.

## STUDENT RECORDS

The Family Educational Rights and Privacy Act of 1974 (FERPA) is a federal law which states that an educational institution must establish a written institutional policy concerning the confidentiality of student education records and that students must be notified of this statement of policy and their rights under the legislation. In accordance with the Act, students and parents of dependent students at the University of Dayton have the following rights:

1. The right to inspect and review educational records covered by the Act or personally identifiable information contained therein
2. The right to challenge the contents of these records
3. The right to a formal hearing, if necessary, for a fair consideration of such a challenge
4. The right to place an explanatory note in the record in the event that a challenge of contents is unsuccessful
5. The right to control, with certain exceptions, the disclosure of the contents of the records
6. The right to be informed of the existence and availability of the institutional policy covering FERPA rights
7. The right to report violations of FERPA legislation to the Department of Education.

A complete policy statement on student records in accordance with the requirements of FERPA can be found in the student handbook, published by the Office of Student Development. Copies of the policy also are available at the following University offices: Vice President for Student Development and Dean of Students, Provost, and Registrar.

## TRANSCRIPTS

A transcript of the permanent academic record is a confidential document to be released in compliance with the regulations of the Family Educational Rights and Privacy Act of 1974 as amended. The Registrar will issue transcripts upon a request signed by the student. All transcripts so requested require payment in advance. See "Other Charges" in Chapter IV, Financial Information. One complimentary copy will be mailed to each graduate approximately six weeks after graduation.

## AWARDS

Special awards for exceptional scholastic achievement are given annually through the generosity of donors. To be eligible for any of these awards, a student must have a cumulative point average of at least 3.0. The awards:

*Accounting*—The Award of Excellence to the Outstanding Senior in Accounting—donated by Jerome E. Westendorf, '43, and Warren A. Kappeler, '41.

*Accounting*—The Award of Merit in Recognition of Outstanding Achievement—donated by the Ohio Society of Certified Public Accountants, Dayton Chapter.

*Accounting*—The Accounting Career Award to a Student Exhibiting Great Potential in the Accounting Profession—donated by the Institute of Management Accountants, Dayton Chapter.

*Accounting*—The Clark-Eley-Fioriti Award for Outstanding Service to the Department of Accounting—donated by the Alumni and Faculty of the Department of Accounting.

*Anthropology*—The Margaret Mary Emonds Huth Memorial Award of Excellence to the Outstanding Senior in Anthropology—donated by Dr. Edward A. Huth.

*Arts and Sciences*—The Dean Leonard A. Mann, S.M., Award of Excellence to the Outstanding Senior in the College of Arts and Sciences—donated by Joseph Zusman, '65.

*Athletics*—The Reverend Charles L. Collins, S.M., Award of Excellence to an Athlete for Outstanding Citizenship—donated by Joseph Zusman, '65.

*Athletics*—The Charles R. Kendall, '29, Memorial Award of Excellence for Achievement in Academic and Athletic Effort—donated by Mrs. Charles R. Kendall and friends.

*Athletics*—The John L. Macbeth Memorial Award to the Outstanding Scholar-Athlete in Football and Basketball. The recipient must have completed five or more terms and won a varsity letter.

*Biology*—The John E. Dlugos, Jr., Memorial Award of Excellence to the Outstanding Senior Majoring in Biology—donated by Mr. and Mrs. John E. Dlugos.

*Biology*—The Brother Russell A. Joly, S.M., Award of Excellence to the Student Who Best Combines Excellence in Biology and Genuine Appreciation of Nature.

*Business Administration*—The Miriam Rosenthal Award of Excellence to a Graduating Senior in the School of Business Administration—donated by Dean William J. Hoben.

## Academic Regulations

*Business Administration*—The Mark T. Schneider Award to a Senior in the School of Business Administration Who has Combined Academic Excellence with Service to the University and the Community—donated by family and friends in his memory.

*Business Education*—The National Business Education Association Award of Merit in Recognition of Outstanding Achievement.

*Campus Ministry*—The Marianist Award for Voluntary Service to a Graduating Senior Who has Earned Distinction Through Voluntary Service to the Community—donated by the Marianists of the University of Dayton.

*Campus Ministry*—The Brother Wottle Campus Ministry Award: "An award of appreciation for service to Campus Ministry."

*Chemical and Materials Engineering*—The Victor Emanuel, '15, Award of Excellence to the Outstanding Senior in Chemical Engineering—sponsored by the University of Dayton Alumni Association since 1962.

*Chemical and Materials Engineering*—The Edmund J. Rolinski Memorial Award of Excellence in Leadership and Service.

*Chemical and Materials Engineering*—The Robert G. Schenck Memorial Award of Excellence to the Outstanding Junior in Chemical Engineering—donated by Stanley L. Lopata.

*Chemistry*—American Chemical Society Award.

*Chemistry*—American Institute of Chemists' Award.

*Chemistry*—The Brother George J. Geisler, S.M., Award of Excellence to the Outstanding Student in Chemistry—donated by Joseph Poelking, '32.

*Chemistry*—The Arlo D. Harris Assistance Fund for Chemistry to a Deserving First-Year Student Majoring in Chemistry.

*Chemistry*—The Bernard J. Katchman Memorial Scholarship to an Entering First-Year Student Majoring in Chemistry.

*Chemistry*—The Brother John J. Lucier, S.M., Award of Excellence to the Outstanding Junior Majoring in Chemistry—donated by a friend.

*Chemistry*—The Sherwin-Williams Chemistry Scholarship to an Outstanding Sophomore and Junior Majoring in Chemistry.

*Chemistry*—The Philip Zaidain Memorial Award to a Deserving Sophomore Majoring in Chemistry.

*Civil and Environmental Engineering and Engineering Mechanics*—The George A. Barrett, '28, Award of Excellence to the Outstanding Junior in Civil Engineering—donated by family and friends in his memory.

*Civil and Environmental Engineering and Engineering Mechanics*—The Harry F. Finke, '02, Award of Excellence to the Outstanding Senior in Civil Engineering—sponsored by the University of Dayton Alumni Association since 1962.

*Communication—Broadcasting*—The Omar Williams Award of Excellence to an Outstanding Student in Broadcasting—donated by the University of Dayton.

*Communication—Communication Management*—The Ellen M. Murphy Award of Excellence to the Outstanding Senior in Communication Management.

*Communication—Debating*—The Mary Elizabeth Jones Memorial Award of Excellence to an Outstanding Debator—donated by Dr. D. G. Reilly.

*Communication—Journalism*—The Ritter Collett Award of Excellence to the Outstanding Senior in Journalism. This is awarded annually to the student who best demonstrates in his/her person and writings the qualities of Mr. Collett that the University hopes will serve as an inspiration to the Journalism students.

*Communication—Journalism*—The Brother George F. Kohles, S.M., Award of Excellence in Journalism—donated by a friend.

*Communication—Mass Media Arts*—The Si Burick Award of Excellence for Outstanding Academic and Co-curricular Achievement in Mass Media Arts—donated by the University of Dayton.

*Communication—Public Relations*—The PRSA Maureen M. Pater Award of Distinction to the Outstanding Senior in Public Relations—donated by the Dayton-Miami Valley Chapter of the Public Relations Society of America.

*Communication—Speech Arts*—The Reverend Vincent Vasey, S.M., Award of Excellence to the Outstanding Senior in Speech Arts—donated by the Reverend Vincent Vasey, S.M.

*Communication*—The Bette Rogge Morse Award to the Outstanding Senior Woman in Communication.

*Communication*—The Faculty Award for Academic Excellence to the Senior with the Highest Cumulative and Major Grade Point Averages—donated by the Faculty of the Department of Communication.

*Computer Science*—The Addison-Wesley Senior Book Award for Excellence in Computer Science; Computer Information Systems—donated by the Addison-Wesley Publishing Company.

*Computer Science*—Alumni Award of Excellence in the Senior Class.

*Computer Science*—Computer Science Award for Outstanding Service to the Department.

*Computer Science*—GKM Systems Award for Innovative Programming.

*Continuing Education*—The Nora Duffy Award to a Reentry Student who Has Overcome Significant Obstacles in Order to Complete a College Degree.

*Cooperative Education*—Award of Excellence to the Outstanding Cooperative Education Student in Business Administration—sponsored by the Mead Corporation Foundation.

*Cooperative Education*—Award of Excellence to the Outstanding Cooperative Education Student in Computer Science-Computer Information Systems—sponsored by the Marathon Oil Foundation.

*Cooperative Education*—Award of Excellence to the Outstanding Cooperative Education Student in Engineering—sponsored by the Dayton Power and Light Company.

*Cooperative Education*—Award of Excellence to the Outstanding Cooperative Education Student in Engineering Technology—sponsored by Earl C. Iselin, Jr., in honor of his father.

*Criminal Justice*—The Sheriff Beno Keiter Memorial Scholarship Award to the Outstanding Criminal Justice Junior or Senior—donated by friends of Beno Keiter.

*Economics*—The Dr. E. B. O'Leary Award of Excellence to the Outstanding Senior Majoring in Economics—donated by Bank One.

*Electrical Engineering*—The Thomas R. Armstrong, '38, Award of Excellence for Outstanding Electrical Engineering Achievement in memory of Brother Ulrich Rappel, S.M., and W. Frank Armstrong—donated by Thomas R. Armstrong, '38.

*Electrical Engineering*—The Anthony Horvath, '22, and Elmer Steger, '22, Award of Excellence to the Outstanding Senior in Electrical Engineering—donated by Anthony Horvath, '22, and Elmer Steger, '22.

## Academic Regulations

*Electrical Engineering*—The Brother Louis H. Rose, S.M., '33, Award of Excellence to the Outstanding Junior in Electrical Engineering.

*Electrical Engineering*—The Mary C. Millette Endowment Award for the Outstanding Senior Electrical Engineering student in memory of Mary C. Millette.

*Electronic Engineering Technology*—The Richard R. Hazen Award of Excellence for the Outstanding Graduate of the Electronic Engineering Technology Program—donated by the alumni and friends of the Department.

*Elementary Education*—The George A. Pflaum, '25, Award of Excellence to the Outstanding Student in Elementary School Teacher Education—donated by George A. Pflaum, Jr.

*Engineering/Humanities*—The James L. Heft, S.M., Award of Excellence to the Graduating Senior who Demonstrates a High Degree of Integration of these Different Fields of Knowledge: Humanities and Engineering—donated by Dr. Rocco M. Donatelli.

*Engineering Technology*—The L. Duke Golden Award of Excellence to the Outstanding Senior in Engineering Technology—donated by the Gamma Beta Chapter of Tau Alpha Pi Honor Society.

*English*—The Father Adrian J. McCarthy, S.M., Award of Excellence to a Graduate Assistant for Achievement in Teaching First-year English—donated by a friend.

*English*—The Brother Thomas P. Price, S.M., Award of Excellence to the Outstanding Senior in English—donated by the U.D. Mothers' Club.

*English*—The Patricia B. Labadie Award for Excellence in Composition.

*English*—The Alex G. Tuss Service Award to the Graduating Senior with an Outstanding Record of Service to the Department and the University—donated by the Tuss Family.

*English Education*—The Dr. Harry E. Hand Memorial Award of Excellence—donated by the faculty of the Department of English and of the School of Education.

*Environmental Biology*—The Environmental Biology Award of Excellence to the Outstanding Environmental Biology Major who Excels in All Areas of Academic Scholarship and Overall Service.

*Environmental Biology*—The Environmental Biology Internship Achievement Award of Excellence to the Environmental Biology Major who Has Demonstrated Significant Achievement while Pursuing Practical Experience through the Internship Program.

*Environmental Engineering Technology*—The David I. Gross Award of Excellence to the Outstanding Graduate in Environmental Engineering Technology.

*Finance*—Award of Excellence to the Outstanding Senior Majoring in Finance.

*Finance*—The Douglas R. Scott "Best Efforts Award" to the Finance Major Deemed to Have Worked the Hardest Both In and Out of the Classroom—donated by Douglas R. Scott.

*General Excellence*—The Mary M. Shay Award of Excellence in Both Academic and Extracurricular Activities (seniors only)—donated by the Poelking Family.

*Geology*—The George H. Springer Scholarship to the Outstanding Senior in the Geology Department—donated by alumni of the Department.

*Health and Sport Science* — The Thomas J. Frericks Award of Excellence to the Outstanding Senior in Sport Management—donated by the faculty of the School of Education.

*Health and Sport Science*—The James M. Landis Memorial Award of Excellence for the Outstanding Health and Sport Science Senior in Science Core Courses.



*Health and Sport Science*—The James B. LaVanche Award of Excellence to the Outstanding Scholar-Athlete Graduating in the Department of Health and Sport Science—donated by the faculty and alumni of the department.

*Health and Sport Science*—The John L. Macbeth Memorial Award of Excellence to the Outstanding Student in Health and Sport Science—donated by Mrs. John L. Macbeth.

*History*—The Caroline Beauregard Award of Excellence to an Outstanding Junior Majoring in History—donated by family and friends in her memory.

*History*—The Dr. Samuel E. Flook Award of Excellence to the Outstanding Senior Majoring in History—donated by Dr. Samuel E. Flook.

*History*—The Betty Ann Perkins Award for Excellence in Women's and Family History—donated by her family.

*History*—The Steiner-Beauregard Phi Alpha Theta Service Award—for Significant Service Promoting the Activities of the Delta Eta Chapter (Delta Eta Chapter members only)—donated by Dr. Rocco M. Donatelli.

*History*—The Dr. George Ruppel, S.M., Award of Excellence in Historical Research.

*Human Ecology*—The Elizabeth L. Schroeder Award of Excellence to an Outstanding Senior in the Human Ecology Program for Academic and Professional Performance.

*Humanities*—The Rocco M. Donatelli Award to the Humanities Senior with the Strongest Quantitative and Qualitative Record in Elective Science Courses.

*Industrial Engineering Technology*—The James L. McGraw Award to the Outstanding Graduate of the Industrial Engineering Technology Program—donated by the Dayton Chapter of the Institute of Industrial Engineers.

*Industrial Engineering Technology*—The Raymond B. Puckett Award to the Outstanding Junior in Industrial Engineering Technology—donated by the Dayton Chapter of the Institute of Industrial Engineers.

*Languages*—The Brother John R. Perz, S.M., Award of Excellence to the Outstanding Senior in Modern Languages.

*Languages—French*—Brother George J. McKenzie, S.M., Award of Excellence to the Outstanding Senior in French—donated by a friend.

*Languages—Spanish*—The Dr. James M. Ferrigno Award of Excellence to the Outstanding Senior in Spanish—donated by Enrique Romaguera and Mary A. Ferrigno.

*Library*—The Brother Frank Ruhlman, S.M., Award of Excellence for Literary Achievement.

*Management*—The Charles Huston Brown, '20, Award of Excellence to the Outstanding Senior in Business Administration in memory of Brother William Haebe, S.M.—donated by C. Huston Brown, '20.

*Management*—The Maurice F. Krug, '51, Award of Excellence to an Outstanding Senior in the Department of Management.

*Management*—The Reynolds and Reynolds Company Award of Excellence to the Outstanding Woman in the Department of Management—sponsored by the Reynolds and Reynolds Company.

*Management*—The Standard Register Company Award of Excellence to an Outstanding Senior in the Department of Management—sponsored by the Standard Register Company.

*Management*—The Wall Street Journal Student Achievement Award to an Outstanding Senior Majoring in Management—sponsored by Dow Jones & Company, Inc.

## Academic Regulations

*Management Information Systems*—Scholarship Award to a Graduating Senior in MIS for Outstanding Academic Achievement.

*Management Information Systems*—Outstanding Student Award to a Graduating Senior in MIS for Outstanding Contributions to the MIS Program.

*Management Information Systems*—Design Project Award to the Team Producing the Best Senior Year MIS Project.

*Manufacturing Engineering Technology*—The Dayton Chapter, Society of Manufacturing Engineers Award of Excellence for Manufacturing Engineering Technology Achievement.

*Manufacturing Engineering Technology*—The Dayton Chapter, Society of Manufacturing Engineers Award of Excellence to the Outstanding Graduating Senior in Manufacturing Engineering Technology.

*Marketing*—The Marketing Award of Excellence to the Graduating Senior in Marketing for Outstanding Academic Achievement.

*Marketing*—The Marketing Career Award to the Graduating Student Exhibiting the Greatest Potential in Marketing.

*Marketing*—The Marketing Service Award to the Student Who Has Earned Distinction Through Voluntary Service to the University, the Community, and the Marketing Profession.

*Mathematics*—The Faculty Award of Excellence in Mathematics.

*Mathematics*—The Pi Mu Epsilon Award of Excellence in the Sophomore Class.

*Mathematics Education*—Bro. Joseph W. Stander, S.M., Award of Excellence to a Graduating Senior in the Teacher Certification Program with a Principal Teaching Field in Mathematics.

*Mechanical and Aerospace Engineering*—The Class of '02 Award of Excellence for Outstanding Mechanical Engineering Achievement—donated by Michael J. Gibbons, '02, in memory of Warner H. Kiefaber, '05.

*Mechanical and Aerospace Engineering*—The Bernard F. Hollenkamp, '39, Memorial Award of Excellence to the Outstanding Senior in Mechanical Engineering—donated by Louis A. and Mrs. Lucille Hollenkamp.

*Mechanical and Aerospace Engineering*—The Martin C. Kuntz, '12, Award of Excellence to the Outstanding Junior in Mechanical Engineering—sponsored by the University of Dayton Alumni Association since 1962.

*Mechanical and Aerospace Engineering*—The Brother Andrew R. Weber, S.M., Award of Excellence for Outstanding Service and Achievement in Mechanical Engineering.

*Mechanical Engineering Technology*—The Dayton Chapter, Society of Manufacturing Engineers Award of Excellence for Mechanical Engineering Technology Achievement.

*Mechanical Engineering Technology*—The Jesse H. Wilder Award of Excellence to the Outstanding Graduating Senior in Mechanical Engineering Technology—sponsored by the Dayton Chapter, Society of Manufacturing Engineers.

*Military Science*—The Brian J. Bentz Memorial Scholarship Award is presented to the outstanding sophomore ROTC Cadet who exemplifies the dedication and commitment for further study in Military Science—donated by his family and friends.

*Military Science*—Department of the Army Award. The Superior Cadet Award, provided by the Department of the Army, presented to the outstanding cadet of each academic year.

*Military Science*—The Lieutenant Robert M. Wallace, '65, Memorial Award to the Outstanding Junior ROTC Scholarship Cadet—donated by his family and friends.

*Music*—The Brother Joseph J. Mervar, S.M., Award of Excellence to an Outstanding Student Majoring in Music.

*Music*—Department of Music Senior Award for Outstanding Contribution to the University Bands.

*Music*—Department of Music Senior Award for Outstanding Contribution to the University Orchestra.

*Music*—Department of Music Senior Award for Outstanding Contribution to the University Vocal Ensemble.

*Music*—Sigma Alpha Iota College Honor Award for Musicianship, Scholarship, and General Contributions to the College Chapter.

*Music*—Sigma Alpha Iota Professional Music Fraternity Honor Certificate to the Chapter's Graduating Senior Who Has Attained the Highest Scholastic Rating.

*Music*—Department of Music Service Award.

*Philosophy*—The Award of Excellence to the First and Second Outstanding Seniors in Philosophy—donated by the Reverend Charles Polichek.

*Philosophy*—The Richard R. Baker Award for Excellence in Philosophy to a Graduating Student Who Has Earned Distinction in the Study of Philosophy Through Commitment to Philosophical Inquiry and Assisting Other Undergraduate Students in Their Pursuit of Philosophical Studies.

*Philosophy*—The Reverend Charles C. Bloemer, S.M., Award of Excellence to the Outstanding Junior Majoring in Philosophy—donated by a friend.

*Physics*—Award of Excellence to a Senior Physics Major Who Has Displayed "Remarkable Talent, Exemplary Industry, Intense Motivation, and Mature Comprehension of Undergraduate Physics"—donated by the Department of Physics.

*Physics*—The Caesar Castro Award of Excellence to a Sophomore for Outstanding Scholarship in the General Physics Lecture and Laboratory Sequence—donated in memory of Caesar Castro by Mrs. C. C. Castro and the Department of Physics.

*Physics*—The Sigma Pi Sigma Award of Merit to a Senior in Recognition of Outstanding Academic Achievement and Involvement in Physics—sponsored by the Department of Physics and the Sigma Pi Sigma honor society of the Society of Physics Students.

*Political Science*—The Brother Albert H. Rose, S.M., Award of Excellence to the Outstanding Senior in Political Science—donated by Joseph Zusman, '65.

*Political Science*—The Eugene W. Stenger, '30, Memorial Award of Excellence to the Outstanding Junior in Political Science—donated by Mrs. Eugene W. Stenger.

*Premedicine*—The Brother Francis John Molz Memorial Award to the Outstanding Senior in Premedicine. This is awarded annually to the student who best demonstrates the qualities of unselfishness, community service, and academic achievement. Sponsored by Alpha Epsilon Delta.

*Premedicine*—Montgomery County Medical Award to the Outstanding Senior in the Premedical Curriculum.

*Psychology*—The Kenneth J. Kuntz Award for Outstanding Service—donated by the Department of Psychology Faculty.

*Psychology*—The Reverend Raymond A. Roesch, S.M., Award of Excellence to the Outstanding Student in Psychology—donated by the Reverend Raymond A. Roesch, S.M., '36.

## Academic Regulations

*Religious Studies*—The William Joseph Chaminade Award of Excellence in memory of Mr. and Mrs. George W. Dickson, to the Outstanding Student in Theology—donated by the Reverend John Dickson, S.M., '36.

*Religious Studies*—The Monsignor J. Dean McFarland Award of Excellence to the Outstanding Junior Majoring in Theological Studies.

*School of Education*—The William A. Beitzel Award for the Outstanding Student in Education of the Handicapped—donated by Dean Emeritus Ellis A. Joseph.

*School of Education*—The Raymond and Beulah Horn Award for an Outstanding Student in the Education of the Developmentally Handicapped—donated by Dean Emeritus Ellis A. Joseph.

*School of Education*—The Daniel L. Leary Award for the Outstanding Research and Development Activity by a Student Seeking Teacher Certification in the School of Education—donated by Dean Emeritus Ellis A. Joseph.

*School of Education*—The Frank and Lois New Award for Outstanding Achievement to a Graduating Senior in the Teacher Certification Program with a Principal Teaching Field in Developmentally Handicapped—donated by Frank and Lois New.

*School of Education*—The Reverend George J. Renneker, S.M., Award of Excellence for Outstanding Achievement in Teacher Education.

*Secondary Education*—The Brother Louis J. Faerber, S.M., Award of Excellence to the Outstanding Student in Secondary School Teacher Education—donated by the University of Dayton Mothers' Club.

*Social Work*—The Joseph Zusman, '65, Award of Excellence to the Outstanding Senior in Social Work Studies—donated by Joseph Zusman, '65.

*Sociology*—The Dr. Edward A. Huth Silver Anniversary Award of Excellence to the Outstanding Student in Sociology—donated by Joseph Zusman, '65.

*Sociology*—The Dr. Martin Luther King Memorial Award in Human Relations for Excellence in Scholarship, Christian Leadership, and the Advancement of Brotherhood—donated by Dr. Edward A. Huth.

*Sociology*—The Reverend Andrew L. Seebold Award of Excellence to the Outstanding Senior in Sociology.

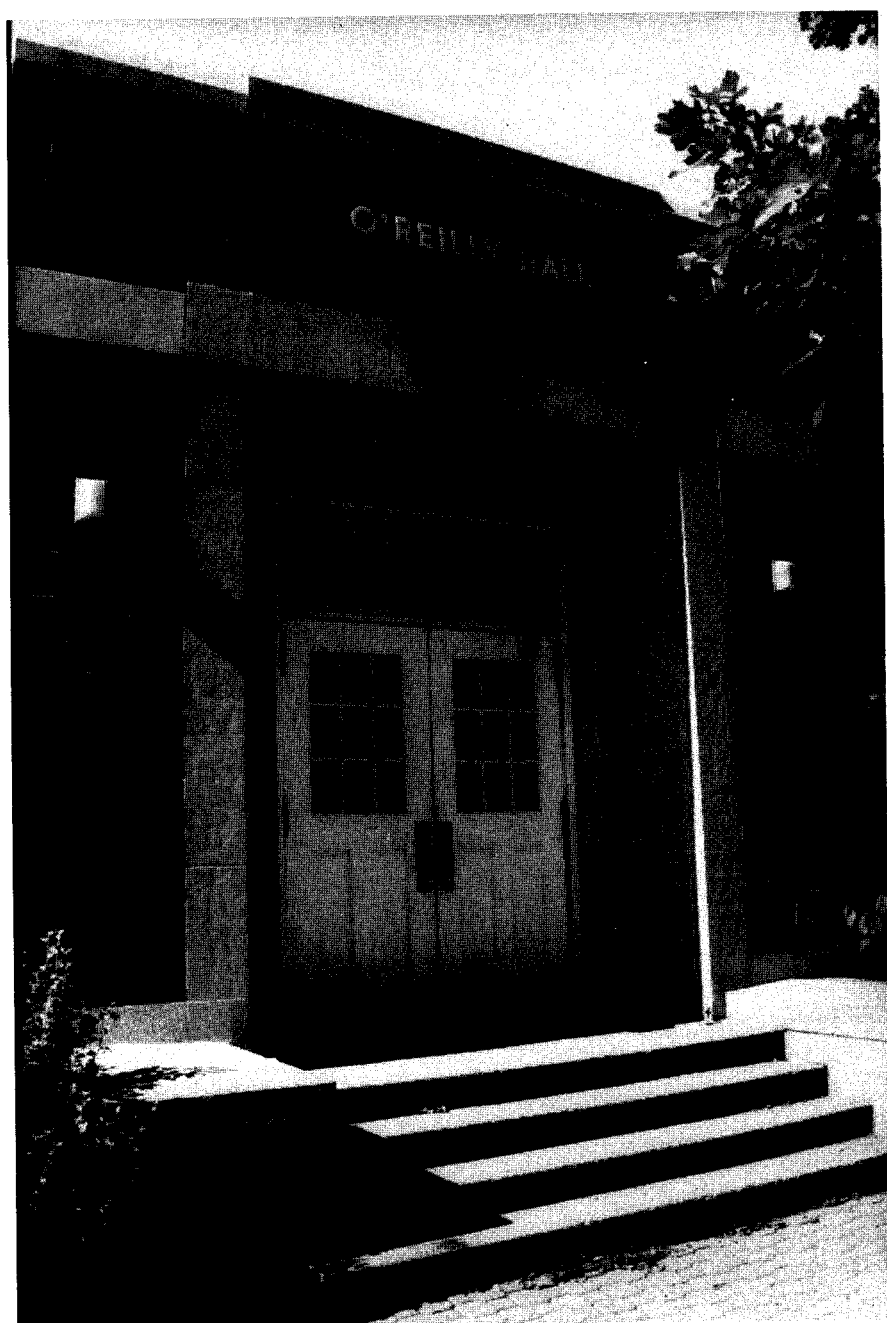
*Theatre*—The "Dr. G." Award for Outstanding Commitment to Mainstage Theatre Recognizes a Graduating Senior who has Demonstrated a Willingness to Involve Themselves in the Wide Spectrum of Theatrical Production on the Boll Theatre Mainstage.

*University Advancement*—Award of Excellence for Contribution of Service to the Community.

*Visual Arts—Fine Arts*—The Mary Ann Dunskey Award to an Outstanding Senior in Studio Art.

*Visual Arts—Fine Arts*—The Professor Bela Horvath Award for Excellence in Representational Art.

*Women's Studies*—The Susan R. Hermes Award for Excellence in Women's Studies—donated by Drs. Jane S. Zembaty and Patricia A. Johnson.



## VI College of Arts and Sciences

Paul J. Morman, Dean

Fred P. Pestello, Associate Dean

Mary Jo Vesper, Associate Dean

Rae Ellen Huff, Assistant Dean

Sam F. Johnson, Assistant Dean

The College of Arts and Sciences affirms as its primary mission 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 ensures 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 students' legitimate career aspirations.

The faculty of the College of Arts and Sciences, therefore, encourage students to use 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	Geology	Political Science
Art History	History	Psychology
Chemistry	International Studies	Religious Studies
Communication	Languages	Sociology
Criminal Justice Studies	Mathematics	Theatre
Economics	Music	Visual Communication
English	Philosophy	Design
Fine Arts	Photography	

The Bachelor of Science is offered in the following areas:

Biochemistry	Environmental Biology	Physical Science
Biology	Environmental Geology	Physics
Chemistry	Geology	Physics-Comp. Sci.
Computer Information	Human Ecology	Predentistry
Systems	Mathematics	Premedicine
Computer Science	Nuclear Medicine Technology	Psychology

Other programs leading to the bachelor's degree:

Fine Arts (B.F.A.)	Music Performance (B.Mus.)
General Studies (B.G.S.)	Music Therapy (B.Mus.)
Music Composition (B.Mus.)	Photography (B.F.A.)
Music Education (B.Mus.)	Visual Communication Design (B.F.A.)

### Established Interdisciplinary Majors

American Studies, Criminal Justice Studies, International Studies, and Premedicine-Predentistry 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.

## FOREIGN LANGUAGE ENTRANCE REQUIREMENT

Any student admitted to the College of Arts and Sciences must have had two years of high school study of a single foreign language or make up the deficit at the University. The semester hours of credit received for making up this deficit will not count towards the total number of semester hours required for graduation.

## PROFICIENCY IN A FOREIGN LANGUAGE

The College of Arts and Sciences strongly encourages its students to acquire the highest level of foreign language proficiency. Students may show proficiency by demonstration of basic practical communicative competence in a foreign language. Proficiency for modern languages includes the following four skills:

- **Listening:** comprehension of main idea and some supporting detail in passages of up to 250 words of everyday speech on familiar topics in a context that provides significant support for the message.
- **Reading:** comprehension of main idea and supporting detail in contextualized written passages of up to 600 words in which a generally familiar, everyday topic is discussed.
- **Speaking:** ability to indicate interests and needs, ask and answer questions, communicate personal information, and obtain essential services. Speech is sufficiently accurate to be understood by native speakers.
- **Writing:** ability to write messages and simple descriptions on familiar topics, to provide biographical information, and to express interests and preferences. Native speakers can understand the message with little difficulty.

Students entering the University have the opportunity to demonstrate the defined levels of proficiency by passing a University placement/proficiency examination. Any student who has not achieved proficiency as determined by this examination upon entry can choose from the following options to reach proficiency:

- course work at the University of Dayton
- course work elsewhere
- an individual study program
- study abroad
- an immersion experience

At the conclusion of one of these options, the student must pass the proficiency examination to satisfy the Foreign Language option within the Humanities and Fine Arts component of the Liberal Studies Program (see General Requirements for the B. A. Degree, p. 79). The department of languages offers the following possible sequence of foreign language courses:

*Beginner sequence:* For students who have never studied the language previously or who demonstrate no functional ability: 101-102-141 (9 sem. hrs.) in French, German, Latin, and Spanish; 101-141 (8 sem. hrs.) in Italian and Russian.

*Intensive beginner sequence:* For experienced language learners who wish to learn a new language: 111-141 (9 sem. hrs.) available only in French, German and Spanish.

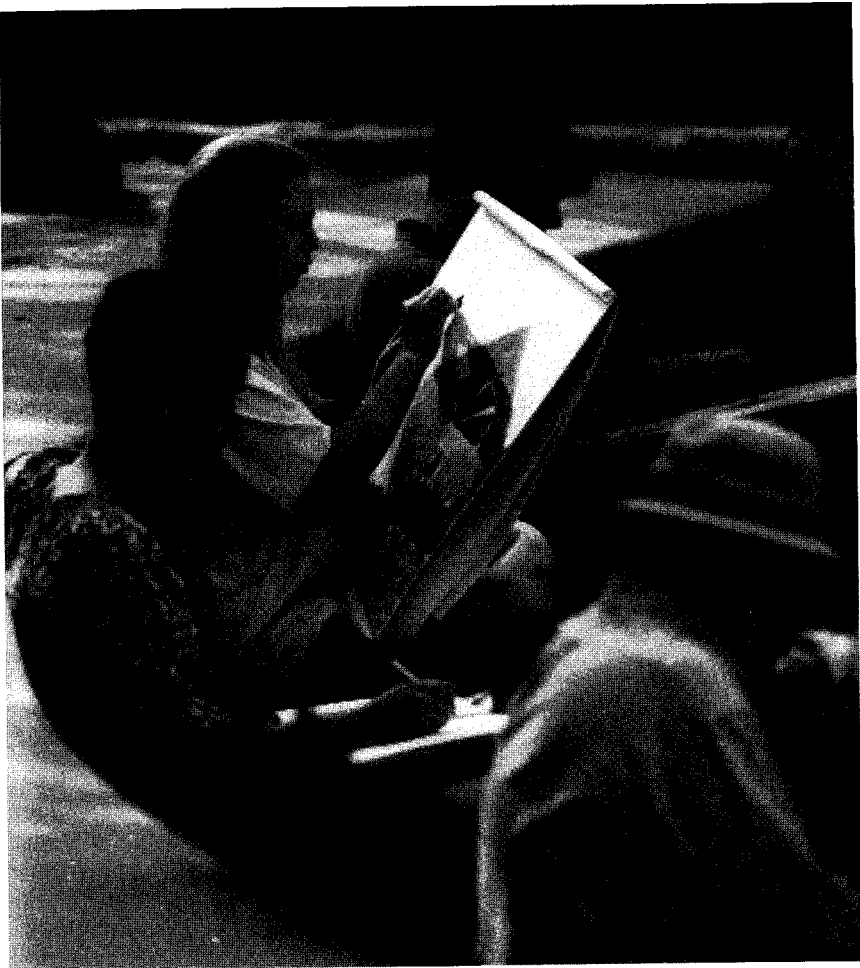
*Accelerated sequence:* For students with previous language study or experience who demonstrate some functional ability on the placement/proficiency examination: 121-141 (7 sem. hrs.) available in French, German, Latin and Spanish.



*Capstone course:* For students with significant language study or experience: 141 (3 sem. hrs.) available in all languages.

Students choosing to complete the Liberal Studies curriculum using Latin as their language will be required to demonstrate proficiency in reading and translation only.

Students whose first language is not English demonstrate foreign language proficiency by satisfying the University Basic Skills requirements in writing and oral communication. These Students may satisfy the Foreign Language option in the Humanities and Fine Arts components of the Liberal Studies Program for the B. A. degree by demonstrating proficiency in another foreign language or by taking courses in the humanities and/or arts areas.



## GENERAL REQUIREMENTS FOR ALL BACHELOR OF ARTS PROGRAMS

A minimum of 124 semester hours of approved coursework must be presented for the B.A. At least 48 semester hours must be completed at the 300-400 level. For limitations on credit and restrictions on courses, consult the chairperson and the dean. No more than 45 hours of the minimum 124 hours may be completed in a student's major discipline.

### *Introduction to the University*

In the first semester, students take a course that introduces them to the University and to their major field of study. Undeclared students take specific sections of this course.

### *Major Concentration*

Most major programs require between 30 and 45 semester hours. For department or program requirements, consult program schedules A1-A23 or the department chairperson or program director.

### *Liberal Studies Curriculum*

Every student will complete the Liberal Studies Curriculum. This Curriculum provides students with a breadth of study and experiences in the humanities, the creative and performing arts, the social sciences, and the natural sciences. It complements specialized study in a major, presupposes the University Basic Skills Requirements,<sup>1</sup> and ensures completion of the Humanities Base and a Thematic Cluster through completion of the General Education Requirements.<sup>1</sup> Where appropriate, credits in the Liberal Studies Curriculum may apply to other requirements but no more than six hours may be in the departmental major concentration. The Liberal Studies Curriculum includes:

*Philosophy and Religious Studies:* Students complete 12 semester hours including a Humanities Base course in Philosophy, a Humanities Base course in Religious Studies and two additional General Education approved courses in philosophy and/or religious studies.<sup>2</sup>

*History:* Students complete 6 semester hours including a Humanities Base course and one additional General Education approved course in historical study.<sup>2</sup>

*English or Foreign Language Literature:* Students complete 3 semester hours in English literature or foreign language literature selected from a list of approved courses.<sup>2</sup>

*Creative and Performing Arts:* Students complete 3 semester hours in theory, appreciation, or history of visual arts, music, or theater selected from a list of approved courses; or complete 3 semester hours in production and performance selected from a list of approved courses.<sup>2</sup>

<sup>1</sup>University requirements are outlined in Chapter V. Basic Skills competence in reading, writing, oral communication, and mathematical skills may be demonstrated through coursework (ENG 101-102, 114, or 198; CMM 101; and MTH 102), proficiency examination, or advanced standing. Information on this matter may be sought in the College office. General Education requirements include the Humanities Base, which is normally completed in the first year, and a Thematic Cluster.

<sup>2</sup>Students should consider using this area of study to help fulfill the General Education Thematic Cluster requirement. A Thematic Cluster includes a minimum of three courses, each course selected from a separate area (Philosophy, Religious Studies, Historical Study, Arts Studies, Social Science, and Natural Science).

*Foreign Language and/or Additional Arts and/or Humanities:*

Students may choose to demonstrate proficiency by examination of basic practical communication proficiency in one foreign language. Specific options for demonstrating proficiency are outlined on page 77.

Students who meet language proficiency without taking College courses in language must complete at least 3 additional semester hours of study in the arts and/or humanities beyond basic skills. Students who demonstrate language proficiency by taking 3 to 9 semester hours of language study take no additional hours in the arts and humanities.

Students who choose not to demonstrate language proficiency select 8-9 semester hours in the arts and/or humanities beyond basic skills including courses in any of the preceding categories or any other arts or humanities area, in consultation with their academic advisor. Individual departments may specify how these hours are to be used for those students who do not choose the language proficiency option.

*Social Sciences:* Students complete 12 semester hours including two courses at the introductory level from at least two different traditional disciplines (ANT 150, ECO 203, POL 101 or 201, PSY 101, and SOC 101), one course at the 300-400 level in one of the disciplines in which an introductory course was taken and one additional course from any of the traditional disciplines or from the list of courses approved for General Education social science. (Students in the E-11 program may take two approved courses in the School of Education).<sup>2</sup>

*Mathematics:* Students complete 3 semester hours selected from courses in the Department of Mathematics (MTH 102, 204, 205 excluded).

*Natural Sciences:* Students complete a sequence of 3 lecture courses with 2 accompanying laboratories in the Integrated Natural Science Sequence for a total of 11 semester hours (p. 148) Students who wish to do more advanced study in science may complete 9 semester hours in approved science courses and 2 semester hours of accompanying laboratories in lieu of the Integrated Natural Science Sequence.

## SUMMARY OF REQUIREMENTS FOR THE B.A.

Major	33-45 sem. hrs.
Liberal Studies Curriculum (53-59 sem. hrs.)	
Humanities and Fine Arts	
Philosophy and Religious Studies	12 sem. hrs.
History	6 sem. hrs.
English or Foreign Language Literature	3 sem. hrs.
Creative and Performing Arts	3 sem. hrs.
Foreign Language and/or Additional Arts and/or	
Humanities	3-9 sem. hrs.
Social Sciences	12 sem. hrs.
Mathematics	3 sem. hrs.
Natural Sciences	11 sem. hrs.
Basic Skills <sup>1</sup>	0-12 sem. hrs.
Introduction to the University	0-1 sem. hr.
Electives to total 124 hours	7-38 sem. hrs.

<sup>1</sup>University requirements are outlined in Chapter V. Basic Skills competence in reading, writing, oral communication, and mathematical skills may be demonstrated through coursework (ENG 101-102, 114, or 198; CMM 101; and MTH 102), proficiency examination, or advanced standing. Information on this matter may be sought in the College office. General Education Requirements include the Humanities Base, which is normally completed in the first year, and a Thematic Cluster.

<sup>2</sup>Students should consider using this area of study to help fulfill the general education Thematic Cluster requirement. A Thematic Cluster includes a minimum of three courses, each course selected from a separate area (Philosophy, Religious Studies, Historical Studies, Arts Studies, Social Science, and Natural Science).

## GENERAL REQUIREMENTS FOR ALL BACHELOR OF SCIENCE PROGRAMS

A minimum of 120 semester hours of approved coursework must be presented for the B.S. For limitations on credit and restrictions on courses, consult the chairperson and the dean. For departmental or program requirements consult program schedules S1-S10 or the department chairperson or program director.

	<i>Semester Hours</i>
<i>Major Concentration</i> (with at least 24 semester hours at 300-400 level). ....	30-60
<i>Breadth Requirement</i> (See Distribution Table below.) .....	41-50
<i>General Education Requirements:</i> These courses may also be counted for other requirements where applicable. (See Chapter V.) .....	30
<i>Program Requirements and General Electives:</i> Electives should be approved by the chairperson or dean since some restrictions exist. ....	10-40

### Distribution Table for Breadth Requirement

Courses taken to fulfill the breadth requirement should be external to the major concentration. 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.

<i>Natural Sciences:</i> Selected from Biology, Chemistry, Geology, and Physics courses with accompanying laboratories. ....	8
<i>Mathematics, Computer Science:</i> At least 3 semester hours must be in Mathematics, the course(s) to be determined by placement and major program. ....	6
<i>Social and Behavioral Sciences:</i> Anthropology, Economics, Political Science, Psychology, Sociology. Up to 3 of the 6 semester hours of social and behavioral sciences may, with the approval of the chairperson of the major department or the director of the program, be taken in applied social and professional studies: Criminal Justice Studies, Education, Human Ecology, Management, Marketing, Military Science, Social Work, and appropriate courses in ASI, AMS, and CMS. ....	6
<i>Humanities:</i> American Studies, Communication, English, History, Humanities Studies, Languages, Music, Philosophy, Religious Studies, Visual Arts, and, with the approval of the chairperson of the major department or director of the program, appropriate courses in ASI. (The basic Philosophy, Religious Studies, and communication skills courses do not fulfill this requirement.) .....	9
<i>Philosophy and Religious Studies</i> .....	12
<i>Communication Skills</i> (ENG 101-102 or 114 or 198; CMM 101): Each student should demonstrate competence in written and oral communication before the completion of the first year. This competence may be demonstrated through coursework, proficiency examinations, or advanced standing. Information on this matter should be sought in the office of the dean. ....	0-9

## DEGREE REQUIREMENTS

For the bachelor's degree, it is necessary to complete all the requirements listed in one of the programs in this chapter. A maximum of four semester hours of general activities courses, a maximum of two semester hours of physical education activities courses, a maximum of ten semester hours of MIL courses, and a maximum of six hours of technology courses may be counted in the semester hours required for the degree. The final 30 semester hours must be earned in residence at the University of Dayton. Furthermore, a minimum of 12 semester hours of course work at the 300 and 400 level in the major must be completed at the University.

## 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:

- 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)

In this interdisciplinary program, students take courses in their choice of eleven fields, thereby learning the skills of integrating, coordinating and making connections. The program, one of over three hundred nationwide, is most appropriate for those whose interests encompass several traditional majors.

### PROGRAM A1: BACHELOR OF ARTS WITH A MAJOR IN AMERICAN STUDIES (AMS)<sup>1</sup>

	<i>Semester Hours</i>
AMS 300, 301, 400 .....	9
First area courses .....	24
Courses from Group A or B or C .....	15
Supporting courses in the elected disciplines .....	9
Second area courses from one of the two remaining groups .....	9
Third area courses from the remaining group .....	6
<i>Group A</i>	
ENG 305, 317 <sup>2</sup> , 319 <sup>2</sup> , 320 <sup>2</sup> , 325, 327, 329 <sup>2</sup> , 331 <sup>2</sup> , 332 <sup>2</sup> , 335, 337, 339, 380 <sup>2</sup> , 451, 453, 455, 468, 490 <sup>2</sup>	
MUS 304, 305, 306, 307, 404 <sup>2</sup>	
VAH 370, 480, 482, 483, 484, 490 <sup>2</sup>	
<i>Group B</i>	
HST 342, 344, 346, 348, 351, 352, 355, 360, 361, 365, 369, 370, 373, 374, 375, 376, 377, 380, 391, 398, 399, 490, 491 <sup>2</sup> , 492 <sup>2</sup> , 495, 499 <sup>2</sup>	
PHL 307, 310, 311, 314, 317, 318, 320, 323, 331, 332, 340 <sup>2</sup> , 361	
REL 326, 327, 328, 364, 367, 371, 372, 373, 376, 385, 477	
<i>Group C</i>	
ECO 310, 346, 347, 390, 430, 441, 442, 445, 450, 460, 461, 471, 485	
POL 301, 303, 310, 311, 313, 335, 350, 360, 408, 411, 413, 450, 471, 475	
PSY 334, 341, 351, 361, 363, 443, 461, 462, 471	
SOC 321, 328, 337, 339, 341, 343, 351, 352, 435	
ANT 315, 335, 353, 406, 449	
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Lang. and/or Arts and/or Humanities (may include courses from Group A & Group B) .....	3-9
Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

<sup>2</sup>This course can be counted only when the material is appropriate to American Studies. Consult program director.

## AMERICAN STUDIES COMMITTEE

Una M. Cadegan (History), *Director, American Studies Program*  
Durham (English), Kettering (Visual Arts), Kimble (Psychology),  
Kunkel (Philosophy), Moore (Religious Studies), Ruggiero (Economics),  
Saxton (Sociology, Anthropology and Social Work), Street (Music)

## COURSES OF INSTRUCTION

\*AMS 300. AMERICAN CULTURES: Study of American artifacts to discern how they indicate the periods in the life of the civilization and how like artifacts can be used to determine the stages of development of various peoples. (Will not satisfy humanities breadth requirement.) *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.*

\*General Education course. See Chapter V.



## ANTHROPOLOGY (ANT)

Anthropology is the study of people at all times and places. It emphasizes understanding total cultural systems. The Department of Sociology, Anthropology, and Social Work 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 anthropology research on urban issues. Considers how cities arose and how urban people make a living, organize, and think. Considers urban futures. 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.

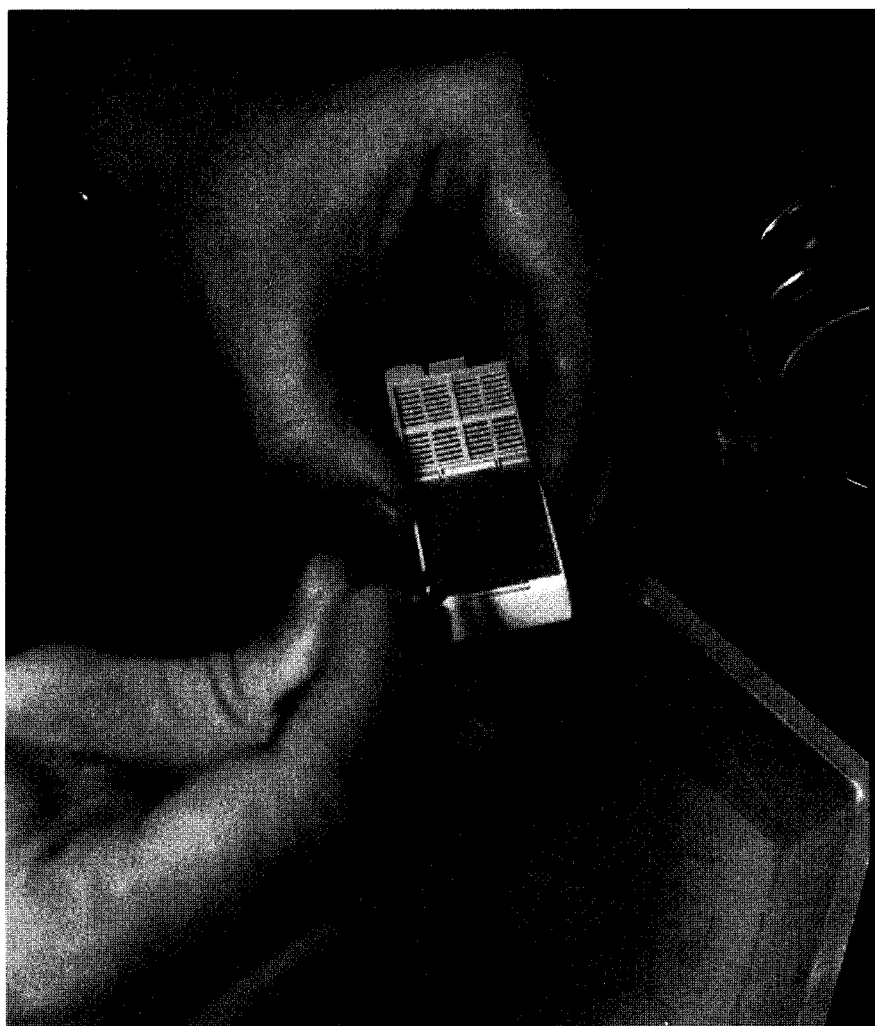


ANT 449. ANTHROPOLOGICAL FIELD WORK: Formulation and carrying out of a research design in archaeology, physical anthropology, linguistics, or cultural anthropology. Prerequisite: Consent of instructor. *1-6 sem. hrs.*

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.*

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\*General Education course. See Chapter V.



# BIOLOGY (BIO)

The Bachelor of Science program in biology is designed to prepare a student for a career in the life sciences. Graduates of the program are competitive for entry into graduate programs in biology as well as professional schools, such as medical, dental, osteopathic, and veterinary science.

The department has two primary areas of focus: environmental/ecological science and basic biomedical science. The former includes ecology, population biology, ecological physiology, animal behavior, environmental microbiology, community and restoration ecology, evolutionary biology, and plant physiology, as well as environmental biology in the narrow sense. The biomedical science course offerings include molecular biology, cell biology, general and medical microbiology, immunology, genetics, mammalian physiology, and developmental biology. In addition, advanced undergraduates may enroll in graduate courses for undergraduate credit with the consent of the chairperson.

In line with the two areas of research interests, the department encourages students (in consultation with their advisors) to declare one of the two as an area of concentration of study no later than the end of the sophomore year. For the student more interested in a broad approach to biology, the department recommends a third option, the general biology option (any combination of upper-level biology courses that fulfills the program requirements).

The department offers a research mentorship program for upper-level students majoring in biology. The program allows a student to work closely with both faculty and graduate students in laboratory and/or field research. Participation in the program is based on the recommendation of a member of the faculty. The mentorship program is designed to provide a significant advantage for those students who intend to enter a graduate program.

The department also offers a combined Bachelor and Master of Science degree in Biology. This accelerated program is designed for students who display strong potential for research in biology. It provides a liberal arts education, a broad background in biology, 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. A detailed description of the B.S.-M.S. program may be obtained from the departmental office.

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## PROGRAM S1: BACHELOR OF SCIENCE WITH A MAJOR IN BIOLOGY (BIO)<sup>1, 2</sup>

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	<i>Semester Hours</i>
Biology (including at least 24 sem. hrs. at 300-400 level) .....	44
Core courses: BIO 151, 152, 152L, 201L, 299, 312, 420 .....	13
Environmental/ Ecological—Select two <sup>3</sup> : BIO 301, 314-314L, 320-320L, 330-330L, 370, 402-402L, 430-430L, 435-435L, 441, 444-444L, 450-450L, 452-452L, 459, 461-461L .....	7
Basic Biomedical—Select two <sup>4</sup> : BIO 309-309L, 312 <sup>5</sup> , 403-403L, 404, 411-411L, 425-425L, 440-440L, 442-442L, 462, 466-466L .....	7
Electives: Five courses, two with accompanying laboratories, from above groups. <sup>6</sup> .....	17

Supporting sciences .....	30-31
CHM 123-123L, 124-124L, 313-313L, 314-314L .....	16
MTH 148-149 or 137-138 (by placement) .....	6-7
PHY 201-201L, 202-202L .....	8
Communication skills .....	3-12
CMM 101 .....	0-3
ENG 101,102 or 114 or 198 .....	0-6
Philosophy and religious studies .....	12
Humanities .....	12
Arts study .....	3
HST 101 or 102; HST elective <sup>7</sup> .....	6
Social and behavioral sciences .....	6
First-year experience:	
ASI 150 .....	0-1
General electives to total .....	120-121

<sup>1</sup>Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

<sup>2</sup>The Department of Biology supports national standards established by the National Institutes of Health for the responsible, humane treatment and housing of animals. The biology curriculum contains some laboratory courses in which dissection and vivisection are necessary and required in order to convey an understanding of certain biological concepts. All biology majors are expected to participate in such laboratory exercises in the introductory biology sequence, BIO 152L and BIO 201L which involve dissection and/or vivisection. In other elective formal laboratory courses in which dissection and vivisection occur, it is expected that students will participate in all aspects of the laboratory. No alternatives to dissection or vivisection will be offered in these courses. It is ultimately the responsibility of students to make certain that they enroll in courses in which they are able to participate in all required exercises, and to obtain information from each instructor as to the specific laboratory course content and requirements. The Biology Department maintains an updated list of laboratory courses in which dissection and/or vivisection is required in order to assist students in the selection of course work.

<sup>3</sup>One with accompanying laboratory. BIO 430 strongly recommended as one of two courses.

<sup>4</sup>One with accompanying laboratory. BIO 462 strongly recommended as one of two courses.

<sup>5</sup>Qualifies as a laboratory elective for any category.

<sup>6</sup>Non-BIO science courses may be included with approval of the Chairperson.

<sup>7</sup>HST 340, 341 or 342 are highly recommended.

## ENVIRONMENTAL BIOLOGY (EVB)

Environmental Biology is a science specialization based upon the fundamentals of biology and ecology, applying interdisciplinary skills, knowledge and principles to the many environmental problems facing society today. Students entering this dynamic field could become directly involved in addressing some of the significant problems related to human impact on the environment. In addition to the standard base of courses required of most biology majors, the curriculum also requires a challenging core of environmentally related science courses and course work drawn from a multidisciplinary elective pool that includes offerings in the humanities and social sciences.

Internship Program: Majors who achieve certain minimum academic standards can apply for the opportunity to participate in the program's internship opportunities (BIO 499, see course prerequisites), where they will have the unique opportunity to obtain valuable training and experience under the mentorship of established scientists and other environmental professionals.

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**PROGRAM S1A: BACHELOR OF SCIENCE WITH A MAJOR IN  
ENVIRONMENTAL BIOLOGY (EVB)<sup>1,2</sup>**

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	<i>Semester Hours</i>
Requirements for the major .....	42
Core Courses: BIO 151, 152-152L, 201L, 299, 312, 420, 430-430L, 459, 479L .....	22
Field Oriented Courses — Select three <sup>3</sup> : BIO 301, 312L <sup>4</sup> , 320-320L, 330-330L, 370, 402-402L, 421, 435-435L, 441, 444-444L, 452-452L, 499 .....	10
Laboratory Oriented Courses — Select three <sup>3</sup> : BIO 309-309L, 312L <sup>4</sup> , BIO 314-314L, 403-403L, 404, 411-411L, 421, 440-440L, 450-450L, 461-461L, 462, 499 .....	10
Supporting sciences .....	46-48
CHM 123-123L, 124-124L, 313-313L, 314-314L .....	16
GEO 115-115L, 116-116L and 307 <sup>5</sup> , 308 or 309 .....	11
PHY 201- 202, 201L or 206-207, 210L .....	7
MTH 148 <sup>6</sup> -149 and 367-368 .....	12
or	
MTH 168 <sup>6</sup> -169 and 367-368 .....	14
Communication Skills .....	3-12
CMM 101 .....	0-3
ENG 101-102 or 114 or 198 .....	0-6
ENG 370 or 378 .....	3
Philosophy and Religious Studies .....	12
PHL 103 and REL 103 .....	6
Select one: PHL 321, 331; REL 472, 477 .....	3
PHL or REL elective .....	3
Humanities .....	9
Arts study .....	3
HST 101 or 102 .....	3
HST electives <sup>7</sup> .....	3
Social and behavioral sciences .....	6
ANT 150 or PSY 101 .....	3
Elective .....	3
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total .....	120-130 <sup>1</sup>

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<sup>1</sup>Consult General Requirements for all Bachelor of Science programs and Chapter V for General Education Requirements.

<sup>2</sup>The Department of Biology supports national standards established by the National Institutes of Health for the responsible, humane treatment and housing of animals. The biology curriculum contains some laboratory courses in which dissection and vivisection are necessary and required in order to convey an understanding of certain biological concepts. All biology majors are expected to participate in such laboratory exercises in the introductory biology sequence, BIO 152L and BIO 201L, which involve dissection and/or vivisection. In other elective formal laboratory courses in which dissection and vivisection occur, it is expected that students will participate in all aspects of the laboratory. No alternatives to dissection or vivisection will be offered in these courses. It is ultimately the responsibility of students to make certain that they enroll in courses in which they are able to participate in all required exercises, and to obtain information from each instructor as to the specific laboratory course content and requirements. The Biology Department maintains an updated list of laboratory courses in which dissection and/or vivisection is required in order to assist students in the selection of course work.

<sup>3</sup>At least one course with accompanying laboratory, BIO 312L strongly recommended. One non-BIO science course approved for science majors may be included in this section with approval (CHM 201-201L or CPS 132 are strongly recommended for students considering this option).

<sup>4</sup>Qualifies only as a laboratory elective; satisfies either BIO laboratory elective area.

<sup>5</sup>Students electing GEO 307 as their upper-level geology course are strongly recommended to consider GEO 307L as an optional laboratory elective.

<sup>6</sup>Sequence of MTH 137-138 should be taken if preparation for calculus is weak.

<sup>7</sup>HST 340, 341, 342, 343 or 344 strongly recommended.

## FACULTY

*Chairperson:* John J. Rowe

*Distinguished Service Professor:* Noland

*Professors Emeriti:* Laufersweiler, McDougall, Ramsey

*Professors:* Bajpai, Burky, Geiger, Rowe, Tsonis, Vesper, Williams

*Associate Professors:* Breitwisch, Chantell, Kearns

*Clinical Adjunct Associate Professors:* Stull, Taylor

*Assistant Professors:* Friese, Hofmann, Robinson, Stavenhagen, Wright

## 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 each 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 each 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. Third term only. *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. Third term only. *1 sem. hr.*

\***BIO 151. CONCEPTS OF BIOLOGY I:** Study of the molecular and cellular organization of organisms. Topics also include bioenergetics, genetics, and evolution. Core biology course for majors in sciences such as biology, premedicine, and others. *3 sem. hrs.*

\***BIO 152. CONCEPTS OF BIOLOGY II:** Continuation of BIO 151. Study of taxonomic diversity, plant and animal organismal physiology, and ecology and animal behavior. Core biology course. Prerequisite: BIO 151. *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 organizational levels of cells, systems, and organisms. Emphasis on both plant and animal studies. Sophomore-level biology core course. *1 sem. hr.*

**BIO 299. BIOLOGY SEMINAR:** Introduction to biological journals and abstracting materials. Practice in reviewing, abstracting, and presenting biological information. Primarily for sophomores. *1 sem. hr.*

\***BIO 301. EVOLUTION:** Theory and evidence of organic evolution, with emphasis on microevolutionary change and population genetics. Prerequisites: BIO 101-102 or 151-152; BIO 312 recommended. *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 each week. *2 sem. hrs.*

**BIO 312. GENERAL GENETICS:** Study of the principles of variation and heredity covering both Mendelian and molecular genetics. Core biology course. *3 sem. hrs.*

**BIO312L. GENETICS LABORATORY:** Laboratory exercises to accompany BIO 312. May be taken concurrently with or following the lecture course. *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 each 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 330. ANIMAL BEHAVIOR: An evolutionary approach to the study of animal behavior, emphasizing both proximate mechanisms and functional explanations of the survival value of behavior. Prerequisite: One year of biology. *3 sem. hrs.*

BIO 330L. ANIMAL BEHAVIOR LABORATORY: Field and laboratory exercises to accompany BIO 330. Should be taken concurrently with BIO 330. One 3-hour laboratory each week and occasional Saturday field trips. *1 sem. hr.*

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 370. CONSERVATION BIOLOGY: An ecosystem approach to the study of and threat to local, regional, and global biodiversity. Application of ecological principles of conservation of species and habitats. Prerequisites: BIO 101-102 or BIO 151-152. *3 sem. hrs.*

\*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. No science credit for biological science majors. Prerequisite: Introductory biology. *3 sem. hrs.*

\*BIO 395. GLOBAL ENVIRONMENTAL BIOLOGY: Presentation of the biological and ecological principles needed for critical discussion and evaluation of current global environmental issues including food production, human population growth, role of humans and pollution in environmental degradation, and conservation of agricultural, forest and other natural resources. No science credit for biology majors. Prerequisites: An introductory course in the natural sciences. *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. No science credit for biological science majors. Prerequisite: Introductory biology. *3 sem. hrs.*

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

**BIO 402L. VERTEBRATE ZOOLOGY LABORATORY:** Course to accompany BIO 402. A laboratory focused on the diversity, systematics and ecology of vertebrates. One 3-hour period each week. *1 sem. hr.*

**BIO 403. PHYSIOLOGY I:** A physico-chemical examination of the physiological events occurring in a living system with emphasis on physiology of the cell, excretion, nerves, muscles, bone, blood, heart, circulation, and respiration. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. *3 sem. hrs.*

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

**BIO 404. PHYSIOLOGY II:** Study of hormonal regulation of metabolism and growth and reproduction of higher vertebrates, including primates. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. *3 sem. hrs.*

**BIO 411. GENERAL MICROBIOLOGY:** 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 each week. *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 425. PARASITOLOGY:** Introduction to the morphology, life history, and clinical significance of parasites and other symbionts. Prerequisites: 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 each week. *1 sem. hr.*

**BIO 430. ECOLOGY:** Interrelationship of plants, animals, and micro-organisms 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 435. MICROBIAL ECOLOGY:** Study of the diversity and activity of micro-organisms 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. ENVIRONMENTAL PLANT BIOLOGY: Study of the physiological basis for environmental effects on plant metabolism, structure, growth and development, including plant responses to elevated carbon dioxide, acid deposition, and to water stress. Prerequisite: BIO 101-102 or BIO 151-152. *3 sem. hrs.*

BIO 442. DEVELOPMENTAL BIOLOGY: Study of animal development, including morphological patterns of development, mechanisms of cellular differentiation, cell-cell interactions during development, and mechanisms of differential gene expression. Emphasis on understanding development at the cellular and molecular levels. Prerequisites: BIO 101-102 or 151-152; CHM 313-314. *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; includes generalized life histories, ecological and physiological characteristics, and 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 each week. *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 principle 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 each week. *1 sem. hr.*

**BIO 459. ENVIRONMENTAL ECOLOGY:** The application of current ecological knowledge and principles toward the study of human impact on the environment. Emphasis on ecosystem dynamics, applied ecology, disturbance ecology, and approaches to solving global environmental problems. Prerequisite: BIO 430 or permission of instructor. *3 sem. hrs.*

**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 each week. *1 sem. hr.*

**BIO 462. MOLECULAR BIOLOGY:** Analysis of the nature of the gene and gene action. Particular attention to genetic regulation and to recent advances in molecular genetics. Prerequisites: BIO 312; CHM 314. *3 sem. hrs.*

**BIO 466. BIOLOGY OF INFECTIOUS DISEASE:** 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. Prerequisite: BIO 411. *3 sem. hrs.*

**BIO 466L. BIOLOGY OF INFECTIOUS DISEASE LABORATORY:** Laboratory experiments to demonstrate immunological, serological, determinative, and medical bacteriology. Two 2-hour laboratory periods each week. *1 sem. hr.*

**BIO 479L. ENVIRONMENTAL INSTRUMENTATION LABORATORY:** The understanding and use of field and laboratory based equipment to study current environmental issues. Emphasis on team-centered approaches to investigating environmental problems. Prerequisites: BIO 151, 152; GEO 115, 116; or permission of instructor. Same as GEO 479L. *2 sem. hrs.*

**BIO 499. ENVIRONMENTAL BIOLOGY INTERNSHIP:** Majors will have the opportunity to obtain valuable training and experience under the mentorship of established scientists and professionals. Emphasis on approaches to solving environmental problems including such research areas as bioremediation, risk assessment, and ecological restoration. May be repeated up to 6 sem. hrs. Prerequisites: 12 sem. hrs. of upper-level BIO courses with a GPA of 3.0; 75 total sem. hrs. and a 2.75 cum. average; permission of program director. *3 sem. hrs.*

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\*General Education course. See Chapter V.

## CHEMISTRY

The B.A. program in chemistry provides a framework of scientific courses which serves 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.

The B.S. program in chemistry is approved by the American Chemical Society for the training of professional chemists.

Students in the B.S. program in chemistry are required to conduct an original research project. 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, 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. Cooperative education students may substitute work experience for research with the prior approval of the department chairperson.

The B.S. program in biochemistry follows a curriculum which satisfies the needs of students who anticipate careers in the life sciences. A mark of distinction and rigor is that each student is required to conduct research, which normally includes a ten-week summer period following the junior year and culminates with the submission of a research thesis and the presentation of a seminar.

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## PROGRAM A2: BACHELOR OF ARTS WITH A MAJOR IN CHEMISTRY (CHA)<sup>1</sup>

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<i>Summary of Requirements<sup>2</sup></i>	<i>Semester Hours</i>
Chemistry .....	37
CHM 123, 123L, 124, 124L, 201, 201L 313, 313L, 314, 314L, 302 or 303-304, 496.	
The remaining 10-13 sem. hrs. are chemistry electives chosen from CHM 317, 404, 412, 415, 417, 418L, 420, 427, 451, 452, 490L, 498, 499 (may substitute two upper level courses from other science departments with permission of chairperson.)	
Liberal Studies Curriculum	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Language and/or Arts and/or Humanities .....	3-9
Social Sciences .....	12
Mathematics .....	8-9
Natural Sciences (PHY 201, 201L, 202, 202L) .....	8
Communication skills <sup>3</sup> .....	3-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

<sup>2</sup>Advanced placement is permitted.

<sup>3</sup>If composition requirement is waived, student should select an ENG elective.

## PROGRAM S2: BACHELOR OF SCIENCE WITH A MAJOR IN BIOCHEMISTRY (BCM)<sup>1</sup>

<i>Summary of Requirements<sup>2</sup></i>	<i>Semester Hours</i>
Chemistry .....	39
Year 1: CHM 123, 123L, 124, 124L .....	8
Year 2: CHM 201, 201L, 313, 313L, 314, 314L .....	12
Year 3: CHM 303, 303L, 304, 451, 452, 462L <sup>3</sup> , 495, 498 .....	17
Year 4: CHM 496, 497 .....	2
Biology .....	11
Year 1: BIO 151, 152, 152L .....	7
Year 2: BIO elective and laboratory .....	4
Science breadth requirements .....	10
Choose from the following: CHM 404, 415, 415L, 417, 427, 418L, 499; BIO 312, 314, 403, 404, 411, 440, 462, 466	
Supporting science requirements .....	
MTH 168, 169, 218; CPS 132 .....	15
PHY 206, 207, 210L .....	7
Communication skills .....	3-9
CMM 101 .....	0-3
ENG 101-102 or 114 or 198 <sup>4</sup> .....	3-6
Foreign language .....	6-8
Philosophy and religious studies .....	12
Social and behavioral sciences .....	6
Humanities .....	9
First-year experience: ASI 150 .....	0-1
General Education courses and academic electives to total .....	120-127

<sup>1</sup>Consult General Requirements for all Bachelor of Science programs and Chapter V for General Education requirements.

<sup>2</sup>Advanced placement is permitted.

<sup>3</sup>Students who take CHM 499 are not required to enroll in CHM 462L.

<sup>4</sup>If composition requirement is waived, student should select an ENG elective.

## PROGRAM S3: BACHELOR OF SCIENCE WITH A MAJOR IN CHEMISTRY (CHM)<sup>1</sup>

<i>Summary of Requirements<sup>2</sup></i>	<i>Semester Hours</i>
Chemistry .....	48
Year 1: CHM 123, 123L, 124, 124L .....	8
Year 2: CHM 201, 201L, 313, 313L, 314, 314L .....	12
Year 3: CHM 303, 303L, 304, 304L, 317, 417, 418L, 495 .....	13
Year 4: CHM 415, 415L, 496, 497, 498 .....	9
Chemistry electives .....	
Choose from the following: CHM 404, 412, 420, 427, 451, 452, 490L, 499 .....	6
(May substitute one approved science course from another department.)	

Supporting science (Complete during first two years.)	
MTH 168, 169, 218; CPS 132 .....	15
PHY 206, 207, 208, 210L, 211L .....	11
Communication skills .....	3-9
CMM 101 .....	0-3
ENG 101-102 or 114 or 198 <sup>3</sup> .....	3-6
Foreign language .....	6-8
Philosophy and religious studies .....	12
Social and behavioral sciences .....	6
Humanities .....	9
First-year experience: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	120

<sup>1</sup>Consult General Requirements for all Bachelor of Science programs and Chapter V for General Education Requirements.

<sup>2</sup>Advanced placement is permitted.

<sup>3</sup>If composition requirement is waived, student should select an ENG elective.

## FACULTY

Albert V. Fratini, *Chairperson*

*Distinguished Service Professor:* Lucier

*Professor Emeritus:* Michaelis

*Professors:* Fox, Fratini, R. Keil, Knachel, Singer

*Associate Professors:* Church, Johnson, Morrow

*Assistant Professor:* Greer

*Laboratory Instructors:* Hils, Jeffery, P. Keil, Tabesh, Webb

## COURSES OF INSTRUCTION

\*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: Course to accompany CHM 115 or to be elected by students in CHM 200 who lack previous chemistry laboratory experience. One 3-hour laboratory each week. *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. *3 sem. hrs. each*

CHM 123L-124L. GENERAL CHEMISTRY LABORATORY: Laboratory course to complement CHM 123-124. One 3-hour laboratory session each week. CHM 123 is a corequisite for CHM 123L. CHM 124 is a corequisite for CHM 124L. *1 sem. hr. each*

\*CHM 200. CHEMISTRY AND SOCIETY: A course for nonscience majors. The application of chemical principles to the examination of issues such as environmental quality, disease, hunger, synthetic materials, and law enforcement. Requires one year of high school chemistry or equivalent. Depending upon background and experience, a student needing a laboratory course may enroll in either CHM 115L or CHM 123L. *3 sem. hrs.*

CHM 201. QUANTITATIVE ANALYSIS: Application of the principles of chemical equilibrium to the theory and techniques of gravimetric, volumetric, spectrophotometric, and electroanalytical methods of chemical analysis. Prerequisites: CHM 124, 124L. 3 sem. hrs.

CHM 201L. QUANTITATIVE ANALYSIS LABORATORY: Course to accompany CHM 201 lecture. One 3-hour laboratory period each week. 1 sem. hr.

CHM 302. PHYSICAL CHEMISTRY: Essential elements of thermodynamics, chemical kinetics, equilibria, and electrochemistry for those with a primary interest in the life sciences. For B.A. chemistry majors and premedical, pre dental, and biology majors. Prerequisite: CHM 124. 3 sem. hrs.

CHM 303-304. PHYSICAL CHEMISTRY: Fundamentals of thermodynamics, chemical kinetics, electrochemistry, and spectroscopy with a mathematics format. For B.S. chemistry and biochemistry majors and chemical engineers. Prerequisites: CHM 201 or equivalent, CHM 303. Corequisite: MTH 218. 3 sem. hrs. each

CHM 303L-304L. PHYSICAL CHEMISTRY LABORATORY: Course to accompany CHM 303-304. One 3-hour laboratory each week. Corequisite: MTH 218. 1 sem. hr. each

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. 3 sem. hrs. each

CHM 313L-314L. ORGANIC CHEMISTRY LABORATORY: Common separation, purification, and analytical techniques including chromatography and spectroscopy are stressed in CHM 313L. Synthesis and characterization of organic materials utilizing skills from the first term are stressed in CHM 314L. One 3-hour laboratory each week. Corequisites: CHM 313 and 314, respectively. CHM 313L is a prerequisite for CHM 314L. 1 sem. hr. each

CHM 317. SPECTROSCOPIC IDENTIFICATION OF ORGANIC COMPOUNDS: The use of nuclear magnetic resonance, infrared, and mass spectrometry in elucidating structures. Emphasis on interpretation and integration of spectral data in problem solving. Prerequisites: CHM 314, 314L or equivalent. 1 sem. hr.

CHM 404. SPECIAL TOPICS IN PHYSICAL CHEMISTRY: Thorough treatment of topics such as electrochemistry, macromolecules, photochemistry, or spectroscopy. Prerequisite: CHM 302 or 303. May be repeated as topics change. 3 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: Chemical analysis based on modern instrumentation. Chromatographic, electrochemical, and spectroscopic methods. Prerequisites: CHM 201, 201L, 302 or 304. 2 sem. hrs.

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

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

CHM 418L. INORGANIC CHEMISTRY LABORATORY: Laboratory course dealing with the synthesis and characterization of inorganic and organometallic compounds. Topics include vacuum and inert atmosphere techniques, separation and purification, spectroscopic characterization, X-ray diffraction, magnetic moment, and conductance measurements. Prerequisites: CHM 201L, 314L. Corequisite: CHM 417. 1 sem. hr.

CHM 420. BIOCHEMISTRY: The fundamental aspects of the chemistry and biochemistry of carbohydrates, lipids, proteins, and nucleic acids. Enzymology, protein purification, bioenergetics, metabolism of carbohydrates, lipids, amino acids, nucleotides and nucleic acids, elementary molecular biology, and control processes are described. Acceptable preparation for medical school; for nonchemistry majors. Prerequisite: CHM 314. 3 sem. hrs

CHM 427. MEDICINAL CHEMISTRY: The chemical mechanisms of action of the major drug classes will be surveyed with particular emphasis on the facets of organic chemistry that control drug-receptor interactions, metabolism and mechanisms of toxicity and resistance. Prerequisites: CHM 314 and CHM 420 or CHM 451. First term. 3 sem. hrs.

CHM 451. GENERAL BIOCHEMISTRY I: Discussion of the chemistry and biochemistry of carbohydrates, amino acids, proteins, and nucleic acids, including health-science and methodologic aspects. Descriptions of enzymology, protein purification, and carbohydrate metabolism related to such topics as bioenergetics, membranes, and disease processes. Recommended for students desiring entry into graduate and professional schools. Prerequisites: CHM 201, 314. 3 sem. hrs.

CHM 452. GENERAL BIOCHEMISTRY II: Discussion of selected topics in bioenergetics, and metabolism of lipids, amino acids, porphyrins, nucleic acids, and proteins. Current aspects of nutrition, biochemical genetics, endocrinology, regulation, and genetic engineering addressed and related to health-science topics as time permits. Suitable preparation for medical school. Prerequisite: CHM 451. 3 sem. hrs.

CHM 462L. BIOCHEMISTRY LABORATORY: Laboratory course to accompany biochemistry lecture courses. Spectrophotometry, pH and dissociation, enzymologic methodology and analytical techniques, chromatographic techniques. Corequisite: CHM 420 or 451. 1 sem. hr.

CHM 490L. SCIENTIFIC GLASSBLOWING: 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. One 3-hour laboratory each week. Prerequisite: Permission of the chairperson. Grading Option 2. 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 and biochemistry majors in the B.S. programs. Grading Option 2. No credit

\* CHM 496. PROFESSIONAL PRACTICES SEMINAR: After discussions of the chemical literature and information retrieval, resumes, graduate education, and career opportunities, students present technical talks on topics with social, ethical, or historical implications. Required of all chemistry and biochemistry majors, both B.S. and B.A. 1 sem. hr.

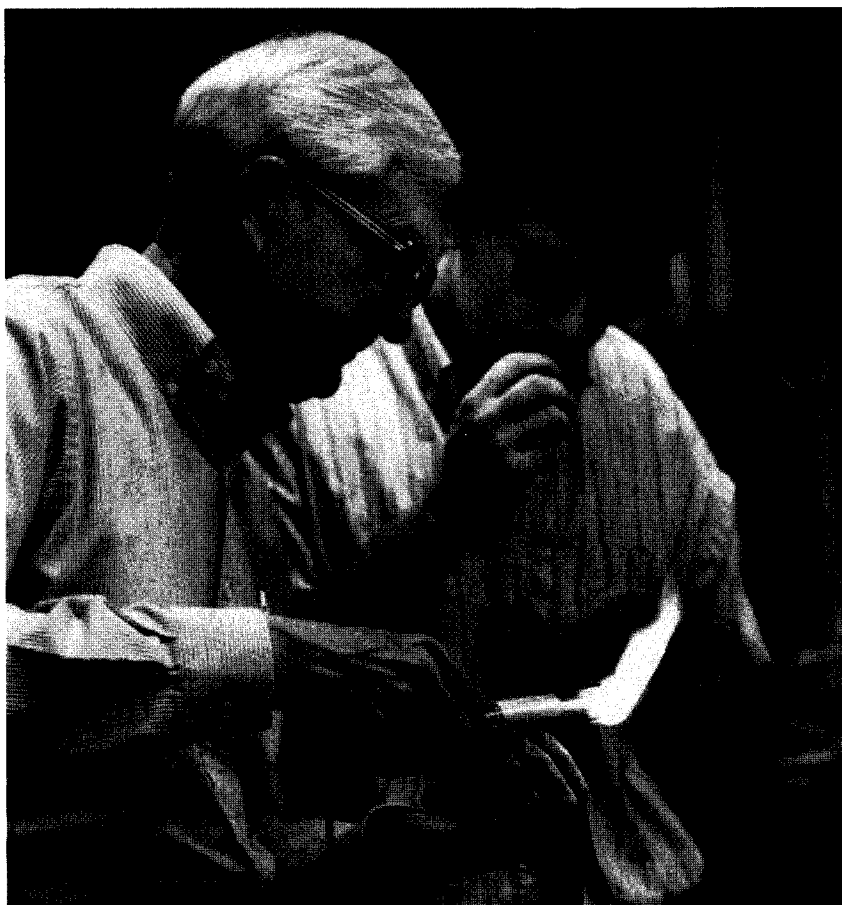
CHM 497. RESEARCH SEMINAR: A series of seminars as described under CHM 495. Required of all senior chemistry and biochemistry majors in the B.S. programs.

*1 sem. hr.*

CHM 498-499. RESEARCH AND THESIS: All students in the B.S. programs including Co-op are required to enroll for a minimum of 3 semester hours in a research course (CHM 498). Students may take additional research credits (CHM 499) 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. With the prior approval of the department chairperson, B.S. Co-op students may substitute work experience for research. Prerequisite: Permission of the chairperson. *3-6 sem. hrs.*

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\*General Education course. See Chapter V.





## CLA

### CLASSICS (CLA)

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

#### COURSES OF INSTRUCTION

CLA 105. CLASSICAL ELEMENTS IN THE ENGLISH LANGUAGE: A study of Greek and Latin elements in bioscientific terminology to improve comprehension of derivatives from the classical languages in both specialized writings and traditional literature. *3 sem. hrs.*

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. *3 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 (CMM)

The course requirements for communication majors are 39 semester hours. Teacher certification through the E11A program is an option for communication majors. Consult department chairperson for details.

Minors in communication must have CMM 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 CMM 201, CMM 330, and four of the following five courses: CMM 331; CMM 353; CMM 354; CMM 431; CMM 432.

The department also offers a Bachelor of Arts with a major in theatre. See THR.

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### PROGRAM A3: BACHELOR OF ARTS WITH A MAJOR IN COMMUNICATION (CMM)<sup>1</sup>

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	<i>Semester Hours</i>
Major program <sup>2</sup> .....	39
Foundation (required of all CMM majors) .....	12
CMM 101; CMM 201; CMM 202; CMM 330.	
Concentration Requirements and Electives .....	27
<b>CONCENTRATIONS</b>	
Communication Management (CMT)	
Foundation .....	12
CMM 320; CMM 321; CMM 412; CMM 421 .....	12
Two courses from the following:	
CMM 322; CMM 351; CMM 352; CMM 413; CMM 420; CMM 498 .....	6
Any courses in CMM or THR <sup>3</sup> .....	9
Journalism (JRN)	
Foundation .....	12
CMM 331; CMM 430; CMM 431; CMM 432 .....	12
Two courses from the following:	
CMM 332; CMM 333; CMM 412; CMS 414; CMM 416; CMM 498 .....	6
Any courses in CMM or THR <sup>3</sup> .....	9
Public Relations (PUB)	
Foundation .....	12
CMM 360; CMM 412; CMM 460; CMM 461 .....	12
Two courses from the following:	
CMM 331; CMM 332; CMM 421; CMM 469; CMM 498 .....	6
Any courses in CMM or THR <sup>3</sup> .....	9
Electronic Media (RTV)	
Foundation .....	12
CMM 340; CMM 341 or CMM 342; CMM 343; CMM 446 .....	12
Two courses from the following:	
CMM 344; CMS 414; CMM 440; CMM 449; CMM 442; CMM 498 .....	6
Any courses in CMM or THR <sup>3</sup> .....	9
Communication Studies (CSS)	
Foundation .....	12
Approved program of study by advisor and department chair must be submitted prior to completion of 18 sem. hrs. of CMM or THR. <sup>3</sup>	27

## Theatre (CTR)

Foundation .....	12
THR 203; THR 310; THR 340; THR 415 .....	12
Two courses from the following:	
THR 305; THR 307; THR 323; THR 325; THR 326; THR 330; THR 424 .....	6
Any courses in CMM or THR <sup>3</sup> .....	9

One unit of 12 sem. hrs. in a single academic discipline selected from business, education or the social sciences (beyond the Liberal Studies requirements)(6 sem. hrs. must be 300-400 level) ..... 12

Liberal Studies Curriculum<sup>1</sup>

## Humanities and Fine Arts

Philosophy and Religious Studies .....	12
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Lang. and/or Arts and/or Humanities (excludes CMM courses) .....	3-9
Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11

Communication Skills (English 101-102 or ENG 114 or ENG 198) ..... 3-6

Introduction to the University: ASI 150 ..... 0-1

General Education courses and academic electives to total at least ..... 124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

<sup>2</sup>At least 24 of the required 39 sem. hrs. in all communication concentrations must be 300-400 level. No more than 6 total sem. hrs. of CMM 390, CMM 397 and CMM 498 may be applied toward the 39 sem. hrs.

<sup>3</sup>Dance courses in the theatre program (THR 201, 261, 271, 301, 361, 371) do not count toward the 39 sem. hrs. requirement.

## FACULTY

Donald D. Yoder, *Chairperson*

*Professors Emeriti:* Gilvary, Rang, Wolff

*Professors:* Cusella, Lain, Morlan, Robinson, Skill, Thompson

*Associate Professors:* Anderson, Blatt, Griffin, Harwood, Wallace, Watters, Yoder

*Assistant Professors:* Dunlevy-Shackleford, Hueth, Kenny, Taylor, Weatherly

*Lecturers:* Angel, Beran, Juniewicz-Fogle

## COURSES OF INSTRUCTION

CMM 101. FUNDAMENTALS OF ORAL COMMUNICATION: Development of oral communication skills and communicative self-confidence in interpersonal, interviewing, small group, and public speaking contexts. Emphasis on verbal, nonverbal, listening, and analysis skills. 3 sem. hrs.

**CMM 201. FOUNDATIONS OF MASS COMMUNICATION:** Historical development of mass media in America; survey of mass media theories, impact of mass media on people and society, the role and influence of the news media, new technologies, programming, and pressure groups. *3 sem. hrs.*

**CMM 202. FOUNDATIONS OF COMMUNICATION THEORIES AND RESEARCH:** Study of the nature and scope of communication theories and research. Examination of how the communication discipline developed from classical traditions to its modern perspective. *3 sem. hrs.*

**CMM 310. 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 students' voices through tape recordings. *3 sem. hrs.*

**CMM 311. STUDIES IN ORAL PERFORMANCE:** Oral performance of poetry, prose, and drama; combining study of vocal modulations, pitch, inflection, and tone color with intellectual and emotional analysis of selections as a means of making the literature alive and immediately present. *3 sem. hrs.*

**CMM 312. LISTENING THEORY AND APPLICATION:** Study of theories and related application during comprehensive, discriminate, empathic, and appreciative listening; emphasis on listening competently and responsibly. *3 sem. hrs.*

**CMM 313. 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. *3 sem. hrs.*

**CMM 314. DIMENSIONS OF BRITISH COMMUNICATION:** Exploration of mass media, public relations, interpersonal communication, political communication, theatre and other communication subfields in the British context. This course will be offered only through a UD study abroad program. *3 sem. hrs.*

**CMM 315. INTERNATIONAL MASS MEDIA:** Focuses on the mass media of a particular foreign country or region of the world. Topics may include media content, use, societal effects and ownership. *3 sem. hrs.*

**CMM 320. INTERPERSONAL COMMUNICATION:** Study of communication behavior in a variety of dyadic relationships including acquaintance, friendship, work, romantic, and family. Focus on communication processes in initiating, maintaining, and terminating relationships. *3 sem. hrs.*

**CMM 321. SMALL GROUP COMMUNICATION:** Study and practice of group decision-making processes in organizations and communities including leadership, conflict management, critical thinking, team building, and decision models. *3 sem. hrs.*

**CMM 322. 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. *3 sem. hrs.*

CMM 330. MEDIA WRITING: Writing for mass media, including public relations, broadcast and advertising, with emphasis on news. Study and practice in determining news values, gathering information and writing clearly and accurately for mass audiences. Studio fee. *3 sem. hrs.*

CMM 331. FEATURE WRITING: Developing and writing nonfiction stories — such as personality profile, color, commentary, bright, explanatory and consumer — for newspapers and news magazines. Study and practice in using journalistic reporting skills and various literary techniques. Emphasis on content, organization, style and accuracy. Prerequisite: CMM 330, Studio fee. *3 sem. hrs.*

CMM 332. PUBLICATION DESIGN: Layout and design of newspapers, newsletters, brochures, and magazines. Type selection, copy preparation, cost appraisal, printing methods. Studio fee. *3 sem. hrs.*

CMM 333. FREE-LANCE WRITING: Steps of free-lance publication, from market analysis to query letters to writing and rewriting. Mostly nonfiction, magazine markets, some newspaper and nonfiction book markets. *3 sem. hrs.*

CMM 340. FUNDAMENTALS OF BROADCASTING: Lectures dealing with broadcasting as a business and as a cultural influence; broadcast regulation, programming, and organization of typical radio and television stations. *3 sem. hrs.*

CMM 341. AUDIO PRODUCTION: Study of the theory and process of current audio production practices, including the operation of basic studio equipment. Exercises in methods of sound reproduction in the audio studio, including recording of voice, music, and sound effects. Some writing for the aural medium. Studio fee. *3 sem. hrs.*

CMM 342. FUNDAMENTALS OF TELEVISION PRODUCTION: Intensive practice in preparation and production of studio-based television programs. Process and fundamentals of studio production and post-production editing. Studio fee. *3 sem. hrs.*

CMM 343. SCRIPTWRITING 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 including corporate media writing. Prerequisite: CMM 330 or permission of instructor. *3 sem. hrs.*

CMM 344. MULTIMEDIA DESIGN & PRODUCTION I: Introduction to the field of multimedia and interactivity including interface design, project planning, script-writing, story boarding, digital image, sound and video editing and the use of authoring software. This course is the same as VAD 344. Studio fee. *3 sem. hrs.*

\*CMM 350. PROPAGANDA ANALYSIS: Examination of major propaganda campaigns in history beginning with Greek democracy. Emphasis on 20th century propaganda as psychological warfare. Principles of Aristotelean rhetorical theory applied to propaganda analysis. *3 sem. hrs.*

CMM 351. PUBLIC SPEAKING: Oral communication in professional situations. Adaptation of principles of effective speaking to specific audiences and occasions. Delivery of informational, problem-solving, and special-occasion speeches. *3 sem. hrs.*

CMM 352. PERSUASION: Analysis of the motivations that lead to belief and action of individuals and audiences. Study in the techniques of persuasion. Practical application of theory. *3 sem. hrs.*

CMM 353. SPEECH WRITING: Study of speech structure and composition. Critical analysis of model speech, in conjunction with the preparation and presentation of original speeches on current public questions. *3 sem. hrs.*

CMM 354. POLITICAL CAMPAIGN COMMUNICATION: Examination of theory and research on the role, processes and effects of communication in political campaigns with emphasis on mass media, public speaking, debates, advertising, and interpersonal communications. *3 sem. hrs.*

\*CMM 355. RHETORIC OF SOCIAL MOVEMENTS: Study of rhetorical communication in American social movements through examination of the strategies, themes and tactics used by agitators and the institutional responses to discourse aimed at social change. *3 sem. hrs.*

CMM 360. PRINCIPLES OF PUBLIC RELATIONS: Survey of the field of public relations emphasizing writing and public relations, theoretical implications of the field, the practitioner's role in organization and the community. *3 sem. hrs.*

CMM 390. INDEPENDENT STUDY: Supervised study involving directed readings, individual research (library, field, or experimental), or projects in the specialized areas of communication. May be repeated for up to 6 semester hours. Prerequisite: Permission of the department chairperson. *1-3 sem. hrs.*

CMM 397. COMMUNICATION PRACTICUM: Contracted participation in an approved on-campus communication organization. One sem. hr. per term to a maximum of 3. Grade option 2 only. *1-3 sem. hrs.*

CMM 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. *3 sem. hrs.*

CMM 411. HEALTH COMMUNICATION: Examination of communication theory and research as they relate to health care. Issues include reassurance, the role of the patient, interviews, health organizations, the media and health, compliance, providing explanations, and health care professions frequently neglected. *3 sem. hrs.*

CMM 412. RESEARCH METHODS IN COMMUNICATION: Introduction to data gathering and analytical quantitative methods used in the communication discipline. Focus on and practice in survey methods, questionnaire development, and sampling. *3 sem. hrs.*

CMM 413. COMMUNICATION IN THE INFORMATION AGE: Examination of issues related to development, economics, programming, and the future of new mass communication technologies. Prerequisite: CMM 201 or permission of instructor. *3 sem. hrs.*

- \*CMS414. GLOBAL COMMUNICATION: Introduction to the main topics in the field of global communication. Emphasis on comparative mass media and current issues in global communication. (Will not satisfy humanities requirement.) 3 sem. hrs.
- \*CMS 415. WOMEN AND COMMUNICATION: Seminar focusing on gender differences in communication, unique aspects to women's communication, and women's rhetoric. Current theory and research examined. (Will not satisfy humanities requirement.) 3 sem. hrs.
- \*CMM 416. 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. 3 sem. hrs.

CMM420. COMMUNICATION AND CONFLICT MANAGEMENT: 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. 3 sem. hrs.

CMM 421. COMMUNICATION IN ORGANIZATIONS: Analysis of message initiation, diffusion, and reception in organizations; analysis of the role of communication in developing productive work relationships, management practices, and organizational cultures. 3 sem. hrs.

CMM 430. EDITING AND COPYREADING: Newspaper copy editing, with emphasis on language usage, editing symbols, newspaper style, headline and caption writing. Extensive work on computerized editing system. Prerequisites: CMM 330. Studio fee. 3 sem. hrs.

CMM 431. PUBLIC AFFAIRS REPORTING: Investigative and specialized reporting on matters of public concern, with an emphasis on government, economy and community welfare. Study and practice in gathering information from various primary and secondary sources, and writing about complex subjects for mass audiences. Prerequisite: CMM 330. Studio fee. 3 sem. hrs.

CMM 432. THE LAW AND NEWS MEDIA: Exploration of what "free press" means, as defined by the courts and media practice. Topics include core values of the First Amendment, libel, privacy, censorship, access to information, copyright and regulation of broadcast, cable and new electronic media. Prerequisite: CMM 330. 3 sem. hrs.

CMM 439. SPECIAL TOPICS IN JOURNALISM: Concentrated study in special areas of journalism. May be repeated with change of topic. 3 or 6 sem. hrs.

CMM 440. 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. Prerequisite: CMM 330. Studio fee. 3 sem. hrs.

CMM 442. ADVANCED TELEVISION PRODUCTION: Advanced techniques of both studio and electronic field production and post-production editing for television. Prerequisite: CMM 342. Studio fee. 3 sem. hrs.

CMM 444. MULTIMEDIA DESIGN AND PRODUCTION II: Advanced level multimedia production emphasizing client-based project generation through a design/production-team approach. This course is the same as VAD 444. Prerequisite: CMM 344 or VAD 344. Studio fee. *3 sem. hrs.*

CMM 446. ELECTRONIC MEDIA MANAGEMENT: Survey of the leadership/management roles and responsibilities of broadcasting, cable television and corporate media enterprises. Prerequisite: CMM 340. *3 sem. hrs.*

CMM 449. TOPICS IN ELECTRONIC MEDIA: Concentrated study in special areas of electronic media production, criticism, and management. May be repeated once with change of topic. Depending on topic, prerequisites may be imposed. *3 sem. hrs.*

CMM 452. PUBLIC DISCOURSE AND CRITICISM: Examination of the foundations of the field of communication. Major focus on the development of rhetorical theory with attention to rhetorical analysis and criticism. *3 sem. hrs.*

CMM 460. ADVANCED PUBLIC RELATIONS: Study, development and application of public relations strategies. Emphasis on strategically effective, factually accurate and grammatically sound written communications for organizational and mass audiences. Prerequisite: CMM 330, CMM 360. *3 sem. hrs.*

CMM 461. PUBLIC RELATIONS CAMPAIGNS AND CASES: 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. Prerequisite: CMM 330, CMM 360, CMM 460 and senior standing. *3 sem. hrs.*

CMM 469. TOPICS IN PUBLIC RELATIONS: A concentrated study in specific areas of public relations. Development of specialized projects. May be repeated once with change of topics. Prerequisites: CMM 360 or permission of instructor. *3 sem. hrs.*

CMM 498. COMMUNICATION INTERNSHIP: Communication work experience in an approved organization. Prerequisites: Student must be in good academic standing and must have completed CMM 101, 201, 202, 330. Students are normally limited to a maximum of 3 sem. hrs. Under exceptional circumstances, students may petition the department chair for an additional 3 sem. hrs. if the second internship is at a different organization and the student can demonstrate that the position offers a unique and significant educational opportunity not available through the first internship. Students must register for the internship credits during the term of the internship. Permission of department chair. Option 2 Grading only. *1 - 6 sem. hrs.*

CMM 499. SPECIAL TOPICS IN COMMUNICATION: Concentrated study in specific areas of speech communication. May be repeated once with change of topic. *3-6 sem. hrs.*

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\*General Education course. See Chapter V.



# CPS

## COMPUTER SCIENCE (CPS)

The Department of Computer Science offers two programs leading to the Bachelor of Science: Program S4, in computer science, and Program S4A, in computer information systems. Both programs have the same introductory core sequence of computer science courses. The main differences in the programs are in the mathematics and science requirements and in the application emphases.

**S4-Computer Science:** Computer science is the study of algorithms and their implementation in the environment of computer hardware. It includes the study of data structures, software design, programming languages, and computer elements and architecture. A student entering this program is expected to be able to take calculus and nonremedial English. A transfer student must ordinarily be in good standing and have a cumulative average of at least 2.5 based on a scale of 4. Each student must take appropriate upper-level electives to ensure depth in at least three of the core subject areas of data structures, software design, programming language concepts and architecture as arranged with the advisor and department chair.

**S4A-Computer Information Systems:** This program emphasizes computer science concepts with particular attention to systems analysis and design, computer communications, and applications in one of the concentration areas listed in the description of the S4A program requirements.

A minor in computer science includes CPS 150, 151, 250, 350, and three other courses numbered 320 or above, excluding 435 and 437. A minor in computer information systems includes CPS 150, 151, 242, 310, 312, and two courses numbered 320 or above, excluding 435 and 437.

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### PROGRAM S4: BACHELOR OF SCIENCE WITH A MAJOR IN COMPUTER SCIENCE (CPS)<sup>1</sup>

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	<i>Semester Hours</i>
Computer science .....	45
Introductory core sequence: CPS 150, 151, 242, 250, 341	
Further core requirements: CPS 346, 350, 387	
Six additional upper-level courses, numbered 310 or above	
Mathematics: MTH 168, 169, 218, 302 <sup>2</sup> , 367 .....	18
Natural sciences: PHY 206, 207, 210L, 211L, or CHM 123, 124, 123L, 124L or BIO 151, 152, 152L, 201L or GEO 115, 116, 115L, 116L-and 2 additional courses acceptable for Science or Engineering majors .....	14
Communication skills .....	0-9
Humanities .....	9
Social and behavioral sciences .....	6
Philosophy and religious studies, including PHL 319 .....	12
First-year experience: ASI 150 .....	0-1
General Education courses and academic electives <sup>3</sup> to total at least .....	120

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<sup>1</sup>See General Requirements for All Bachelor of Science Programs and Chapter V for General Education Requirements.

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**PROGRAM S4A: BACHELOR OF SCIENCE WITH A MAJOR IN  
COMPUTER INFORMATION SYSTEMS (CIS)<sup>1</sup>**

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	<i>Semester Hours</i>
Computer science .....	42
Introductory core sequence: CPS 150, 151, 242, 250, 341	
Further core requirements: CPS 310, 312, 346, 350	
Four additional upper-level courses, numbered 320 or above	
Concentration: A minor in one of the following areas: anthropology, biology, chemistry, communication, criminal justice, economics, English, family development, geology, history, human ecology, languages, mathematics, music, philosophy, physics, political science, psychology, social work, sociology, religious studies, accounting, finance, international business, management, marketing; or the following block of courses: ACC 207, 208; ECO 203, 204; MGT 311; MKT 305 .....	15-27
Communication skills .....	0-9
Humanities <sup>2</sup> .....	9
Mathematics: Calculus and statistics, (e.g., MTH 148, 149, 367) <sup>2</sup> .....	9
Natural sciences <sup>2</sup> .....	8
Social and behavioral sciences <sup>2</sup> .....	6
Philosophy and religious studies, including PHL 319 <sup>2</sup> .....	12
First-year experience: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	120

<sup>1</sup>See General Requirements for all Bachelor of Science Programs and Chapter V for General Education Requirements.

<sup>2</sup>This requirement will be satisfied in some cases by the minor that is chosen.

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## FACULTY

Barbara A. Smith, *Chairperson*

*Professors Emeriti:* Jehn, Kester

*Associate Professors:* Gowda, Lang, Schoen, Smith, Pan

*Assistant Professors:* Buckley, Clark, Monge, Moore

*Lecturers:* Maruyama, Reynolds

*Adjunct Associate Professor:* Lokai

## 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, CIS, or PCS majors.

*3 sem. hrs.*

**CPS 111. INTRODUCTION TO PERSONAL COMPUTERS:** Introduction to the use of personal computers. Emphasis on the use of the operating system, text processors, spreadsheets, database packages, and elementary communications.

*3 sem. hrs.*

CPS 130. INTRODUCTION TO ENGINEERING PROGRAMMING: Introduction to the fundamentals of programming using the language C, including algorithms and control structures, with applications drawn from engineering. Intended for students in electrical engineering. Prerequisite: EGR 101. 1 sem. hr.

CPS 132. COMPUTER PROGRAMMING FOR ENGINEERING AND SCIENCE: Fundamentals of computer programming including algorithms, program structure, library routines, debugging, and program verification. Calculus-based computer solutions of problems from science and engineering using C. Corequisite: MTH 168. 3 sem. hrs.

CPS 144. INTRODUCTION TO COMPUTER PROGRAMMING: Fundamentals of computer programming including algorithms, program structure, library routines, debugging, and program verification. Computer solutions of problems from social sciences using a suitable compiler language such as FORTRAN, PL/I, or Pascal. 1-3 sem. hrs.

CPS 145. COBOL PROGRAMMING: Basic programming theory and practice using the COBOL language for business-oriented problems. Not open to CPS, CIS, or PCS majors. 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. 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. Emphasis on program design, development and style, string processing, data structures, program modularity, and abstract data type, using a compiler language. Prerequisite: CPS 150. 4 sem. hrs.

CPS 242. INTRODUCTION TO FILE PROCESSING: The file processing environment, blocking and buffering, secondary storage devices, sequential file organization, relative file organization, and various indexed file organizations using a suitable compiler language such as COBOL. Prerequisite: CPS 150. Corequisite: CPS 151. 3 sem. hrs.

CPS 250. ALGORITHMS AND PROGRAMMING III: Study of computer organization and architecture by developing basic programming skills in an assembler language (currently 68000 or VAX) and in "C." Prerequisite: CPS 151. 4 sem. hrs.

CPS 308. SURVEY OF EXPERT SYSTEMS: An introduction to expert systems. Topics include knowledge structuring, production rules, and design tools. Specific systems are presented. Not open to CPS, CIS, or PCS majors. 3 sem. hrs.

CPS 309. TOPICS IN COMPUTER SCIENCE: Lectures or laboratory work in areas of current interest. May be taken more than once. Does not count as upper level credit for major/minors. 1-4 sem. hrs.

CPS 310. SYSTEMS ANALYSIS: Methodologies for producing software, software development life cycles, top-down approach, data flow diagram, data dictionary, mini-specifications, object analysis, event analysis, real-time systems specifications, automated analysis tools. Prerequisite: CPS 151. 3 sem. hrs.

CPS 312. SYSTEMS DESIGN: Ideas behind structured design, tools of structured design, coupling and cohesion of modules, transform and transaction analyses, packaging, optimization, data structure and object-oriented design methodologies, automated design tools. Prerequisite: CPS 310. 3 sem. hrs.

CPS 315. THE COMPUTING WORLD: Analysis of the tools and techniques of computers and of their impact on society. A framework for making professional decisions in the context of their social impact. Prerequisites: CPS 151, junior standing. 3 sem. hrs.

CPS 341. DISCRETE STRUCTURES: Logic and proofs, sets and counting, Boolean algebra, graph theory, directed graphs, mathematical machines, formal languages and grammars. Prerequisite: CPS 150. 3 sem. hrs.

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

CPS 346. OPERATING SYSTEMS I: Semaphores, conditions, monitors, and kernels. Concurrent programming, interrupts, memory, and process management. Design and implementation of a simple operating system using concurrent languages. Prerequisites: CPS 250, 350. 3 sem. hrs.

CPS 350. DATA STRUCTURES AND ALGORITHMS: Basic concepts of data, lists, 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. 3 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: MTH 169; CPS 132 or 150. 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: Study of the elements of computer design. 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 250, CPS 341. 3 sem. hrs.

CPS 388. COMPUTER SYSTEM DESIGN II: Detailed analysis of a specific micro-computer programmed in machine, assembler, and a higher-level language. Discussion of interfacing with devices such as displays, terminals, and other computers. Experiments with such interfacing in the laboratory. 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 310. 3 sem. hrs.

CPS 418. SOFTWARE ENGINEERING: A thorough examination of modern software methodologies, of the managerial and technological skills essential to the design and construction of high-quality software, and of the productivity and human factors in software development. Prerequisite: CPS 350. 3 sem. hrs.

CPS 424. DISCRETE EVENT SIMULATION TECHNIQUES: Design and use of simulation models; study and use of special-purpose simulation languages such as GPSS and GASPIV, SIMSCRIPT II.5. Applications. Prerequisite: CPS 151. 3 sem. hrs.

CPS 430. DATABASE MANAGEMENT SYSTEMS: Physical and logical organization of data files; hierarchical, network, and relational database models; the data definition language and the data manipulation language of a commercial database management system; query languages. Prerequisite: CPS 350. 3 sem. hrs.

CPS 435. MANAGEMENT OF DATABASES: The technology of network, hierarchical and relational database management systems, and the management of data in a business environment. Logical and physical database design with emphasis on the relational model in local and corporate systems. The role of the database administrator. Not open to CPS, CIS, or PCS majors or minors. Prerequisite: CPS 310. 3 sem. hrs.

CPS 437. SURVEY OF DATA COMMUNICATIONS: Concepts of data communications hardware and software; in local area (LAN) and wide area (WAN) networks. Fundamentals of business network design in the layered network architectures: X.25, OSI, SNA, and TCP/IP. Not open to CPS, CIS, or PCS majors or minors. Prerequisite: CPS 310. 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 SYSTEMS II: Design and implementation of a multi-user operating system, including concurrent processes, usage of monitors and kernels, process and device scheduling, virtual memory with paging, process synchronization and communication, input and output spooler, file systems, reliability and protection, interrupts, distributed system concepts. Prerequisite: CPS 346. 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 132 or 150, MTH 302, 319. Recommended: 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 460. COMPUTER GRAPHICS: Introduction to graphics devices and software graphic primitives (points, lines, characters), two-dimensional transformations, clipping, survey of display devices and methods. Graphic input devices, representation of curves and surface in space. Prerequisites: CPS 350. 3 sem. hrs.

CPS 470. DATA COMMUNICATION: Principles of telecommunications hardware and software. Analysis of communication protocol layers with respect to performance, error handling, and control functions. Review of troubleshooting techniques currently in use. Prerequisite: CPS 350. 3 sem. hrs.

CPS 472. COMPUTER NETWORKING: Concepts and goals of computer networks (local area and long-haul). Network protocols, analysis, design management. OSI layers, gateways. Network topologies and case studies. Prerequisite: CPS 470. 3 sem. hrs.

CPS 480. ARTIFICIAL INTELLIGENCE: Basic concepts and techniques of intelligent systems. Emphasis on representations, problem solving, search strategies, expert systems, logic systems, and AI programming. Design and implementation of AI applications. Prerequisite: CPS 350. 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 496. COOPERATIVE EDUCATION: Computer science cooperative education work experience in an approved organization. Prerequisite: 12 hours of upper-level CPS courses with a GPA of 3.0; total 90 semester hours with a GPA of 2.75. Permission of the department in advance of the work. Not open to students with credit in CPS 497. Credit does not apply to major requirements. Repeat to a maximum of 3 semester hours. 1-3 sem. hrs.

CPS 497. INTERNSHIP: Computer science work experience in an approved organization. Prerequisite: 12 sem. hrs. of upper-level CPS courses with GPA of 3.0; total 90 sem. hrs. and 2.75 GPA. Permission of department in advance of the work. Not open to students with CPS 496 credit. Credit does not apply to major requirements. Repeat to a maximum of 3 semester hours. 1-3 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 STUDIES (CJS)

The Bachelor of Arts with a major in criminal justice studies, is a broadly structured interdisciplinary curriculum designed to introduce students to 1) a critical theory of criminal justice/criminology and 2) requisite knowledge for advanced study or public service, e.g. law enforcement and/or investigative services at the local, state and national levels; line entry careers in the correctional field—probation and parole counseling, community programs, and other rehabilitative services, as well as staff positions in the judiciary.

Those who enter the University of Dayton as first-year students, or as transfers without associate degrees, will be classified under Option A, a total program sequence. Students who transfer here with acceptable associate degrees in specific fields similar or closely related to criminal justice will be classified under Option B, a transfer program sequence.

All students transferring into the curriculum must be in good academic standing and meet entry requirements.

The minor in criminal justice studies requires 18 semester hours to include CJS 101, Introduction to Criminal Justice Studies, SOC 305, Criminological Theory, and 12 upper-divisional semester hours of course work, i.e., one course in each of the four areas involving behavior, institutions, law, and social structure.

Proficiency examinations for limited CJS credit are available only to majors who are in-service personnel, i.e., law enforcement officers, probation and parole officials, or judicial personnel. Under Option A, students are limited to only 6 semester hours of proficiency examination credit, and under Option B, only 3 semester hours. In-service students should make their formal appeals to the director's office at the beginning of each term, so that it can be determined by the Criminal Justice Studies Advisory Committee 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 studies program.

PROGRAM A4: BACHELOR OF ARTS WITH A MAJOR IN  
CRIMINAL JUSTICE STUDIES (CJS)<sup>1</sup>

OPTION A

*Semester Hours*

Criminal justice studies .....	36
CJS 101, 207, 447 and SOC 305. The remaining 24 semester hours will be taken from the criminal justice studies, political science, psychology, sociology, and social work elective course list for the behavior, institutions, law and social structure areas. A student MUST take at least 2 courses in each area.	
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Lang. and/or Arts and/or Humanities .....	3-9

Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) <sup>2</sup> .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup> See Also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

<sup>2</sup> CJS 207, Research Methods in Criminal Justice Studies, requires as a prerequisite MTH 207 or PSY 216 or SOC 308. Neither PSY 216 nor SOC 308 fills the three semester hours mathematics requirement.

### Core Courses for a CJS Major, Option A

CJS 101	Introduction to Criminal Justice Studies
CJS 207	Research Methods in Criminal Justice Studies
SOC 305	Criminological Theory
CJS 447	Senior Seminar in Criminal Justice Studies

In addition to these four core courses, students are required to take eight additional courses—two from each of the following four areas.<sup>1</sup>

#### Behavior (Must take two courses)

PSY 363	Abnormal Psychology
PSY 461	Current Implications of Drug Dependency
SOC 325	Deviant Behavior
SOC 327	Criminology
SOC 410	Victimology
SWK 325	Child Abuse

#### Institutions (Must take two courses)

CJS 303	Corrections
POL 303	State and Local Government
POL 305	Introduction to Public Administration
POL 360	Urban Politics and Policy
SOC 323	Juvenile Justice

#### Law (Must take two courses)

CJS 305	Criminal Law
CJS 315	Criminal Procedure
POL 301	American Judicial Process
POL 411	Constitutional Law
POL 450	Civil Liberties
SOC 326	Law and Society

#### Social Structure (Must take two courses)

CJS 322	Policing and Society
CJS 336	Comparative Criminal Justice Systems
SOC 328	Racial and Ethnic Minorities
SOC 339	Social Inequality
SOC 351	Urban Sociology



<sup>1</sup>Internships and independent studies may be taken in CJS, POL, PSY, and SOC that have a Criminal justice studies emphasis. No more than 6 semester hours may be taken. Also to be offered is CJS 399, Special Topics in Criminal Justice Studies. This course work is in addition to the 36 hours required for a CJS interdisciplinary major in the Option A, total program sequence. They are not to be used as substitute courses for those listed in the areas of behavior, institutions, law and/or social structure, unless approved in advanced by the director of the Criminal Justice Studies program and the College of Arts and Sciences.

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## PROGRAM 4A: BACHELOR OF ARTS WITH A MAJOR IN CRIMINAL JUSTICE STUDIES (CJS)<sup>1</sup>

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### OPTION B

To be admitted as a major in the 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. For criminal justice studies majors who have completed the basic requirements for an accredited two-year criminal justice degree, 60 semester hours beyond the associate degree is suggested, which includes a minimum of 21 semester hours in the program.

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

*Semester Hours*

#### Liberal Studies Curriculum<sup>1</sup>

Humanities and Fine Arts	
Philosophy and Religious Studies .....	6
History .....	6
Literature: English or Foreign Language .....	3
Foreign Language and/or Arts and/or Humanities .....	3-9
Social and Behavioral Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) <sup>2</sup> .....	3
Communication skills: ENG 101 & 102; CMM 101 .....	0-9
General Education courses and academic electives to total at least <sup>3</sup> .....	60

#### Course requirements:

Criminal Justice Studies .....	21
CJS 207, 447 and SOC 305. The remaining 12 semester hours will be taken from the criminal justice studies, political science, psychology, sociology, and social work elective course list for the behavior, institutions, law, and social structure areas. A student must take at least one course in each area. Any course that is specifically required of the criminal justice studies 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.	

Humanities <sup>1</sup> .....	21
Philosophy and/or religious studies electives .....	6
Mathematics (MTH 102, 204, 205 excluded) <sup>2</sup> .....	3
Social and behavioral sciences .....	12
General Education courses and academic electives to total at least <sup>3</sup> .....	63

<sup>1</sup>Consult General Requirements for all Bachelor of Arts programs and Chapter V for General Education requirements.

<sup>2</sup>CJS 207, Research Methods in Criminal Justice Studies, required as a prerequisite MTH 207 or PSY 216 or SOC 308. Neither PSY 216 nor SOC 308 fills the three semester hours mathematics requirements.

<sup>3</sup>To be considered a viable candidate for graduation, a student must have completed a minimum of 124 semester hours with accepted transfer credits.

### Core Courses for a CJS Major, Option B

CJS 207	Research Methods in Criminal Justice Studies
SOC 305	Criminological Theory
CJS 447	Senior Seminar in Criminal Justice Studies

In addition to these three core courses, students are required to take four additional courses—one from each of the following four areas.<sup>1</sup>

#### Behavior (Must take one course)

PSY 363	Abnormal Psychology
PSY 461	Current Implications of Drug Dependency
SOC 325	Deviant Behavior
SOC 327	Criminology
SOC 410	Victimology
SWK 325	Child Abuse

#### Institutions (Must take one course)

CJS 303	Corrections
POL 303	State and Local Government
POL 305	Introduction to Public Administration
POL 360	Urban Politics and Policy
SOC 323	Juvenile Justice

#### Law (Must take one course)

CJS 305	Criminal Law
CJS 315	Criminal Procedure
POL 301	American Judicial Process
POL 411	Constitutional Law
POL 450	Civil Liberties
SOC 326	Law and Society

#### Social Structure (Must take one course)

CJS 322	Policing and Society
CJS 336	Comparative Criminal Justice Systems
SOC 328	Racial and Ethnic Minorities
SOC 339	Social Inequality
SOC 351	Urban Sociology

<sup>1</sup>Internships and Independent Studies may be taken in CJS, POL, PSY, and SOC that have a criminal justice studies emphasis. No more than 6 semester hours may be taken. Also to be offered is CJS 399, Special Topics in Criminal Justice Studies. This course work is in addition to the 21 hours required for a CJS interdisciplinary major in the Option B, transfer program sequence. They are not to be used as substitute courses for those listed in the areas of behavior, institutions, law and/or social structure, unless approved in advance by the director of the Criminal Justice Studies program and the College of Arts and Sciences.

## CRIMINAL JUSTICE STUDIES ADVISORY COMMITTEE

The Criminal Justice Studies Advisory Committee consists of James A. Adamitis, *Director, Criminal Justice Studies Program*, Ahern (Political Science), Ghere (Political Science), Ingram (Criminal Justice Studies), Kuntz (Psychology), P. Donnelly (Sociology, Anthropology and Social Work), H. Pestello (Sociology, Anthropology and Social Work).

## FACULTY

James A. Adamitis, *Director*

*Associate Professors:* Adamitis, Ingram

*Lecturer:* Heffernan

*Adjunct Instructors:* Abraham, Apolito, Frapwell

## COURSES OF INSTRUCTION

CJS 101. INTRODUCTION TO CRIMINAL JUSTICE STUDIES: Introduction to the field of criminal justice studies, stressing the theoretical foundations, origin, nature, methods, and limitations of criminal justice studies as a college curriculum. 3 sem. hrs.

CJS 207. RESEARCH METHODS IN CRIMINAL JUSTICE STUDIES: 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 are also examined. Prerequisite: MTH 207 or PSY 216 or SOC 308. 3 sem. hrs.

CJS 303. CORRECTIONS: The administration of correctional institutions and other detention facilities with emphasis on probation and parole systems to include the rehabilitation and treatment of the incarcerated with reference to correctional law cases. 3 sem. hrs.

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

CJS 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.

**CJS 322. POLICING AND SOCIETY:** Analyzes the history of policing in society and assesses the social and political forces that are correlated with both the rise of formal policing and the variety of structures law enforcement agencies have assumed. Reviews the primary functions of policing in American society and examines those issues affecting federal, state, county, municipal and private policing  
*3 sem. hrs.*

**CJS 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.*

**CJS 399. SPECIAL TOPICS IN CRIMINAL JUSTICE :** An extensive examination of a current topic affecting the criminal justice system and its law enforcement, corrections or judicial components. May be repeated to a maximum of 3 semester credits when the topic changes.  
*1 to 3 sem. hrs.*

**CJS 440. INDEPENDENT STUDY:** Directed study and research on selected topics of significant academic publications in law enforcement and criminal justice. Prerequisites: Permission of instructor, an introductory CJS course.  
*3 sem. hrs.*

**CJS 447. SENIOR SEMINAR IN CRIMINAL JUSTICE STUDIES:** Seminar to identify and discuss the contemporary issues in justice administration. Topics to be assigned by instructor and presented for class discussion by students.  
*3 sem. hrs.*

**CJS 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 studies majors only; in-service students do not qualify. Students who enroll for internship credit are not given a stipend. Credit granted only under grade option 2. Prerequisites: Sophomore status, 2.5 cumulative grade-point average, and permission of the director of Criminal Justice Studies program.  
*3 sem. hrs.*

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



ECO

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.

For a minor in economics, 18 semester hours are required: ECO 203-204, 346-347, and any two elective courses from economics.

For course descriptions, see ECO, Chapter VII.

PROGRAM A5: BACHELOR OF ARTS WITH A MAJOR  
IN ECONOMICS (ECA)<sup>1</sup>

	<i>Semester Hours</i>
Economics .....	30
ECO 203, 204, 346, 347, and 18 sem. hrs. of upper-divisional electives.	
Mathematics .....	6-9
MTH 207 and MTH 138 or MTH 148 <sup>2</sup> required; MTH 149 strongly recommended.	
Natural Sciences .....	11
Liberal Studies Curriculum <sup>1</sup> .....	
Humanities and Fine Arts .....	27-33
Philosophy and Religious Studies .....	12
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Language and/or Arts and/or Humanities .....	3-9
Social Sciences (excludes courses in ECO) .....	12
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

<sup>2</sup>Math 128 or 129 may be substituted with permission of chairperson.

## ENGLISH (ENG)

The University requirement in English composition is satisfied by the completion of ENG 101-102, ENG 114, or ENG 198. Completing this requirement is a prerequisite for 200- and 300- level English courses. For placement information, see Reading and Writing Skills under Basic Skills Requirements in Chapter V. For additional details, consult the department chairperson or the coordinator of composition.

Students majoring in English must complete at least 36 semester hours of English courses, including first-year composition, and at least 24 semester hours at the 300-400 level.

Students minoring in English must complete at least 12 semester hours of upper-divisional (300-400) courses in addition to the composition requirement. Students in B.A. programs can acquire teacher certification in English through the E11A program. (See EDT.) For details, consult the department chairperson.

The English department awards a writing certificate to students who achieve a 3.0 grade-point average in 18 semester hours of approved writing and writing-related courses, including at least 12 semester hours of upper-divisional (300-400) courses, and who pass a final examination including an impromptu essay. For details, consult the department chairperson.

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### PROGRAM A6: BACHELOR OF ARTS WITH A MAJOR IN ENGLISH (ENG)<sup>1</sup>

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	<i>Semester Hours</i>
English .....	36
First-year composition: ENG 101-102 or 114 or 198 .....	0-6
Literary Analysis and Research—Poetry: Eng 300 .....	3
Surveys: ENG 301, 302, and 305 .....	9
Shakespeare: ENG 362 .....	3
Composition Theory or Literary Theory: ENG 476 or 488 .....	3
One 300- or 400-level writing class .....	3
Seminar: ENG 490 .....	3
ENG electives .....	6-12
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History .....	6
Creative and Performing Arts .....	3
Foreign Language and/or Arts and/or Humanities (excludes ENG courses) .....	3-9
Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
CMM 101 .....	3
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

## FACULTY

Alex J. Cameron, *Chairperson*

Sara G. Wieland, *Coordinator of Composition*

*Professors Emeriti:* Cochran, Labadie, Martin, Murphy, Palumbo, Stockum

*Professors:* August, Bedard, J. Farrelly, Henninger, Kimbrough,

K. Marre, Patrouch, Pici

*Associate Professors:* Cameron, Conniff, Durham, Macklin, L. Marre, Means,  
Ruff, Shereen, Wilhoit

*Assistant Professors:* Boehnlein, Strain, Tuss, Youngkin

*Lecturer:* B. Farrelly

*Poet-in-Residence:* Martin

## COURSES OF INSTRUCTION

ENG 101. COLLEGE COMPOSITION I: Analysis of the processes of reading and writing aimed at the development and refinement of critical thinking skills, critical reading skills, and critical writing skills. Required departmental examination. 3 sem. hrs.

ENG 102. COLLEGE COMPOSITION II: Study of appropriate rhetorical structures and styles for analytic, synthetic, and argumentative essays. Practice in developing critical reading and writing skills with an emphasis on writing from sources. Prerequisite: ENG 101. 3 sem. hrs.

ENG 114. FRESHMAN WRITING SEMINAR: A one-semester composition course for first-year students who show high proficiency. First term only. Open by permission only. 3 sem. hrs.

\* ENG 151. INTRODUCTION TO LITERATURE: A critical study of literary forms—fiction, drama, and poetry—representative of various eras and cultures. May be taken concurrently with ENG 102. Prerequisite: ENG 101 or equivalent. 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 first-year students 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 102 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 102 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 102 or equivalent. 3 sem. hrs.

ENG 210. POETRY: Study of representative examples of a major literary genre. Prerequisite: ENG 102 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 102 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 102 for students desiring more experience in writing. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.

ENG 282. INTRODUCTION TO WRITING POETRY: A beginning course in analyzing and writing poetry. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.

ENG 284. INTRODUCTION TO WRITING FICTION: A beginning course in analyzing and writing short fiction. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.

ENG 286. INTRODUCTION TO WRITING DRAMA: A beginning course in analyzing and writing short plays. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.

ENG 300. LITERARY ANALYSIS AND RESEARCH—POETRY: Detailed analysis of selected poems, with attention to their use of traditional forms and conventions, combined with training in standard methods of interpretation and research. Students will write three to four papers designed to develop their abilities to read closely, to locate relevant scholarship, and to write carefully reasoned arguments based on both primary and secondary sources. Prerequisite: ENG 102 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 18th century. Prerequisite: ENG 102 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 102 or equivalent. 3 sem. hrs.

\*ENG 305. SURVEY OF AMERICAN LITERATURE: Survey of American literature from the Colonial period to the present. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.

\*ENG 306. SURVEY OF CONTINENTAL LITERATURE: Survey of continental European literature from Homer to the present. Prerequisite: ENG 102 or equivalent. Not open to students who have taken ENG 322. 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 102 or equivalent. 3 sem. hrs.



- ENG 317. CONTEMPORARY POETRY: Study of selected poems by recent writers. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.
- ENG 319. CONTEMPORARY FICTION: Study of selected novels and short fiction by recent writers. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.
- \*ENG 320. CONTEMPORARY DRAMA: Study of selected plays to illustrate major tendencies of modern drama. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.
- \*ENG 322. MASTERPIECES OF WORLD LITERATURE: Intensive study of major literary works representative of various cultures. Works are studied in translation, although an English language work or two may be included for appropriate comparison. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.
- \*ENG 323. LITERATURE OF THE CHRISTIAN TRADITION: A study of literary works that form part of the Christian religious tradition. Prerequisites: ENG 102 or equivalent. 3 sem. hrs.
- ENG 324. THE NOVEL: A consideration of selected novels to illustrate various fictional modes. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.
- ENG 325. SCIENCE FICTION: Survey of science fiction with detailed analysis of selected novels and short fiction. Prerequisite: ENG 102 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 102 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. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.
- ENG 330. DEVELOPMENT OF DRAMA: Study of the historical development of the drama from its beginnings to the 19th century. Analysis of plays from each significant period. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.
- ENG 331. STUDIES IN FILM: Analysis of selected films to show developments in film technique or criticism. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.
- ENG 332. STUDIES IN LITERATURE AND FILM: Studies in literary texts and the film treatments of those texts. May be repeated as topics change. Prerequisite: ENG 102 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 102 or equivalent. 3 sem. hrs.
- \*ENG 334. MODERN MEN — IMAGES: Critical examination of significant literary works that portray males in traditional and non-traditional roles. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.
- \*ENG 335. MODERN BLACK LITERATURE: Study of selected 20th-century black writers. Prerequisite: ENG 102 or equivalent. 3 sem. hrs.
- \*ENG 336. GENDER IN FICTION: Study of major works of American and British male and female authors from different periods, analyzing the authors, their principal characters, themes, and narrative technique as they reflect different aspects of the issue of gender in literature. Prerequisite: ENG 102 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 102 or equivalent.  
3 sem. hrs.

ENG 339. AMERICAN INDIAN LITERATURE: Survey of American Indian oral narrative and literature. Prerequisite: ENG 102 or equivalent.  
3 sem. hrs.

\*ENG 340. THE PRISON IN LITERATURE: Survey of prison literature from the rise of the modern prison in the late 18th-century through the contemporary period. Prerequisite: ENG 102 or equivalent.  
3 sem. hrs.

ENG 348. MODERN IRISH LITERATURE: A consideration principally of the Irish literary revival of the late 19th and early 20th centuries with appropriate background material. Prerequisite: ENG 102 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 102 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 102 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 102 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 102 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 102 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 19th century. Prerequisite: ENG 102 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 102 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 102 or equivalent.  
3 sem. hrs.

\*ENG 362. SHAKESPEARE: Study of selected plays and poems of Shakespeare. Prerequisite: ENG 102 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 370. REPORT WRITING: Analysis of and practice in both basic and complex written reports, including the long formal report. Prerequisite: ENG 102 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 102 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 102 or equivalent. 1-3 sem. hrs

ENG 378. PROFESSIONAL AND TECHNICAL WRITING: Practice in developing writing skills needed in business, government, and industry. Prerequisite: ENG 102 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 102 or equivalent. 1-6 sem. hrs.

\*ENG 382. MOZART'S OPERAS: An interdisciplinary survey of Mozart's operas—German and Italian, serious and comic. Class discussions will be supplemented by extensive listening and/or viewing of recorded performances and, when possible, attendance at live performances. 3 sem. hrs.

\*ENG 384. CHRISTIANITY AND MODERN POETRY: A study of selected poets from the modern period whose work draws from the major literary, intellectual, cultural, and theological traditions of Christianity. Prerequisite: ENG 102 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 16th 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 17th 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 19th 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-19th 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 20th 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 476. COMPOSITION THEORY: Study of the principal current theories of composition, with application to the teaching and evaluating of writing. Prerequisite: ENG 316 or permission of instructor. 3 sem. hrs.

ENG 480. INDEPENDENT STUDY: Individual investigations of special topics under faculty direction. May be repeated under special circumstances. Prerequisites: Permission and 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 488. LITERARY THEORY: Comparative critical reading of classical and modern theoretical texts and analysis of critical methodology. Prerequisite: 200- or 300- level English course. *3 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.*

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\*General Education course. See Chapter V.



## FAMILY DEVELOPMENT (FDV)

The interdisciplinary minor in family development increases understanding of the meaning and dynamics of marriage and parenthood in contemporary society. It examines the family as a major institution affecting society and surveys the individual, social, and economic problems found within families. This background contributes to preparation for careers in areas such as social work, psychology, education, communication, human ecology, and religious work.

The minor in family development is earned by taking 16 semester hours of coursework, all of which must be outside one's major discipline. These must be distributed as follows:

	<i>Semester Hours</i>
Basic theory course in family development required. ....	3
SOC 331 Marriage and the Family	
Families and society (Choose one.) ....	3
HST 352 History of the American Family	
SOC 355 Families and the Economy	
Dynamics of family life (Choose one.) ....	3
CMM 410 Family Communication	
PHL 318 Family Ethics	
REL 344 Christian Marriage	
ASI 448 Seminar in Family Development (required) ....	1
Electives (Choose two.) ....	6
BIO 390 Sex and Fertility Regulation	SOC 322 Sex Roles and Society
PSY 251 Human Growth and Development	SOC 323 Juvenile Justice
PSY 351 Child Psychology	SOC 330 Perspectives on Aging
PSY 355 Developmental Psychopathology	SWK 325 Child Abuse
PSY 462 Human Sexuality	SWK 327 Parenting: Social Welfare Role
REL 362 Christian Family Values & TV	SWK 330 Perspectives on Aging
REL 466 Theology of Sexuality	SWK 331 Death, Dying, and Suicide

No more than 6 semester hours from any one department may be applied to the minor in family development. Courses taken for this minor may be applied to other minors and to breadth and general education requirements. Appropriate courses may be substituted with permission from the office of the dean of the College of Arts and Sciences and the minor coordinator of the Center for Family and Community Research. Students wishing to be recorded as minoring in family development should notify their chairpersons, their deans, and the coordinator of the minor.

## FAMILY DEVELOPMENT COMMITTEE

Brenda Donnelly, *Research Associate and Minor Coordinator*  
(Center for Family and Community Research)

Allik (Psychology), De Luca (Educational Administration), Herbenick (Philosophy), L. Majka (Sociology, Anthropology and Social Work), Huff (College of Arts and Sciences), Taylor (Sociology, Anthropology and Social Work)

## GEN

### GENERAL STUDIES (GEN)

The Bachelor of General Studies program is designed for those students who desire to pursue a non-traditional degree program at the University outside of any departmental major. This degree program permits great latitude in utilizing the academic resources of the University for planning and acquiring an education to meet individual needs. Students may plan their programs to the best advantage of their particular educational objectives. Students build their programs on the foundation of University Basic Skills and General Education requirements.

#### BACHELOR OF GENERAL STUDIES PROGRAM (GEN)

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

Candidacy for the Bachelor of General Studies may be declared in the first year but not later than the end of the junior year. An application for acceptance into the degree program must be completed and approved by the administrator of the program. Any students in good academic standing may request transfer into this program.

The General Studies student is required to plan an academic program to satisfy the requirements for graduation in consultation with the administrator of the program in the College of Arts and Sciences. The usual policy of prerequisites remains in effect in this program. A student cannot earn a double degree with a Bachelor of General Studies.

The candidate for the degree of Bachelor of General Studies must complete 120 semester hours with an overall grade point average of 2.0 or better, including:

1. University Basic Skills and General Education requirements (see Chapter V),
2. Three semester hours of mathematics selected from courses offered by the Mathematics department (excluding MTH 102, 204, 205),
3. Study of the natural sciences by completing 7 semester hours in approved natural science courses (biology, chemistry, geology, physics), including one course with accompanying laboratory,
4. A minimum of 54 semester hours of courses at the 300-400 level with a grade point average of 2.0 or better, and
5. Not more than 30 semester hours of work from any one academic discipline.

## GEOLOGY (GEO)

Geology is the study of the earth. It incorporates many aspects of our complex planet including its composition, structure, environment, dynamic and hazardous processes, and the development of life, continents and oceans through time. Geology plays a critical role in interpreting the earth's long history of global change, and in predicting future environmental change.

The Geology department offers two programs leading to a Bachelor of Science in geology (Program S5) and environmental geology (Program S5A). The geology (GEO) major provides basic courses in the geological sciences and a range of advanced level courses that allow students to develop courses of study that complement particular interests within the field. The environmental geology (EVG) program is broad in scope, providing a firm grounding in the fundamentals of earth science as well as an interdisciplinary curriculum including Geology, Biology, Chemistry, and other allied science courses, reflecting the interdisciplinary nature of environmental concerns.

The Geology department aims to prepare students for a career in the geological sciences. Graduates of the department are competitive for entry to graduate programs. Geology majors pursue careers in a wide range of settings including: state and federal geological agencies; geological consulting companies; natural resource exploration, development and management; museums; research laboratories; and education. Environmental geologists address critical needs of our society ranging from groundwater protection and water-supply development to the identification and assessment of natural hazards.

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### PROGRAM S5: BACHELOR OF SCIENCE WITH A MAJOR IN GEOLOGY (GEO)<sup>1</sup>

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	<i>Semester Hours</i>
Geology .....	46
Required Courses	
Year 1: GEO 115-115L, 116-116L .....	8
Year 2: GEO 201-201L .....	4
Year 3: GEO 301-301L, 307-307L .....	8
Year 4: GEO 303, 310-310L, 401-401L, 403-403L .....	18
Geology Electives - choose from the following:	
GEO 302-302L, 308-308L, 309-309L, 404, 411-411L, 412-412L, 479L, 498 .....	8
Supporting Sciences .....	22
CHM 123-123L/124-124L .....	8
MTH 168/169 <sup>2</sup> .....	8
PHY 206/207 <sup>3</sup> .....	6
Science electives — choose from the following, with accompanying laboratories where applicable BIO, CHM, CPS, GEO, MTH, PHY, Engineering <sup>4</sup> , .....	8
Philosophy and Religious Studies .....	12
Communication Skills .....	0-9
Social and behavioral sciences .....	6
Humanities .....	9



Introduction to the University: ASI 150 .....	0-1
General Education requirements and academic electives to total at least .....	120

<sup>1</sup>See General Requirements for all Bachelor of Science programs and Chapter V for General Education requirements.

<sup>2</sup>May substitute MTH 148-149 or MTH 137, 138 & 149 with permission.

<sup>3</sup>May substitute PHY 201-202 with permission.

<sup>4</sup>With permission.

## ENVIRONMENTAL GEOLOGY (EVG)

The following program, leading to the Bachelor of Science with a major in environmental geology, is designed to present students with the basic courses in the geological sciences as well as provide specific environmental geology courses. The program also requires additional related science courses.

### PROGRAM S5A: BACHELOR OF SCIENCE WITH A MAJOR IN ENVIRONMENTAL GEOLOGY (EVG)<sup>1</sup>

	<i>Semester Hours</i>
Geology .....	65
Required courses .....	
Year 1: GEO 115-115L, 116-116L .....	8
Year 2: GEO 201-201L, 208 .....	7
Year 3: GEO 301-301L, 307-307L, 310-310L .....	12
Year 4: GEO 308-308L, 309-309L, 479L .....	10
Geology electives — choose from the following:	
GEO 302-302L, 303, 401-401L	
403-403L, 404, 411-411L, 412-412L, 498 .....	8
Supporting Sciences .....	28
BIO 101/102, or 151/152 .....	6
CHM 123-123L/124-124L .....	8
MTH 168/169 <sup>2</sup> .....	8
PHY 206/207 <sup>3</sup> .....	6
Science electives - choose from the following .....	17
BIO 350-350L, 430-430L, 452-452L	
CHM 201-201L, 302, 313-313L	
CPS 132, 144	
Engineering CIE 312-312L, 390	
Environmental Technology CPT 453, 454-454L	
MTH 218, 219, 367, 368	
Philosophy and Religious Studies .....	12
Communication Skills .....	0-9
Social and behavioral sciences .....	6
Humanities .....	9
Introduction to the University: ASI 150 .....	1
General Education requirements and academic electives to total .....	120-127

<sup>1</sup>See General Requirements for all Bachelor of Science programs and Chapter V for General Education requirements.

<sup>2</sup>May substitute MTH 148-149 or MTH 137, 138 & 149 with permission of department.

<sup>3</sup>May substitute PHY 201-202 with permission of department.

## FACULTY

Michael R. Sandy, *Chair*

*Distinguished Service Professor:* Springer

*Professor Emeritus:* Ritter

*Associate Professors:* Pair, Sandy

*Assistant Professors:* McGrew, Koziol

*Lecturer:* Goldman

## COURSES OF INSTRUCTION

GEO 103. PRINCIPLES OF PHYSICAL 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. 3 sem. hrs.

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

\*GEO 116. GEOLOGICAL HISTORY OF THE EARTH: A comprehensive study of earth history from its origins to the present. Prerequisites: GEO 109 or 115; permission of instructor. 3 sem. hrs.

GEO 116L GEOLOGICAL HISTORY OF THE EARTH LABORATORY: Course to accompany GEO 116. Two hours each week. 1 sem. hr.

GEO 198. GEOLOGY, LANDSCAPE, AND ENVIRONMENT OF THE MIAMI VALLEY: Field-based course examining the geologic history of the Miami Valley and Dayton area; processes leading to the modern landscape; the impact of human activity will be assessed. Prerequisite: GEO 109 or 115 or permission of instructor. 3 sem. hrs.

GEO 201. MINERALOGY: Introduction to crystallography, crystal chemistry and crystal structure. Study of the major groups of rock-forming minerals, their association and occurrence with emphasis on identification by physical properties and optical techniques. Prerequisite: GEO 109 or 115 or permission of instructor. 3 sem. hrs.

GEO 201L. MINERALOGY LABORATORY: Course to accompany GEO 201. Three hours per week. 1 sem. hr.

\*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. Prerequisites: GEO 109 or 115, permission of instructor. 3 sem. hrs.

GEO 208L. ENVIRONMENTAL GEOLOGY LABORATORY: Course to accompany GEO 208. Two hours each week. 1 sem. hr.

\*GEO 218. ENGINEERING GEOLOGY: A comprehensive study of geologic principles applicable to civil engineering practices. 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. 3 sem. hrs.

GEO 301L. STRUCTURAL GEOLOGY LABORATORY: Course to accompany GEO 301. Two hours each week. 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. 3 sem. hrs.

GEO 302L. GLACIAL GEOLOGY LABORATORY: Course to accompany GEO 302. Two hours each week. 1 sem. hr.

GEO 303. FIELD GEOLOGY: Study of field relationships in an area of Britain containing abundant igneous, metamorphic, and sedimentary rocks. Prerequisites: GEO 115, 116. 6 sem. hrs.

GEO 307. GEOMORPHOLOGY: Detailed study of landforms and the erosional processes that develop them. Prerequisites: GEO 115, 116. 3 sem. hrs.

GEO 307L. GEOMORPHOLOGY LABORATORY: Course to accompany GEO 307. Two hours each week. 1 sem. hr.

GEO 308. PROBLEMS AND DECISIONS IN ENVIRONMENTAL GEOLOGY: An in-depth examination of selected environmental problems and the way in which scientific information guides practice and policy. Topics will range from investigations of natural hazards to considerations of land use and water resources. Prerequisite: GEO 109 or GEO 115 or permission of instructor. 3 sem. hrs.

GEO 308L. PROBLEMS AND DECISIONS IN ENVIRONMENTAL GEOLOGY LABORATORY: Course to accompany GEO 308. Two hours each week and periodic field work. *1 sem. hr.*

GEO 309. SURFACE AND GROUNDWATER HYDROLOGY: This course is designed to provide a science or engineering student with the fundamental concepts and principles central to the study of water as a resource. This will include an examination of all components of the hydrologic cycle including surface-water hydrology and management, groundwater hydrogeology, and water resource management. Prerequisite: GEO 109 or GEO 218 or permission of instructor. *3 sem. hrs.*

GEO 309L. SURFACE AND GROUNDWATER HYDROLOGY LABORATORY: Laboratory exercises to accompany GEO 309. Three hours per week. *1 sem. hr.*

GEO 310. STRATIGRAPHY: The interpretation of specific lithotypes and the synthesis of the stratigraphic record. Prerequisites: GEO 116. *3 sem. hrs.*

GEO 310L. STRATIGRAPHY LABORATORY: Course to accompany GEO 310. Two hours each week. *1 sem. hr.*

GEO 401. PALEONTOLOGY: The study of ancient life. The morphology, ecology, evolution, and stratigraphic distributions of selected invertebrates, vertebrates, and plants. *3 sem. hrs.*

GEO 401L. PALEONTOLOGY LABORATORY: Course to accompany GEO 401. Two hours each week. *1 sem. hr.*

GEO 403. SEDIMENTOLOGY: Detailed study of sediments: their sources, environments of deposition, and methods of consolidation. Emphasis on the interpretation of ancient sediments. Prerequisites: GEO 201. *3 sem. hrs.*

GEO 403L. SEDIMENTOLOGY LABORATORY: Course to accompany GEO 403. Two hours each week. *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. *1-4 sem. hrs.*

GEO 411. IGNEOUS PETROLOGY: Study of the formation of igneous rocks. Prerequisites: GEO 201. *3 sem. hrs.*

GEO 411L. IGNEOUS PETROLOGY LABORATORY: Course to accompany GEO 411. Two hours each week. *1 sem. hr.*

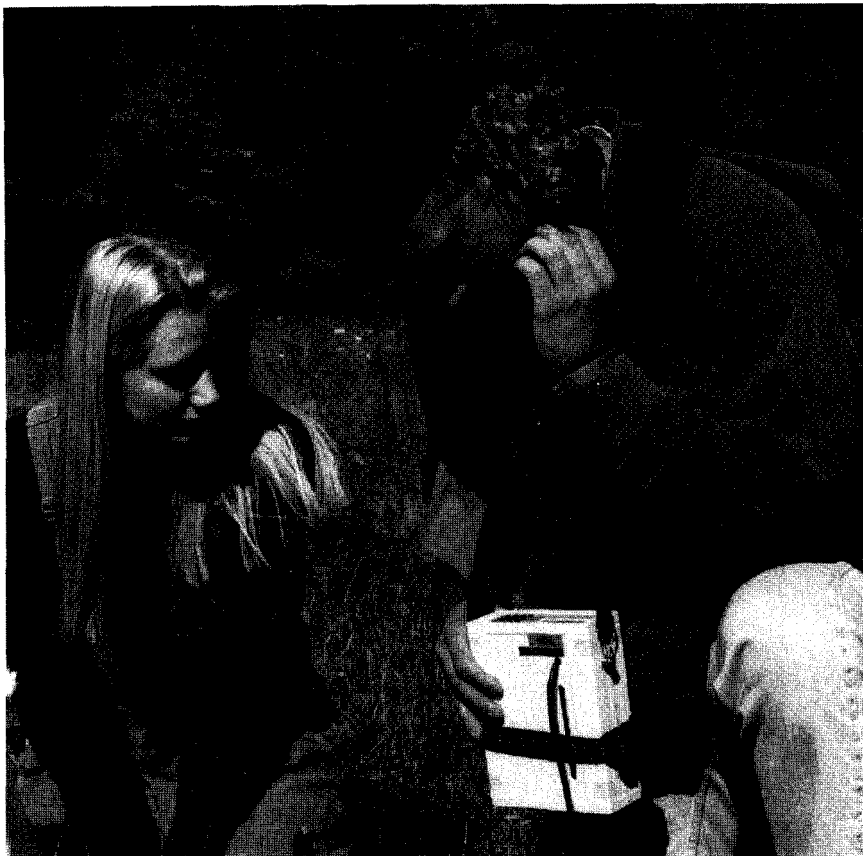
GEO 412. INTRODUCTORY GEOCHEMISTRY: Study of elementary thermodynamics, aqueous geochemistry, and principles governing the distribution of trace elements, radioisotopes and stable isotopes in igneous, metamorphic and sedimentary rocks. Emphasis on applications and solution of geological problems. Prerequisite: GEO 201, or permission of instructor. *3 sem. hrs.*

GEO 412L. INTRODUCTORY GEOCHEMISTRY LABORATORY: Course to accompany GEO 412. Three hours each week.. *1 sem. hr.*

GEO 479L. ENVIRONMENTAL INSTRUMENTATION LABORATORY: The understanding and use of field and laboratory based equipment to study acurrent environmental issues. Emphasis on team-centered approaches to investigating environmental problems. Prerequisite: BIO 151, 152; GEO 115, 116; or permission of instructor. Same as BIO 479L. *2 sem. hrs.*

GEO 498. GEOLOGICAL RESEARCH AND THESIS: Research project within an area of the geological sciences, including, but not limited to, environmental geology, geochemistry, geomorphology, or paleontology. The results are to be presented in a written thesis. Prerequisite: Permission of instructor. *4 sem. hrs.*

\* General Education course. See Chapter V.



## HISTORY (HST)

History critically studies the past and those key values which have shaped society. History also provides students with a sense of perspective and with the ability to make critical judgments. Those with a sharply honed historical consciousness know that often what appears to be a simple solution to a simple problem will not work because unexpressed historical forces and traditions lie just beneath the surface. Therefore, historical consciousness helps to make the world comprehensible. To be ignorant of history is to be, in a very fundamental way, intellectually defenseless, unable to understand the workings of this or other societies. Thus all totalitarian societies have stringently controlled the study and writing of history. They recognize that a free mind needs to know its past, to debate and discuss how the world came to be as it is, in order to know what to defend and what to change and how to resist imposed ideologies.

Students majoring in history are offered a flexible curriculum that allows them to have a double major or one or more minors. Students are also strongly encouraged to develop interdisciplinary areas of concentration to meet their interests and vocational goals. Examples of areas of concentration are pre-law, business, international affairs, and historical administration, preservation, and archival management. Majors should consult the department chairperson for a departmental advising brochure and further details. History majors pursue professions in numerous fields including education, law and government, international affairs, archives and museums, communications, and business.

Students in B.A. programs can acquire teacher certification in history through the E11A program (See EDT). For details, consult the department chairperson.

History minors must complete 18 semester hours as follows: HST 101 or 102, HST 251 or 252, two upper-level courses in American history, and two upper-level courses in non-American history.

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### PROGRAM A7: BACHELOR OF ARTS WITH A MAJOR IN HISTORY (HST)

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	<i>Semester Hours</i>
History .....	36
HST 101 .....	3
HST 102 OR HST 198 .....	3
HST 251 .....	3
HST 252 .....	3
HST 301 .....	3
HST 301L .....	0
Two 400-level HST seminars <sup>1</sup> .....	6
HST electives at 300 level <sup>2</sup> .....	15
Liberal Studies Curriculum <sup>3</sup>	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Language and/or Arts and/or Humanities .....	3-9
Social Sciences .....	12

Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least <sup>1</sup> .....	124

<sup>1</sup>Three credits of the seminar requirement may be achieved through the fulfillment of an experiential component earned through completion of three credits of HST 495 Internship.

<sup>2</sup>These electives should be distributed so that the student will have taken history (HST) electives in three geographical areas: United States, Europe, and at least one of the following: Africa, Asia, Latin America, Middle East.

<sup>3</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

<sup>4</sup>For History majors, this total should include either 6-8 sem. hrs. in a foreign language or 6 sem. hrs. in quantitative skills courses (e.g., computer science, statistics, or mathematics) beyond the Basic Skills mathematics requirement. Where appropriate, this credit may apply to other requirements as well.

## FACULTY

Lawrence J. Flockerzie, *Chairperson*

*Professors Emeriti:* Beauregard, King, Maras, Mathias, Rhee, Steiner, Vines

*Professors:* Alexander, Eid, Heitmann, Hitchner, Morman, Palermo, Schweikart

*Associate Professors:* Amin, Flockerzie, Taylor, Trollinger

*Assistant Professors:* Bednarek, Cadegan, Carlson, Darrow, Little, Yungblut

*Adjunct Professor:* Gannon

*Lecturers:* Santamarina, Vocke

## COURSES OF INSTRUCTION

NOTE: HST 101 or HST 102 or the equivalent is a prerequisite for all other HST courses.

- \* HST 101. HISTORY OF WESTERN CIVILIZATION FROM ITS CLASSICAL ROOTS TO 1715: Survey of Western civilization beginning in Antiquity and concluding with the Enlightenment. The course will investigate the social, economic, cultural, political, and environmental forces that shaped the Ancient, Medieval, and Early Modern eras. 3 sem. hrs.
- \* HST 102. HISTORY OF WESTERN CIVILIZATION SINCE 1715: Survey of Western civilization from the 18th century to the present. The course will investigate the social, economic, cultural, political, and environmental forces that shaped European society and the world in the modern period. 3 sem. hrs.
- \* HST 198. HISTORY HONORS SEMINAR: Study and seminar discussion of selected historical documents dealing with major events and trends in Western civilization since 1715. Open by permission only to first-year students in the University Honors Program. 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 301. RESEARCH METHODS SEMINAR: Historical methods, philosophy, and introductory historiography, the last based on the professor's field of specialization. Required for junior history majors.

3 sem. hrs.

HST 301L. RESEARCH PAPER: Requires the satisfactory completion of a research paper of 10-15 pages in length based on original historical research. The paper may be written in a History (HST) course on the 300/400 levels or, with prior permission of the chair, in conjunction with a course in another department or as an Honors Thesis. Required for all History majors. Pre or Corequisite: HST 301. *No Credit*

- \*HST 302. HISTORY OF ANCIENT GREECE: Survey of Greek history and culture from the Bronze Age to Alexander the Great.

3 sem. hrs.

- \*HST 303. HISTORY OF THE ROMAN REPUBLIC AND EMPIRE: Survey of Roman history with emphasis on the political, social, and institutional evolution of the Roman state and the organization and structure of the Roman Empire.

3 sem. hrs.

- \*HST 305. MEDIEVAL EUROPE: European history from the 4th to the 15th 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 307. 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 311. OLD REGIME EUROPE: 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 312. AGE OF DEMOCRATIC REVOLUTIONS: Historical analysis of the ideological, political, social and economic changes of the late 18th and early 19th centuries, emphasizing developments in France and Europe.

3 sem. hrs.

HST 313. RESTORATION, REVOLUTION, AND REACTION—EUROPE 1815-1890: 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 314. MODERN EUROPE IN DECLINE—1890-1945: Historical study of the decline and fall of European civilization from the eve of World War I to the end of World War II, including an examination of political, economic, social, and cultural conditions.

3 sem. hrs.

- \*HST 315. EUROPE IN THE POSTWAR ERA—1945 TO THE PRESENT: Historical survey of domestic and foreign politics, economics, society, and culture in postwar Europe (East and West) from 1945 to the present.

3 sem. hrs.



HST 319. 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 320. EUROPEAN MILITARY HISTORY: Survey of warfare on the European continent from classical Greece through World War II emphasizing military institutions, organization, weapons, and campaigns and the role of the military in society. 3 sem. hrs.

HST 321. MODERN FRANCE: French history from the Bourbon Restoration to the present. Emphasis on political, socio-economic, and cultural factors. 3 sem. hrs.

\* HST 322. HISTORY OF ENGLAND: Major forces and trends in the history of England from early medieval times to the present, including their influence on social history and literature. 3 sem. hrs.

HST 323. MODERN GERMANY: Analysis of the development of the German state from 1848 through the period of unification, Second Empire, Weimar Republic, Third Reich, the post-World War II Germanies, to the present. 3 sem. hrs.

HST 325. HISTORY OF RUSSIA TO 1860: History of Kievan Russia and Orthodox Christianity, the Mongol Conquest, the rise of autocracy, reforms and rebellions, revolutionary movements, and the rise of the Empire to the Crimean War. 3 sem. hrs.

HST 326. HISTORY OF THE SOVIET UNION AND ITS SUCCESSOR STATES, 1860 TO THE PRESENT: Social, political, and cultural history of Russia from the great reforms of the late empire, through the wars, revolutions, and reconstructions of the Soviet Period, to the present. 3 sem. hrs.

\* HST 327. NATIONAL CULTURES OF THE SOVIET UNION AND ITS SUCCESSOR STATES: The history of the formation of the Soviet Union and of national and cultural relations between the Russians and their Slavic, Baltic, Caucasus, Central Asian, and Siberian neighbors. 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 330. HISTORY OF EAST ASIA: Brief review of the early historical development of East Asia; study of China and Japan in the 19th and 20th centuries, emphasizing political, religious, cultural, and economic development. 3 sem. hrs.

HST 332. MODERN CHINA AND JAPAN: Study of the economic, political, social, and cultural developments of modern China and Japan from the 18th century to the present. 3 sem. hrs.

HST 333. 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 area's role in international politics. 3 sem. hrs.

HST 336. HISTORY OF AFRICA TO 19TH CENTURY: Study of African history from the emergence of Africa's ancient kingdoms to the end of the trans-Atlantic slave trade in the nineteenth century. 3 sem. hrs.

- \*HST 337. HISTORY OF AFRICA—19TH CENTURY TO THE PRESENT: Emphasis: colonialism and its impact, the growth of nationalism and the problems of contemporary Africa. 3 sem. hrs.

HST 339. HISTORY OF SOUTH AFRICA: Study of South African society with emphasis on historical interpretations of the origins of segregation, economic growth, nationalism, Apartheid, Bantusans, and other issues of contemporary significance. 3 sem. hrs.

- \*HST 340. HISTORY OF SCIENCE: Survey of the development of science from its origins in the ancient world to the present. 3 sem. hrs.

- \*HST 341. HISTORICAL PERSPECTIVES ON SCIENCE, TECHNOLOGY, AND SOCIETY: Historical examination of the interaction of science, technology, and society from the Middle Ages to the present. 3 sem. hrs.

- \*HST 342. ENVIRONMENTAL HISTORY OF THE AMERICAS: A comparison and contrast of the histories of conservationism and environmentalism in the United States, Canada and Latin America. 3 sem. hrs.

- \*HST 343. HISTORY OF CIVIL ENGINEERING: Historical study of the development of civil engineering from the origins in the ancient world to the present. 3 sem. hrs.

- \*HST 344. HISTORY OF SCIENCE, TECHNOLOGY, AND THE MODERN CORPORATION: Historical study of the emergence of 20th-century science-based industry. 3 sem. hrs.

- \*HST 346. HISTORY OF AMERICAN AVIATION: This course will examine the influence of aviation on the American culture, economy, and military. It will also highlight the development of aviation/aerospace technology. 3 sem. hrs.

HST 348. UNITED STATES AND THIRD-WORLD CRISES—HISTORICAL PERSPECTIVES: Analysis of the history of U.S. policies and responses toward major crises in Africa, Asia, Latin America, and the Middle East. 3 sem. hrs.

- \*HST 349. TECHNOLOGY AND THE CULTURE OF WAR: Investigation of the role of invention and engineering as it has been related to defense and war throughout the ages, focusing on the interrelationship of policy, strategy, organization, and technology from a global perspective. 3 sem. hrs.

- \*HST 351. HISTORY OF AMERICAN WOMEN: 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 352. HISTORY OF THE AMERICAN FAMILY: Survey of the historical development of American family life from the colonial period to the present. 3 sem. hrs.

- \*HST 353. HISTORY OF WOMEN IN EUROPEAN SOCIETIES: Study of the changing roles of women in European societies from the roots of industrialization 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 TWENTIETH 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 358. SOCIAL AND CULTURAL HISTORY OF LATIN AMERICA: Survey of social and cultural history of Latin America and the Caribbean from pre-Columbian times to the present. Emphasis on the interaction between the European colonizer and the Amerindian and African peoples of the hemisphere. *3 sem. hrs.*
- \* HST 360. U.S. LEGAL AND CONSTITUTIONAL HISTORY I: An analysis of the major developments in American legal and constitutional history from colonial beginnings through the Civil War. Emphasis on the relationship between the Constitution, the law, and lawyers, on the one hand, and America's economic, social and political developments, on the other. *3 sem. hrs.*
- \* HST 361. U.S. LEGAL AND CONSTITUTIONAL HISTORY II: An analysis of the major developments in American legal and constitutional history from the Reconstruction era to the present. Emphasis on the relationship between the Constitution, the law, and lawyers, on the one hand, and America's economic, social, and political developments, on the other. *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 369. 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 370. ECONOMIC AND BUSINESS HISTORY OF THE UNITED STATES: Survey and analysis of American economic history, 1600-present, primarily through a study of American business institutions and leaders. Includes analysis of major economic theories of history as well as case studies of entrepreneurs. *3 sem. hrs.*
- \* HST 372. HISTORY OF RELIGION IN THE UNITED STATES: Survey of religion in the United States from the colonial era to the present. Particular attention to the interaction of religion with other aspects of American society and culture. *3 sem. hrs.*
- HST 373. AMERICAN MILITARY HISTORY: Survey of American military affairs, including military, naval, and air campaigns, from early settlement to the present. *3 sem. hrs.*
- \* HST 374. IRELAND AND AMERICA: Study of the cultural-historical background of both Scotch-Irish and Celtic Irish immigrants to America and how they influenced the varying reactions of the dominant Anglo-Saxon Protestantism of America. *3 sem. hrs.*

HST 375. 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 376. 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 377. CONTEMPORARY AMERICAN HISTORY: The immediate background of contemporary political, social, and economic problems: impact of World War II on the U.S., Cold War, New Frontier, Johnson Administration, and beyond. 3 sem. hrs.

\* HST 380. NATIVE AMERICAN HISTORY: Historical and descriptive survey of the native peoples of North America. 3 sem. hrs.

HST 382. 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 383. HISTORY OF THE CARIBBEAN: 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 391. 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 398. HISTORY OF BLACKS IN THE 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 THE UNITED STATES SINCE 1900: Study of the saga of black people in the U.S. from 1900 to the present. 3 sem. hrs.

HST 485. SEMINAR IN AMERICAN HISTORY: A reading seminar concentrating on one historical topic in American History for detailed analysis. May be repeated as topics change. Prerequisite: HST 301 or permission of department chairperson. 3 sem. hrs.

HST 486. SEMINAR IN EUROPEAN HISTORY: A reading seminar concentrating on one historical topic in European History for detailed analysis. May be repeated as topics change. Prerequisite: HST 301 or permission of department chairperson. 3 sem. hrs.

HST 487. SEMINAR IN LATIN AMERICAN HISTORY: A reading seminar concentrating on one historical topic in Latin American History for detailed analysis. May be repeated as topics change. Prerequisite: HST 301 or permission of department chairperson. 3 sem. hrs.

HST 488. SEMINAR IN AFRICAN HISTORY: A reading seminar concentrating on one historical topic in African History for detailed analysis. May be repeated as topics change. Prerequisite: HST 301 or permission of department chairperson. 3 sem. hrs.

HST 490. SEMINAR IN HISTORIOGRAPHY: A reading seminar concentrating on the various techniques and philosophies of history by which historians have done historical research. May be repeated as topics change. Prerequisite: HST 301 or permission of department chairperson. 3 sem. hrs.

HST 493. SEMINAR IN MIDDLE EASTERN HISTORY: A reading seminar concentrating on one historical topic in Middle Eastern History for detailed analysis. May be repeated as topics change. Prerequisite: HST 301 or permission of department chairperson. 3 sem. hrs.

HST 495. INTERNSHIP: Practical and professional experience through work with approved organizations such as historical societies, architectural preservation boards, and business firms. Prerequisite: Permission of supervising instructor. 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.

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\*General Education course. See Chapter V.



## HUMANITIES STUDIES (HMS)

No major or minor concentration is available. See also Classics (CLA).

Michael H. Barnes (Alumni Chair in the Humanities), *Committee Chairperson*

## 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 315. CHINESE CULTURE: Survey of the major elements of Chinese culture from ancient times to the present with emphasis on philosophy, literature, and art. Lectures, discussions, and readings are in English. 3 sem. hrs.

\*HMS 360. LATIN AMERICA THROUGH LITERATURE: Selected readings in contemporary Latin American literature (in translation) reflecting current issues. Conducted in English. 3 sem. hrs.

\*HMS 395. CONTEMPORARY INTELLECTUAL TRENDS, EUROPE: Multidisciplinary course in art, film, literature, music, and philosophy, concentrating on the post-World War II period. 6 sem. hrs.

HMS 410. INTERDISCIPLINARY TOPICS IN THE HUMANITIES: An examination of varying topics in the Humanities from an interdisciplinary perspective. Course may be repeated when contents vary. 1-3 sem. hrs.

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\*General Education course. See Chapter V.

## ASI

### 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. 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 101-102. DEVELOPMENT OF PHILOSOPHY AND RELIGION IN THE WEST I, II: Survey of major issues in Western philosophy and religious thought from ancient Hebrew and Greek times to the present. Parallel to the first-year history and English courses in CORE. (Completion of both courses fulfills the PHL 103 and REL 103 requirements.) Required of and restricted to students in CORE.

*3 sem. hrs. each*

ASI 150. INTRODUCTION TO THE UNIVERSITY: Examination of the values that inform academic progress in the College; discussion of strategies for taking full advantage of academic opportunities and integrating formal and experiential learning.

*1 sem. hr.*

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.

*2 sem. hrs.*

ASI 214. DRAMATIC KINESICS IN A FOREIGN LANGUAGE: Corrective work in foreign language sound and gesticulatory patterns accomplished by enacting scenes from a play in the language. May be repeated in one language in successive stages of difficulty up to 3 sem. hrs. Registration may be retroactive. Prerequisites: Basic instruction in the language; permission of instructor.

*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 298. HONORS SOCIAL SCIENCE SEMINAR: Interdisciplinary study of a contemporary topic that has been the focus of considerable investigation by at least two social science disciplines. Required of and restricted to second-year students enrolled in the University Honors Program. Prerequisite: Permission of program director.

*3 sem. hrs.*

\*ASI 299. HONORS SCIENCE SEMINAR: Examination of the nature of scientific thought, research, and experimentation in one or more of the physical and biological sciences; the relationship between society and scientific inquiry. Required of and restricted to sophomores in the University Honors Program. Prerequisite: Permission of program director. *3 sem. hrs.*

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 390. SOCIAL JUSTICE IN LATIN AMERICA: This course adopts an interdisciplinary, highly experiential approach to the topic of social justice in Latin America by focusing on the social, theological and ethical dimensions of justice. Taught on-site in Latin America. Prerequisite: SPN 201 or equivalent, or permission of the instructor. *3 sem hrs.*

ASI 395. INTERNSHIP IN SCIENCE: Application of scientific knowledge to specific projects in an approved organization. Applied-knowledge experience open to juniors and seniors as a supplement to their science curriculum. Permission of the internship director in the student's major department is required. *1-3 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 399. INTERDISCIPLINARY TOPICS: Study of special topics or themes of an interdisciplinary nature. Specific subtitles announced in composite. May be repeated as topics change. *3 sem. hrs.*

ASI 410. INTERDISCIPLINARY TOPICS IN THE HUMANITIES: This course examines varying topics in the Humanities from an interdisciplinary perspective. *3 sem. hrs.*

ASI 448. SEMINAR IN FAMILY DEVELOPMENT: Interdisciplinary examination of issues relating to family relationships, changes in family life, and the social context of family life. Required of family development minors. Prerequisite: 12 sem. hrs. completed in the minor. *1 sem. hr.*

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 program director. *6 sem. hrs.*

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\* General Education course. See Chapter V.



## INTEGRATED NATURAL SCIENCE (SCI)

Integrated Natural Science is a sequence of General Education science courses aimed at achieving scientific literacy for those students not majoring in science or engineering. It is an integrated sequence with each course building on the previous course(s). The courses are arranged in two tracks and the student may choose between the two tracks. Each track contains fundamental knowledge from the natural sciences, but each has a different emphasis. The first course (SCI 190: The Physical Universe, taught by the physics department) is a foundation course for both tracks and it covers the basic principles of physical science. After taking SCI 190, the student has a choice of whether to proceed along Track I (Molecular Track), which consists of chemistry (SCI 220: The Chemical World) and biology (SCI 240: Organisms, Evolution & Health), or along Track II (Environmental Track), which consists of geology (SCI 210: The Dynamic Earth) and biology (SCI 230: Organisms, Evolution & Environment).

After SCI 190, Track I features the molecular foundations of chemistry and biology, starting with the molecular view of matter and the chemistry of life processes, SCI 220. The third course in this track SCI 240, emphasizes molecular biology and health related biological issues. After SCI 190, Track II goes into SCI 210, which considers the evolution of the earth, chemical evolution on the early earth, the origin of life, and environmental earth issues. Each course in this integrated science sequence has an associated laboratory course.

### COURSES OF INSTRUCTION

\*SCI 190. THE PHYSICAL UNIVERSE: An introduction to physical science which uses cosmological evolution as a unifying theme. Emphasis will be on concepts and scientific thought processes in dealing with the fundamental principles in physics involved in the Big Bang to planetary evolution. *3 sem. hrs.*

SCI 190L. THE PHYSICAL UNIVERSE LABORATORY: A laboratory to accompany SCI 190. Exercises chosen to correlate with the material in SCI 190. One 2-hour laboratory per week. *1 sem. hr.*

\*SCI 210. THE DYNAMIC EARTH: A course providing an introduction to the Earth, with an emphasis on fundamental concepts in geology and the interdisciplinary nature of geology. For the non-science major. Prerequisites: SCI 190. *3 sem. hrs.*

SCI 210L. THE DYNAMIC EARTH LABORATORY: Laboratory to accompany SCI 210. For the non-science major. Prerequisite or corequisite: SCI 210. *1 sem. hr.*

\*SCI 220. THE CHEMICAL WORLD: Introduction to the experimental nature of chemistry. Attention is focused on the microscopic view of matter, addressing topics that lead into the study of biological chemistry. Prerequisite: SCI 190. *3 sem. hrs.*

SCI 220L. THE CHEMICAL WORLD LABORATORY: A laboratory course to accompany SCI 220. One 2-hour laboratory per week. Prerequisite or corequisite: SCI 220. *1 sem. hr.*

\*SCI 230. ORGANISMS, EVOLUTION & ENVIRONMENT: An evolutionary approach to the relationship between living organisms and their environments. This survey of basic concepts in biology continues the evolutionary theme of the two prerequisite courses. Prerequisites: SCI 190, 210 or permission of instructor. *3 sem. hrs.*

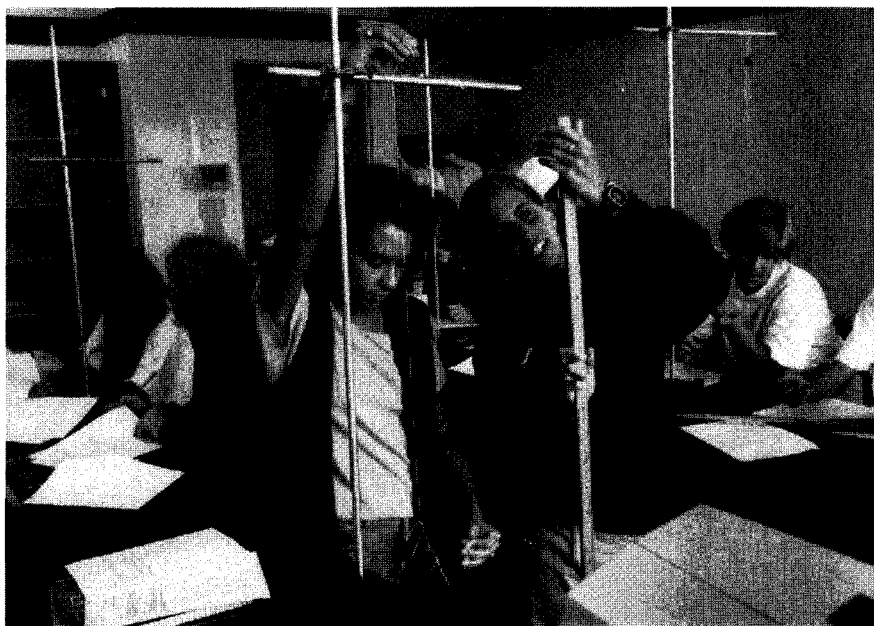
SCI 230L. ORGANISMS, EVOLUTION & ENVIRONMENT LABORATORY: Laboratory exercises to accompany SCI 230. One 2-hour laboratory per week. Prerequisite or corequisite: SCI 230. *1 sem. hr.*

\*SCI 240. BIOLOGY AND HUMAN HEALTH: A chemical and molecular approach to biology with emphasis on biomedical science and a focus on human health and disease. Prerequisites: SCI 190, 220 or permission of instructor. *3 sem. hrs.*

SCI 240L. BIOLOGY AND HUMAN HEALTH LABORATORY: Laboratory exercises to accompany SCI 240. One 2-hour laboratory per week. Prerequisite or corequisite: SCI 240. *1 sem. hr.*

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\*General Education course. See Chapter V.



## IND

### INTERNATIONAL DEVELOPMENT STUDIES (IND)

The interdisciplinary minor in international development studies provides students of all majors with an understanding of Third World development as a perspective from which to view their majors. It gives students the cultural, historical, and political sensitivity required for working effectively in the interest of developing countries. Students who pursue the minor are encouraged to participate in the immersion experience, an opportunity to do independent study in their major disciplines in a developing country. Competence in speaking an appropriate foreign language is expected.

The minor in international development studies consists of 15 semester hours of courses, of which 12 semester hours are upper divisional (300-level or above).

These are distributed as follows:

	<i>Semester Hours</i>
Required courses .....	6
ASI 398 Special Topics in International Development	
ANT 150 Cultural Anthropology	
Anthropology elective (Choose one.) .....	3
ANT 310 Culture and Personality	
ANT 315 Language and Culture	
ANT 352 Cultures of Latin America	
ANT 406 Cultural Change	
History elective (Choose one.) .....	3
HST 348 United States and Third-World Crises	
HST 357 Latin America in the Twentieth Century	
HST 382 History of Mexico	
HST 383 History of the Caribbean	
Political science elective (Choose one.) .....	3
POL 323 Comparative Politics: Latin America	
POL 324 Comparative Politics: Southern Asia	
POL 325 Comparative Politics: The Middle East	
POL 457 Political Change in the Third World	

Other appropriate courses may be substituted with the approval of the director. Students wishing to qualify for the international development studies minor must declare this intention to the director and their respective deans by the mid-point of the junior year.

### INTERNATIONAL DEVELOPMENT STUDIES ADVISORY COMMITTEE

Philip Aaron, S.M., *Director, International Development Studies*  
Geiger (Biology), Karns (Political Science), Lapitan (Political Science),  
Payne (Philosophy), Taylor (History)

## 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 fields such as government service, international business, international law, teaching, and social service. The curriculum includes a core of required courses, a concentration (East Asia, Latin America, Europe, Global Development), a foreign language requirement, and additional hours of course work drawn from the multidisciplinary elective pool.

Majors are also required to include an international and/or cross-cultural experiential component in their program. This may be satisfied through study abroad, internship, immersion, service, or work. The Center for International Programs assists students in identifying the most appropriate opportunities.

For a minor in International Studies, 21 semester hours are required. The minor consists of POL 214, ECO 204, a 202 or higher language course, and 12 additional hours of upper-level courses in at least 3 different disciplines, taken from International Studies concentrations or electives.

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### PROGRAM A8: BACHELOR OF ARTS WITH A MAJOR IN INTERNATIONAL STUDIES (INS)<sup>1</sup>

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	<i>Semester Hours</i>
Requirements for the major .....	55
Liberal Studies Curriculum (53 semester hours)	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History .....	6
English or Foreign Language Literature .....	3
Creative and Performing Arts .....	3
Foreign Language and/or Additional Arts and Humanities .....	3
Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
Electives to total at least .....	124

The major in international studies consists of a minimum of 55 semester hours of coursework distributed as follows:

#### *Required courses* (21 semester hours)

ECO 203, 204                      HST 102 or 198  
POL 202, 214

Two of the following five courses: ECO 450, ECO 460, ECO 461, POL 410, POL 455. (Students may not double count any course chosen to satisfy this requirement as either a concentration course or an elective course.)

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<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements. Appropriate courses required for this multidisciplinary major may also be used to complete the Liberal Studies Curriculum.

*Concentration (18 semester hours)**East Asia:* POL 328 or 329;

Five of the following courses: ECO 460, HST 330, HST 332 ,  
PHL 355, POL 407, REL 201.

*Latin America:* The following four courses: HST 357; POL 323; POL 404; SPN 342;

One of the following: ASI 398, ECO 460, POL 457, REL 464;

One of the following: HST 358, HST 382 , HST 384.

*Europe:* HST 315 and POL 321;

One of the following: HST 313, HST 314, HST 353;

One of the following: HST 321, HST 322, HST 323 , POL 320, POL 327;

One of the following: HST 326, POL 409;

One of the following: ENG 357, ENG 358, PHL 358, PHL 359, PHL 360,  
VAH 203, HMS 395 (6 hrs), FRN 362, ITA 362, GER 362,  
SPN 362.

*Global Development:*

Three of the following: ASI 398, BIO 395, ECO 460, POL 471;

One of the following: HST 336, HST 337, HST 339, HST 357, HST 358;

One of the following: ANT 406, POL 457, SOC 328, ECO 461;

One of the following: REL 201, REL 202, REL 376, REL 464, REL 472.

*Language (6 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, 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 9 semester hours drawn from the elective pool.

*Experiential Requirement (1-3 semester hours)*

INS majors must include an international and/or cross-cultural experiential component in their program prior to graduation. This requirement can be satisfied through participation in a study abroad program, an internship, immersion, service, or work experience. The experience must be for a minimum of four weeks. The requirement is satisfied by taking either INS 395 or INS 495.

*Electives (9 semester hours)*

The remaining 9 semester hours are to be chosen from the concentrations or from the following elective pool:

ANT	315, 351, 352
BAI	301
CMS	414
CJS	336
ECO	450, 461
ENG	205, 306, 322, 356
FIN	450
HMS	360
HST	311, 312, 319 , 320 , 322, 327, 331, 348, 349, 375
INS	390, 395, 399, 495
MGT	430
MKT	440, 445
PHL	307, 310, 311, 317, 320, 321, 323, 327, 332, 350, 351, 352, 353, 354
POL	325, 327, 331, 335, 406, 408, 410, 437, 455
PSY	445

REL 363, 374, 406, 471, 474  
SOC 332, 350  
VAH 201, 202, 350, 360, 382, 450, 460, 470, 471, 480

Any upper-level foreign language course (French, German, Italian, Russian, Spanish). With permission, other courses including special topics courses and independent study.

## INTERNATIONAL STUDIES POLICY COMMITTEE

Mark Ensalaco, *Director, International Studies*

Aaron (International Studies), Bilocerkowycz (Political Science), Carlson (History), Karns (Political Science), Krugh (Languages), O'Meara (Languages)

## COURSES OF INSTRUCTION

INS 390. MODEL UNITED NATIONS: Examination of the work and procedures of the United Nations and its constituent bodies, study of various international issues and policies of member states, as well as of parliamentary diplomatic practices such as caucusing, resolution writing, and speech making in preparation for participation in Model United Nations simulations. Prerequisite: Permission of instructor. 1 sem. hr.

INS 395. INTERNATIONAL EXPERIENCE: Orientation for and evaluation of study abroad, internship, immersion, work, or service experience in a foreign country, organization involved in international activities, or a cross-cultural setting in the United States. Grading option two only. 1 sem. hr.

INS 399. INDEPENDENT STUDY: Independent reading and research on an interdisciplinary topic in international studies chosen by the student in consultation with one or more faculty members. May be repeated. Prerequisite: Permission of program director. 3 sem. hrs.

INS 495. INTERNATIONAL STUDIES INTERNSHIP: Practical, supervised experience with an approved organization dealing with international affairs. Repeatable up to six hours. Prerequisite: Permission of program director. 1-6 sem. hrs.

LANGUAGES (LNG)

The Department of Languages offers courses in modern languages—French, German, Italian, Russian, and Spanish—as well as in the classical language, Latin. The language programs include instruction in the communicative skills, literature, and culture. The department also offers some literature and culture courses taught in English (see CLA and HMS) and Dramatic Kinesics in a Foreign Language. (See ASI.)

The Department of Languages conducts one-month study programs especially for language students in Spain, Mexico, Germany, Canada, and France. Language courses may also be offered through the Interdepartmental Summer Study Abroad Program. (ISSAP) (See Chapter X.)

Students in B.A. programs can acquire teacher certification in languages through the E11A program. (See EDT.) For details, consult the department chairperson.

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. For assistance with placement, consult the department.

A language major may choose a major in a single language (French, German, Spanish) or a composite major in two languages.

A student may minor in French, German, Italian, Russian, or Spanish by completing 12 semester hours of upper-level (300-400) courses.

PROGRAM A9: BACHELOR OF ARTS WITH A MAJOR IN LANGUAGES (LNG) <sup>1</sup>	
	<i>Semester Hours</i>
Languages .....	24-39
Basic proficiency: 101-102 or 121 or 111; and 141 .....	0-9
Intermediate level proficiency: 201-202 .....	0-6
(Students with background in the major language(s) will waive those lower-level courses not required because of advanced placement.)	
<i>Major in a Single Language</i>	
Upper-level courses to total 24 semester hours:	
311 or 312 and 321 or 322; or 313 and 314 .....	6
Two courses, including at least one in literature, from the following: 341, 342, 360, 361, 362, 363, 364, 381, 450, 451, 452, 471, 472 .....	6
Upper-level electives in the major .....	12
(Only one literature in translation course may count toward the major) <sup>1</sup>	
<i>Composite Major in Languages</i>	
Upper-level courses to total 24 semester hours distributed between two languages. Courses must include at least one three-semester-hour literature course, not including literature in translation. (Only one literature in translation course may count toward the major.)	
<i>Liberal Studies Curriculum<sup>2</sup></i>	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History .....	6

Creative and Performing Arts .....	3
Foreign Language, or Arts, or Humanities .....	3
(Courses in the major excluded)	
Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>Students in the E11A program should note that courses in translation do not count toward the 45 semester hours of a foreign language required for teacher certification.

<sup>2</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

## FACULTY

Arthur D. Mosher, *Chairperson*

*Professor:* Conard

*Associate Professors:* Mosher, O'Meara, Peñas-Bermejo, Romaguera

*Assistant Professors:* Castro, Cavour, Chiodo, Krugh,

*Lecturers:* Bredestege, Fogel, E. Hatch, E. L. Hatch

## COURSES OF INSTRUCTION

Placement in a course is determined on the basis of a student's background and proficiency in the language. Therefore the prerequisite for each course indicates the proficiency level required for enrollment.

### FRENCH

FRN 101-102. BEGINNING FRENCH I, II: Development of fundamental communication skills in reading, listening, writing, and speaking through extensive practice in language use. Admission to 101 restricted to those who have not studied French or have placed into that course by examination; 102 is open only to those who have successfully completed 101 at the University of Dayton. Credit is for only ONE of the following: 101-102 OR 111 OR 121. Prerequisites: none for 101; 101 is required for 102. 3 sem. hrs. each.

FRN 101C. BEGINNING CONVERSATION PRACTICE IN FRENCH I: Practice in speaking French on the most basic level. Corequisite: FRN 101 or permission. 1 sem. hr.

FRN 102C. BEGINNING CONVERSATION PRACTICE IN FRENCH II: Practice in speaking French in everyday situations. Corequisite: FRN 102 or permission. 1 sem. hr.

FRN 111. INTENSIVE BEGINNING FRENCH: Intensive development of fundamental communication skills in reading, listening, writing, and speaking through extensive practice in language use. Admission restricted to those who have not studied French. Recommended for those who have had successful experience learning another language. Credit granted for only ONE of the following: 101-102 OR 111 OR 121. 6 sem. hrs.



FRN 120. INTENSIVE ELEMENTARY FRENCH: Basic elements of the French language with emphasis on development of essential linguistic survival skills in a French-speaking country. Offered only in connection with ISSAP or another UD study abroad program. 3 sem. hrs.

FRN 121. ELEMENTARY FRENCH: Review and further development of fundamental communication skills in reading, listening, writing, and speaking. Admission restricted to those who have studied the language for at least two years in high school or the equivalent and place into the course by examination. Credit granted for only ONE of the following: 101-102 or 111 or 121. 4 sem. hrs.

FRN 141. BASIC PROFICIENCY IN FRENCH: Further development of communication skills in reading, listening, writing, and speaking. Admission by examination or successful completion of 102 or 111 or 121. Successful completion of this course includes the demonstration of the minimal level of proficiency required for the College of Arts and Sciences' Liberal Studies Curriculum. 3 sem. hrs.

FRN 141C. BASIC SPEAKING PROFICIENCY IN FRENCH: Further development of speaking skills. Corequisite: FRN 141 or permission. 1 sem. hr.

FRN 201-202. INTERMEDIATE FRENCH I, II: Development of listening, speaking, reading, and writing skills. Language laboratory required. Prerequisites: FRN 141 for 201; FRN 201 for 202. 3 sem. hrs. each

FRN 226. BASICS OF COMPUTER FRENCH: Introduction to French computer vocabulary and expressions and to the literature and status of the information sciences in France. Translation of articles and advertisements in the field from French to English. Prerequisite: FRN 202. 1 sem. hr.

FRN 270. INTERMEDIATE STUDY ABROAD: Intermediate intensive study in a foreign country/region whose everyday language is French. Instruction in language, culture and civilization. Conducted in French. Available only during the summer session. Repeatable when subtitle and content change. Prerequisite: FRN 141 or equivalent. 1-7 sem. hrs.

FRN 290. FRENCH GRAMMAR AND SYNTAX: Systematic review of basic grammatical concepts necessary for communicating effectively in French. Extensive practice in analyzing, producing, and explaining correct grammatical structures. Strongly recommended for prospective teachers. Prerequisite: FRN 202. 3 sem. hrs.

FRN 311-312. FRENCH CONVERSATION I, II: Intensive practice in speaking French to develop oral communication skills. Emphasis on vocabulary development, listening comprehension, simulation of life-like situations, and discussions on French life and culture. May be taken in either sequence. Prerequisite: FRN 202. 3 sem. hrs. each

FRN 321-322. 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 and creativity. Initiation into the concept of style in French prose. May be taken in either sequence. Prerequisite: FRN 311 or 312. 3 sem. hrs. each

FRN 325. 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. Prerequisite: FRN 311 or 312. *3 sem. hrs.*

FRN 326. ADVANCED COMPUTER FRENCH: Intensive practice of translation from English to French and French to English of professional and technical computer-related literature from such fields as business, computer science, and education. Prerequisites: FRN 226; 311 or 312. *1 sem. hr.*

FRN 331. 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. Prerequisite: FRN 311 or 312. *3 sem. hrs.*

FRN 341. 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. Prerequisite: FRN 311 or 312. *3 sem. hrs.*

\*FRN 352. OLD WORLD AND NEW (ENG): Readings of (1) non-fictional narratives regarding French encounters with American Indians in the 16th and 17th centuries and (2) literary and philosophical works on this topic. Conducted in English. No prerequisite. *3 sem. hrs.*

FRN 360. 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. Prerequisite: FRN 311 or 312. *3 sem. hrs.*

\*FRN 361-362. 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 prospective teachers. May be taken in either sequence. Prerequisite: FRN 311 or 312. *3 sem. hrs. each*

FRN 370. ADVANCED STUDY ABROAD: Advanced intensive study in a foreign country/region whose everyday language is French, treating its language, culture, and civilization. Conducted in French. Available only during the summer session. Repeatable when subtitle and content change. Prerequisite: FRN 202 or equivalent. *1-7 sem. hrs.*

FRN 381. HISTORY OF FRENCH CINEMA: A survey of the trends, styles, and principal directors in the history of French cinema. Discussion of personal, social, and cultural values portrayed in films. Prerequisite: FRN 311 or 312. *3 sem. hrs.*

FRN 425. 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 321 or 322; 325. *3 sem. hrs.*

\*FRN 452. OLD WORLD MEETS NEW: Readings of (1) non-fictional narratives regarding French encounters with American Indians in the 16th and 17th centuries and (2) literary and philosophical works on this topic. Conducted in French. Prerequisites: FRN 311 or 312. *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. Prerequisites: FRN 202 and permission. *1-3 sem. hrs.*

## GERMAN

GER 101-102. BEGINNING GERMAN I, II: Development of fundamental communication skills in reading, listening, writing, and speaking through extensive practice in language use. Admission to 101 restricted to those who have not studied German or have placed into that course by examination; 102 is open only to those who have successfully completed 101 at the University of Dayton. Credit is for only ONE of the following: 101-102 OR 111 OR 121. Prerequisites: none for 101; 101 is required for 102. *3 sem hrs. each*

GER 101C. BEGINNING CONVERSATION PRACTICE IN GERMAN I: Practice in speaking German on the most basic level. Corequisite: GER 101 or permission. *1 sem. hr.*

GER 102C. BEGINNING CONVERSATION PRACTICE IN GERMAN II: Practice in speaking German in everyday situations. Corequisite: GER 102 or permission. *1 sem. hr.*

GER 111. INTENSIVE BEGINNING GERMAN: Intensive development of fundamental communication skills in reading, listening, writing, and speaking through extensive practice in language use. Admission restricted to those who have not studied German. Recommended for those who have had successful experience learning another language. Credit granted for only ONE of the following: 101-102 OR 111 OR 121. *6 sem. hrs.*

GER 120. INTENSIVE ELEMENTARY GERMAN: Basic elements of the German language with emphasis on development of essential linguistic survival skills in a German-speaking country. Offered only in connection with ISSAP or another UD study abroad program. *3 sem. hrs.*

GER 121. ELEMENTARY GERMAN: Review and further development of fundamental communication skills in reading, listening, writing, and speaking. Admission restricted to those who have studied the language for at least two years in high school or the equivalent and place into the course by examination. Credit granted for only ONE of the following: 101-102 or 111 or 121. *4 sem. hrs.*

GER 131. PRACTICE IN BASIC GERMAN COMPREHENSION AND SPEAKING SKILLS: Practice in the comprehension of everyday written and spoken German texts and in responding verbally to practical everyday situations. Prerequisite: one-year high school German or one-semester college German (GER 102 or 103 or equivalent) *1 sem. hr.*

GER 141. BASIC PROFICIENCY IN GERMAN: Further development of communication skills in reading, listening, writing, and speaking. Admission by examination or successful completion of 102 or 111 or 121. Successful completion of this course includes the demonstration of the minimal level of proficiency required for the College of Arts and Sciences' Liberal Studies Curriculum. *3 sem. hrs.*

GER 141C. BASIC SPEAKING PROFICIENCY IN GERMAN: Further development of speaking skills. Corequisite: GER 141 or permission. *1 sem. hr.*

GER 201-202. INTERMEDIATE GERMAN I, II: Systematic grammar review. Increased use of the language in written exercises and classroom discussions based on readings. Exposure to the development of German civilization and culture. Prerequisites: GER 141 for 201; GER 201 for 202. *3 sem. hrs. each*

GER 311-312. GERMAN CONVERSATION: 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. Prerequisite: GER 202. *3 sem. hrs. each*

GER 321-322. GERMAN COMPOSITION I, II: Practice in writing German on a variety of topics. Systematic grammar review and vocabulary enrichment. Short stories and periodicals are read and discussed to provide models, topics, and information. May be taken in either sequence. Prerequisite: GER 311 or 312. *3 sem. hrs. each*

GER 325. COMMERCIAL GERMAN: Introduction to the business language and customs and the economic profile of the German-speaking countries. Basic vocabulary of the office and the world of trade, introduction to formal business correspondence and transactions. Prerequisite: GER 311 or 312 or the equivalent. *3 sem. hrs.*

\* GER 341. GERMAN CULTURE AND CIVILIZATION: Introduction to German culture and civilization with emphasis on the arts, intellectual developments, and life in various periods of German history. Conducted in German. Prerequisite: GER 311 or 312. *3 sem. hrs.*

GER 350. GERMAN LITERATURE IN TRANSLATION: Course to acquaint nonmajors and nonminors with major German writers and literary movements. Conducted in English. Repeatable when subtitle and content change. No prerequisite. *3 sem. hrs.*

GER 361-362. SURVEY OF GERMAN LITERATURE I, II: German literature and its development from 1750 A.D. to the present. Study of exemplary works and literary movements. May be taken in either sequence. Prerequisite: GER 311 or 312. *3 sem. hrs. each*

GER 370. STUDY ABROAD: Intensive study in a foreign country whose everyday language is German, treating the culture and civilization of the country. Conducted in German. Available only during the summer session. Repeatable when subtitle and content change. Prerequisite: GER 202. *1-6 sem. hrs.*

GER 450. 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. Prerequisite: GER 311 or 312. *3 sem. hrs.*

GER 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of sem. hrs. require approval of chairperson. Prerequisites: GER 202 and permission. *1-3 sem. hrs.*

## ITALIAN

ITA 101. BEGINNING ITALIAN: Development of fundamental communication skills in reading, listening, writing, and speaking through extensive practice in language use. No previous study of Italian is presupposed. *4 sem. hrs.*

ITA 120. INTENSIVE ELEMENTARY ITALIAN: Basic elements of the Italian language with emphasis on listening, speaking, reading, and writing skills. Practice in using the language in everyday situations. Introduction to grammatical structures. Offered only in Italy through ISSAP. No prerequisite. *3 sem. hrs.*

ITA 141. BASIC PROFICIENCY IN ITALIAN: Further development of communication skills in reading, listening, writing, and speaking. Admission by the successful completion of 101 or permission. Successful completion of this course includes demonstration of the minimal level of proficiency required for the College of Arts and Sciences' Liberal Studies Curriculum. Prerequisites: successful completion of ITA 101 or permission: *4 sem. hrs.*

ITA 201-202. INTERMEDIATE ITALIAN I, II: 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. Prerequisites: ITA 141 for 201; ITA 201 for 202. *3 sem. hrs. each*

ITA 313-314. COMMUNICATING IN ITALIAN I, II: Intensive practice in speaking and writing Italian at an advanced level. Emphasis on building vocabulary, learning correct idiomatic usage, increasing fluency, and improving syntax and style. The class is conducted in Italian. May be taken in either sequence. Prerequisite: ITA 202. *3 sem. hrs. each*

ITA 341-342. 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. May be taken in either sequence. Prerequisite: ITA 202. *3 sem. hrs. each*

ITA 361-362. SURVEY OF ITALIAN LITERATURE I, II: 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. May be taken in either sequence. Prerequisite: ITA 202. *3 sem. hrs. each*

ITA 491. INDEPENDENT STUDY: Independent research project under the guidance of an instructor. Admission to project and number of sem. hrs. require approval of chairperson. Prerequisite: ITA 202 and permission. *1-3 sem. hrs.*

## LATIN

LAT 101-102. BEGINNING LATIN I, II: Development of fundamental reading skills through extensive practice in language use. Admission to 101 restricted to those who have not studied Latin or have placed into that course by examination; 102 is open only to those who have successfully completed 101 at the University of Dayton. Credit is granted for only ONE of the following: 101-102 OR 121. Prerequisite: 101 is required for 102. *3 sem. hrs each*

LAT 121. ELEMENTARY LATIN: Review and further development of the fundamental reading skills. Admission restricted to those who have studied the language for at least two years in high school or the equivalent and place into the course by examination. Credit granted for only ONE of the following: 101-102 OR 121. Prerequisite: Minimum of two years high-school study of specific language and placement by examination. *4 sem. hrs.*

LAT 141. BASIC PROFICIENCY IN LATIN: Further development of reading skills. Admission by examination or successful completion of 102 or 121. Successful completion of this course includes the demonstration of the minimal level of proficiency required for the College of Arts and Sciences' Liberal Studies Curriculum. Prerequisite: Successful completion of 102 or 121; or placement by examination. *3 sem. hrs.*

LAT 201-202. INTERMEDIATE LATIN I, II: Systematic review of grammar, exercises in vocabulary development, readings from Caesar, Cicero, Virgil, or Ovid. Prerequisite: LAT 141 for 201; LAT 201 for 202. *3 sem. hrs. each*

LAT 321. LATIN COMPOSITION AND SYNTAX: Practice in writing Latin, for enrichment of vocabulary, refinement of grammar, and control of major Latin prose styles. Prerequisite: LAT 202. *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. Prerequisite: LAT 202. *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. Prerequisite: LAT 202 or permission. *1-3 sem. hrs.*

## RUSSIAN

RUS 101. BEGINNING RUSSIAN: Development of fundamental communication skills in reading, listening, writing, and speaking through extensive practice in language use. No previous study of Russian is presupposed. *4 sem. hrs.*

RUS 141. BASIC PROFICIENCY IN RUSSIAN: Further development of communication skills in reading, listening, writing, and speaking. Successful completion of this course includes demonstration of the minimal level of proficiency required for the College of Arts and Sciences' Liberal Studies Curriculum. Prerequisite: Successful completion of 101 or permission. *4 sem. hrs.*

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 141 for 201; RUS 201 for 202. *3 sem. hrs. each*

RUS 311-312. RUSSIAN CONVERSATION: 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. *3 sem. hrs. each*

RUS 321. 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 361. 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.*

RUS 491. INDEPENDENT STUDY: Independent study under the guidance of an instructor. Admission to course and number of sem. hrs. require approval of chairperson. Repeatable when content changes. *1-6 sem. hrs.*

## SPANISH

SPN 101-102. BEGINNING SPANISH I, II: Development of fundamental communication skills in reading, listening, writing, and speaking through extensive practice in language use. Admission to 101 restricted to those who have not studied Spanish or have placed into that course by examination; 102 is open only to those who have successfully completed 101 at the University of Dayton. Credit is for only ONE of the following: 101-102 OR 111 OR 121. Prerequisites: none for 101; 101 is required for 102. *3 sem hrs. each*

SPN 101C. BEGINNING CONVERSATION PRACTICE IN SPANISH I: Practice in speaking Spanish on the most basic level. Corequisite: SPN 101 or permission. *1 sem. hr.*

SPN 102C. BEGINNING CONVERSATION PRACTICE IN SPANISH II: Practice in speaking Spanish in everyday situations. Corequisite: SPN 102 or permission. *1 sem. hr.*

SPN 111. INTENSIVE BEGINNING SPANISH: Intensive development of fundamental communication skills in reading, listening, writing, and speaking through extensive school practice in language use. Admission restricted to those who have not studied Spanish. Recommended for those who have had successful experience learning another language. Credit granted for only ONE of the following: 101-102 OR 111 OR 121. *6 sem. hrs.*

SPN 121. ELEMENTARY SPANISH: Review and further development of fundamental communication skills in reading, listening, writing, and speaking. Admission restricted to those who have studied the language for at least two years in high school or the equivalent and place into the course by examination. Credit granted for only ONE of the following: 101-102 -111 OR 121. *4 sem. hrs.*

SPN 141. BASIC PROFICIENCY IN SPANISH: Further development of communication skills in reading, listening, writing, and speaking. Admission by examination or successful completion of 102 OR 111 OR 121. Successful completion of this course includes the demonstration of the minimal level of proficiency required for the College of Arts and Sciences' Liberal Studies Curriculum. *3 sem. hrs.*

SPN 141C. BASIC SPEAKING PROFICIENCY IN SPANISH: Further development of speaking skills. Corequisite: SPN 141 or permission. *1 sem. hr.*

SPN 201-202. INTERMEDIATE SPANISH I, II: Intensive development of the basic principles of Spanish through writing and conversation, stressing fluency. Language laboratory required. Prerequisites: SPN 141 for 201; SPN 201 for 202. *3 sem. hrs. each*

SPN 270. 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. Prerequisite: SPN 141 or equivalent. *1-6 sem. hrs.*

SPN 290. SPANISH GRAMMAR & SYNTAX: Systematic review of basic grammatical concepts necessary for communicating effectively in Spanish. Extensive practice in analyzing, generating, and explaining correct grammatical structures. Recommended for prospective teachers. Prerequisite: SPN 202 or the equivalent. *3 sem. hrs.*

SPN 311-312. SPANISH CONVERSATION I, II: Development of fluency in the vocabulary and idioms of the spoken language through discussion of topics related to contemporary life in the Hispanic world. May be taken in either sequence. Prerequisite: SPN 202. *3 sem. hrs. each*

SPN 321-322. SPANISH COMPOSITION I, II: Practice in composition on a variety of topics. Systematic refinement and mastery of grammar and assimilation of stylistic patterns. Emphasis on developing facility in writing clearly and correctly in Spanish. Prerequisites: SPN 311 or 312 for 321; SPN 321 for 322. *3 sem. hrs. each*

SPN 325. COMMERCIAL SPANISH: Introduction to commercial correspondence as a basis for developing skills in writing Spanish business letters and other correspondence. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 341. SPANISH CULTURE AND CIVILIZATION: Readings and discussions on the historical, social, political, and cultural phenomena of Spain. Conducted in Spanish. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 342. IBERO-AMERICAN CULTURE AND CIVILIZATION: Readings and discussions on the historical, social, political, and cultural phenomena of Ibero-America. Conducted in Spanish. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 350. HISPANIC LITERATURE IN TRANSLATION: Course to acquaint nonmajors and nonminors with major Spanish and Spanish-American writers and literary movements. Conducted in English. Repeatable when subtitle and content change. No prerequisite. *3 sem. hrs.*

SPN 361-362. SURVEY OF SPANISH LITERATURE I, II: Readings and analysis of the works of major Spanish authors and discussion of the principal literary trends in Spain from the Middle Ages to the 20th century. Lectures, discussions, and assignments in Spanish. May be taken in either sequence. Prerequisite: SPN 311 or 312. *3 sem. hrs. each*

SPN 363-364. SURVEY OF SPANISH-AMERICAN LITERATURE I, II: Readings and analysis of the works of major Spanish-American authors and discussion of the principal literary trends in Spanish America from Discovery and Conquest through Realism and Naturalism (I) and Modernism through the present day (II). Conducted in Spanish. May be taken in either sequence. Prerequisite: SPN 311 or 312. *3 sem. hrs. each*

SPN 370. 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. Prerequisite: SPN 202. *1-6 sem. hrs.*

SPN 450. TOPICS IN SPANISH LITERATURE: Lectures and discussions concentrating on specialized genres, periods, or authors of Peninsular literature prior to the 20th century. Conducted in Spanish. Repeatable when subtitle and content change. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 451. TOPICS IN SPANISH-AMERICAN LITERATURE: Lectures and discussions concentrating on specialized genres, periods, or authors of Spanish-American literature prior to the 20th century. Conducted in Spanish. Repeatable when subtitle and content change. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 471. TOPICS IN SPANISH LITERATURE OF THE 20TH CENTURY: Lectures and discussions concentrating on specialized periods, genres, or authors of 20th-century Peninsular literature. Conducted in Spanish. Repeatable when subtitle and content change. Prerequisite: SPN 311 or 312. *3 sem. hrs.*

SPN 472. TOPICS IN SPANISH-AMERICAN LITERATURE OF THE 20TH CENTURY: Lectures and discussions concentrating on specialized periods, genres or authors of 20th-century Spanish-American literature. Conducted in Spanish. Repeatable when subtitle and content change. Prerequisite: SPN 311 or 312. *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. Prerequisites: SPN 202 and permission. *1-3 sem. hrs.*

\* General Education course. See Chapter V.



MTH

MATHEMATICS (MTH)

The B. A. program in mathematics provides for a breadth of mathematical study within the context of a liberal arts degree. It may be chosen as a preparation for a professional career in business, education, law or social science. It affords the student a significant distribution of courses in the humanities and social sciences so that he or she can develop a concentration in a field other than mathematics. The student's career goals will generally suggest desirable upper level mathematics electives. For example, prospective secondary mathematics teachers should participate in the E11A program and elect courses such as MTH 370, 395, and 466. Students with an interest in business, law or social science should complete the probability and statistics sequence MTH 411-413; also MTH 463 is a good choice for students planning to enter the business world.

The B. S. program in mathematics provides a foundation for students who wish to pursue graduate studies in any area of the mathematical sciences, to enter the actuarial profession, or to enter careers where mathematics is used in an engineering or science setting. A preparation for graduate programs in a mathematical science should include electives such as MTH 342, 404 and 471. A preparation for the actuarial examinations would include the probability and statistics sequence MTH 411-413 and MTH 463; in addition, actuarial preparation should include a year of accounting, a year of economics and a course in numerical methods CPS 353. To prepare for using mathematics in an applied context, some useful elective courses are MTH 403, 404, and the MTH 411-413 sequence.

The basic courses MTH 168, 169, 218, 219, and 302 are offered every term and the required core courses are offered at least once a year. However, most of the other upper-level electives for the major are offered only once every two years; thus careful planning for a student's upper-level electives should be done in consultation with the advisor. In addition, the symbolic logic course, PHIL 302, is a recommended General Education course for all mathematics majors.

A minor in mathematics consists of four courses of mathematics at the 300-400 level, plus appropriate prerequisite material which may be one of MTH 218, 219, or 302.

PROGRAM A10: BACHELOR OF ARTS WITH A MAJOR  
IN MATHEMATICS (MTA)<sup>1</sup>

	<i>Semester Hours</i>
Mathematics .....	36
Basic calculus: MTH 168, 169, 218 .....	12
Upper-level requirements: MTH 302, 330, 361, 411 .....	12
Upper-level electives .....	12
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Language and/or Arts and/or Humanities .....	3-9
Social Sciences .....	12
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

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**PROGRAM S6: BACHELOR OF SCIENCE WITH A MAJOR  
IN MATHEMATICS (MTH)<sup>1</sup>**

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	<i>Semester Hours</i>
Mathematics .....	42
Basic calculus: MTH 168, 169, 218, 219 .....	15
Upper-level requirements: MTH 302, 330, 361, 430 .....	12
Upper-level electives (Departmental approval required.) .....	15
Minor: 300-400-level courses in chosen area .....	12
Natural Science: PHY 206, 207, 210L, 211L or CHM 123, 124, 123L, 124L or BIO 151, 152, 152L, 201L or GEO 115, 116, 115L, 116L—and two additional courses acceptable for Science majors .....	14
Computer science (e.g. CPS 132 or 150) .....	3-4
Social and behavioral sciences .....	6
Humanities .....	9
Philosophy and religious studies .....	12
Communication skills .....	0-9
First-year experience: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	120

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<sup>1</sup>General Requirements for all Bachelor of Science programs and Chapter V for General Education requirements.

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## FACULTY

Thomas E. Gantner, *Chairperson*

*Professors:* Eloë, Gantner, McCloskey, Rice, Stander, Steinlage

*Associate Professors:* Friel, Gorton, Higgins, Islam, Mashburn,

Mushenheim, Shaughnessy

*Assistant Professor:* Kauflin

*Lecturers:* Neff, Saintignon

## COURSES OF INSTRUCTION

**MTH 102. 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 108. INTEGRATED ALGEBRA AND TRIGONOMETRY:** Review of the algebraic skills necessary for MTH 168, including properties of order, arithmetic of polynomials, factoring, complex fractions, finding roots of polynomial equations, exponents, functions, domains and ranges, composition, inverses, graphing, and basic properties of trigonometric functions. First term each year. 2 sem. hrs.

**MTH 114. CONTEMPORARY MATHEMATICS:** A study of contemporary mathematical topics and their applications. Topics may include management science, statistics, social choice, size and shape, and computer mathematics. Prerequisite: Two years of high school algebra. 3 sem. hrs.

**MTH 116. PRECALCULUS MATHEMATICS:** A review of topics from algebra and trigonometry including polynomials, functions and graphs, exponential and logarithmic functions, trigonometric functions and identities. 4 sem. hrs.

MTH 128. FINITE MATHEMATICS: Topics from mathematics used in business, including systems of equations, inequalities, matrix algebra, linear programming, logarithms. Prerequisite: MTH 102 or sufficient college preparatory mathematics.

3 sem. hrs.

MTH 129. CALCULUS FOR BUSINESS: Continuation of MTH 128. Compound interest and annuities, fundamental concepts and applications of differential and integral calculus.

Prerequisite: MTH 128 or sufficient college preparatory mathematics.

3 sem. hrs.

MTH 137-138. CALCULUS I WITH REVIEW: Introduction to the differential and integral calculus with an extensive review of algebra and trigonometry; differentiation and integration of algebraic and transcendental functions with applications. Prerequisite: Two years of high school algebra. MTH 137 is a prerequisite for MTH 138.

4 sem. hrs. ea.

MTH 148. INTRODUCTORY CALCULUS I: Introduction to the differential and integral calculus; differentiation and integration of algebraic and transcendental functions with applications to the life and social sciences. Prerequisite: MTH 116 or equivalent.

3 sem. hrs.

MTH 149. INTRODUCTORY CALCULUS II: Continuation of MTH 148. Techniques of integration and differential equations with applications to the life and social sciences, indeterminate forms, infinite sequences and series. Prerequisite: MTH 138 or 148.

3 sem. hrs.

MTH 168. 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 116 or equivalent.

4 sem. hrs.

MTH 169. ANALYTIC GEOMETRY AND CALCULUS II: Continuation of MTH 168. Conic sections, techniques of integration with applications to science and engineering, infinite series, indeterminate forms, Taylor's theorem. Prerequisite: MTH 138 or 168.

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. Prerequisite: MTH 204.

3 sem. hrs.

MTH 207. INTRODUCTION TO STATISTICS: Introduction to the concepts of statistical thinking for students whose majors do not require calculus. Methods of presenting data, including graphical methods. Using data to make decisions and draw conclusions. Basic ideas of drawing a sample and interpreting the information that it contains. Prerequisite: Two years of high school algebra.

3 sem. hrs.

MTH 218. ANALYTIC GEOMETRY AND CALCULUS III: Continuation of MTH 169. Solid analytic geometry, vectors and vector functions, multivariable calculus, partial derivatives, multiple integrals. Prerequisite: MTH 169.

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.

3 sem. hrs.

MTH 290. TOPICS IN (NAMED AREA): Exploration of varying topics appropriate for the needs of the pre-service training of teachers of mathematics. May be repeated as topics change. Prerequisite: One mathematics course beyond MTH 102 and permission of instructor and/or chairperson. 1-3 sem. hrs.

MTH 295. HISTORICAL ROOTS OF ELEMENTARY MATHEMATICS: Fundamental historical development of modern arithmetic, geometry, and number systems from early Egyptian, Babylonian, and Greek sources. Students may not receive credit for both this course and MTH 395. Prerequisite: MTH 204 or permission of instructor. 3 sem. hrs.

MTH 301. ESSENTIALS OF MATHEMATICAL REASONING: Techniques of proof, mathematical induction, recursion, counting methods, symbolic logic. Introduction to algebra of sets, infinities, and axiom systems. Open to students who will enroll in upper-level mathematics courses. Corequisite: MTH 218 or 302. 1 sem. hr.

MTH 302. LINEAR ALGEBRA AND MATRICES: Fundamental concepts of vector spaces, determinants, linear transformations, matrices, inner product spaces, and eigenvectors. Prerequisite: MTH 218. Offered each term. 3 sem. hrs.

MTH 330. INTERMEDIATE ANALYSIS: Theoretical development of the calculus of a real-valued function of a real variable. Topics include the algebraic and topological properties of the real line, limits of sequences and functions, continuity, differentiability, and integration. Prerequisite MTH 302. 3 sem. hrs.

MTH 342. SET THEORY: 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. Prerequisite: MTH 218 or permission of instructor. 3 sem. hrs.

MTH 361. INTRODUCTION TO ABSTRACT ALGEBRA: Fundamental concepts of groups, rings, integral domains and fields. Prerequisite: MTH 218. 3 sem. hrs.

MTH 367. STATISTICAL METHODS I: Probability distributions including binomial, hypergeometric, Poisson, and normal. Estimation of population mean and standard deviation: Confidence intervals and tests of hypotheses using t-, Chi-square, and F-statistics. Prerequisite: MTH 149 or 169. Mathematics majors enroll in MTH 411 instead of 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 and computer applications. Prerequisite: MTH 367. Mathematics majors enroll in MTH 412 instead of 368. 3 sem. hrs.

MTH 370. INTRODUCTION TO HIGHER GEOMETRY: Projective, affine, and hyperbolic geometries using synthetic and/or analytic techniques. Prerequisite: MTH 218 or permission of instructor. 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. 3 sem. hrs.

MTH 395. DEVELOPMENT OF MATHEMATICAL IDEAS: The evolution of mathematical ideas and techniques from ancient times to the present with emphasis on the Greek era. Famous men and famous problems. Chronological outline of mathematics in each of its branches along with applications. Prerequisite: MTH 148 or 168 or permission of instructor. 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. *3 sem. hrs.*

**MTH 404. COMPLEX VARIABLES:** Functions of a complex variable, conformal mapping, integration in the complex plane. Laurent series and residue theory. Prerequisite: MTH 219. *3 sem. hrs.*

**MTH 411. PROBABILITY AND STATISTICS I:** Mathematical probability, combinatorial methods, random variables, Bayes' theorem, moments, Chebyshev's inequality, binomial, Poisson, and normal probability laws, moment generating functions, limit theorems. Prerequisite: MTH 218. *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. *3 sem. hrs.*

**MTH 413. PROBABILITY AND STATISTICS III:** Statistical decision theory, partitioning of sums of squares, analysis of variance, regression on several independent variables, multiple regression approach to analysis of variance, design of experiments. Prerequisite: MTH 412. *3 sem. hrs.*

**MTH 430. REAL ANALYSIS:** Continuation of MTH 330. Topics include the theory of convergence of sequences and series of functions in the context of metric spaces, uniform continuity, uniform convergence, and integration. Prerequisite: MTH 330. *3 sem. hrs.*

**MTH 435. ADVANCED MULTIVARIATE CALCULUS:** Topics include directional derivatives, chain rule, Lagrange multipliers, Taylor's formula, the mean value theorem, inverse mapping theorem, implicit function theorem, integration, Fubini's theorem, change of variables, line integrals, Green's theorem and Stoke's theorem. Prerequisite: MTH 302. *3 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 thereof, dimensional analysis, scaling, and approximations at various levels. Prerequisites: MTH 219, 302, and permission of instructor. *3 sem. hrs.*

**MTH 441. MATHEMATICS CLINIC:** Student teams will be responsible for the development and/or modification and testing of a mathematical model designed for a particular purpose. Faculty guidance. Prerequisites: MTH 440 and permission of chairperson. *3 sem. hrs.*

**MTH 445. 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. Prerequisite: Permission of chairperson. *1-3 sem. hrs.*

**MTH 463. INTRODUCTION TO OPERATIONS RESEARCH:** Topics include linear programming and its applications, game theory, Markov chains or linear codes and their error-correcting capabilities. Prerequisite: MTH 302 *3 sem. hrs.*

**MTH 465. LINEAR ALGEBRA:** Vector spaces, linear transformations and matrices, determinants, inner product spaces, invariant direct-sum decomposition and the Jordan canonical form. Prerequisite: MTH 302. *3 sem. hrs.*

**MTH 466. GRAPH THEORY AND COMBINATORICS:** Graphs as algebraic structures; eulerian, hamiltonian, complete, connected and planar graphs. Applications include scheduling and routing problems. Discussion of algorithms for optimal or near-optimal solutions. Combinatorial topics could include generating functions, recurrence relations, Polya's theorem and Ramsey Theory. Prerequisite: MTH 302. *3 sem. hrs.*

**MTH 471. TOPOLOGY:** Introduction to topological spaces and continuous functions including a study of separation and countability axioms and elementary properties of metric spaces, connected spaces, and compact spaces. Prerequisite: MTH 302 or permission of instructor. *3 sem. hrs.*

**MTH 490. READINGS IN (NAMED AREA):** Individual study in specialized areas carried out under the supervision of a staff member. May be taken more than once. Prerequisite: Permission of chairperson. *1-3 sem. hrs.*



# MIL

## 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, the Army Reserve, and the Army National Guard.

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 first and second years) and an advanced course (normally third and fourth 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, other than contracted ROTC scholarship 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 \$150 a 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 monthly salary or about \$1000.

In addition to ROTC instruction, a student must attain an equal level of professional military education. Army officers, like other professionals, cannot be satisfied with a collection of knowledge found only in their academic field. In order to be prepared to become officers, students are required to complete courses in military history, written communication skills, oral communication skills, and computer literacy.

The ROTC program is also available to students with three or two years remaining on campus, including graduate students. Special programs, such as ROTC Summer Leadership Training, Basic Camp, 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. Veterans and students with high school JROTC training, with the approval of the chairperson of the Department of Military Science, may receive placement credit for part or all of the basic course. Each case will be judged individually so that the best interests of both the student and the military may be served.

Army ROTC scholarships are available to students. These scholarships cover three- and two-year periods and provide for tuition, books, fees, special equipment, and \$150 a month for up to ten months of each school year. Scholarships, which are highly competitive, are awarded to those who demonstrate outstanding academic and leadership ability.

## FACULTY

Lt. Col. Dennis M. Gassert, U.S. Army, *Chairperson*

*Professor:* Gassert

*Assistant Professors:* Sanders, Thewes, Womack

*Instructors:* Edwards, Newsome

## COURSES OF INSTRUCTION<sup>1</sup>

MIL 100 (UD). LEADERSHIP LABORATORY: Practical training in military courtesy, drill and ceremony, military skills, map reading, marksmanship, and tactics. 1 sem. hr.

MIL 101 (UD). LEADERSHIP I: ROTC programs and opportunities; rappelling, leadership, communications and management skills, and pistol marksmanship. Optional field trips, field exercises, physical training, leadership laboratory and social events. 1 sem. hr.

MIL 102 (UD). LEADERSHIP II: Rifle marksmanship, fundamentals and principles of leadership, management techniques for individual, group behavior and leadership dimensions. Optional physical training, leadership laboratory, and social events. 1 sem. hr.

MIL 121 (SCC).<sup>2</sup> Same as MIL 101 (UD). 0.7 sem. hr.

MIL 122-123 (SCC).<sup>2</sup> Combination of these two courses completes all requirements of MIL 102 (UD). 0.7 sem. hr. each

MIL 201 (UD). MAPREADING AND SMALL UNIT TACTICS: Study of basic map reading skills, small unit tactics, movement techniques, weapons marksmanship orientation, and survival skills. Participation in leadership laboratory and two field training exercises. Optional physical training and social events. 2 sem. hrs.

MIL 202 (UD). FIRST AID AND LEADERSHIP: Interactive program of leadership training in physical fitness, preventive medicine programs, and basic first aid procedures. Study of the role and branches of the U.S. Army and the role of the Noncommissioned Officer. Participation in leadership laboratory. Optional Red Cross CPR Certification, physical training and social events. 2 sem. hrs.

MIL 221 (SCC).<sup>2</sup> Same as MIL 201 (UD). 1.4 sem. hrs.

MIL 222-223 (SCC).<sup>2</sup> Combination of these two courses completes all requirements of MIL 202 (UD). 1.4 sem. hrs. each



MIL 301 (UD). LEADING SMALL ORGANIZATIONS I: Study of the methodology, qualities, and the development of leaders through a series of practical opportunities to lead small groups, receive personal assessments, encouragement, and lead again in situations of increasing complexity. Physical training, leadership laboratory, historical field trip, social events, and field training exercises are mandatory. *2 sem. hrs.*

MIL 302 (UD). LEADING SMALL ORGANIZATIONS II: Study of emplacement of communications equipment and weapons system. Application of small unit tactics, land navigation-terrain association, operations orders and roles of various branches of the Army. Physical training, leadership laboratory, social events, and field training exercises are mandatory. *2 sem. hrs.*

MIL 401 (UD). LEADERSHIP MANAGEMENT AND STAFF: Study of military staff functions; how to conduct meetings, briefing, and training; how to conduct various types of counseling; and effective and ineffective leadership techniques. Physical training, leadership laboratory, historical field trip, social events, and field training exercises are mandatory. *2 sem. hrs.*

MIL 402 (UD). APPLIED LEADERSHIP AND MANAGEMENT: Leadership and management studies in professionalism, ethics, and military justice. Various types of military correspondence and the responsibilities of an officer. Physical training, leadership laboratory, field training exercises, and social events are mandatory. *2 sem. hrs.*

MIL 411 (UD). LIMITED WAR/LOW INTENSITY CONFLICT: This course will identify and discuss the roles and mission of the branches found within the U.S. Army as they relate to Limited War and Low Intensity Conflicts. Historical examples of leadership in Limited War/Low Intensity Conflicts are identified and discussed. Incorporates the background and experience of resident instructors and presentations by visiting service representatives. *2 sem. hrs.*

MIL 412 (UD). U.S. MILITARY TODAY: This course will identify and discuss the roles, missions, organizational structure and equipment, tactical and strategic employment, and future trends of the Armed Services. Incorporates the background and experience of resident instructors and presentations by visiting service representatives. *2 sem. hrs.*

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<sup>1</sup>Students should check with their deans for any restrictions on applying MIL courses to their degree programs.

<sup>2</sup>Course offered through the Consortium with Sinclair Community College.

## MUSIC (MUS)

Music is a unique form of expression and communication. A course of study provides for an aesthetic appreciation and an opportunity to translate musical concepts into a valuable and practical skill. The Department of Music of the University of Dayton provides academic coursework to foster artistic understanding and creative thinking, practical instruction to develop musical skills, and substantial laboratory and performance experience.

The Department of Music is a member of the National Association of Schools of Music, which accredits its degree programs and curricula. In addition, the music education degree program is approved by the State of Ohio and the music therapy degree program by the National Association for Music Therapy.

The Department of Music has numerous performing ensembles open to all students: The University Chorale, Chamber Singers, Opera Workshop, Ebony Heritage Singers, Celebration Vocal Transit, Miami Valley Symphony, University Wind Ensemble, Marching Band and Pep Band, Jazz Ensembles, and vocal and instrumental chamber ensembles.

The Department of Music offers five degree programs:

- A11: Bachelor of Arts with a major in Music (MUS)
- A12: Bachelor of Music with a major in Music  
Composition (MUC)
- A12A: Bachelor of Music with a major in Performance (MUP)
- A12B: Bachelor of Music with a major in Music Therapy (MUT)
- A12C: Bachelor of Music with a major in Music Education (MUE)

All prospective music students must be admitted to the University of Dayton by the Office of Admission. In addition, all prospective students must (1) furnish the Department of Music 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 Department office.

The Department of Music offers a minor in music, consisting of 22 semester hours, including 12 semester hours of upper-division coursework. It also offers a certificate in church music, consisting of 35 semester hours of coursework. Further information is available from the Department office.

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### PROGRAM A11: BACHELOR OF ARTS WITH A MAJOR IN MUSIC (MUS)<sup>1</sup>

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	<i>Semester Hours</i>
Music requirements .....	42
Music theory: MUS 111-114, 211-214 .....	16
Music history and literature: MUS 301-302 .....	6
Conducting: MUS 240 .....	2
Performance studies, including functional keyboard skills (if needed) .....	12
Ensemble: MUS 491, 492, or 493 .....	4

Recital attendance: MUS 200 (7 semesters) .....	0
Music electives .....	2
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts	
Philosophy and Religious Studies (including PHL 325) .....	12
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts (including MUS or other arts) .....	3
Foreign Lang. and/or Arts and/or Humanities .....	3-9
Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

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### PROGRAM A12: BACHELOR OF MUSIC WITH A MAJOR IN MUSIC COMPOSITION (MUC)<sup>1</sup>

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	<i>Semester Hours</i>
Music requirements .....	87
Music theory: MUS 111-114, 211-214 .....	16
Composition: MUS 121-122, 221-222, 321-322, 421-422 <sup>2</sup> .....	12
Music history and literature: MUS 301-302, elective .....	9
Score reading: MUS 314 .....	2
Orchestration or arranging: MUS 316 or 318; 416 .....	4
Conducting: MUS 240; 345 or 346 .....	4
Performance studies: MUS 399 and/or 499; 296-299 <sup>3</sup> .....	12
Ensemble: MUS 491, 492, or 493 .....	8
Recital attendance: MUS 200 (7 semesters) .....	0
Theory and/or composition electives .....	10
Music electives .....	10
Communication skills .....	0-9
Philosophy and Religious Studies (including PHL 325) .....	12
Natural Sciences .....	6
Mathematics (MTH 102, 204, 205 excluded) .....	3
Social and behavioral sciences .....	6
Humanities (includes HST 101, 102, or 198) .....	6
Other non-music electives .....	6
Introduction to the University: ASI 150 .....	0-1
Total semester hours .....	126-136

<sup>1</sup>See Chapter V for General Education requirements.

<sup>2</sup>Each composition major must present one and a half recitals of original work by the senior year.

<sup>3</sup>Functional Keyboard Skills or equivalent is required.

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**PROGRAM A12A: BACHELOR OF MUSIC WITH A MAJOR IN  
PERFORMANCE (MUP)<sup>1</sup>**

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	<i>Semester Hours</i>
Music requirements.....	87
Music theory: MUS 111-114, 211-214 .....	16
Music history and literature: MUS 301-302, elective .....	9
Conducting and arranging: MUS 240, 318 .....	4
Performance studies <sup>2</sup> .....	36
Major area of specialization .....	24-32
Minor area of specialization <sup>3</sup> .....	4-12
Ensemble: MUS 491, 492, or 49 <sup>3</sup> .....	8
Recital attendance: MUS 200 (7 semesters) .....	0
Music electives <sup>4</sup> .....	14
Communication skills .....	0-9
Philosophy and Religious Studies (including PHL 325) .....	12
Natural Sciences .....	6
Mathematics (MTH 102, 204, 205 excluded) .....	3
Social and behavioral sciences .....	6
Humanities <sup>5</sup> (includes HST 101, 102, or 198)) .....	6
Other non-music electives <sup>5</sup> .....	6
Introduction to the University: ASI 150 .....	0-1
Total semester hours .....	126-136

<sup>1</sup>See Chapter V for General Education requirements.

<sup>2</sup>Performance study in major area must lead to a half junior solo recital and a full senior solo recital.

<sup>3</sup>Must include MUS 296-299 or MUS 399.

<sup>4</sup>Voice majors must take MUS 235 and MUS 408; piano majors must include MUS 405 and 435; instrumental majors must take a pedagogy course in their area of specialization.

<sup>5</sup>Voice majors must include 2 semesters of foreign language study.

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**PROGRAM A12B: BACHELOR OF MUSIC WITH A MAJOR IN  
MUSIC THERAPY (MUT)<sup>1</sup>**

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	<i>Semester Hours</i>
Music requirements.....	81
Music theory: MUS 111-114, 211-214 .....	16
Music history and literature: MUS 301-302 .....	6
Conducting and arranging: MUS 240, 318 .....	4
Performance studies on the student's principal instrument leading to a minimum of a half-recital during the junior or senior year: MUS 399 .....	10
Vocal and instrumental methods, including accompanying instruments of piano and guitar: MUS 195, 235, 295, 296-299, 338, and three of the following: 237, 238, 239, 293 .....	11
Music therapy, including core courses and practicum: MUS 280, 285, 286, 287, 288, 385, 386, 387, 388, 485, 486 .....	19
Recreational music: MUS 282 .....	2
Music and dance electives .....	5
Ensemble .....	6

Recital attendance: MUS 200 (7 semesters) .....	0
Music therapy internship: MUS 489 <sup>2</sup> .....	2
Psychology: 101, 355, 363, and elective .....	12
Sociology .....	3
Sciences, including HSS 305 .....	6
Communication skills .....	0-9
Philosophy and Religious Studies (including PHL 325) .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Humanities (includes HST 101, 102, or 198) .....	6
Elective .....	3
Introduction to the University: ASI 150 .....	0-1
Total semester hours .....	126-136

<sup>1</sup>See Chapter V for General Education requirements.

<sup>2</sup>This 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, the graduate is eligible to take a national certification examination to become a Music Therapist—Board Certified.

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## PROGRAM A12C: BACHELOR OF MUSIC WITH A MAJOR IN MUSIC EDUCATION (MUE)<sup>1</sup>

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	<i>Semester Hours</i>
Music requirements <sup>2</sup> .....	66-68

### Requirements for all specializations<sup>2</sup>

Music theory: MUS 111-114, 211-214 .....	16
Functional keyboard skills <sup>3</sup> : MUS 296-299 .....	4
Music history and literature: MUS 301-302 .....	6
Arranging: MUS 318 .....	2
Performance studies on the student's principal instrument leading to a minimum of a half-recital during the junior or senior year:	
MUS 399 (7 semesters) .....	14
Recital attendance: MUS 200 (7 semesters) .....	0
Ensemble: MUS 491 or 492 or 493 or 390 (7 semesters) .....	0

### Additional requirements for band specialization<sup>4</sup>

Music education: MUS 195, 235, 331, 332, 335, 336, 337, 338, 339, 430, 431 .....	22
Conducting: MUS 240, 346 .....	4

### Additional requirements for orchestra specialization<sup>4</sup>

Music education: MUS 195, 235, 331, 332, 335, 336, 337, 338, 339 .....	18
Conducting: MUS 240, 346 .....	4
String minor: MUS 399 (2 semesters) .....	4

### Additional requirements for choral specialization<sup>4</sup>

Music education: MUS 235, 237, 238, 239, 331, 332, 335, 338 .....	13
Conducting: MUS 240, 345 .....	4
Guitar: MUS 195, 295 .....	1-2
Piano or voice minor: MUS 399 (3 semesters) .....	6

Additional requirements for classroom specialization<sup>4</sup>

Music education: MUS 235, 237, 238, 239, 331, 332, 335, 338 .....	13
Conducting: MUS 240 .....	2
Guitar: MUS 195, 295 .....	1-2
Piano minor: MUS 399 (4 semesters) .....	8
Teacher education <sup>2</sup> : EDT 100, 110, 207, 208, 318, 351, 419, 422, 469 .....	30
Communication skills .....	0-9
Philosophy and Religious Studies (including PHL 325) .....	9
Natural Sciences .....	7
Mathematics (MTH 102, 204, 205 excluded) .....	3
Social and behavioral sciences .....	3
Humanities (HST 101, 102, or 198) .....	3
Electives .....	3
Introduction to the University: ASI 150 .....	0-1
Total semester hours .....	124-136

<sup>1</sup>See Chapter V for General Education requirements.

<sup>2</sup>Students in the music education program are required to maintain a 2.0 cumulative grade point average, and a 2.5 cumulative average in teacher education and music courses.

<sup>3</sup>Students will pass a keyboard proficiency examination upon completion of MUS 296-299. Students not passing the proficiency examination will continue piano studies in MUS 399 until the examination is successfully completed.

<sup>4</sup>Students will select one of four specialty areas (band, orchestra, choral, classroom). Upon completion of the degree, candidates will receive certification from the State of Ohio to teach vocal, instrumental, and classroom music from kindergarten through senior high school.

CERTIFICATE IN CHURCH MUSIC (MCH)<sup>1</sup>

<i>Dept. No.</i>	<i>Course</i>	<i>Semester Hours</i>
MUS 111-112	Theory of Music I .....	4
MUS 113-114	Aural Skills I .....	4
MUS 240	Fundamentals of Conducting .....	2
MUS 318	Fundamentals of Arranging <sup>2</sup> .....	2
MUS 345	Choral Conducting .....	2
MUS 350	Sacred Music: Its History and Performance Tradition .....	3
MUS 399	Organ, Voice, or Guitar Performance Studies .....	8
MUS 452	Contemporary Liturgical Music Repertoire .....	3
MUS 459	Church Music Internship .....	2
MUS 493	University Chorale .....	2
REL 446	Christian Liturgy .....	3
Total semester hours .....		35

<sup>1</sup>Students may also register for classes in this certificate program through the Office of Continuing Education. Such students may be required to complete a performance audition.

<sup>2</sup>Or MUS elective to be determined by advisor.

## FACULTY

Richard P. Benedum, *Chairperson*

*Professors:* Benedum, Chenoweth, Magnuson, Snyder, Street

*Associate Professors:* Cox, Hartley, Sandness

*Assistant Professors:* Jones, Morris, Reynolds, Ritz

*Lecturer:* Ridder

*Part-time Instructors:* Anderson, Brown, Compton, Dean, Engel, Gilley,

Hogan, Hotopp, Hough, Katsuyama, McCutcheon, Moss, Pepitone, Rodgers,

Ruckman, Sievers, Speck, Todey, Twehues, Vandevander, Varella, Wade,

Wright, Wyatt

## COURSES OF INSTRUCTION

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. MUSIC LITERATURE FOR THE ELEMENTARY CLASSROOM: Study of music literature and its direct application to elementary classroom use. *2 sem. hrs.*

MUS 110. 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 111-112. THEORY OF MUSIC I: Basic vocabulary and grammar of music: fundamentals (intervals, scales, modes, keys, triads), counterpoint studies, basic diatonic harmonic motions. Prerequisite: Placement examination. *2 sem. hrs. each*

MUS 113-114. AURAL SKILLS I: Basic techniques of listening as applied to voice and keyboard: identification, dictation, and sight reading. Prerequisite: Placement examination. *2 sem. hrs. each*

MUS 121-122. COMPOSITION I: Supplemental explorations for majors in music composition, to accompany work in MUS 111-112. Basic notational practices and application of traditional techniques to the creative process. Corequisite: MUS 111-112. *1 sem. hr. each*

MUS 191. 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 195. BEGINNING GUITAR CLASS I: Introduction to playing the guitar; emphasis on chord playing and accompaniment; application of the guitar to music teaching. *1 sem. hr.*

MUS 196. GROUP PIANO I: For the student with no previous piano study. Rudiments of music reading, performance of simple folk and popular music, basic knowledge of scales, key signatures, and chords. Open to all University students with permission of instructor. Fee. *1 sem. hr.*

MUS 197. GROUP PIANO II: Further development of techniques introduced in MUS 196. Prerequisites: MUS 196, permission of instructor. Fee. *1 sem. hr.*

MUS 198. GROUP PIANO III: Selected material appropriate to the level of advancement attained in MUS 197. Prerequisites: MUS 197, permission of instructor. Fee. 1 sem. hr.

MUS 199. GROUP PIANO IV: Selected material appropriate to the level of advancement attained in MUS 198. Prerequisites: MUS 198, permission of instructor. Fee. 1 sem. hr.

MUS 200. RECITAL ATTENDANCE: 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 201. MUSIC IN CONCERT: A survey of music literature, styles, and important composers, through preparation for and attendance at selected concerts on the campus and in the community. Concert ticket fees will be required. Open to all University students. 3 sem. hrs.

\*MUS 203. SIGHTS AND SOUNDS OF MUSIC: An introduction to music and its literature, with emphasis on the way music has been shaped by its cultural, geographic, and historical contexts. Open to all University students. 3 sem. hrs.

\*MUS 205. MUSIC, INSTRUMENTS, AND TECHNOLOGY: A survey of music literature, styles, and important composers, and the way the development of instruments has influenced changes in musical style. The course will also consider the ways technology has altered our approach and access to music making, listening, and dissemination in the twentieth century. Open to all University students. 3 sem. hrs.

MUS 211-212. THEORY OF MUSIC II: SATB partwriting, Schenkerian analysis, chromatic procedures, decline of Common Practice Period, basic twentieth-century compositional styles. Prerequisite: MUS 112. 2 sem. hrs. each

MUS 213-214. AURAL SKILLS II: Advanced techniques of listening as applied to voice and keyboard: identification, dictation and sight reading. Prerequisite: MUS 114. 2 sem. hrs. each

MUS 221-222. COMPOSITION II: Supplemental explorations for majors in music composition, to accompany work in MUS 211-212. Style analysis and synthesis, extension of traditional techniques, and basic instrumental applications. Corequisites: MUS 211-212. 1 sem. hr. each

MUS 235. VOICE PEDAGOGY: Techniques for teaching singing. 1 sem. hr.

MUS 237. BRASS INSTRUMENT LABORATORY: Introduction to the performance and pedagogical techniques for the brass instrument family. Fee. 1 sem. hr.

MUS 238. WOODWIND INSTRUMENT LABORATORY: Introduction to the performance and pedagogical techniques for the woodwind instrument family. Fee. 1 sem. hr.

MUS 239. STRING INSTRUMENT LABORATORY: Introduction to the performance and pedagogical techniques for the string instrument family. Fee. 1 sem. hr.

MUS 240. FUNDAMENTALS OF CONDUCTING: Introductory-level course discussing basic conducting techniques, musical styles, interpretation, score study and analysis, transposition, and literature. Dual emphasis of choral and instrumental techniques. 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 282. RECREATIONAL MUSIC: Functional use of nonsymphonic instruments, rhythm band instruments, musical games, and community singing for both children and adults. *2 sem. hrs.*

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. Orientation in the clinical field. Prerequisites: PSY 101, 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, including work with adult mentally ill clients. *1 sem. hr.*

MUS 288. PRACTICUM IN MUSIC THERAPY II: Pre-internship field experiences with handicapped children and/or adults. *1 sem. hr.*

MUS 293. 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 294. HARPSICHORD CLASS: 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 295. BEGINNING GUITAR CLASS II: Note reading in first position; advanced chord work and introduction to chord solo playing. Prerequisite: MUS 195 or equivalent. *1 sem. hr.*

MUS 296. FUNCTIONAL KEYBOARD SKILLS I: Class instruction in development of basic performance technique, sight reading, accompanying, transposing, playing by ear, improvising, and score reading. Prerequisite: Permission of instructor. Music majors only. Fee. *1 sem. hr.*

MUS 297. FUNCTIONAL KEYBOARD SKILLS II: Further development of techniques introduced in MUS 296. Prerequisites: MUS 296, permission of instructor. Music majors only. Fee. *1 sem. hr.*

MUS 298. FUNCTIONAL KEYBOARD SKILLS III: Continuation of MUS 297 with emphasis on improvisation and harmonization techniques. Prerequisites: MUS 297, permission of instructor. Music majors only. Fee. *1 sem. hr.*

MUS 299. FUNCTIONAL KEYBOARD SKILLS IV: Continuation of MUS 298 with emphasis on advanced chord work and modulation techniques. Prerequisites: MUS 298, permission of instructor. Music majors only. Fee. *1 sem. hr.*

\*MUS 301-302. MUSIC HISTORY AND LITERATURE I, II: A survey of Western music history and literature from the Middle Ages to the present. Important composers, masterworks of music literature, compositional styles. *3 sem. hrs. each*

\*MUS 303. INTRODUCTION OF MUSICS OF THE WORLD: A survey of music from representative cultures around the world, and its role and function in society. *3 sem. hrs.*

- \*MUS 304. HISTORY OF AMERICAN MUSIC: Survey of the American musical heritage emphasizing Anglo- and Afro-American folk traditions, early religious music, country music, pioneers in piano, band and concert music, and contemporary popular music. Open to all University students. 3 sem. hrs.
- \*MUS 305. AFRICAN-AMERICAN SACRED MUSIC: A historical survey of African-American sacred music from its African roots to the present with an emphasis on developments in recent decades. Examines spirituals, the ring-shout, civil rights songs, the various forms of Gospel music, traditional hymnody of the African-American church and the musical aspects of black preaching. 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 307. DEVELOPMENT OF AMERICAN POPULAR SONG: Survey of American popular music from the days of the colonies, the war years, the ballad opera, minstrel, vaudeville, operetta, early film music, through Tin Pan Alley to Broadway, including European influences. Open to all University students. 3 sem. hrs.
- MUS 308. 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 309. OPERA HISTORY AND LITERATURE: Survey of the development of the opera and its literature from its 17th-century beginnings to the present. Focus upon major works and composers. Open to all University students. 3 sem. hrs.
- \*MUS 310. MOZART'S OPERAS: An interdisciplinary survey of Mozart's operas—German and Italian, serious and comic. Class discussions will be supplemented by extensive listening and/or viewing of recorded performances and, when possible, attendance at live performances. 3 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. Prerequisites: MUS 211-212. 2 sem. hrs.
- MUS 312. 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 313. ADVANCED AURAL SKILLS: Advanced training in dictation, solfège and aural analysis. Prerequisite: MUS 215 or permission of instructor. 2 sem. hrs.
- MUS 314. 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 316. FUNDAMENTALS OF ORCHESTRATION: Instrumentation studies of the four main orchestral families: woodwinds, brass, percussion, strings. Some work in combining families. Prerequisite: MUS 212 or permission of instructor. 2 sem. hrs.

MUS 318. FUNDAMENTALS OF ARRANGING: Arranging studies for woodwinds, brass, percussion, strings, and choir. Individual examination of instruments; projects. Prerequisite: MUS 212 or permission of instructor. 2 sem. hrs.

MUS 321-322. COMPOSITION III: Beginning explorations of original composition which utilize equally the concepts of pitch, temporal elements, timbres, and dynamics. Prerequisite: MUS 214 or permission of instructor. 2 sem. hrs. each

MUS 331. CHORAL MUSIC PEDAGOGY: Pedagogical techniques for choral ensembles. Topics include the singing voice, the changing voice, organization, artistic development, and rehearsal techniques. 3 sem. hrs.

MUS 332. INSTRUMENTAL MUSIC PEDAGOGY: Pedagogical techniques for band and orchestra. Topics include teaching and rehearsal techniques, organization, learning theories, philosophy, literature, and programming. Field experience will be required. 3 sem. hrs.

MUS 335. ELEMENTARY MUSIC PEDAGOGY: Pedagogical techniques for classroom music. Topics include the pedagogical methods of Orff, Kodaly, Suzuki, and Dalcroze; lesson-plan design and implementation. 2 sem. hrs.

MUS 336. WOODWIND PEDAGOGY: Pedagogical techniques for the woodwind instruments. Separate section for each instrument. Clarinet and flute are full-term courses. Oboe, bassoon, and saxophone courses are 7 weeks long. Fee. 1/2-1 sem. hrs.

MUS 337. BRASS PEDAGOGY: Pedagogical techniques for the brass instruments. Separate section for each instrument. Trumpet is a full-term course. Horn, trombone, and baritone/tuba courses are 7 weeks long. Fee. 1/2-1 sem. hrs.

MUS 338. PERCUSSION PEDAGOGY: Pedagogical techniques for the percussion instruments. Fee. 1 sem. hrs.

MUS 339. STRING PEDAGOGY: Pedagogical techniques for the string instruments. Separate sections for upper strings and lower strings. Each section is a full-term course. Upper strings should be taken before lower strings. Fee. 1 sem. hrs.

MUS 345. CHORAL CONDUCTING: Continuation of techniques introduced in MUS 240, dealing specifically with techniques for choral ensembles. Prerequisite: MUS 240. 2 sem. hrs.

MUS 346. INSTRUMENTAL CONDUCTING: Continuation of techniques introduced in MUS 240, dealing specifically with techniques for band and orchestra. Prerequisite: MUS 240. 2 sem. hrs.

\* MUS 350. SACRED MUSIC HISTORY: A survey of the development of Christian Music and its function in worship. The focus will be on historical styles, including both their impact on and their application within liturgical settings, as well as on the religious reflections engendered by specific works. Prerequisite: Permission of instructor. 3 sem. hrs.

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 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 with handicapped children and/or adults. Corequisite: MUS 385. 1 sem. hr.

MUS 388. PRACTICUM IN MUSIC THERAPY IV: Pre-internship field experiences 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. 0-1 sem. hr.

MUS 390. MARCHING BAND: Plays at all home and some away football games. Membership includes winds, percussion, twirlers, and Flyerettes. Concentrates on quality sound, offering a wide variety of musical styles. Combines show and corps style elements in presentations. No auditions for winds or percussion. Open to all University students. 0-1 sem. hr.

MUS 390. PEP BAND: Membership is by audition, and includes winds and percussion only. Performs at all home men's basketball games and some away games. Open to all University students, with priority given to marching band members. 0-1 sem. hr.

MUS 390. UNIVERSITY STRINGS: Ensemble of 20 string players specializing in string orchestra music. 0-1 sem. hr.

MUS 390. CHAMBER SINGERS: Select ensemble of 16-24 mixed voices which performs chamber music from all style periods in on-campus and off-campus concerts. Audition required. 0-1 sem. hr.

MUS 390. JAZZ ENSEMBLE: Ensemble specializes in the interpretation and performance of traditional and contemporary big band jazz, including the art of improvisation. 0-1 sem. hr.

MUS 390. JAZZ COMBO: Small ensemble study of works by major American jazz composers. Emphasis on group and individual improvisation. 0-1/2 sem. hr.

MUS 390. OPERA WORKSHOP: Performance techniques for the singer-actor through the study and performance of music from operatic literature. 0-1/2 sem. hr.

MUS 390. EBONY HERITAGE SINGERS: Ensemble specializing in the sacred music of African-Americans with particular emphasis on contemporary gospel music. Open to the entire University community regardless of ethnic background or religious affiliation. No audition required. 0-1 sem. hr.

MUS 390. CELEBRATION VOCAL TRANSIT: Small ensemble of 13-16 mixed voices which specializes in vocal jazz, pop music and show tunes. Presents several on-campus and off-campus concerts annually. Audition required. 0-1 sem. hr.

MUS 390. STRING ENSEMBLE: 0-1/2 sem. hr.

MUS 390. PIANO ENSEMBLE: 0-1/2 sem. hr.

MUS 390. BRASS ENSEMBLE: Study of repertoire for small brass ensembles including brass quintet, horn ensemble, and others. 0-1/2 sem. hr.

MUS 390. PERCUSSION ENSEMBLE: 0-1/2 sem. hr.

MUS 390. WOODWIND ENSEMBLE: A combination of woodwind instruments to include flute choir, clarinet choir, saxophone choir, woodwind quintet, and others.  
0-1/2 sem. hr.

MUS 390. CLASSICAL GUITAR ENSEMBLE: 0-1/2 sem. hr.

MUS 390. JAZZ GUITAR ENSEMBLE: 0-1/2 sem. hr.

MUS 390. BAROQUE ENSEMBLE: 0-1/2 sem. hr.

MUS 390. HANDS IN HARMONY: A sign-singing ensemble. 0-1/2 sem. hr.

MUS 395. SPECIAL TOPICS IN GUITAR: A repeatable guitar class with different topics each term, such as accompaniment, blues, jazz, classical, bluegrass, etc. Prerequisite: MUS 295 or permission of instructor. 1 sem. hr.

MUS 398. INSTRUMENTAL JAZZ IMPROVISATION: Individualized instruction in instrumental jazz improvisation. Study of jazz theory, aural development, stylistic considerations, and repertoire. Corequisite: participation in Jazz Ensemble and/or Jazz Combo. 1 sem. hr.

MUS 399. PERFORMANCE STUDIES: Private instruction (one 30-45 minute lesson each week) in piano, voice, organ, violin, viola, cello, bass, flute, oboe, clarinet, bassoon, saxophone, trumpet-cornet, French horn, trombone, baritone, tuba, percussion, harp, harpsichord, classical and pick-style guitar, and jazz lessons in piano, guitar, bass, drums, brass, and woodwinds. Prerequisite: Permission of instructor. Fee. 1-2 sem. hrs.

MUS 401. 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 402. 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 403. 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 404. 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 405. PIANO LITERATURE: Comprehensive survey of literature for the piano. Required of piano performance majors. Prerequisite: Permission of instructor. 2 sem. hrs.

MUS 408. DICTION AND LITERATURE FOR SINGERS: A course in foreign language diction with an associated survey of significant and representative works from the vocal solo repertoire. Course alternates its content: German and English; and French and Italian. Course may be repeated as content changes. Prerequisite: MUS 399 or 499  
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 416. ADVANCED ORCHESTRATION: Continuation of MUS 316. Intensive instrumentation studies and detailed analysis of orchestral work. Prerequisite: MUS 316. 2 sem. hrs.

MUS 418-419. RESEARCH IN MUSIC THEORY: Practical experience in analysis for music theory or composition majors. Prerequisites: Senior standing in music, permission of instructor. 2 sem. hrs. each

MUS 421-422. COMPOSITION IV: Advanced work in musical composition: writing multi-movement forms of both vocal and instrumental music. Prerequisites: MUS 321-322, permission of instructor. 2 sem. hrs. each

MUS 423. COMPOSITION FOR LARGE ENSEMBLES: Preparation and execution of an extended work for large instrumental or vocal ensemble. All aspects of score and part preparation, notation, orchestration, correction, rehearsal, and performance will be considered. Prerequisite: Permission of instructor. 2 sem. hrs.

MUS 424. ADVANCED NOTATIONAL TECHNIQUES: Study of special problems in contemporary notation and calligraphy. Work will be done through analysis of 20th-century techniques and creative solutions to individual problems. Prerequisite: Permission of instructor. 2 sem. hrs.

MUS 425. ELECTRONIC MUSIC COMPOSITION: Study of musical electronic techniques, ranging from tape recorders and musique concrete through synthesizer and computer-generated and organized sound. Prerequisite: Permission of instructor. 2 sem. hrs.

MUS 426. IMPROVISATIONAL MUSIC COMPOSITION: Discussion, study, and performance of improvisational musical techniques, including historical overview of classical extemporization, stream of consciousness, jazz, and aleatory and indeterminism. Prerequisite: Permission of instructor. 2 sem. hrs.

MUS 430. JAZZ PEDAGOGY: Methods and materials for the organization and teaching of jazz performance classes. Topics include teaching improvisation, the rhythm section, and repertoire for the school jazz band. Corequisite: Participation in the jazz program. 2 sem. hrs.

MUS 431. MARCHING BAND PEDAGOGY: Methods and materials for the organization and teaching of the high school marching band. Topics include teaching and rehearsal techniques, drill design, and philosophy. Field experience will be required. Corequisite: Participation in marching band. 2 sem. hrs.

MUS 435. 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 439. SEMINAR IN MUSIC EDUCATION: Problem solving for the music teacher. Group discussion of topics arising from the student teaching experience. Corequisite: EDT 422. 3 sem. hrs.

MUS 440. ADVANCED INSTRUMENTAL CONDUCTING: Individualized instruction dealing with advanced analysis, interpretation, aural skills, repertoire study, and conducting. Prerequisite: MUS 346. 2 sem. hrs.

MUS 452. CONTEMPORARY LITURGICAL MUSIC REPERTOIRE: Examination of ways in which contemporary musical resources are utilized in the worship of Christian churches. Choral, congregational, cantoral and instrumental material will be considered in the context of both the liturgical seasons and specific services. REL 446 recommended. Prerequisite: Permission of instructor. 3 sem. hrs.

MUS 459. CHURCH MUSIC INTERNSHIP: Minimum of one semester's supervised service as organist and/or choral director in an approved parish setting. Prerequisites: Completion of half of certificate requirements; permission. 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. 1-9 sem. hrs.

MUS 485. PSYCHOLOGICAL FOUNDATIONS OF MUSIC I: Study of the psychosocio-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 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 491. MIAMI VALLEY SYMPHONY: Performing ensemble of string, wind, brass, and percussion players; preparing literature for orchestra and chamber orchestra. Open to all University community members by audition. 0-1 sem. hr.

MUS 492. UNIVERSITY WIND ENSEMBLE: Select band that performs the finest in wind literature. Presents regular concerts during fall and winter terms. 0-1 sem. hr.

MUS 493. UNIVERSITY CHORALE: Mixed vocal ensemble performing music from all style periods in regular concert appearances. Open to all University students. 0-1 sem. hr.

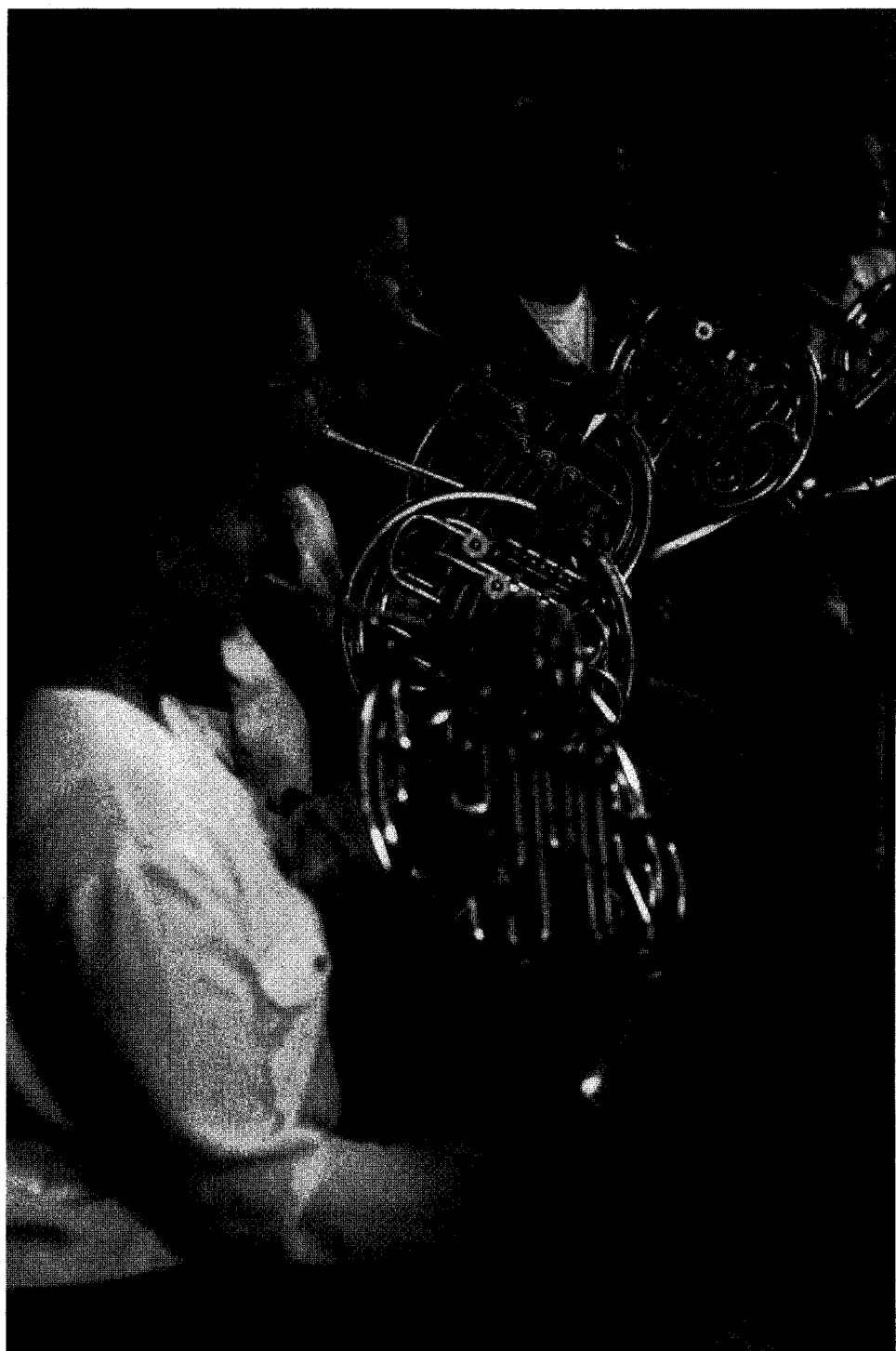
MUS 499. PERFORMANCE STUDIES: Private instruction (1-hr. lessons weekly) in the same subjects as MUS 399. Prerequisite: Permission of instructor. Fee. 4 sem. hrs.

MUS 560. 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 University.

	Fee per term
Small group instruction in various instruments (MUS 196-199, 237, 238, 239, 293, 294, 296-299, 336, 337, 338, 339) .....	\$ 40
MUS 399 Performance Studies: One 30-minute or 45-minute lesson weekly .....	\$110-165
MUS 499 Performance Studies: One 60-minute lesson weekly .....	\$210

\*General Education course. See Chapter V.





PHL

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 majoring in philosophy must successfully complete a minimum of 36 semester hours as described below in program A13.

The philosophy minor consists of 18 semester hours of coursework, at least 12 of which must be at the 300-400 level. Required courses are 103, 201 or 302, 350 or 351 or 352, one 400-level seminar, and 6 additional semester hours at the 300-400 level. Courses in logic and the history of philosophy are prerequisites for 400-level seminars.

PROGRAM A13: BACHELOR OF ARTS WITH A MAJOR IN PHILOSOPHY (PHL)

	<i>Semester Hours</i>
Philosophy .....	36
PHL 103 .....	3
PHL 240 .....	0
PHL 302, 350, and 352 .....	9
PHL 351 or 353 or 354 .....	3
Four 400-level seminars. Courses in logic and the history of philosophy are prerequisites for the 400-level seminars .....	12
9 additional sem. hrs. at the 300-400 level .....	9
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts	
Religious Studies .....	9
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Language and/or Arts and/or Humanities (excludes PHL courses) ....	3-9
Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

FACULTY

- Patricia A. Johnson, *Chairperson*  
*Professors Emeriti:* Nersoyan, Rhodes, Zembaty  
*Professors:* Herbenick, Johnson, Kunkel, Monasterio, Tibbetts, Ulrich  
*Associate Professors:* Benson, Fouke, Payne, Quinn, Richards  
*Assistant Professors:* Fischer, Inglis, Luke, Mosser  
*Lecturer:* Mullins

## COURSES OF INSTRUCTION

NOTE: PHL 103 or ASI 101-102 is a prerequisite for all other PHL courses except PHL 201.

- \* PHL 103. INTRODUCTION TO PHILOSOPHY: Introduction to philosophical reflection and study of some central philosophical questions in the Western intellectual tradition, including questions of ethics, human knowledge, and metaphysics. Readings from major figures in the history of philosophy such as Plato, Aristotle, Augustine, Aquinas, Descartes, Hume, and Kant. *3 sem. hrs.*
- \* PHL 201. PRACTICAL LOGIC: Introduction to the principles of correct reasoning; techniques for the evaluation of arguments; common fallacies in argumentation; applications to current issues in ethics and other areas. *3 sem. hrs.*
- PHL 240. RESEARCH METHODOLOGIES AND TECHNOLOGIES: Requires students to submit a selection of papers that have been written for philosophy classes. Required for all Philosophy majors. *No credit*
- \* PHL 302. SYMBOLIC LOGIC: Concentrated study of the valid forms of deductive argument and proof in 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 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 307. PHILOSOPHY AND WOMEN: Issues and problems related to feminist analysis of society and its ideals, such as equal opportunity, sex roles and gender, reverse discrimination, violence, and language. *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 309. PHILOSOPHY OF MIND: An analysis of the concept of mind and allied issues such as the nature of human agency, autonomy, weakness of will, self-deception, and the rationality of emotions. *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 MODERN 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 319. INFORMATION ETHICS: Examination of ethical principles, codes, cases, incidents, and issues in the design, implementation, and use of computerized information systems. *3 sem. hrs.*
- \*PHL 320. PHILOSOPHY OF ART: Theories of art and criteria of evaluation developed by philosophers, artists, and critics; the relationship between art and society and between artistic and other human values. *3 sem. hrs.*
- \*PHL 321. ENVIRONMENTAL ETHICS: Study of the principal ethical perspectives on the treatment of animals and nature including such issues as agriculture, energy, pollution, and economics; assessment of political responses to current environmental problems. *3 sem. hrs.*
- \*PHL 323. PHILOSOPHY AND LITERATURE: Critical examination of philosophical concepts in selected literary masterpieces, ancient and modern. *3 sem. hrs.*
- \*PHL 324. PHILOSOPHY AND FILM: Introduction to philosophical issues and aesthetic theory through a critical reading of texts and examination of selected narrative, documentary, animated, or abstract films. *3 sem. hrs.*
- \*PHL 325. PHILOSOPHY OF MUSIC: Examination of theories on the meaning of music; experiencing music as composer, performer, and listener; aesthetic criteria; moral effect of music. *3 sem. hrs.*
- \*PHL 327. PHILOSOPHY OF PEACE: Examination of human violence and ethical justifications for war and exploration of resolutions for human conflict in processes such as pacifism, peacemaking, democratic world governance, nonviolent caring, and a sustainable economy. *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 332. TECHNOLOGY AND VALUES: Study of the social impact of technology-scientists' responsibility; technological change and social change; the "technological fix"; democracy and the new technological elite; counter-culture critiques of technology. *3 sem. hrs.*
- \* PHL 333. PHILOSOPHY AND COGNITIVE SCIENCE: An introduction to recent literature in cognitive psychology, artificial intelligence and philosophical cognitive neuroscience. Issues addressed include human, animal and machine intelligence; the relation between mind and brain and personhood; and the cognition-as-computation thesis. *3 sem. hrs.*
- PHL 340. SPECIAL PROBLEMS IN PHILOSOPHY: Examination of perennial and contemporary problems of philosophy. May be repeated when topic varies. 1- *3 sem. hrs.*
- \* PHL 344. CORE SEMINAR IN PHILOSOPHY: Culminating course for students in CORE: discussion of selected readings on the issue of human values in a pluralistic society in such areas as wealth and poverty, education, and war and peace. Open only to students in CORE. *3 sem. hrs.*
- \* PHL 345. HONORS SEMINAR IN PHILOSOPHY: Study and seminar discussion of selected major philosophical works and of the analysis, interpretation, and criticism of these works. Open by permission only to students in the University Honors Program. *3 sem. hrs.*
- \* PHL 350. CLASSICAL GREEK PHILOSOPHY: The Greek origins of Western scientific, philosophical, and political thought; relationships to current thoughts; ideas of the pre-Socratics, Plato, and Aristotle in their cultural contexts. *3 sem. hrs.*
- \* PHL 351. MEDIEVAL 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 and 18th centuries up to Kant with a focus on several major philosophical figures such as Descartes, Spinoza, Leibniz, Locke, Berkeley, and Hume. *3 sem. hrs.*
- \* PHL 353. KANT AND NINETEENTH-CENTURY PHILOSOPHY: Development of philosophy beginning with Kant through the 19th century including Kant and philosophers such as Fichte, Schelling, Hegel, Schopenhauer, Nietzsche, James, Peirce, and Frege. *3 sem. hrs.*
- \* PHL 354. TWENTIETH-CENTURY PHILOSOPHY: A study of some of the major philosophical movements in the 20th century including phenomenology, existentialism, critical theory (Frankfurt School), hermeneutics, and analytic philosophy. *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. Comparisons with Western traditions. *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. RADICAL PHILOSOPHY: Study of major attempts to develop a critical understanding of society; analysis of theories such as socialism, anarchism, feminism, critical theory, and critical race theory. 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 370. POLITICAL PHILOSOPHY: Philosophical theories regarding the nature of the state and the legitimation of political authority will be analyzed and evaluated in the context of philosophical conceptions of human nature, liberty, equality, justice, welfare, and power. 3 sem. hrs.

PHL 440. SEMINAR—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—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. 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. 3 sem. hrs.

PHL 462. 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. 3 sem. hrs.

PHL 463. 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. 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. 1-4 sem. hrs.

PHL 492. DIRECTED RESEARCH: Faculty-directed research for philosophy majors who have completed all 300-level requirements and at least one 400-level seminar. Students will write a substantial paper in relation to this research. Permission of the instructor and the chairperson. *3 sem. hrs.*

PHL 495. INTERNSHIP: Supervised practical and professional experience related to philosophy for philosophy majors who have completed prescribed course work. Permission of the chairperson. May be repeated to a maximum of 3 sem. hrs. Grading Option 2 only. Prerequisites: PHL 103, 302, 350, 352 and one 400-level seminar. *1-3 sem. hrs.*

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\* General Education course. See Chapter V.



# PHY

## 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 and physics courses. A physics major must complete all 300-400-level courses with a 2.0 minimum grade-point average.

Students in other disciplines who wish to minor in physics may take 12 semester hours of any upper-level physics courses.

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### PROGRAM S8: BACHELOR OF SCIENCE WITH A MAJOR IN PHYSICS (PHY)<sup>1</sup>

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	<i>Semester Hours</i>
Physics .....	37
Basic courses: PHY 206, 207, 208, 210L, 211L .....	11
PHY 301, 303, 333, 390, 408, 430, 431, and 300-400-level electives .....	26
Mathematics: MTH 168, 169, 218, 219, 302 .....	18
Chemistry: CHM 123, 123L, 124, 124L .....	8
Philosophy and religious studies .....	12
Humanities .....	9
Social and behavioral sciences .....	6
Communication skills .....	3-9
Computer Science: CPS 132 or 144 .....	3
Minor (300-400-level courses) if chosen .....	12
First-year experience: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	120

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<sup>1</sup>Consult General Requirements for all Bachelor of Science Programs and Chapter V for General Education requirements.

## FACULTY

J. Michael O'Hare, *Chairperson*

*Distinguished Professor:* Bueche

*Professors:* Ewwaraye, Graham, Kepes, Miner, O'Hare, Yaney

*Associate Professors:* Berney, Craver, Erdei, Pedrotti

*Assistant Professors:* Brecha, Elhamri, Powers

## 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, physical science, and physics-computer 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. This course includes an integrated laboratory component. 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 sem. hrs.

PHY 108L. LIGHT AND COLOR LABORATORY: Laboratory experiences to accompany PHY 108. 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 each 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 206. GENERAL PHYSICS I—MECHANICS: Introductory course in mechanics. Calculus concepts developed as needed. Three lectures, one recitation each week. Corequisite: MTH 148 or 168. 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 each 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 each week. Prerequisites: PHY 201 or 206, MTH 149 or 168. 3 sem. hrs.

\*PHY 207H. GENERAL PHYSICS II—ELECTRICITY AND MAGNETISM (HONORS): Basic principles of electricity and magnetism. Three lectures, one recitation each 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 202, MTH 149; aor PHY 207, MTH 169.

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 each 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 each week. Prerequisite: PHY 210L.

1 sem. hr.

\*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. Prerequisite: PHY 208. Corequisite: MTH 219.

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. Prerequisite: PHY 208. Corequisite: MTH 219.

3 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 323. COMPUTATIONAL PHYSICS: The course will explore how computers are used in physics. Topics will include simulations of physical systems, numerical analysis, and the use of mathematical analysis packages (MATHCAD, for example.) Programming will be done in True BASIC and MATHCAD. Prerequisites: PHY 208 and MTH 218.

3 sem. hrs.

PHY 333. DIGITAL AND ANALOG ELECTRONICS FOR SCIENTISTS: Basic concepts of digital and analog integrated circuit electronics are developed as a way to understand modern microcomputer based instrumentation. A microcomputer based data collection and analysis system is used to study binary data input and output, analog to digital conversion (ADC) devices, digital to analog conversion (DAC) devices, and other digital integrated circuits and concepts. The analog electronics part of the course begins with a study of discrete analog devices and ends with operational amplifiers and their application. Two hours lecture and two-hour laboratories each week. Prerequisite: PHY 211L or PHY 202L or equivalent.

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 411. 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 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 333. 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 450. SENIOR PROJECT: The senior project is a capstone experience for senior physics majors. It will consist of a research project of the student's choosing and will require both an oral and written report. The nature and scope of the project will be chosen in consultation with the student's advisor. Permission of the department chairperson is required. Prerequisite or corequisite: For senior physics majors only. *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.*

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\*General Education course. See Chapter V.



## PHYSICS-COMPUTER SCIENCE (PCS)

This combined program in physics and computer science leading to the Bachelor of Science with a major in Physics-Computer Science emphasizes the use of computer software in scientific applications and at the same time gives a foundation in the scientific disciplines of physics and computer science. Minimum requirements for the degree are listed below. Students are advised to select additional computer science, mathematics, and physics courses as electives.

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### PROGRAM S8A: BACHELOR OF SCIENCE WITH A MAJOR IN PHYSICS-COMPUTER SCIENCE (PCS)<sup>1</sup>

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	<i>Semester Hours</i>
Computer Science .....	27
CPS 150, 151, 250, 346, 350, 353, and two additional courses numbered above 340.	
Additional numerical analysis courses are recommended.	
Mathematics: MTH 168, 169, 218, 219, 302 .....	18
Physics .....	27-30
PHY 206, 207, 208, 210L, 211L, 323, 333 and four additional courses numbered above 300. In addition, a senior project involving some application of computers in physics is recommended.	
Communication skills .....	3-9
Humanities .....	9
Social and behavioral sciences .....	6
Philosophy and religious studies .....	12
First-year experience: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	120

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<sup>1</sup>Consult General Requirements for all Bachelor of Science Programs and Chapter V for General Education requirements.

PSC

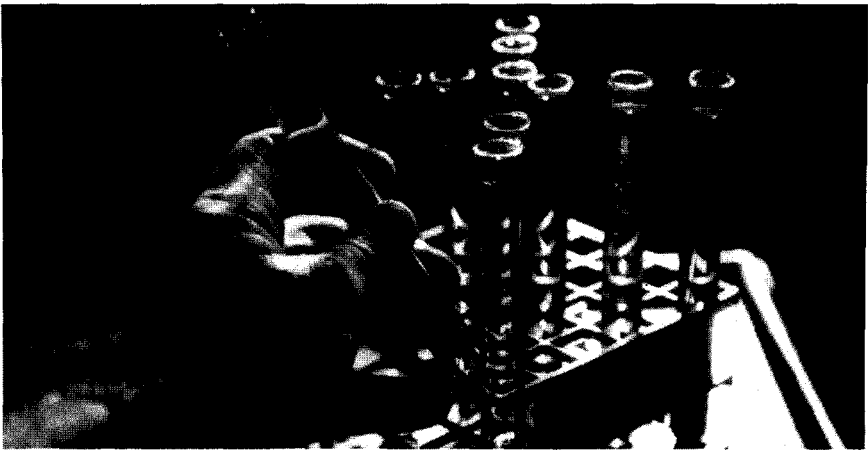
PHYSICAL SCIENCE (PSC)

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 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.

PROGRAM S8B: BACHELOR OF SCIENCE WITH A MAJOR IN PHYSICAL SCIENCE (PSC)<sup>1</sup>

	<i>Semester Hours</i>
Physics: PHY 206, 207, 208, 210L, 211L .....	11
Chemistry: CHM 123, 123L, 124, 124L .....	8
Geology: GEO 115, 115L, 116, 116L .....	8
Mathematics: MTH 168, 169, 218, 219 .....	15
Upper-level physical sciences (at least 12 sem. hrs. in physics) .....	26
Philosophy and religious studies .....	12
Humanities .....	9
Communication skills .....	3-9
Computer Science: CPS 132 or 144 .....	9
Social and behavioral sciences .....	6
First-year experience: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	120

<sup>1</sup>Consult General Requirements for All Bachelor of Science Programs and Chapter V for General Education requirements.



## POLITICAL SCIENCE (POL)

A major in political science requires 36 semester hours of political science courses.

A minor in political science includes POL 201 and four 300-400-level courses selected by the student to strengthen academic or career objectives.

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### PROGRAM A14: BACHELOR OF ARTS WITH A MAJOR IN POLITICAL SCIENCE (POL)<sup>1</sup>

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	<i>Semester Hours</i>
Political science .....	30-45
POL 201, 202 or 214, 207, 317, and 24 additional sem. hrs. including 18 sem. hrs. at the 300-400 level (Students in the pre-law concentration may replace POL 207 with ACC 207-208.)	
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts	
Philosophy .....	12
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Language and/or Arts and/or Humanities .....	3-9
Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

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## MINORS AND AREA CONCENTRATIONS FOR MAJORS

A student majoring in political science may elect certification in education under the E11A program (see EDT) or a minor 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. Alternatively, the student may elect one of the four multidisciplinary concentrations in prelaw, international affairs, public administration and urban affairs, and political journalism developed by the Department of Political Science. A student completing an area concentration will, upon request, receive a certificate to that effect from the department.

	<i>Semester Hours</i>
1. Prelaw	
Required: POL 301 or 411; ENG 272, 316, or 474 .....	6
Choose three: ECO 204; ENG 203, 204, or 205; PHL 201; SOC 326, 327 .....	9
Recommended: POL 495 .....	3
2. International Affairs	
Required: POL 202, 214 .....	6
Choose four: ANT 150; ECO 450, 460, 461; any upper-level non-American HST ..	12
Recommended: Foreign language through 311 and study abroad	

## 3. Public Administration and Urban Affairs

Required: POL 305, 306, 360 ..... 9

Choose three: MGT 314; HST 355; SOC 328; ENG 370 or 372;

ECO 445 or 485; POL 495 ..... 9

## 4. Political Journalism

Required: POL 303, 311; CMM 330 ..... 9

Choose three: CMM 201; CMM 353; CMM 431, 331; POL 360, 450 ..... 9

## FACULTY

David W. Ahern, *Chairperson**Professors:* Karns, Kerns, Lapitan*Associate Professors:* Ahern, Bilocerkowycz, Ensalamo, Fogel, Inscho*Assistant Professors:* Ghore, Nelson*Lecturer:* Putka

## COURSES OF INSTRUCTION

\*POL 101. GLOBAL POLITICS: Examination of major problems and trends in world politics such as ethnic and religious conflict, economic integration and inequality, democratization and security issues, as well as the role of regional and international organizations. 3 sem. hrs.

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 judicial process as part of the political system. Focus on the participants (police, lawyers, judges, interest groups, litigants, jurors) and the process (criminal, civil, and appellate proceedings). 3 sem. hrs.

POL 303. STATE AND LOCAL GOVERNMENT: 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: Analysis of the nature and interaction of parties and interest groups, and their role in the political system. 3 sem. hrs.

POL 311. PUBLIC OPINION AND POLITICAL BEHAVIOR: The formation, maintenance, change, and impact of public opinion on 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. Theorists including Plato, Aristotle, the Stoics, Augustine, Aquinas, Machiavelli, Hobbes, Locke, Rousseau, Mill, Marx, Spencer, Lenin, Gasset, and Camus presented in their historical and socio-political contexts. 3 sem. hrs.

POL 320-329. COMPARATIVE POLITICS: Analysis of governmental institutions and political processes of selected countries or areas:

POL 320—Western Europe

POL 321—Russia and the New States

POL 323—Latin America

POL 324—Southern Asia

POL 325—The Middle East

POL 326—Africa

POL 327—Southern Europe

POL 328—China

POL 329—Japan

3 sem. hrs. each

\*POL 331. NATIONALISM AND ETHNOPOLITICS: An analysis of the politics of nationalism and ethnicity and their impact on social justice. Diverse case studies (US, USSR, Russia, Northern Ireland, Israeli-Palestinian) and institutions (European Community, United Nations) will be explored. 3 sem. hrs.

POL 335. UNITED STATES NATIONAL SECURITY POLICY: Analysis of various political, economic, and military issues and problems relating to U.S. national security. 3 sem. hrs.

POL 350. 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 360. URBAN POLITICS AND POLICY: 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 404. UNITED STATES-LATIN AMERICAN RELATIONS: This course examines the foreign relations of the United States with other countries of the Western hemisphere. Political, economic and security issues are examined from both theoretical and historical perspectives. 3 sem. hrs.

POL 405. FISCAL OPERATIONS IN GOVERNMENT: Course for students who plan careers in public service or not-for-profit agencies. Analytical tasks that relate to such fiscal areas as revenue estimation, budgeting, expenditure monitoring, and evaluation. Microcomputers may be used in instruction. 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 407. CHINESE FOREIGN POLICY: Analysis of the Chinese foreign policy structures and processes as well as the development of Chinese foreign policy and relations with the Soviet Union, the United States, and the Third World.

3 sem. hrs.

POL 408. AMERICAN FOREIGN POLICY: Critical study of the American foreign policy process and evaluation of the sources of American foreign policy.

3 sem. hrs.

POL 409. RUSSIAN FOREIGN POLICY: Analysis of the internal and external factors shaping the foreign policies of Russia and the independent republics.

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 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 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; revolution, revolt, campus dissent, and political assassination. Emphasis on the roles of criminal justice and government agencies in meeting dissent. (Same as CRJ 401.)

3 sem. hrs.

POL 455. COMMUNISM AND POST-COMMUNISM: Analysis of communist theory and practice in various countries and the post-communist challenges facing states seeking to build democracy, a market economy, and overcome the communist legacy.

*3 sem. hrs.*

POL 456. THEORY AND PRACTICE OF FASCISM: The psychological and attitudinal elements of fascism; its manifestations in Italy, Germany, Spain, France, and Austria; its relevance as a political phenomenon today.

*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 471. ENVIRONMENTAL POLICY: Examination of environmental public policymaking and implementation in the U.S. and in the international arena. Analysis of domestic and international governmental responses to specific environmental issues.

*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. Prelaw students are assigned to law firms and judicial chambers. Prerequisite: Permission of supervising professor.

*3 sem. hrs.*

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\*General Education course. See Chapter V.

## PRELAW

At the University of Dayton, students thinking about attending law school join the Prelaw Program. That program provides them with the guidance and academic assistance necessary to prepare them for success in the study of law. Because law schools seek students with a broad, liberal arts education and discourage students from having a vocationally-oriented "prelaw" major, prelaw students at the University of Dayton select undergraduate majors based on their interests and aptitudes. They select these majors either as incoming first-year students or, with the aid of their prelaw advisors, later in their college career. However, in order to receive adequate counseling, all students thinking about postgraduate work in law should declare their prelaw intentions to the prelaw office as early as possible. This enables them to take full advantage of all the counseling, advising, and preparatory services provided by the Prelaw Program.

In addition to courses in their majors, prelaw students select courses that help develop analytical skills and academic abilities necessary for success in law school and careers in law. While no prelaw course of study is perfect for all students, particular courses taken in conjunction with a traditional academic major provide the prelaw student with an excellent academic preparation for legal study. Students take courses which emphasize the following:

1. Skill in the analysis and synthesis of ideas. Courses in such disciplines as history, literature, mathematics, philosophy, and the sciences develop critical, analytical thinking.

2. Proficiency in communicating ideas effectively and clearly. Courses in such areas as composition theory and process, in exposition and argumentation, in persuasion, and in the techniques and uses of research aid in the development of this ability.

3. Comprehension of the basic principles of the American political and legal system, including their origins and functions. Courses in British and American history, political science, and criminal justice promote an understanding of these concepts.

4. A critical examination of the ethical issues in the law and the legal profession. Courses in philosophy and religious studies form a basis for such an examination.

5. An understanding of the basic principles of economics and accounting.

Members of the Prelaw Faculty Committee help students develop an appropriate course of study based on their interests, aptitudes and goals. In addition, they provide students with information about law school recruitment, financial aid, the Law School Admission Test (LSAT), and the writing of applications and securing of recommendations. The Prelaw Program also sponsors LSAT preparation workshops, a prelaw internship for which students receive course credit while working in an attorney's office, and mock trial competition. A chapter of Phi Alpha Delta, a national law fraternity, is active on campus.

## PRELAW FACULTY COMMITTEE

Roberta Sue Alexander (History), *Director, Prelaw Program*  
Frasca (Economics), Ingram (Criminal Justice), Kerns (Political Science),  
Kimbrough (English), Payne (Philosophy)

## COURSES OF INSTRUCTION

PLW 301. MOCK TRIAL I: Practice and performance of attorney and witness roles for Mock Trial National Competition case. Repeatable up to 4 semester hours. *1 sem. hr.*

PLW 302. MOCK TRIAL II: Practice and performance of attorney and witness roles for Mock Trial Regional and National Competitions. Repeatable up to 4 semester hours. Prerequisite: PLW 301 and invitation by mock trial coaches. *1 sem. hr.*



## PREMEDICINE (MED) AND PREDENTISTRY (DEN)

The Bachelor of Science with a major in premedicine (MED) or predentistry (DEN) is an interdisciplinary curriculum of study. It is distinctively designed to provide a science-based, diverse education as a preparation for admission to any of the professional health schools including medical, dental, veterinary, and chiropractic. Courses in biology, chemistry, mathematics, and physics comprise the major. Humanities and social sciences courses are also required. Within this framework the curriculum is flexible and can be tailored to suit personal interests. During the first two years, students enroll in courses appropriate for entry into professional schools while they also fulfill basic University requirements.

Admission to professional schools depends upon many factors in addition to the curriculum or major. Academic standing, performance on standardized examinations, practical experience relevant to the profession of interest, and adherence to application procedures are all important. The University addresses these factors in the following comprehensive manner.

While the Premedical Programs Office administers the DEN and MED majors, this office is also the focal point for all matters related to admission to any of the primary health schools. It is an information clearing house, functions as a liaison with professional schools, and coordinates the application process. Therefore, students in any major who plan to apply to professional schools should maintain a close relationship with this office.

The University automatically enrolls entering premedical or pre dental majors into special orientation classes, and identifies them to the Premedical Programs Office. Members of the Premedical-Predental Faculty Committee, which is composed of science faculty members, advise these students. However, advising services are available to all pre-professional students regardless of their major. Students in other majors may elect to have committee members serve as their secondary advisors; such students should identify themselves to the Premedical Programs Office.

In addition to providing counseling, the Premedical-Predental Faculty Committee also monitors students' academic progress. Since admission to professional schools is highly selective, premedical or pre dental students who have non-competitive academic records at the end of the second year of study are advised to transfer to a traditional major. Traditional majors provide students with alternate career paths, and are as acceptable to professional schools as a formal Premedical or Predental major. Transfers to other majors, particularly to science majors, can usually be accommodated during the first two years without affecting normal progress towards graduation.

### PREMEDICAL-PREDENTAL FACULTY COMMITTEE

B. Lawrence Fox, (Chemistry) *Committee Chairperson*

Bajpai (Biology), Berney (Physics), Craver (Physics), Erdei (Physics),

Graham (Physics), Hofmann (Biology), Kearns (Biology), Singer (Chemistry)

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**PROGRAM S9: BACHELOR OF SCIENCE WITH A MAJOR IN  
PREMEDICINE (MED) OR PREDENTISTRY (DEN)<sup>1</sup>**

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	<i>Semester Hours</i>
Required science courses .....	45-50
BIO 151, 152, 152L, 201L .....	8
CHM 123, 123L, 124, 124L, 201, 201L, 313, 313L, 314, 314L .....	20
CPS 111 .....	3
MTH 148-149 or 168-169 <sup>2</sup> .....	6-8
PHY 201, 202, or PHY 206, 207, 208; PHY 201L, 202L <sup>3</sup> .....	8-11
Elective science courses .....	17
Five lecture courses that must be selected from among mathematics, the natural sciences and/or engineering. The elective courses must be directly related to the primary field of interest. Laboratory sections must accompany two of the electives.	
Communication skills .....	6-12
CMM 101 <sup>4</sup> .....	3
ENG 101-102 or 114 or 198; ENG elective <sup>5</sup> .....	3-9
Philosophy and religious studies <sup>6</sup> .....	12
History .....	6
Humanities .....	12
A modern foreign language is strongly recommended.	
Social and behavioral sciences .....	12
General electives <sup>7</sup> .....	12
First-year experience: ASI 150 .....	0-1
Total semester hours .....	122-134
(See advisors for term-by-term course listings.)	

<sup>1</sup>Consult General Requirements for all Bachelor of Science programs and Chapter V for General Education requirements.

<sup>2</sup>Begin in MTH 137 if background is not suitable for MTH 148. MTH 137 counts as a general elective. Well qualified students are advised to take MTH 168-169.

<sup>3</sup>Well qualified students are strongly advised to take PHY 206-207-208 lecture sequence with PHY 201L and 202L.

<sup>4</sup>If CMM 101 is waived, a 3 sem. hr. humanities course must be taken in its place.

<sup>5</sup>Select ENG elective from among ENG 203, 204, 205, 272, 316, or any 300-level General Education ENG elective.

<sup>6</sup>One PHL or REL elective must be an ethics course. Select from among PHL 312, 315; REL 265, 357.

<sup>7</sup>Only general elective courses can be taken under grading Option 2.

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 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. It also allows for easy transfer into psychology from prior majors. The Department encourages students who are interested in preparation for graduate school or a career in a particular area of psychology to consult the Psychology Undergraduate Student Handbook, available on the World Wide Web, for a listing of courses that are recommended for preparation in that area. Some examples of such areas include clinical psychology, developmental psychology, human factors/ergonomics, and social psychology.

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.

Psychology majors are required to attain grades of C or better in the following courses: PSY 101, 216, 217, and any two courses from each of the two core groupings (PSY 321, 322, 323, and 422) (PSY 341, 351, 361, and 363). If a C or better is not attained, courses will have to be retaken if they are used to satisfy the psychology major.

A minor in Psychology consists of 18 hours, including PSY 101, one course from each of the two core areas (PSY 321, 322, 323, and 422) and (PSY 341, 351, 361, and 363) and an additional 9 hours of 300/400 level psychology electives. Only 3 hours of PSY 490, 493, and 494 may count toward the minor.

PROGRAM A15: BACHELOR OF ARTS WITH A MAJOR IN PSYCHOLOGY (PSY)<sup>1</sup>

	<i>Semester Hours</i>
Psychology requirements and electives .....	34
PSY 101, 216 <sup>2</sup> , 217 .....	10
Select two courses from PSY 321, 322, 323, 422 .....	6
Select two courses from PSY 341, 351, 361, 363 .....	6
PSY electives <sup>3</sup> .....	12-23

Liberal Studies Curriculum<sup>1</sup>

Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Language and/or Arts and/or Humanities .....	3-9
Social Sciences (Excluding PSY) .....	12
Mathematics: MTH 114, 116, 128, 129, 137, 138, 148, 149, 168, or 169 .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

<sup>2</sup>May substitute MTH 207 for PSY 216, but the MTH course does not count toward the 34 credit hours required in PSY for the major.

<sup>3</sup>No more than a total of 6 hours of PSY 490, 493 and/or 494 may count toward the 34 credit hours required in PSY for the major.

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**PROGRAM S10: BACHELOR OF SCIENCE WITH A MAJOR  
IN PSYCHOLOGY (PSS)<sup>1</sup>**

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	<i>Semester Hours</i>
Psychology requirements and electives .....	34
PSY 101, 216 <sup>2</sup> , 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 <sup>3</sup> .....	24
MTH 148, 149 <sup>4</sup> .....	6
Humanities .....	9
Social and behavioral sciences .....	6
Philosophy and Religious Studies .....	12
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	120

<sup>1</sup>See Distribution Table for All Bachelor of Science Programs and Chapter V for General Education requirements.

<sup>2</sup>May substitute MTH 207 for PSY 216, but the MTH course does not count toward the 34 credit hours required in PSY for the major.

<sup>3</sup>Two 3-sem. hr. natural science courses (BIO, CHM, GEO, PHY) with accompanying laboratories are required. The remaining 16 sem. hrs. may be fulfilled by courses in BIO, CHM, GEO, PHY, and CPS courses as well as by MTH courses beyond the departmental MTH requirement.

<sup>4</sup>May substitute MTH 116, 128, 129, 137, 138, 168, or 169 for MTH 148 or 149.



## FACULTY

F. Thomas Eggemeier, *Chairperson*

*Professors:* Butter, DaPolito, Eggemeier, Kimble, Polzella

*Associate Professors:* Allik, Biers, Bower, Elvers, Katsuyama, Korte, Kuntz, Moroney, Whitaker

*Assistant Professors:* Corbitt, Graetz, Reeb, Roecker

*Adjunct Faculty:* Eddy, George, Martin, O'Connor, Szoke, Zink

## 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 probability and applied statistics: measures of central tendency and dispersion, sampling, estimation, hypothesis testing, tests between means, linear regression, correlation, and ANOVA. Prerequisites: PSY 101 and MTH 102 or equivalents. *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:** Focuses on stages of human development from infancy through the aging adult. Emphasis is on various theoretical approaches and the development associated with each stage. Psychology majors may not take for credit toward 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: PSY101. *3 sem. hrs.*

PSY 321L. **COGNITIVE PROCESSES LABORATORY:** In-depth discussion of seminal research in cognition. Collection, analysis, and interpretation of data. Prerequisites: PSY 101, 216, 217, 321 or permission of instructor. *1 sem. hr.*

PSY 322. **LEARNING:** Foundations of the learning process. Classical and instrumental paradigms and variants of each considered in preparation for 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. *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 organizations and society; selection and placement of employees, morale, training, and incentives. Prerequisite: PSY 101. 3 sem. hrs.

\* PSY 341. SOCIAL PSYCHOLOGY: Survey of major theoretical and experimental work in the field; attitudes, conformity, emotions, group dynamics. 3 sem. hrs.

PSY 344. INTERPERSONAL RELATIONS: Social psychological research in non-verbal 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 4-5 hours weekly. Prerequisites: PSY 101 and previous or concurrent registration in PSY 351. Grade option 2 only. 1 sem. hr.

PSY 353. THE PSYCHOLOGY OF ADULT DEVELOPMENT AND AGING: Provides a general introduction to the multi-disciplinary field of adulthood and aging with a specific focus on aspects of interest to psychologists: cognitive, intellectual, personality, and biological changes across adult development. Prerequisite: PSY 101. 3 sem. hrs.

PSY 355. DEVELOPMENTAL PSYCHOPATHOLOGY: Survey of developmental theory and research related to the psychopathology of infants, children, and adolescents. Focus is on etiology, identification, and intervention. Prerequisites: PSY 101 and 351 or permission of the instructor. 3 sem. hrs.

PSY 361. PERSONALITY: Introduction to the study of personality through analysis of such major theories as those of Freud, Skinner, Maslow, and Rogers. The development of personality and the stability of personality characteristics over time. Review of 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 375. PSYCHOLOGY OF THE ARTS: Explores the psychological experiences associated with the creation and appreciation of music, art, and literature. Course content is presented in terms of the theories, methods, and research findings in the fields of perception, cognition, and development. 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 431. INTERVIEWING AND COUNSELING: Integrated approach to the theory, techniques, skills, and values of interviewing and counseling. Practice through written assignments, self study, classroom exercises, and role-playing. Prerequisite: PSY 101 or permission of 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 101. *3 sem. hrs.*

\*PSY 443. PSYCHOLOGY OF WOMEN: Survey of topics related to the psychology of women, such as gender identity and roles, theories of female development, relationships, achievement, language, health issues, spirituality, sexuality, and violence. Prerequisite: PSY 101. *3 sem. hrs.*

\*PSY 444. ENVIRONMENTAL PSYCHOLOGY: Study of the effects of the physical and social environment on human behaviors, attitudes, and affective responses. Prerequisites: PSY 101 and 341 or permission of instructor. *3 sem. hrs.*

\*PSY 445. TECHNOLOGY, ENVIRONMENT, AND BEHAVIOR: Examines the cultural bases for the individual and societal choices which humans make about their use of technology. Technology is broadly defined to include human-machine systems. *3 sem. hrs.*

\*PSY 450. PSYCHOLOGY FOR MINISTRY: Human development and adjustment, interpersonal communication, and the psychology of religion. Prerequisite: Acceptance into the Lay Ministry Program or permission of instructor. *3 sem. hrs.*

PSY 451. PSYCHOLOGY OF RELIGION: Addresses the psychological study of the nature of religion and religious experience; explores the development of internalized beliefs, attitudes, and values and the effect they have on individual functioning. Prerequisites: Junior, Senior standing. An introductory course in psychology is highly recommended. *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 101 and 351 or permission of instructor. *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, causalities, 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 SEXUALITY: Psychological factors in human sexuality including developmental, biological, and social perspectives. Such topics as sexual orientation, gender identity and roles, sexual relationships, sexual dysfunction, power and violence, and commercialization. *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. *3 sem. hrs.*

PSY 490. INTERNSHIP IN PSYCHOLOGY: Supervised experience arranged on an individual basis in appropriate settings. For psychology majors who have completed prescribed course work only. Consult internship director for details. May be repeated for up to 6 sem. hrs. Grade Option 2 Only. *1-6 sem. hrs.*

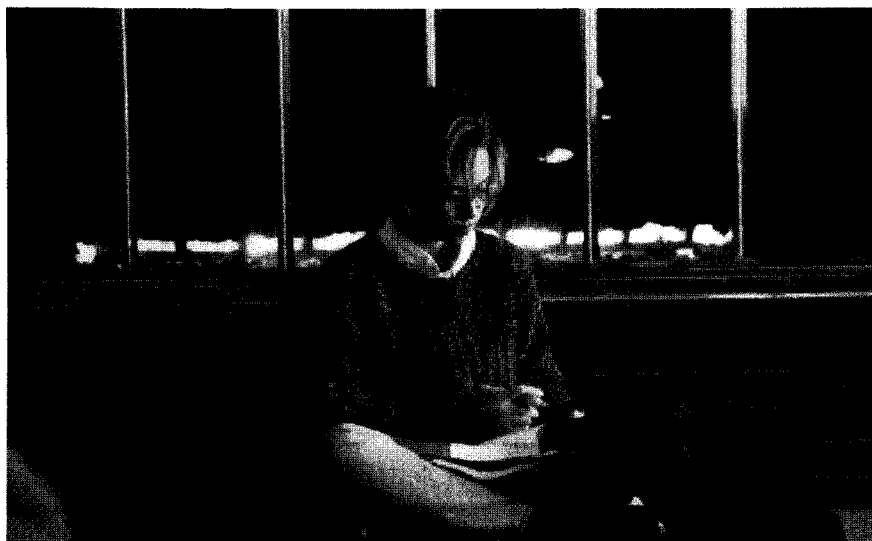
PSY 493. INDEPENDENT STUDY: Problems of special interest investigated under faculty direction. Area and criteria for evaluation to be specified prior to registration. May be repeated for up to 6 sem. hrs. Prerequisite: Permission of instructor. *1-6 sem. hrs.*

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 490, 493 and/or 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.*

\*General Education course. See Chapter V.



## REL

### 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 denominations and with other world religions. Through its participation in the Sanders Judaic Studies Program, the department offers special courses in this area. It also engages in interdisciplinary studies.

Students minoring in religious studies must complete 18 semester hours in the Department of Religious Studies. At least 12 semester hours are to be at the 300-400 level. At least 3 semester hours are to be at the 400 level.

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#### PROGRAM A16: BACHELOR OF ARTS WITH A MAJOR IN RELIGIOUS STUDIES (REL)<sup>1</sup>

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	<i>Semester Hours</i>
Religious studies .....	36
At least 24 sem. hrs. at 300-400 level; at least 9 sem. hrs. at 400 level. At least one course in each of these four areas:	
Biblical studies	
Historical theology	
Systematic theology	
Christian ethics—religion and culture	
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts	
Philosophy .....	9
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Language .....	3-9
Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

### FACULTY

Terrence W. Tilley, *Chairperson*

*Distinguished Service Professor:* Kohmescher

*Distinguished Teaching Professor:* Burns

*Professors:* Anderson, Barnes, Branick, Friedland, Frost, Hater, Heft,

L'Heureux, Roberts, Tilley

*Associate Professors:* Doyle, Martin, Zukowski

*Assistant Professors:* Buby, Diaz, Kozar, Lysaught, McGrath, Thimmes, Yocum Mize

## COURSES OF INSTRUCTION

- \* REL 103. INTRODUCTION TO RELIGION: Examination of the nature of religion, comparative aspect of religion, and the function of religion as a source of interpretation of life. The "Catholic Option" takes the majority of its perspectives and examples about religious beliefs and practices from the Roman Catholic tradition. The "Scripture Option" takes the majority of its perspectives and examples about religious beliefs and practices from scriptural traditions. *3 sem. hrs.*
- \* REL 201. SELECTED RELIGIONS OF THE EAST: Introduction to several major religious traditions which originated in the East, including Hinduism, Buddhism, Jainism, Taoism, and Confucianism. *3 sem. hrs.*
- \* REL 202. RELIGIONS OF THE MIDDLE EAST: Introduction to the monotheistic religious traditions which originated in the Middle East, including Zoroastrianism, Judaism, Christianity, 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, form-critical, and sociological 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, redaction-critical, and sociological 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 266. CHRISTIAN ETHICS—ECOCENTRIC APPROACH: A Christian ethic of relationality and responsibility. Explores various approaches and related values found in society; elements of ethical judgments; and specific ethical issues resulting from ecofeminist, technological, and ecological awareness. *3 sem. hrs.*
- \* REL 306. BUDDHISM AND CHRISTIANITY: Exploration of the 2,500-year-old Buddhist tradition—the life of its founder, development of its teachings, rituals, and meditation techniques. Survey of the spread of Buddhism to the West in the 20th century. Parallels and contrasts with the Christian tradition. *3 sem. hrs.*
- \* REL 307. JUDAISM: Basic introduction to Judaism: its history, its faith, its worship. *3 sem. hrs.*
- \* REL 310. THE PENTATEUCH: Examination of the first five books of the Hebrew Bible, known as the Torah or Pentateuch, emphasizing the traditions that relate primeval beginnings, ancestral history, the exodus, wilderness wanderings, and the legal codes. *3 sem. hrs.*
- \* REL 311. THE PROPHETS: The prophetic texts of the Old Testament studied as reformulations of ancient religious traditions to meet new historical situations. The relevance of the prophets to contemporary life and thought. *3 sem. hrs.*

- \* REL 312. THE PSALMS AND THE WISDOM LITERATURE: Critical examination of the biblical books of Psalms, Proverbs, Job, Ecclesiastes, and Ben Sira and of related literature within the historical context in which they arose. The contemporary relevance of this literature. *3 sem. hrs.*
- \* REL 315. THE GOSPELS: With the Gospel of Mark as a point of departure, comparison of the Markan, Matthean, and Lukan narratives for an understanding of the various conceptions of Jesus found in these Gospels. The course includes historical-critical study of the Gospel to John, its text, literary techniques, structure and theology. Prerequisite: REL 103. *3 sem. hrs.*
- \* REL 318. STUDIES IN PAUL: Detailed examination of the letters of Paul, stressing the historical circumstances affecting their composition as well as the main religious ideas of Paul that govern their content. *3 sem. hrs.*
- \* REL 319. THE BOOK OF REVELATION: Detailed critical analysis of various biblical apocalyptic texts as found in Judaism and early Christianity. Focus on the Book of Revelation against the background of other biblical and intertestamental apocalyptic texts. *3 sem. hrs.*
- \* REL 323. HISTORY OF CHRISTIANITY I (100-1100): Study of important events, movements, ideas, and people in the development of Christianity to the year 1100 including the formation of the Canon, early Church councils, Augustine, Gregory the Great, monasticism, the rise of Islam, Eucharistic and other controversies, and the Gregorian Reform. *3 sem. hrs.*
- \* REL 324. HISTORY OF CHRISTIANITY II (1100-PRESENT): Study of important events, movements, ideas, and people in the development of Christianity from 1100 to the present, including the separation of the Churches of the East and West, rise of the mendicant orders, Scholasticism, key themes and figures of the Reformation, Vatican I, Modernist crisis, ecumenism, and Vatican II. *3 sem. hrs.*
- REL 326. PROTESTANT CHRISTIANITY: Survey of the development of Protestant thought from the Reformation. *3 sem. hrs.*
- \* REL 327. U.S. RELIGIOUS EXPERIENCE: A study of a variety of religious traditions in their engagement with and influence within the U.S. social and cultural context including the effects of pluralism, religious liberty, secularization, and consumer capitalism. *3 sem. hrs.*
- \* REL 328. U.S. CATHOLIC EXPERIENCE: The growth and development of Catholic Christianity in the U.S.; its interaction with America, its culture, and its people. *3 sem. hrs.*
- \* REL 329. AFRICAN-AMERICAN RELIGION: An exploration of the history and theology of African-American religious traditions and how African-American religion has influenced African-American social, political, economic, and cultural movements from the time of slavery to the present. *3 sem. hrs.*
- \* REL 340. THE CHURCH: A biblical and theological study of the meaning of the Church which explores the relationship between Christ and the Church, the various models for understanding the Church, and the mission of the Church. *3 sem. hrs.*

- \* REL 341. SIGNIFICANCE OF JESUS: Emphasis on the identity of Jesus and on the significance that his ministry, death, and resurrection have for the salvation of humankind. *3 sem. hrs.*
- \* REL 343. THE SACRAMENTS: A study of the meaning of sacramentality. The sacraments in the context of Christ as the sacrament of the human encounter with God and in the context of the Church as the sacrament of Christ. *3 sem. hrs.*
- \* REL 344. 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 345. EASTERN ORTHODOXY: Exploration of the history and theology of the Eastern Orthodox Church, from the Apostles to Byzantium to Russia and the United States. *3 sem. hrs.*
- \* REL 349. SEARCH FOR IMMORTALITY: 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 361. CORE RELIGION SEMINAR: Culminating course for students in CORE. Discussion of readings on values in a pluralistic society; such issues as wealth and poverty, education, war and peace. Open only to students in CORE. *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 363. FAITH AND JUSTICE: This course explores the history, development, and basic principles of Catholic social teaching as well as other approaches to faith and justice. Issues of economic justice will receive special emphasis. In addition to church documents, the life and work of religious thinkers and activists will be examined. *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 366. THE HOLOCAUST: THEOLOGICAL AND RELIGIOUS RESPONSES: Examination of the religious and theological literature of the Holocaust, focusing especially on Jewish and Christian responses. *3 sem. hrs.*
- \* REL 367. CHRISTIAN ETHICS AND HEALTH CARE ISSUES: 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 369. CHRISTIAN ETHICS AND ENGINEERING: Study in applied Christian ethics addressing the moral issues facing engineers. How to make a moral decision, engineering as a profession, codes of ethics, safety, environmental issues, confidentiality, employee rights, whistleblowing, consulting, conflicts, and career choices. 3 sem. hrs.
- \*REL 371. 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 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 humans and of God in major modern writings, especially those of current collegiate interest. 3 sem. hrs.
- \*REL 374. RELIGION AND THE ARTS: Investigation of the religious interpretation of various art forms and the process by which the aesthetic experience assists in theological perception and construction. 3 sem. hrs.
- \*REL 376. THEOLOGY AND THE SOCIAL SCIENCES: Exploration of developments in Christian theology that have paralleled the rise of the human sciences, in particular of concepts of God, humanity, Church, sacraments, sin, and salvation in the light of history, anthropology, psychology, and sociology. 3 sem. hrs.
- \*REL 377. THE INNER JOURNEY IN MYTH, BIBLE, AND LITERATURE: Study of stories of heroic figures in the Bible and in other literature as patterns of personal and spiritual development. Throughout, efforts to relate the material to the needs of contemporary persons. 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 385. LAY MINISTRY: A critical examination of lay ministry and its theological basis, in light of Vatican II and recent trends in the world and Church. Special topics: family ministry, ministry in the marketplace, leadership, evangelization, catechesis, women, social justice. 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 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. GOD AND ATHEISM: 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 444. GOD IN CHRISTIAN TRADITION: A review of theologies of God in Christian tradition, from biblical through contemporary sources, especially as these theologies have affected overall Catholic thought and spirituality. Prerequisites: REL 103 and PHL 103. *3 sem. hrs.*

REL 446. CHRISTIAN LITURGY: Study of the basic principles of liturgy, the development of some of the basic forms of liturgy, and applications of the principles within current rites. *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 464. LIBERATION THEOLOGY: A historical-critical analysis and study of the theology of liberation and its specific expression among theologians of the Third World, particularly Latin America. *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 471. WOMEN AND RELIGION: Examination of the impact of the women's movement on Judaism, Christianity, and other major world religions. Survey of traditional religious attitudes toward women. Relevance of feminist approaches to scripture, ethics, spirituality, and ministry in understanding contemporary global issues. *3 sem. hrs.*

\*REL 472. ECOLOGY AND RELIGION: Examination of the relationship between religion and ecology; bridges the contributions of traditional theological inquiry and modern scientific insights and offers an enlarged vision of ecological concerns. *3 sem. hrs.*

\*REL 474. WOMEN AND THE GLOBAL CHURCH: An exploration of the intersection between faith communities, traditional and non-traditional, and particular cultures in the lives of contemporary women. *3 sem. hrs.*

\*REL 477. RELIGION AND SCIENCE: Survey of the ways science has affected religion on specific doctrines, methods of knowing what is true, and general worldviews; study of religious response to these. *3 sem. hrs.*

REL 478. THE DOCTRINE OF CREATION IN CATHOLIC TRADITION: A review of theories of the cosmos in Catholic theologies, from John's gospel, Irenaeus, Augustine, and Aquinas to Teilhard de Chardin and Karl Rahner, on natural order, the goodness of creation, and the human place in nature, the context of relevant theories and issues in modern science. *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. RELIGIOUS EDUCATION—THEORY AND PRACTICE: Study of theory and practice of religious education for those who will be teaching religion in the school and parish. Various models and methods. 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 492. SPECIAL TOPICS: Concentrated study of issues and subjects pertinent to religion. May be repeated when topic changes. *1-3 sem. hrs.*

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\*General Education course. See Chapter V.



## SOCIAL WORK (SWK)

Social work is the profession sanctioned by society to provide social services. It is the professional activity of helping individuals, groups, or communities to enhance or restore their capacity for social functioning. The profession also engages in activities aimed at facilitating societal conditions that enhance and/or restore social functioning.

A minor in Social Work consists of a minimum of 15 semester hours, at least 12 of which are at the 300 or 400 level. No more than 6 semester hours of field experience credit can be accepted toward the minor. See also SOC.

### COURSES OF INSTRUCTION

\*SWK 101. SOCIAL WELFARE AND SOCIETY: Study of the emergence and current functioning of the social welfare system in contemporary U.S. society. Selected social issues and the social welfare programs designed to address these issues will be highlighted. *3 sem. hrs.*

SWK 303. COMMUNITY PRACTICE AND RESEARCH: Study of the design and implementation of community research, including needs assessment and program evaluation in the social service system. Prerequisite: SOC 101 or SOC 204 and permission of instructor. (Same as SOC 309). *3 sem. hrs.*

SWK 305. 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. *3 sem. hrs.*

SWK 307. MENTAL HEALTH SERVICES: Study of historical perspectives, deinstitutionalization, the community mental health movement, inpatient care, and innovative approaches. Policy and practice implications are examined. *3 sem. hrs.*

SWK 310. LAW AND HUMAN SERVICES: 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 325. CHILD ABUSE: Comprehensive study of child abuse: its history, scope, causal factors, indicators for detection, treatment resources and modalities, and community responsibility. *3 sem. hrs.*

SWK 327. 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 330. PERSPECTIVES ON AGING: An introduction to the field of gerontology. Focus on the major physical, psychological, and social dynamics of aging. Selected issues will be highlighted. (Same as SOC 330.) *3 sem. hrs.*

\*SWK 331. 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. *3 sem. hrs.*

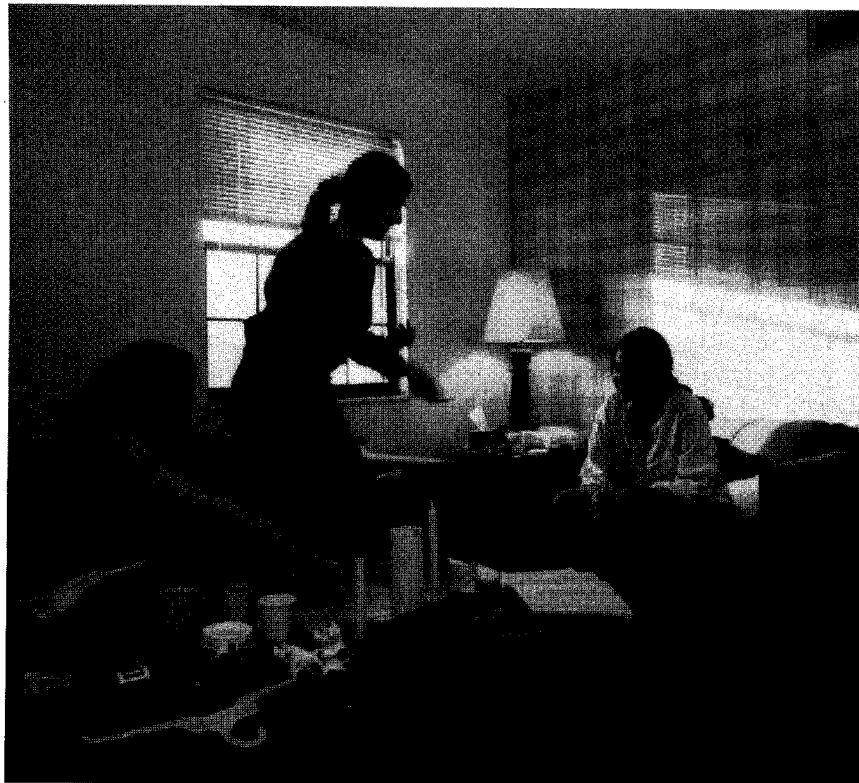
SWK 392. SPECIAL TOPICS: Exploration of special topics related to the field of human services. Assessment of appropriate literature and research. May be repeated as topics change. *1-3 sem. hrs.*

SWK 401. COMMUNITY FIELD EXPERIENCE: Supervised field experience for students working in a micro or macro practice setting. Concurrent seminar includes intensive basic communication and interviewing skill development. Students spend 150 hours in the agency. Prerequisite: Permission of instructor. *5 sem. hrs.*

SWK 465. INDEPENDENT STUDY: Individual research, study, and readings on specific topics and/or projects of importance to social work. Under individual faculty direction. Prerequisite: Permission of instructor. *1-3 sem. hrs.*

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\*General Education course. See Chapter V.



## SOCIOLOGY (SOC)

Sociology is the scientific study of society. The unique insight of sociology is that people are who they are largely because of their social experiences and interactions with others. "The sociological imagination" is the ability to understand the relationship between the individual experience and the broader social context. In addition to studying various aspects of social behavior, sociology studies the nature and causes of social problems such as crime, marital instability, poverty, and racism. The challenge facing sociologists is to apply their knowledge in ever more constructive ways for the improvement of society.

Students intending to major or minor in sociology should consult with the department chairperson to plan their programs of courses. Majors may concentrate their studies in the fields of human relations or community relations. The requirements for majoring in sociology are stated in the outline below. A minor in sociology requires 15 semester hours of courses in the discipline, with at least 12 of those at the 300-400 level.

### PROGRAM A17: BACHELOR OF ARTS WITH A MAJOR IN SOCIOLOGY (SOC)<sup>1</sup>

	Semester Hours
Sociology requirements and electives .....	37
SOC 101 or 204 .....	3
SOC 208, 303, 308, 308L, 351, 409 .....	16
SOC electives <sup>2</sup> .....	18
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts .....	27-33
Philosophy and Religious Studies .....	12
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Language and/or Arts and/or Humanities .....	3-9
Social Sciences (excludes courses in SOC) .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

<sup>2</sup>A total of no more than 6 semester hours of field experience or internship from SOC 398, SOC 495, SWK 401, or ANT 449 may count toward the required 37 semester hours for a sociology major. Up to 15 hours may be taken in anthropology or social work, but if used in the major may not double count toward a minor.

## FACULTY

Patrick G. Donnelly, *Interim Chairperson, Department of Sociology, Anthropology, and Social Work*

*Professor Emerita:* Huth

*Professor:* Saxton

*Associate Professors:* Davis-Berman, Donnelly, L. Majka, T. Majka, Miller, F. Pestello, H. Pestello

*Assistant Professors:* Dandaneau, Goetz, Taylor

## 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 204L. URBAN PROBLEMS LABORATORY: Field study of selected urban problems. Focus on issues and problems of inequality, i.e., poverty, unemployment, discrimination, and homelessness as experienced by members of the urban community. Corequisite: SOC 204. *1 sem. hr.*

SOC 208. SOCIAL RESEARCH METHODS: Study of the logic of research design, data-gathering strategies, types of measurement, and sampling techniques. Both inductive and deductive approaches. Participation in research projects. Prerequisite: SOC 101 or SOC 204. *3 sem. hrs.*

SOC 303. MODERN SOCIAL THEORY: Consideration of the works of modern theorists and major trends in the history of social thought. Prerequisite: SOC 101 or SOC 204. *3 sem. hrs.*

SOC 305. CRIMINOLOGICAL THEORY: Study of the major theories of crime; consideration of the implications of theory for the criminal justice system. Prerequisite: SOC 101 or SOC 204 *3 sem. hrs.*

SOC 308. DATA ANALYSIS: The analysis and interpretation of both quantitative and qualitative social science data. Prerequisite: SOC 208. Corequisite: SOC 308L. *3 sem. hrs.*

SOC 308L. DATA ANALYSIS LABORATORY: Training in appropriate computer programs and computer analysis of social science data. Prerequisite: SOC 208. Corequisite: SOC 308. *1 sem. hr.*

SOC 309. COMMUNITY PRACTICE AND RESEARCH: Study of the design and implementation of community research, including needs assessment and program evaluation in the social service system. Prerequisite: SOC 101 or SOC 204 and permission of instructor. (Same as SWK 303.) *3 sem. hrs.*

\*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 JUSTICE: The environmental and internal factors that influence or determine delinquent behavior; roles of individual juvenile offenders, parents or guardians, school, church, police, business community, community agencies, and the juvenile justice and correctional system in preventing and treating delinquent behavior. Prerequisite: SOC 101 or SOC 204. 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. Prerequisite: SOC 101 or SOC 204. 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. Prerequisite: SOC 101 or SOC 204. 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 330. PERSPECTIVES ON AGING: An introduction to the field of gerontology. Focus on the major physical, psychological, and social dynamics of aging. Selected issues will be highlighted. (Same as SWK 330.) 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 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. Prerequisite: SOC 101 or SOC 204. 3 sem. hrs.

SOC 336. ORGANIZATIONS IN MODERN SOCIETY: Analysis of the dynamics of organizations in modern industrial society. Organizational social psychology, organizational structure and process, and organization-community relations. Prerequisite: SOC 101 or SOC 204. 3 sem. hrs.



SOC 337. POLITICAL SOCIOLOGY: Study of political power. Political influence by economic elites, impact of bureaucracies, competing ideologies, alienation and nonvoting, and social movements as challenges to power structures. Prerequisite: SOC 101 or SOC 204. 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. SOCIAL PSYCHOLOGY IN SOCIETY: Survey of the basic principles, concepts, theories, and methods of social psychology from the sociological perspective. Prerequisite: SOC 101 or SOC 204. 3 sem. hrs.

\*SOC 341. SELF AND SOCIETY: Study of the relationship between self and others. Socialization, self conceptions, deviant behavior, social influence, and social control. 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. Prerequisite: SOC 101 or SOC 204. 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 351. URBAN SOCIOLOGY: The study of the development of urban life from ancient times to the present, with an emphasis on contemporary urban population characteristics, social-economic-political structure, and problems. Prerequisite: SOC 101 or SOC 204. 3 sem. hrs.

\*SOC 352. COMMUNITY: Study of the interaction of groups and individuals related by common situations, problems and intentions; creation, maintenance, eclipse, and restoration of close social ties in urban neighborhoods, small towns, and groups with similar interests and lifestyles. 3 sem. hrs.

SOC 355. FAMILIES AND THE ECONOMY: The relationship between families and their socio-economic environment. Consideration of public issues including family policy and government programs to assist families. Prerequisite: SOC 101 or SOC 204. 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 as topic changes. Prerequisite: SOC 101 or SOC 204. 1-6 sem. hrs.

SOC 398. SOCIOLOGICAL FIELD EXPERIENCE: Supervised research or community service experience complementing a specific upper division sociology course that is being taken concurrently. Prerequisite: Permission of instructor. Can be taken three times. 1 sem. hr.

SOC 409. SENIOR SEMINAR IN SOCIOLOGY: Synthesis of previous coursework; examination of the logic of social inquiry through the analysis of competing sociological perspectives on a particular issue. Required for majors. Prerequisite: Permission of instructor. 3 sem. hrs.

SOC 410. VICTIMOLOGY: The study of victimization including the relationships between victims and offenders, the interactions of victims and the criminal justice system and other social groups and institutions. Prerequisite: Twelve hours of course work in the social sciences. Prerequisite: SOC 101 or SOC 204. *3 sem. hrs.*

SOC 435. ECONOMY AND SOCIETY: Sociological analysis of modern economic institutions, with an emphasis on classical themes. Topics include capitalism, industrialism and social consequences of contemporary economic trends. Empirical research will be required. Prerequisite: SOC 101 or SOC 204 and permission of instructor. *3 sem. hrs.*

SOC 437. MARX AND SOCIOLOGY: Study of Marx's writings on topics relevant to the social sciences. Comparison of contemporary Marxian scholarship in such areas as social inequality, political structures, urban change, ideology and consciousness, and models for the future. Prerequisite: SOC 101 or SOC 204 and junior or senior standing. *3 sem. hrs.*

SOC 438. URBAN POVERTY: Study of the social factors that contribute to poverty in cities. Consideration of the social effects of government and other programs to alleviate poverty. Prerequisite: SOC 101 or SOC 204. *3 sem. hrs.*

SOC 444. INTERACTION PROCESSES: Advanced study of the interaction processes of social life. Bargaining and negotiation, cooperation, social influence, solidarity, competition, and conflict. Prerequisite: SOC 101 or SOC 204. *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 as topic changes. Prerequisite: SOC 101 or SOC 204 and permission of instructor. *1-6 sem. hrs.*

SOC 495. SOCIOLOGY INTERNSHIP: Supervised work experience related to course work in sociology in appropriate government, social service, and private organizations. May be repeated to a maximum of 6 sem. hrs. Prerequisite: Permission of chairperson. *1-6 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 chairperson. *1-6 sem. hrs.*

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\*General Education course. See Chapter V.

EDT

TEACHER CERTIFICATION (EDT)

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.

Teaching fields represented in the College of Arts and Sciences are art, biological science, chemistry, communication, computer science, drama/theatre, earth science, English, general science, history, journalism, language (Latin, French, German, Spanish), mathematics, music, physical science, physics, political science, psychology/sociology, social studies, speech/communication, 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	110	The Profession of Teaching <sup>1</sup> .....	3
EDT	207	Child and Adolescent in Education .....	3
EDT	208	Teaching and Learning <sup>1</sup> .....	3
EDT	209	Applications of Computers/Technology in Education .....	2
EDT	318	Human Relations in Education <sup>2</sup> .....	4
EDT	351	School, Self and Society <sup>1</sup> .....	3
—	—	Methods course (Fall term only) <sup>1,2,3</sup> .....	4
EDT	469	Reading in the Content Areas <sup>1</sup> .....	2
EDT	420	Student Teaching: Secondary .....	12
EDT	419	Philosophy of Education <sup>2</sup> .....	3

Application for admission to the program is made through the Office of the Dean of the College of Arts and Sciences. Applicants should normally have cumulative grade-point averages of at least 2.75 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.

<sup>1</sup>Field experiences are required. Student must register for EDT 100.  
<sup>2</sup>These courses are taken as a block of courses, Fall term, senior year, daily 8:00 a.m. to 12:00.  
<sup>3</sup>Praxis I (PPST) must be taken and *passed* before enrolling in a methods course.

## THEATRE (THR)

A major in theatre, offered by the Department of Communication, provides a solid academic foundation plus the experience of working in a wide range of theatre productions, including mainstage productions in the Boll Theatre as well as experimental work in the Studio Theatre.

Theatre majors are required to audition for roles and participate in each major production, for which they receive credit in THR 100 or 300.

A minor in theatre requires a total of 21 semester hours: 3 each in THR 105, 203, 100 and/or 300, 415 or 425; and 9 additional at the 300 level and above. Courses in dance are not included.

The Department of Communication also offers a concentration in THR (CTR).

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### PROGRAM A18: BACHELOR OF ARTS WITH A MAJOR IN THEATRE (THR)<sup>1</sup>

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	<i>Semester Hours</i>
Theatre requirements and electives .....	38
THR 100 and THR 300 .....	4
THR 105, 310, 330 and 340 .....	12
THR 305 or 307 .....	3
THR 325 or 326, and 415 or 425 .....	6
THR 440 or 485 or 490 .....	3
THR electives <sup>2</sup> .....	10
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts (includes THR or other Arts but not THR 100 or 300) .....	3
Foreign Lang. and/or Arts and/or Humanities (excludes THR 100 & 300) .....	3-9
Social Sciences .....	3
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication skills .....	0-9
Introduction to the University: ASI 150 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

<sup>2</sup>THR electives may include no more than 3 additional hours of THR 100 and/or 300.

## FACULTY

Donald D. Yoder, *Chairperson, Department of Communication*

*Professor Emeritus:* Gilvary

*Associate Professor:* Anderson

*Assistant Professor:* Dunlevy-Shackleford

## COURSES OF INSTRUCTION

THR 100. THEATRE LABORATORY: Credit allowance for role playing and/or play production in mainstage productions. Fifty hours of work minimum for one sem. hr. of credit. Repeatable up to 3 sem. hrs. in first and second years. All registration retroactive. No advance registration. 1-3 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. Studio fee. 2 sem. hrs.

THR 203. TECHNICAL PRODUCTION: Introductory survey of scene design, construction, painting, and lighting. Current theory will be examined along with practical applications and techniques. 3 sem. hrs.

THR 261. BEGINNING JAZZ DANCE: Beginning course in the theory and practice of jazz dance. 2 sem. hrs.

THR 271. BEGINNING BALLET: Beginning course in the theory and practice of classical ballet technique. 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: Permission. 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 305. THEATRE STAGECRAFT: Study and application of scene construction, rigging, backstage organization, production analysis, and technician-designer relationship. Studio fee. 3 sem. hrs.

THR 307. THEATRE LIGHTING: Study and application of lighting for the stage: instruments, controls, sources, elements of electricity, and lighting design for all types of theatres, as well as graphic representation. Studio fee. 3 sem. hrs.

THR 310. 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. Required of all theatre majors. 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. Prerequisites: THR 105 and 310, or permission. 3 sem. hrs.

THR 324. THEATRICAL MOVEMENT: Emphasis on interpreting and employing body language. Prerequisites: THR 105 and 310, or permission. 2 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.) 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.) 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, 310, 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. 3 sem. hrs.

THR 361. INTERMEDIATE JAZZ DANCE: An intermediate course in the theory and practice of jazz dance and technique. Prerequisite: Permission. 2 sem. hrs.

THR 371. INTERMEDIATE BALLET: Intermediate course in the theory and practice of classical ballet technique. Prerequisite: Permission. 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. Prerequisite: THR 330 and permission. 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.) 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.) 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. (THR 440 or THR 485 or THR 490 required of all majors.) Repeatable up to 12 sem. hrs. Prerequisite: Permission. 3 sem. hrs.

THR 485. THEATRE SEMINAR: Concentration on one theatrical figure, genre period, or discipline for research and analysis. (THR 440 or THR 485 or THR 490 required of all majors.) Repeatable up to 6 sem. hrs. Prerequisite: Permission. 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 440 or THR 485 or THR 490 required of all majors.) Repeatable up to 9 sem. hrs. 3-5 sem. hrs.

\* General Education course. See Chapter V.

## VAR

### VISUAL ARTS (VAR)

The Department of Visual Arts teaches the perceptual, practical, and critical skills necessary for the creation and understanding of art in a variety of media and contexts. It also teaches the history of the visual arts and cultivates the ability to appreciate and articulate their meaning and value. The department emphasizes the highly integrative nature of the visual arts and their immense cultural and personal importance. In addition, the department offers opportunities for professional career development in many different fields.

The department offers eight degree programs:

- Bachelor of Arts with a Major in Fine Arts (A19)
- Bachelor of Fine Arts with a Major in Fine Arts (A19A)
- Bachelor of Arts with a Major in Visual Communication Design (A20)
- Bachelor of Fine Arts with a Major in Visual Communication Design (A20A)
- Bachelor of Arts with a Major in Photography (A21)
- Bachelor of Fine Arts with a Major in Photography (A21A)
- Bachelor of Fine Arts with Teacher Certification (A22)
- Bachelor of Arts with a Major in Art History (A23)

#### Visual Arts Minors

A minor in Fine Arts requires 21 semester hours: VAF 104, 112; VAH 201 or 202 or 203; and 12 additional semester hours of VAF electives.

A minor in Visual Communication Design requires 21 semester hours: VAF 104, 112; VAR 200; VAD 215 or 218; 245; and 9 additional upper-level semester hours of VAD electives.

A minor in Photography requires 12 semester hours of VAP 300-400 level courses and any prerequisites for those courses. VAH 382 may also be counted towards a minor in photography.

A minor in Art History requires 18 semester hours: six semester hours of survey courses chosen from VAH 201, 202, and 203 and 12 additional semester hours of art history electives at the 300-400 level.

#### Visual Arts Foundations

Visual arts foundation courses introduce students to fundamental principles, practices, materials, and vocabulary common to all visual arts disciplines. These courses provide a common background of skill development along with an understanding of primary concepts in the visual arts and a basis for critical evaluation. All foundation courses share the objective of preparing students to face the challenges of their specific disciplines.

#### Second Year and Scholarship Review

Near the end of their second year, all Visual Arts majors are reviewed by the Visual Arts faculty. Also included in the review are first and third year students who have been awarded Visual Arts Scholarships. The review process is a valuable learning experience for the student and it helps the faculty to recommend ways in which students may build upon their assets and overcome their liabilities. Participation in the Second Year and Scholarship Review is mandatory for all majors. Scholarship funds are available to a limited number of students whose performance in the review is judged by the faculty to be outstanding.

## Senior Capstone Courses

These courses, required in all majors, bring together the skills, education, ideas, and goals of senior students. They stress an integrated approach to learning and working and they focus on preparing students for their futures beyond the University. They provide a logical continuity that begins with the Visual Arts Foundations and the mid-point evaluation of the Second Year and Scholarship Review.

## FINE ARTS

The Bachelor of Arts (B.A.) with a Major in Fine Arts offers a program of study that introduces the student to a variety of media and approaches to the visual arts. This program combines the richness of a liberal arts education with opportunities to explore several possible directions in the visual arts.

The Bachelor of Fine Arts (B.F.A.) with a Major in Fine Arts offers a more intensive exploration of selected media and greater depth of study in a more extensive selection of visual arts courses.

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**PROGRAM A19: BACHELOR OF ARTS WITH A MAJOR IN FINE ARTS (ART)<sup>1</sup>**


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	<i>Semester Hours</i>
Major program requirements .....	45
VAF 104, 112, 117, 204, 216; 226 or 253; 232 or 240; 498 & 499 .....	25
Select two from VAH 201, 202, 203 .....	6
Select one from VAH 470, 471, 480, 481 .....	3
VAP 101 .....	3
VAF electives (300-400 level) .....	8
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History (may not include VAH courses) .....	6
Literature: English or Foreign Languages .....	3
Foreign Language and/or Arts and/or Humanities (may not include Visual Arts courses) .....	3-9
Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: VAR100 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

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**PROGRAM A19A: BACHELOR OF FINE ARTS WITH A MAJOR IN FINE ARTS (STA)<sup>1</sup>**


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	<i>Semester Hours</i>
Major program requirements .....	79
VAF 104, 112, 117, 204, 216, 226, 232, 253, 304, 326	
332, 353, 498, 499 .....	40



Select two from VAH 201, 202, 203; VAH electives (300-400 level) .....	12
VAP 101 .....	3
VAF concentration .....	12
Visual arts electives .....	12
Communication Skills .....	0-9
Natural sciences .....	7
Mathematics (MTH 102, 204, 205 excluded) .....	3
Social and behavioral sciences .....	9
Humanities .....	12
Philosophy and/or Religious Studies .....	12
Introduction to the University: VAR 100 .....	0-1
Program and general electives to total at least .....	120-130

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

## VISUAL COMMUNICATION DESIGN

The Visual Communication Design (B.A.) program offers a very flexible opportunity to combine a broad liberal arts education with a strong foundation in the visual arts and in visual communication design. In this program it is possible for students to earn a minor, or even a second major, in another discipline within the University.

The Visual Communication Design (B.F.A.) program combines visual arts foundation courses and an intensive visual communication design curriculum with a liberal arts education. It prepares students for professional careers in graphic advertising design, illustration, computer imaging and related new technologies. Attention is given to conceptual and visual problem-solving. Program options include (1) design, (2) illustration, and (3) computer imaging.

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### PROGRAM A20: BACHELOR OF ARTS WITH A MAJOR IN VISUAL COMMUNICATION DESIGN (VCA)<sup>1</sup>

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	<i>Semester Hours</i>
Major program requirements requirements .....	45
VAF 104, 112, 117, 216, .....	12
VAR 200 .....	1
VAD 215 or 218; 245, 498, 499 .....	9
VAP 101 .....	3
Select two from VAH 201, 202, 203 .....	6
VAH 383 .....	3
VAD, VAF, VAP, VAR electives (300-400 level) .....	11
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History (may not include VAH courses) .....	6
Literature: English or Foreign Language .....	3
Foreign Language and/or Arts and/or Humanities (may not include Visual Arts courses) .....	3-9

Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: VAR 100.....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

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**PROGRAM A20A: BACHELOR OF FINE ARTS WITH A MAJOR  
IN VISUAL COMMUNICATION  
DESIGN (VCD)<sup>1</sup>**

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	<i>Semester Hours</i>
Major program requirements .....	85
Design concentration:	
VAF 104, 112, 117, 204, 216, 226 .....	18
VAD 215, 245, 312, 320, 350, 411, 412, 415, 498, 499 .....	27
VAR 200 .....	1
VAP 101, VAP elective .....	6
Select two from VAH 201, 202, 203 .....	6
VAH 383 .....	3
Visual arts electives .....	18
Marketing or communication .....	6
Illustration concentration:	
VAF 104, 112, 117, 204, 216, 226, 304, 326, 404 .....	27
VAD 218, 245, 312, 321, 397, 398, 404, 498, 499 .....	24
VAR 200 .....	1
VAP 101 .....	3
Select two from VAH 201, 202, 203 .....	6
VAH 383 .....	3
Visual arts electives .....	15
Marketing or communication .....	6
Computer Imaging concentration:	
VAF 104, 112, 117, 204, 216, 226 .....	18
VAD 215 or 218, 245, 312, 320 or 321, 498, 499 .....	15
VAR 200 .....	1
VAP 101, 240, 340 .....	9
VAR 345, 440, 445 .....	9
Select two from VAH 201, 202, 203 .....	6
VAH 383 .....	3
Visual arts electives .....	18
Marketing or communication .....	6
Communication skills .....	0-9
Natural sciences .....	7
Mathematics (MTH 102, 204, 205 excluded) .....	3
Social and behavioral sciences .....	3
Humanities .....	9
Philosophy and/or Religious Studies .....	12
Introduction to the University: VAR 100 .....	0-1
Program and general electives to total at least .....	123-129

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education Requirements.

PHOTOGRAPHY

The two programs in Photography (B.A. and B.F.A.) offer many approaches to using the medium. Art, journalism, advertising, illustration, and digital imaging are just a few of the fields in which accomplished photographers find rewarding careers.

The B.A. program emphasizes a traditional liberal arts background with a thorough grounding in photographic practice. The B.F.A. allows for greater concentration within photography and related disciplines. Electives allow students to pursue individual interests and goals.

PROGRAM A21: BACHELOR OF ARTS WITH A MAJOR IN PHOTOGRAPHY (PHO)<sup>1</sup>

	<i>Semester Hours</i>
Major program requirements .....	45
VAP 101, 201, 302, 410, 498, 499 .....	16
Select two from: VAP 240, 320, 330 .....	6
VAF 104, 112; 117 or 216 .....	9
Select one from VAH 201, 202, 203 .....	3
VAH 382, 482 .....	6
Visual Arts electives (300-400 level) .....	5
Liberal Studies Curriculum <sup>1</sup>	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History (may not include VAH courses) .....	6
Literature: English or Foreign Language .....	3
Foreign Language and/or Arts and/or Humanities (may not include Visual Arts) ...	3-9
Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: VAR 100 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

PROGRAM A21A: BACHELOR OF FINE ARTS WITH A MAJOR IN PHOTOGRAPHY (PTY)<sup>1</sup>

	<i>Semester Hours</i>
Major program requirements .....	72
Photographic Imaging Concentration	
VAP 101, 201, 302, 410, 498, 499 .....	16
Select two from VAP 240, 320, 330 .....	6
VAF 104, 112, 117 or 216 .....	9
Select two from VAH 201, 202, 203 .....	6
VAH 382, 480, 482 .....	9
Visual Arts electives .....	26

Digital Imaging Concentration	
VAP 101, 201, 240, 302, 320 or 330, 340, 410, 498, 499 .....	25
VAF 104, 112, 117 or 216 .....	9
VAD 215 or 218, 245, 320 or 321 .....	8
Select two from VAH 201, 202, 203 .....	6
VAH 382, 480, 482 .....	9
VAR 200 .....	1
Visual Arts electives .....	14
Communication Skills .....	0-9
Natural Sciences .....	7
Mathematics (MTH 102, 204, 205 excluded) .....	3
Social and behavioral sciences .....	9
Humanities .....	18
Philosophy and/or Religious Studies .....	12
Introduction to the University: VAR 100 .....	0-1
Program and general electives to total .....	121-131

### ART EDUCATION

The Bachelor of Fine Arts with Teacher Certification, a B.F.A. (E11A) program, offers students expertise in studio practice, art history, aesthetics, and critical analysis of art. Field experience in the Dayton area allows students to transform theoretical knowledge into classroom practice. Graduates are well prepared for teaching positions in public or private schools, K-12, as well as for master's degree programs.

#### PROGRAM A22: BACHELOR OF FINE ARTS WITH TEACHER CERTIFICATION (E11A) (FAE)<sup>1</sup>

	<i>Semester Hours</i>
Major program requirements <sup>2,3</sup> .....	65
VAF 104, 112, 117, 204, 216, 226, 232, 304; 240 or 331, 253 or 353, 498, 499 .....	34
VAE 483 .....	4
Select two from VAH 201, 202, 203 .....	6
VAH 470 or 471 or 480 or 483 .....	3
VAH electives .....	3
VAP 101 .....	3
VAR 200 .....	1
Visual arts electives .....	12
Education requirements: EDT 110, 207, 208, 209, 318, 351, 421, 469 .....	32-34
Communication Skills .....	0-9
Natural sciences .....	6
Mathematics (MTH 102, 204, 205 excluded) .....	3
Social and behavioral sciences .....	3
Humanities .....	6
Philosophy and Religious Studies (must include EDT 419) .....	12
Introduction to the University: VAR 100 .....	0-1
Program and general electives to total .....	128-140

<sup>1</sup>See also Distribution Table for Bachelor of Arts programs and Chapter V for General Education requirements.

<sup>2</sup>Students in the Art Education program are required to maintain a 2.0 cumulative grade point average overall, and a 2.5 cumulative grade point average in teacher education and visual arts courses.

<sup>3</sup>Students are required to pass PRAXIS I and II and a Second Year Review in their studio work.

## ART HISTORY

Art history is the study of art and architecture, produced within specific cultural contexts, as a manifestation of human creativity and as a valuable form of historical documentation. Students learn to appreciate the fundamental and varied roles that the visual arts have played and continue to play in the lives of human beings. Toward this end, students would learn how images and objects, identified as art, embody—but also condition and control—social, religious, cultural, economic, political, and gender dynamics.

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**PROGRAM A23: BACHELOR OF ARTS WITH A MAJOR IN  
ART HISTORY (HOA)<sup>1</sup>**

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	<i>Semester Hours</i>
Major Program Requirements .....	42
VAH 101, 201, 202, 203 .....	12
VAH 485 .....	3
VAH electives (300-400) .....	21
Major program electives <sup>2</sup> .....	6
Liberal Studies Curriculum <sup>2</sup>	
Humanities and Fine Arts	
Philosophy and Religious Studies .....	12
History .....	6
Literature: English or Foreign Language .....	3
Creative and Performing Arts .....	3
Foreign Language <sup>3</sup> .....	6-8
Social Sciences .....	12
Mathematics (MTH 102, 204, 205 excluded) .....	3
Natural Sciences .....	11
Communication Skills .....	0-9
Introduction to the University: VAR 100 .....	0-1
General Education courses and academic electives to total at least .....	124

<sup>1</sup>See also distribution table for Bachelor of Arts Programs and Chapter V for General Education requirements.

<sup>2</sup>Major program electives may be chosen, in consultation with an art history advisor, from among the following disciplines and courses: ANT 300, CMM 313, ENG 322, VAF 104, VAF 232, HMS 395, PHL 320, PSY 375 and REL 374. Alternatives to these courses may be elected with the approval of an art history advisor. Major program electives must be at the 300-400 level (except in the case of Fine Arts courses), and they may not be used to satisfy the liberal studies.

<sup>3</sup>Where appropriate, this credit may apply to other requirements.

## FACULTY

Sean Wilkinson, *Chairperson*

*Professor:* Wilkinson

*Associate Professors:* Crum, Edwards, Gooch, Hitt, Niles, Wilbers, Zahner

*Assistant Professors:* Kettering, Marcinowski, Matlack, Murphy, Whitaker

*Part-time Instructors:* Baker, Crum, Day, Holihan, Jones, Kargl, Langenderfer, Manera, Martin, Martino, Megginson, Peterson, Radabaugh, Sholtis, Snow, Spenny, Walton

## COURSES OF INSTRUCTION

## FINE ARTS

VAF 104. FOUNDATION DRAWING: Introduction to basic visual concepts, various drawing media, and approaches to experimental technique. Emphasis on perspective, perceptual awareness, volume in space, and expressive freedom. Studio fee.

*3 sem. hrs.*

VAF 112. FOUNDATION 2-D DESIGN: Study of the underlying elements and principles of design as they are used in two-dimensional composition and the creation of illusionistic three-dimensional space.

*3 sem. hrs.*

VAF 117. FOUNDATION 3-D DESIGN: Introduction to basic principles and practices of design in three dimensions. Emphasis on current theory and construction techniques using a variety of media and methods. Studio fee.

*3 sem. hrs.*

VAF 204. DRAWING II: Emphasis on figure drawing with work from the nude model and the skeleton. Study of proportion, rendering volume, and developing expressive drawing skills in a variety of drawing media. Prerequisite: VAF 104. Model fee.

*3 sem. hrs.*

VAF 216. DESIGN AND COLOR: The study of color based on historical and contemporary color theories and the use of color in expressing and integrating design concepts. Prerequisite: VAF 112 or permission.

*3 sem. hrs.*

VAF 226. PAINTING I: Introduction to basic painting principles, techniques, and materials; still life, landscape, figure, and abstraction. Prerequisites: VAF 104, 112, 216, or permission. Studio fee.

*3 sem. hrs.*

VAF 228. WATERCOLOR I: Principles and techniques of transparent watercolor. Emphasis on technical mastery. Prerequisites: VAF 104, 112, 216, or permission.

*3 sem. hrs.*

VAF 232. SCULPTURE I: Consideration of forms as a means of developing an understanding of mass, shape, and control of medium. The use of various materials such as wood, plaster, and clay, with emphasis on integrating material with personal expression. Studio fee.

*3 sem. hrs.*

VAF 240. CERAMICS I: Introduction to basic methods of working in clay using coil and slab techniques. Studio fee.

*3 sem. hrs.*

VAF 253. PRINTMAKING I: Introduction to the traditional printmaking methods of woodcut and intaglio. Instruction in edition-printing techniques and curating of prints. Prerequisites: VAF 104, 112, or permission. Studio fee.

*3 sem. hrs.*

VAF 304. DRAWING III: Continuation of work done in VAF 204 with an emphasis on the development of finished figure drawings. Study of anatomy and the rendering of convincing volumes in space. Prerequisite: VAF 204. Model fee.

*3 sem. hrs.*

VAF 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. Prerequisites: 6 sem. hrs. of course work in the area selected or permission of the instructor. Repeatable up to 9 sem. hrs. Studio fee.

*1-3 sem. hrs.*

VAF 325. FIGURE PAINTING: Painting from the model with a variety of media. Traditional and contemporary approaches to the figure. Prerequisite: VAF 204 or 304, 226 or permission. Model fee. 3 sem. hrs.

VAF 326. PAINTING II: Painting with oils or acrylics; continuing study of the principles and techniques of painting, with emphasis on personal expression and experimentation. Prerequisite: VAF 226 or 228 or permission. Studio fee. 3 sem. hrs.

VAF 328. WATERCOLOR II: Continuing investigation of watercolor techniques, both traditional and experimental. Still life, figure, landscape, and abstraction. Prerequisite: VAF 228 or permission. 3 sem. hrs.

VAF 340. CERAMICS II: Introduction to basic methods of working clay using the wheel. Studio fee. 3 sem. hrs.

VAF 332. SCULPTURE II: Continued exploration of three-dimensional concepts and materials, concentrating on wood, stone, and metal. Prerequisite: VAF 232 or permission. Studio fee. 3 sem. hrs.

VAF 353. PRINTMAKING II: Advanced work in woodcut, monoprint and intaglio, including acrylic process and color etchings. Prerequisite: VAF 253 or permission. Studio fee. 3 sem. hrs.

VAF 404. DRAWING IV: Observational and expressive drawing. Continued work with the figure in combination with a variety of other subject matter. Emphasis on the development of a body of work with a related idea. Prerequisites: VAF 204-304 or permission. Model fee. 3 sem. hrs.

VAF 426. PAINTING III: Directed advanced studio problems; contemporary issues in painting. Prerequisites: VAF 325 or 326, or permission. Repeatable up to 9 sem. hrs. Studio fee. 3 sem. hrs.

VAF 440 CERAMICS III: Introduction to Raku, a 400-year-old Japanese ceramic glaze firing technique adapted for the contemporary potter. Study includes glaze formulation, handbuilding and/or wheel throwing techniques. Prerequisite: VAF 240, 340, or permission. Studio fee. 3 sem. hrs.

VAF 453. PRINTMAKING III: Advanced work in printmaking processes with an emphasis on the production of multi-color editions. Prerequisite: VAF 353 or permission. Studio fee. 3 sem. hrs.

VAF 490. SPECIAL PROBLEMS: A course for advanced individual work in fine arts. Approval based on academic standing and permission of instructor. Repeatable up to 15 sem. hrs. Studio fee. 1-5 sem. hrs.

VAF 498. SENIOR/PROFESSIONAL SEMINAR—FINE ARTS: Capstone course required of all B.A. and B.F.A. fine arts and art education (E11) majors, to be taken in the first semester of the senior year. Examination of aesthetic, cultural, ethical, and pragmatic issues in preparation for post-graduate experience. Prerequisite: Senior standing or permission. Studio fee. 3 sem. hrs.

VAF 499. PORTFOLIO AND PAPER—FINE ARTS: Completion and presentation of undergraduate portfolio and paper, to be reviewed by faculty and peers. Faculty approval of portfolio and paper is required for graduation. Prerequisite: VAF 498 or permission. 1 sem. hr.

Studio fees: \$20. - \$60.

## VISUAL COMMUNICATION DESIGN

VAD 211. FUNDAMENTALS OF VISUAL COMMUNICATION DESIGN: A course for non-majors in the basics of design for communication. Attention to page layout, typography, image, graphic style, and information delivery. Studio fee. 3 sem. hrs.

VAD 215. COMPUTER APPLICATIONS—DESIGN: An introduction to page design software programs and their use in the design process. Prerequisite: VAR 200 or permission. Studio fee. 2 sem. hrs.

VAD 218. COMPUTER APPLICATIONS—ILLUSTRATION: An introduction to drawing and paint software programs and their use in illustration. Prerequisite: VAR 200 or permission. Studio fee. 2 sem. hrs.

VAD 245. TYPOGRAPHY I: The study of the design, appearance and arrangement of letters and words. Attention to their importance as both functional and expressive elements in communication messages. Studio fee. 3 sem. hrs.

VAD 307. DRAWING FOR GRAPHIC DESIGN: Exploration of materials, procedures, and drawing techniques for design presentations. Prerequisite: VAF 104 or permission. Studio fee. 3 sem. hrs.

VAD 312. VISUAL FORM: Investigation of the perceptual and psychological effect of the visual elements—line, shape, value, volume, texture, and color—in visual communication. Exploration of word and image relationships. Prerequisite: VAF 216. Studio fee. 3 sem. hrs.

VAD 317. AIRBRUSH TECHNIQUE: Fundamental course in the use of airbrush as an illustration and design tool. Prerequisites: VAF 104, 216. Studio fee. 3 sem. hrs.

VAD 318. GRAPHIC DESIGN FOR THREE DIMENSIONS: The application of graphic design principles to packaging, product, exhibition, and environmental design. Prerequisite: VAF 117, VAD 245, or permission. Studio fee. 3 sem. hrs.

VAD 320. COMPUTER-AIDED GRAPHIC DESIGN: An exploration of the use of the computer as both a tool and a medium for the design and production of visual communication. Prerequisites: VAD 215, 245, or permission. Studio fee. 3 sem. hrs.

VAD 321. COMPUTER-AIDED ILLUSTRATION: An exploration of the use of the computer as both a tool and a medium for the creation and production of illustrations. Prerequisites: VAD 218, 245, or permission. Studio fee. 3 sem. hrs.

VAD 344. MULTIMEDIA DESIGN & PRODUCTION I: Introduction to the field of multimedia and interactivity including interface design, project planning, scriptwriting, story boarding, digital image, sound and video editing and the use of authoring software. This course is the same as CMM 344. Studio fee. 3 sem. hrs.

VAD 345. TYPOGRAPHY II: The advanced study of typographic design. Attention to the aesthetic and informational qualities of type in print and electronic communication. Prerequisite: VAD 245. Studio fee. 3 sem. hrs.

VAD 350. DESIGN PROCESS: Focus on the developmental process of visual communication, including concept development, visualization techniques, presentation formats, and production methods. Prerequisite: VAD 215, 312, 245, or permission. Studio fee. 3 sem. hrs.



VAD 360. DESIGN FOR THE INTERNET: Studio course in the design of electronic communications for the Internet, and specifically the World Wide Web. The course will emphasize current technology for information delivery, with significant consideration being given to critical issues in visual communication. Prerequisite: VAR 200 or permission. Studio fee. 3 sem. hrs.

VAD 395. ADVERTISING DESIGN: Emphasis on print advertising, its creation and presentation. Concept development and attention to advertising layouts that carry motivating images and messages to consumers about products, services, or ideas. Studio fee. 3 sem. hrs.

VAD 397. ILLUSTRATION I: Attention to conceptual, visual, and technical development. Exploration of media and techniques employed by the illustrator in creating images for printed communication. Prerequisite: VAF 104 or permission. Studio fee. 3 sem. hrs.

VAD 398. ILLUSTRATION II: Interpretation and representation of concepts, products, or stories for magazines, books, newspapers, and advertising. Continued technical development with a variety of materials, media, and techniques. Prerequisite: VAD 397. Studio fee. 3 sem. hrs.

VAD 404. ILLUSTRATION III: Focus on developing an individual point of view and illustration style. Prerequisite: VAD 398. Studio fee. 3 sem. hrs.

VAD 411. GRAPHIC DESIGN I: Study, design, and application of marks, logos, and symbols in visual communication. Attention to effective visual relationships between typographic elements and images in single-page applications. Prerequisites: VAD 245 350. Studio fee. 3 sem. hrs.

VAD 412. GRAPHIC DESIGN II: Continued study of effective visual relationships between typographic elements and images. Emphasis on sequential page design. Prerequisite: VAD 411 or permission. Studio fee. 3 sem. hrs.

VAD 414. TRADEMARK DESIGN: Advanced study of marks, logos, and symbols as communication and identification elements. Emphasis on conceiving design marks of identity for small businesses, corporations, institutions, products, and/or services. Prerequisite: VAD 411. Studio fee. 3 sem. hrs.

VAD 415. GRAPHIC DESIGN III: The study and design of identification and image systems for products, organizations, institutions, or corporations. Emphasis on continuity in the application of visual communication factors. Prerequisite: VAD 412 or permission. Studio fee. 3 sem. hrs.

VAD 444. MULTIMEDIA DESIGN AND PRODUCTION II: Advanced level multimedia production emphasizing client-based project generation through a design/production-team approach. This course is the same as CMM 444. Prerequisite: CMM 344 or VAD 344. Studio fee. 3 sem. hrs.

VAD 480. VISUAL COMMUNICATION DESIGN INTERNSHIP: Opportunities for practical experience in professional working environments. Prerequisite: second semester junior status or permission. Repeatable up to 12 sem. hrs. 3 sem. hrs.

VAD 490. SPECIAL PROBLEMS: A course for advanced individual work in design or illustration. Approval based on academic standing and permission of instructor. Repeatable up to 15 sem. hrs. Studio fee. 1-3 sem. hrs.

VAD 498. SENIOR/PROFESSIONAL SEMINAR—VCD: Capstone course required of all B. A. and B.F.A. visual communication design majors, to be taken in the first semester of the senior year. Examination of aesthetic, cultural, ethical, and pragmatic issues in preparation for post-graduate experience. Prerequisite: Senior standing or permission. Studio fee. 3 sem. hrs.

VAD 499. PORTFOLIO AND PAPER—VCD: Completion and presentation of undergraduate portfolio and paper, to be reviewed by faculty and peers. Faculty approval of portfolio and paper is required for graduation. Prerequisite: VAD 498 or permission. 1 sem. hr.

Studio fees: \$20. - \$60.

## ART EDUCATION

VAE 101. INTRODUCTION TO ART EDUCATION: Acquaints students with the principles and concepts of art and with the various materials and techniques used in artistic expression. Open to all students. Studio fee. 2 sem. hrs.

VAE 483. TEACHING ART IN ELEMENTARY AND SECONDARY SCHOOLS: Philosophy, curriculum, planning, diagnosis, instructional methods, materials, safety, and evaluation techniques for teaching art to students with varied needs and abilities. Art education majors only. Studio fee. First term. 4 sem. hrs.

VAE 483W. ELEMENTARY AND SECONDARY SCHOOL ART: Workshop to give the student of elementary and secondary education new approaches to teaching studio arts, art criticism, art history, and aesthetics. Studio fee. 3 sem. hrs.

VAE 490. SPECIAL PROBLEMS: A course for advanced individual work in art education. Approval based on academic standing and permission of instructor. Repeatable up to 15 sem. hrs. Studio fee. 1-5 sem. hrs.

Studio Fees: \$20. - \$40.

## PHOTOGRAPHY

VAP 101. FOUNDATION PHOTOGRAPHY: Emphasis on learning and exploring the visual language of photographic imagery through a series of creative assignments. Fundamentals of black-and-white still photography: camera function, exposure, film processing, and printing. Students gain sound technical and creative control of the medium. Studio fee. 3 sem. hrs.

VAP 201. PHOTOGRAPHY II: Specific projects to develop personal expression and sustained creative growth, increased technical competence and greater visual awareness. Students learn more advanced photographic techniques, including negative and printing controls, and different camera formats. Prerequisite: VAP 101 or equivalent. Studio fee. 3 sem. hrs.

VAP 240. DIGITAL IMAGERY I: Introduction to the theory, ethics, aesthetics, and practice of computer image digitizing, enhancement, compositing, and manipulation as applied to digital photography. Some prior knowledge of computers is helpful. Studio fee. *3 sem. hrs.*

VAP 302. COLOR PHOTOGRAPHY I: Introduction to techniques and aesthetics of color photography; students learn to use transparency and negative films and to make color prints. Prerequisite: VAP 101, 201 or permission. Studio fee. *3 sem. hrs.*

VAP 320. STUDIO PRACTICE I: Extensive use of medium and large format cameras, studio grip equipment, tungsten and electronic flash lighting techniques; still-life and portrait photography in a studio environment. Prerequisite: VAP 201. Studio fee. *3 sem. hrs.*

VAP 321. STUDIO PRACTICE II: Emphasis on the production of a professional-quality portfolio which will demonstrate advanced knowledge of the studio and image production. Prerequisite: VAP 320. Studio fee. *3 sem. hrs.*

VAP 330. ALTERNATIVE PHOTOGRAPHY I: Introduction to specialized image production utilizing silver and non-silver photographic processes. Emphasis on technical and aesthetic aspects of alternative photographic practice. Prerequisite: VAP 101. Studio fee. *3 sem. hrs.*

VAP 331. ALTERNATIVE PHOTOGRAPHY II: Continuing work with alternative silver and non-silver processes. Emphasis on completion of an artist book or installation which demonstrates advanced technical command and aesthetic understanding of the processes employed. Prerequisite: VAP 330. Studio fee. *3 sem. hrs.*

VAP 340. DIGITAL IMAGERY II: Continuation of the theory and practice of computer imaging and the electronic darkroom; and the incorporation of digital images into other media. Emphasis on digital photography, videographic imaging and the role of digital images in art and society. Prerequisite: VAP 240. Studio fee. *3 sem. hrs.*

VAP 350. VIEW CAMERA: Extensive experience with the view camera, examination of refined techniques, various applications, and concepts of large format photography. Prerequisite: VAP 201. Studio fee. *3 sem. hrs.*

VAP 402. COLOR PHOTOGRAPHY II: A continuation of color printing from negatives; completion of individual projects which will demonstrate an advanced understanding of the techniques and aesthetics peculiar to color photography. Prerequisite: VAP 302. Studio fee. *3 sem. hrs.*

VAP 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: VAP 201, 302; VAH 382 Studio fee. *3 sem. hrs.*

VAP 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: VAP 201. Studio fee. *3 sem. hrs.*

VAP 430. PROFESSIONAL PHOTOGRAPHIC APPLICATIONS: Problem-solving associated with professional photography; may include commercial, editorial, industrial, architectural, and illustrative photographic work both in the studio and on location. Prerequisites: VAP 320 or permission. Studio fee. 3 sem. hrs.

VAP 450. PHOTOGRAPHY INTERNSHIP: Practical applications of photographic skills. Opportunities for advanced development and practical experience in professional working environments. Repeatable up to 6 sem. hrs. for B.F.A. students.. Prerequisite: Permission. 1-3 sem. hrs.

VAP 490. SPECIAL PROBLEMS IN PHOTOGRAPHY: Series of assignments to guide independent study in photography, formulated to meet individual needs of the student. Prerequisites: VAP 201 and permission. Studio fee. 1-5 sem. hrs.

VAP 498. SENIOR/PROFESSIONAL SEMINAR—PHOTOGRAPHY: Capstone course required of all B.A. and B.F.A. photography majors, to be taken in the first semester of the senior year. Examination of aesthetic, cultural, ethical, and pragmatic issues in preparation for post-graduate experience. Prerequisite: Senior standing or permission. Studio fee. 3 sem. hrs.

VAP 499. PORTFOLIO AND PAPER—PHOTOGRAPHY: Completion and presentation of undergraduate portfolio and paper, to be reviewed by faculty and peers. Faculty approval of portfolio and paper is required for graduation. Prerequisite: VAP 498 or permission. 1 sem. hr.

Studio fees : \$30. - \$60.

## ART HISTORY

\* VAH 101. INTRODUCTION TO THE VISUAL ARTS: Thematically-based, non-chronological introduction that covers the fundamental and varied roles that the visual arts have played and continue to play in the human experience. Open to all students. Fee. 3 sem. hrs.

\* VAH 201. SURVEY OF ART I: Survey of Western art from pre-history through the late medieval period. Open to all students. Fee. 3 sem. hrs.

\* VAH 202. SURVEY OF ART II: Survey of Western art from the late medieval period through the Baroque. Open to all students. Fee. 3 sem. hrs.

\* VAH 203. SURVEY OF ART III: Survey of Western art from the eighteenth through the twentieth centuries. Open to all students. Fee. 3 sem. hrs.

VAH 350. WESTERN ARCHITECTURE: Introduction to the history, theory, and practice of Western architecture from pre-history through the contemporary period. Open to all students. Fee. 3 sem. hrs.

\* VAH 360. ART HISTORY AND FEMINISM: Introduction to feminist approaches to art history and women artists from the medieval period to the present. Open to all students. Fee. 3 sem. hrs.

VAH 370. AMERICAN ART: Introduction to American art and architecture from the colonial period to the present. Open to all students. Fee. 3 sem. hrs.

\* VAH 382. HISTORY OF PHOTOGRAPHY I: History of the cultural, social, and aesthetic roles of photography from the camera obscura to 1945. Emphasis on the changing practice and perception of the medium as an art form, as social document, and as popular culture. Open to all students. Fee. *3 sem. hrs.*

VAH 383. HISTORY OF VISUAL COMMUNICATION DESIGN: Study of the significant developments, movements, and figures in the history of visual communication with an emphasis on the twentieth century. Open to all students. Fee. *3 sem. hrs.*

VAH 450. ITALIAN RENAISSANCE ART: Introduction to the painting, sculpture, and architecture of Italy between c. 1300 and c. 1550. Prerequisite: VAH 202 or permission. Fee. *3 sem. hrs.*

VAH 460. BAROQUE ART: Study of the major painters, sculptors, and architects of the seventeenth century. Prerequisite: VAH 202 or permission. Fee. *3 sem. hrs.*

\* VAH 470. NINETEENTH-CENTURY ART I: Study of the major artists and movements in European art from Neo-Classicism to the beginnings of Realism. Prerequisite: VAH 203 or permission. Fee. *3 sem. hrs.*

\* VAH 471. NINETEENTH-CENTURY ART II: Study of the major artists and movements in European art from Realism through Art Nouveau. Prerequisite: VAH 470 or permission. Fee. *3 sem. hrs.*

\* VAH 480. TWENTIETH-CENTURY ART I: Study of the major movements and artists in the painting, sculpture, architecture, and other media from 1900 to 1945. Open to all students. Fee. *3 sem. hrs.*

VAH 482. HISTORY OF PHOTOGRAPHY II: The history of photography from 1945 to the present. Open to all students. Fee. *3 sem. hrs.*

VAH 483. TWENTIETH-CENTURY ART II: Study of the major movements and artists in painting, sculpture, architecture, and other media from 1945 to the present. Open to all students. Fee. *3 sem. hrs.*

VAH 485. ART HISTORY SEMINAR: A seminar and capstone reading and research course concentrating on one art historical topic for detailed analysis. May be repeated as topics change. Permission of instructor. *3 sem. hrs.*

VAH 490. SPECIAL PROBLEMS: Advanced, independent study with faculty direction in art history. Prerequisite: one art history course or permission. *1-5 sem. hrs.*

Slide library and film fees: \$25.

## VISUAL ARTS

VAR 100. VISUAL ARTS FOUNDATION: Defines and examines the process of beginning a program of education in the visual arts within the larger context of the College of Arts and Sciences and the University. Integrates pragmatic and conceptual issues critical to liberal learning for visual arts students. *1 sem. hr.*

**VAR 200. INTRODUCTION TO VISUAL ARTS COMPUTING:** An introduction to the computer as a tool, and the computer lab as an environment, for visual art production. Studio fee. *1 sem. hr.*

**VAR 345. COMPUTER MODELING AND ANIMATION I:** Introduction to history, theory, and practice of 3-dimensional computer modeling and animation for video, computer and print media. Visualization, Cartesian space, simple polygonal modeling, surface rendering, and animation techniques will be explored. Prerequisite: VAP 240, or VAR 200, or permission. Studio fee. *3 sem. hrs.*

**VAR 440. COMPUTER MODELING AND ANIMATION II:** Detailed study of spline-based modeling, surface rendering and mapping, editing complex animation sequences, motion control, and other topics. Prerequisite: VAR 345. Studio fee. *3 sem. hrs.*

**VAR 445. COMPUTER MODELING AND ANIMATION III:** Individual projects in conceptualization and production of animated sequence from storyboard to final presentation. Prerequisite: VAR 440. Studio fee. *3 sem. hrs.*

**VAR 490. SPECIAL PROBLEMS:** Advanced, independent study with faculty direction in a visual arts subject or topic that is not covered in existing, discipline-specific courses. Permission. Studio fee. *1-5 sem. hrs.*

Studio fees: \$25. - \$60.

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\* General Education course. See Chapter V.



## WST

### 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 of women. It also looks to the future, intending to enhance the dignity, worth, and effectiveness of all women.

The minor in women's studies requires 13 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) from at least three different disciplines. The following courses are among those offered.

ASI	228	Focus on Women
CMS	415	Women and Communication
ENG	204	Major American Writers: Women Writers <sup>1</sup>
ENG	319	Contemporary Fiction: Women Writers <sup>1</sup>
ENG	324	The Novel: Contemporary Women Novelists <sup>1</sup>
ENG	324	The Novel: Southern Women Writers <sup>1</sup>
ENG	329	The Short Story: Women Writers <sup>1</sup>
ENG	333	Images of Women in Literature
ENG	335	Modern Black Literature
HSS	130	Self Defense for Women
HSS	376	Women's Health Issues
HST	351	History of American Women
HST	352	History of the American Family
HST	353	History of Women in European Societies
MGT	440	Women in Management
PHL	307	Philosophy and Women
POL	300	Women and Politics
PSY	443	Psychology of Women
PSY	462	Human Sexuality
REL	471	Women and Religion
REL	472	Ecology and Religion
REL	492	Women and the Global Church
SOC	322	Sex Roles and Society
SOC/SWK	330	Perspectives on Aging
SOC	332	Sociology of Women
VAH	360	Art History and Feminism

In addition, independent study courses and UDI courses may be applicable.

<sup>1</sup>Topics courses in various departments may be applicable if they are readily identifiable as pertinent to women's studies. Students who wish to be recorded as minoring in women's studies should notify their respective deans and the director of women's studies.

## WOMEN'S STUDIES COMMITTEE

L. Majka (Sociology, Anthropology, and Social Work), *Director of Women's Studies*  
Benz (Educational Administration), Carlson (History), Corbitt (Psychology),  
Fischer (Philosophy), Johnson (Philosophy), Kettering (Visual Arts), Martin  
(Religious Studies), O'Meara (Languages), Shereen (English), Vesper (Arts &  
Sciences), Youngkin (English).







# VII School of Business Administration

Sam Gould, Dean

John E. Rapp, Associate Dean

E. James Dunne, Associate Dean, Director of Graduate Program

Thomas W. Ferratt, Associate Dean for Learning Technology and Faculty Development

Mary Beth DeConinck, Assistant Director, Undergraduate Program

The School of Business Administration seeks to develop people and knowledge which make a difference in business and society. Our mission is to create outstanding value for our stakeholders by providing high quality educational programs, that deliver the best in business thinking and practice, embody the Catholic/Marianist educational tradition and prepare well-rounded graduates for successful business careers and further education.

The undergraduate curriculum has three distinct emphases: a foundation in the liberal arts, a firm grounding in the common body of business knowledge, and specialization in a business major. Supplemented with opportunities for enrichment, the curriculum stimulates critical thinking, enhances communication skills, integrates and synthesizes knowledge, and fosters ethical decision-making and moral leadership. It is built upon the enduring and fundamental bases of knowledge that can prepare students for careers in the complex global economy of the 21st century.

## ADMISSION TO THE SCHOOL OF BUSINESS ADMINISTRATION

The minimum requirements for admission to the School of Business Administration are the following:

- Graduation from an accredited high school
- The following units of college preparatory subjects:

English	4 units
Mathematics (Algebra I & II, Geometry)	3 units
Natural Science with a Laboratory	1 unit
Social Science	2 units
- Students who rank in the upper half of their high school graduating class and who have SAT scores of 950 or ACT scores of 22 are automatically eligible for admission to the School of Business Administration. Applicants who do not meet these criteria are judged on an individual basis. Consideration is given to the type of courses taken, the type of secondary school attended, and leadership activities, in addition to class rank and standardized test scores.
- Any person whose native language is not English must submit an acceptable score in the Test of English as a Foreign Language (TOEFL). (See also International Students in Chapter III.)

## TRANSFER STUDENTS

Candidates for admission from other accredited colleges or universities must be in good academic standing in the colleges or universities from which they are transferring, and must have a cumulative grade point average of at least 2.00 (on a scale of 4.0). Individual courses can be transferred only if the student earned a grade of C or better; courses in which a D grade was received will not be transferred. They must also meet the admission requirements as set by the faculty of the School of Business Administration. Upper-divisional business

courses can be transferred only from business schools accredited by the American Assembly of Collegiate Schools of Business (AACSB). At least 75 percent of the students' business courses must be completed at the University of Dayton. Students planning to attend two-year colleges before transferring to the School of Business Administration are encouraged to follow arts and sciences or pre-business programs rather than technical terminal programs. (See also Chapter III.)

## RETURNING STUDENTS

A qualified student who returns to the School of Business Administration after an absence of one calendar year or longer may be readmitted to the School of Business Administration according to the University of Dayton requirements which are applied to transfer students from other universities and colleges. (See Chapter III.) These students will be required to satisfy the program requirements which are current at the time of their readmission to the School of Business Administration. Part-time students (those who carry fewer than 12 semester hours) who are readmitted after an absence of two or more years will be required to satisfy the program requirements which are current at the time of readmission to the School of Business Administration.

## REQUIREMENTS FOR THE BACCALAUREATE DEGREE

The School of Business Administration programs lead to the degree of Bachelor of Science in Business Administration upon satisfactory completion of the following requirements:

1. The candidate must complete successfully the first- and second-year business administration program, which is designed to give a wide and liberal education for a broader comprehension of the fields of business administration and economics. All students in the School of Business Administration must complete a common block of courses known as the SBA core.
2. The candidate must earn a cumulative grade point average of at least 2.0 in the total semester hours required for the degree and in the major. The 2.00 requirement in the major is calculated using *all* 300-400 level courses attempted in the student's major; courses numbered at the 100 or 200 level are *not* included in this calculation.
3. Each candidate must complete at least 54 upper-level semester hours, with a minimum of 36 semester hours in 300-400-level courses in the School of Business Administration, of which 18 semester hours or more must be in one of the academic majors.
4. Candidates majoring in economics, finance, management, or marketing must complete a minimum of 121 semester hours. A major in accounting requires 122 semester hours, and a major in management information systems requires 124 semester hours.
5. The candidate's final 30 semester hours must be earned in residence at the University of Dayton.
6. The School of Business Administration will not accept any business or business-related courses more than ten years old.
7. A maximum of two semester hours of physical education activities courses (HSS 130) may be applied toward the minimum graduation requirement.
8. The candidate has the responsibility of meeting degree requirements in business administration. Therefore, the student should be thoroughly familiar with the course requirements and should keep a record of courses completed and semester hours applicable to degree requirements.

## GRADING OPTION

All students in the School of Business Administration must register under Grade Option 1 for courses in any department of the School of Business Administration. Other courses that must be taken under Option 1 are MTH 128, 129; PHL 313; REL 368; the communication requirement; and general education courses. MIS majors must take required computer science courses under Option 1.

## FIRST- AND SECOND-YEAR SBA PROGRAM

The program below is to be followed by students who will major in accounting, economics, finance, management, or marketing. Students planning to major in management information systems should follow the program outlined in the section on the Department of Management Information Systems and Decision Sciences (MIS) in this chapter.

The program below contains all of the requirements for the first and second years. There is flexibility in the sequencing of some courses—e.g., PHL 103 can be taken during either the first or the second semester; some courses listed in the first year can be taken during the second year or vice versa. Consult the academic advisor for sequencing options.

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
BAI	150	Business Educational Planning <sup>1</sup>	1	
BAI	103L	Business Computing Laboratory <sup>1</sup>	1	
ENG	101-102	College Composition I and II <sup>2</sup>	3	3
HST	101 or 102	History of Western Civilization		3
MTH	128	Finite Mathematics <sup>3</sup>	3	
MTH	129	Calculus for Business		3
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion		3
CMM	101	Fundamentals of Oral Communication <sup>4</sup>	3	
—	—	General Education requirements <sup>5</sup>	3	4
			<u>17</u>	<u>16</u>
Sophomore Year				
ACC	207-208	Principles of Accounting I and II	3	3
DSC	210-211	Statistics for Business I and II	3	3
ECO	203-204	Principles of Microeconomics and Macroeconomics	3	3
—	—	Social science elective <sup>6</sup>	3	
—	—	Communication requirement <sup>7</sup>		3
MGT	203	Legal Environment of Business	3	
—	—	General Education requirements <sup>5</sup>		3
			<u>15</u>	<u>15</u>

<sup>1</sup>Does not count toward minimum graduation requirement. A proficiency test for BAI 103L is available for those with adequate background.

<sup>2</sup>Students placed in ENG 114 or 198 take a nonbusiness elective the second term.

<sup>3</sup>MTH 102 is recommended for students with insufficient knowledge of secondary mathematics. MTH 102 does not count toward minimum graduation requirement.

<sup>4</sup>Students testing out of CMM 101 will substitute a nonbusiness elective.

<sup>5</sup>See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g. PHL 103); others are to be chosen from the listing of approved courses set forth in Chapter V.

<sup>6</sup>Choose any approved General Education social science elective.

<sup>7</sup>Choose from ENG 370, ENG 372, ENG 378, CMM 321, CMM 420 or CMM 421.

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## UPPER-LEVEL PROGRAMS

Specialization in the School of Business Administration occurs in the junior and senior years. Majors are available in accounting, economics, finance, management, management information systems, and marketing. These programs are described later in this chapter.

Each major involves some number of general electives, as seen in the appropriate program descriptions. In choosing electives, students must bear in mind two considerations. One is that at least three semester hours of general electives must be taken outside the School of Business Administration. The other is that a minimum of 54 semester hours of *all* academic work must be at the 300-400 level.

Double majors and minors in business administration are available; requirements for minors are set forth under the descriptions for each academic unit later in this chapter. Minors in some nonbusiness programs are also available; consult the appropriate department for details.

## CERTIFICATE IN INTERNATIONAL BUSINESS

The certificate in international business is designed to certify a major emphasis in international business and consists of course work, language competency and an international experience. It is open to all university students, regardless of major, and enhances the qualifications of students seeking international careers. The certificate is posted on the student's transcript and a separate certificate is included with the student's baccalaureate degree. Five categories of requirements are involved for the certificate, as follows.

### 1. CORE BUSINESS COURSES

Two tracks are available, one for those seeking an economics and financial emphasis and the second for those seeking a marketing or personnel emphasis. Those seeking an economics or financial emphasis complete ACC 207 and 208 or ACC 301; ECO 203 and 204; FIN 301 and DSC 316. Those seeking a marketing or personnel emphasis complete ACC 207 or ACC 301 and ECO 203.

### 2. INTERNATIONAL BUSINESS COURSES

Students take two international business courses. It is recommended that those seeking the economics or financial emphasis select two from among the following: ACC 412, ECO 450, ECO 460, ECO 461 or FIN 450. It is recommended that those seeking a marketing or personnel emphasis select two from the following: ECO 450, MGT 430, MKT 440 or MKT 445. Students following either emphasis may substitute from the above lists, so long as two international business courses are completed.

### 3. CAPSTONE COURSE

All students seeking the international business certificate are required to complete BAI 450, Seminar in Current Global Issues.

### 4. LANGUAGE COMPETENCY

All students seeking the international business certificate are required to demonstrate language proficiency equivalent to two years of college language.

### 5. INTERNATIONAL EXPERIENCE

All students seeking the international business certificate are required to complete an international experience—a study abroad program, a study abroad intensive language program, an international internship or a significant international work experience.

## MINOR IN INTERNATIONAL BUSINESS

The minor in international business is an interdisciplinary program in business administration which consists of 18 semester hours. Nine of these are chosen from business courses; the remaining nine are chosen from nonbusiness internationally-related courses, in consultation with the student's academic advisor. It is recommended, but not required, that a portion of the nine semester hours of nonbusiness courses be upper-level language courses.

The requirement for international business courses consists of three courses, one each from any three of the following functional areas. One of these courses may also count toward the student's major, with the approval of the department chairperson.

#### Accounting:

ACC 412 International Accounting

#### Economics:

ECO 450 Comparative Economic Systems

ECO 460 Economic Development and Growth

ECO 461 International Economics

#### Finance:

FIN 450 International Business Finance

#### Management:

MGT 430 Multinational Corporate Management

#### Marketing:

MKT 440 Multinational Marketing

MKT 445 Special Topics in International Marketing (for Study Abroad Program)

#### Business Administration Interdisciplinary:

BAI 301 Practicum in International Business

## MINOR IN BUSINESS ADMINISTRATION

Two minors in business administration are available to students in other divisions of the university. One is designed to prepare students with any undergraduate major to pursue a Master of Business Administration (MBA) degree; the other is for students who may be seeking business careers.

**MBA preparation.** Most MBA programs prefer that incoming students complete courses in the basic business disciplines. Students enrolling in MBA programs without the basic courses are typically required to complete them before proceeding to regular master's level courses, which extends considerably the time required to complete MBA requirements. The courses listed below will fulfill these basic requirements in most MBA programs; completion of the courses entitles a student to list a minor in business administration. Students are required to take all of the following.

ECO 203, 204	Principles of Microeconomics and Principles of Macroeconomics
ACC 301	Financial Accounting
DSC 210, 211	Statistics for Business I and II
DSC 316	Production and Operations Management
FIN 301	Business Finance
MGT 203	Legal Environment of Business
MGT 311	Organization Behavior and Management
MIS 365	Management Information Systems

**Career minor.** Any student may also complete a minor in business administration which emphasizes a background for business careers. The requirements for this minor are listed below.

Lower level courses. Students are required to complete all of the following:

ECO 203-204	Principles of Microeconomics and Principles of Macroeconomics
ACC 301	Financial Accounting
MTH 207	Statistics for Business I (or some other statistics course)
MGT 203	Legal Environment of Business

Upper level courses: Students must complete any three of the following:

ECO 346	Intermediate Microeconomics
DSC 316	Production and Operations Management
FIN 301	Business Finance
MGT 311	Organization Behavior and Management
MIS 365	Management Information Systems
MKT 305	Principles of Management

Two additional upper level courses, both from the same functional area: DSC, ECO, FIN, MGT, MKT or MIS. These courses must be selected from one of the three areas in which the student has taken the upper level core course listed above.

## INTERNSHIP

Internship is work experience offered for academic credit in each of the departments in the School of Business Administration. The intent is to provide practical experience in implementing the theory and skills learned in the classroom, in work associated with the student's academic concentration. It is an option open to all undergraduate students pursuing four-year programs once they have fulfilled the following prerequisites:

1. Students must have completed a minimum of 45 semester hours.
2. A minimum of 2.0 cumulative grade average is required and must be maintained.
3. Approval from the department chairperson of the student's major is a prerequisite for participation in the program.

Positions offered to students may be either compensatory or noncompensatory. The intent of the internship is to be beneficial to both the students and the participating organizations. Students are encouraged to find positions themselves, and these are acceptable if the employers agree to the conditions for participating organizations.

Credits earned in internship may be applied as general electives or associated with the student's major, depending upon the requirements of the individual departments. The maximum number of semester hours that may be earned over the full four-year degree program is twelve. Individual department requirements differ and should be checked under the 497 course numbers in the pages which follow.

The internship program is offered in all terms with special policy and conditions governing the summer session. During the first and second terms internships are offered in the Dayton area, while during the summer session arrangements can be made for out-of-town participation. Interested students should see the internship coordinator for further information as soon as they are eligible for participation.

## COOPERATIVE EDUCATION

The School of Business Administration participates in the University of Dayton Cooperative Education Program, which is an optional program of full-time, on-campus study alternating with terms of full-time, off-campus work training. For a fuller explanation of the program, refer to Chapter X.



## ACC

### ACCOUNTING (ACC)

The Department of Accounting offers a program that prepares students to begin professional careers in public accounting, private industry, government, and not-for-profit organizations. The accounting program emphasizes communication, intellectual and interpersonal skills, general education and business and accounting knowledge, with a professional, ethical orientation.

An accounting major must earn credit in at least seven upper-level accounting courses. Six specific courses are required: ACC 303, 305, 306, 341, 401, and 420. At least one additional accounting course is required. All upper-division accounting courses require a minimum grade of "C" in all prerequisite accounting courses. Students should consult with their academic advisor about selecting accounting and other elective courses appropriate to particular career goals. Students should also consult their advisor or the chairperson about opportunities for professional work-experience (e.g., co-op or internship), minors, international opportunities/study, requirements for professional (e.g., CPA) examination, etc.

Students may complete the new "150 semester hour" requirements to register for the CPA Exam in Ohio (effective in Ohio on Jan. 1, 2000) and numerous other states. The MBA program with a specialization in accounting is particularly useful in this regard. Consult the department chairperson or the advisor for more information.

#### PROGRAM B1: BACHELOR OF SCIENCE WITH A MAJOR IN ACCOUNTING (ACC)

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
Junior Year				
ACC	303	Managerial Accounting	3	
ACC	305-306	Intermediate Financial Accounting I & II	4	3
ACC	341	Accounting Information Systems I		3
FIN	301	Business Finance		3
MGT	311	Organization Behavior and Management	3	
MIS	365	Management Information Systems	3	
MKT	305	Principles of Marketing	3	
PHL	313	Business Ethics		3
or				
REL	368	Christian Ethics and the Business World		
—	—	General Education requirement <sup>1</sup>	—	3
			16	15
Senior Year				
ACC	401	Auditing Principles		3
ACC	420	Federal Income Taxation	3	
ACC	—	Accounting elective <sup>2</sup>	3	
DSC	316	Production and Operations Management	3	
ECO	—	Economics elective <sup>3</sup>	3	
MGT	490	Strategic Management and Policy <sup>2</sup>		3
—	—	General Education requirement <sup>1</sup>		3
—	—	General electives <sup>4</sup>	3	6
			15	15

<sup>1</sup>See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 313 or REL 368); others are to be chosen from the listing of approved courses set forth in Chapter V.

<sup>2</sup>May be waived, and replaced by general electives, for students electing to complete a combined B.S. with a major in accounting and an MBA with a specialization in accounting, the latter as a full-time student, at U.D. Total hours required for graduation for a B.S. with a major in accounting will drop from 122 to 121 and general elective hours increase from 9 to 11 or 14, depending on whether one or both courses are waived.

<sup>3</sup>Choose any 300 or 400 level economics course.

<sup>4</sup>At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. A minimum of 54 sem. hrs. of all academic work must be at the 300-400 level.

The program above contains all of the junior and senior requirements for an accounting major. There is flexibility in the sequencing of some courses. Consult the academic advisor for sequencing options.

For a minor in accounting, at least 19 semester hours are required as follows:

ACC 207-208, Introduction to Accounting (ACC 301 substitutes for ACC 207.)

ACC 305-306, Intermediate Financial Accounting

Two additional accounting courses, chosen in consultation with the department chairperson.

## FACULTY

Ronnie J. Burrows, *Chairperson*

David Smith, *Ernest & Young Faculty Scholar of Accounting*

*Professors:* Roehm, Smith

*Associate Professors:* Brady, Burrows, Geary, Rosenzweig, Vorherr

*Assistant Professor:* Hartwell

*Lecturer:* Hadley

## COURSES OF INSTRUCTION

**ACC 207. INTRODUCTION TO FINANCIAL ACCOUNTING:** Introduction to financial accounting concepts, procedures, and terminology. The accounting framework for recording transactions and reporting to parties external to the organization. Prerequisites: Sophomore standing and BAI 103L or equivalent.

3 sem. hrs.

**ACC 208. INTRODUCTION TO MANAGERIAL ACCOUNTING:** Management use of accounting data in planning and controlling organization activities; theories and practices of cash flow reporting, cost accounting and analysis of data for management decision making. Prerequisite: ACC 207.

3 sem. hrs.

**ACC 301. INTRODUCTION TO ACCOUNTING:** Introduction to financial and managerial accounting concepts, terminology, purposes, and applications for the nonbusiness student. Not open to students in the School of Business Administration or to those with credit in ACC 207.

3 sem. hrs.

**ACC 303. MANAGERIAL ACCOUNTING:** The production, dissemination, and interpretation of financial information for use within an organization. Information for planning, decision making, and control. Study of typical cost accounting systems in various organizations. Prerequisites: ACC 207 and 208; junior standing.

3 sem. hrs.

ACC 305-306. INTERMEDIATE FINANCIAL ACCOUNTING I & II: Comprehensive treatment of financial accounting concepts, principles, and procedures used in the preparation and analysis of financial statements. Prerequisites: ACC 207 and 208; junior standing. ACC 305 is a prerequisite for ACC 306.

*4 and 3 sem. hrs. respectively*

ACC 341. ACCOUNTING INFORMATION SYSTEMS I: Study of designs of accounting systems, including their impact on management decision making and control. Emphasis on (1) a systems approach to the flow of data, (2) system internal control, and (3) computer applications in accounting. Prerequisites: ACC 207 and 208 and MIS 365 or permission of chairperson.

*3 sem. hrs.*

ACC 401. AUDITING PRINCIPLES: Study of the concepts, standards, and procedures used to judge and report on the degree of correspondence between quantifiable information and established criteria; introduction to internal, operational, and governmental auditing. Prerequisites: ACC 306 and 341.

*3 sem. hrs.*

ACC 402. ACCOUNTING FOR NOT-FOR-PROFIT ORGANIZATIONS: Study of the principles, techniques, and procedures related to financial reporting of governmental units and other not-for-profit entities. Prerequisite: ACC 306.

*3 sem. hrs.*

ACC 404. ADVANCED MANAGERIAL ACCOUNTING: Study of the more involved methods and concepts of managerial cost accounting. Includes advanced topics in cost determination and analysis, quantitative methods, behavioral aspects of management decision-making and control systems. Prerequisites: ACC 303 and 341.

*3 sem. hrs.*

ACC 408. ADVANCED FINANCIAL ACCOUNTING: Study of the principles and procedures in accounting for specialized uses in business combinations, consolidations, government and other not-for-profit entities, multinational companies, and foreign currency transactions. Prerequisite: ACC 306.

*3 sem. hrs.*

ACC 412. INTERNATIONAL ACCOUNTING: Introduction to the issues and problems of international business as they relate to accounting; how various countries perceive and deal with specific accounting problems. Prerequisite: ACC 208 or permission of chairperson.

*3 sem. hrs.*

ACC 413. ADVANCED ACCOUNTING PROBLEMS: Comprehensive study and analysis of accounting principles and practices, using specific problems for development of approaches to problem solving. Prerequisite: Permission of chairperson.

*3 sem. hrs.*

ACC 414. SEMINAR IN ACCOUNTING: Study of accounting theory, current accounting issues, and recent authoritative pronouncements. Prerequisite: 12 sem. hrs. of upper-level ACC courses or permission of instructor.

*3 sem. hrs.*

ACC 420. FEDERAL INCOME TAXATION: Study of federal income tax laws and their application to individuals, partnerships, and corporations. The historical, social, economic, and political influence on taxation laws are emphasized. Consideration is given to legal, moral, business, and personal factors involved in taxation. Prerequisite: ACC 305 or ACC 207 (or ACC 301) with permission of chairperson.

*3 sem. hrs.*

ACC 421. ADVANCED TAXATION: Study of taxation of corporations, partnerships, and estates and trusts. Emphasis on the impact of taxation on business entities. Prerequisite: ACC 420. *3 sem. hrs.*

ACC 430. LAW FOR THE ACCOUNTING PROFESSION: Study of major laws affecting the public and private practice of accounting; contracts, property, commercial code, bankruptcy, business organizations, legal responsibility, and government regulations. Credit does *not* apply to requirements for ACC major. Prerequisites: MGT 203; permission of chairperson. *3 sem. hrs.*

ACC 441. ACCOUNTING INFORMATION SYSTEMS II: Examination of accounting systems with exposure to systems design and evaluation, complex spreadsheet applications, decision support systems, and data base management applications. Prerequisite: ACC 341 or permission of instructor. *3 sem. hrs.*

ACC 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of program director and chairperson. *3 sem. hrs. each*

ACC 497. LABORATORY WORK EXPERIENCE: Supervised accounting work experience in association with a participating public accounting, industrial, commercial, educational, health-care, or governmental organization. (See internship coordinator for details.) Credit does *not* apply to requirements for ACC major. Permission of chairperson required. *1-6 sem. hrs.*

ACC 498. COOPERATIVE EDUCATION: Full-time accounting work term(s), alternating with study terms for a multi-term experience. (See Chapter X; consult Career Placement Center for details.) Credit does *not* apply to requirements for ACC major. Permission of chairperson required. *1-6 sem. hrs.*

ACC 499. INDEPENDENT STUDY IN ACCOUNTING: Directed readings, independent study, and research projects in selected fields of accounting. Periodic conferences with instructor. Prerequisites: Senior status in accounting; permission of chairperson and instructor. *1-6 sem. hrs.*

## DSC

### DECISION SCIENCES (DSC)

The Department of Management Information Systems and Decision Sciences offers courses in several quantitative and systems areas, a major and a minor in management information systems (see MIS), and a minor in decision sciences.

Decision sciences is the study of analysis, quantitative methodologies, and their application to the functional and behavioral problems of any organization. The major areas of study include applied statistics, operations research, and production and operations management. All business students take three decision sciences courses as part of their core business coursework: DSC 210, Statistics for Business I; DSC 211, Statistics for Business II; and DSC 316, Production and Operations Management.

The minor in decision sciences (DSC) offers business majors and other students an opportunity to develop their skills in the quantitative methods which support managerial decision making. The following courses are required for a minor in decision sciences:

DSC 210, Statistics for Business I

DSC 211, Statistics for Business II

MIS 365, Information Systems in Organizations

DSC 370, Decision Support Systems

DSC 316, Production and Operations Management

Six additional semester hours of DSC or MIS courses.

Specific courses in other areas (e.g. mathematics) may be used. See chairperson for approval.

### FACULTY

Jeffrey A. Hoffer, *Chairperson, Department of Management Information Systems and Decision Sciences*

Professor Emeritus: Casey

Prabuddha De, *Sherman-Standard Register Chair in MIS*

Professors: De, Dunne, Ferratt, Hoffer, Vlahos, Wells

Associate Professors: Amsden, Bohlen, Young, Prasad, Sinha

Lecturer: Davis

### COURSES OF INSTRUCTION

DSC 210. STATISTICS FOR BUSINESS I: Basic concepts of statistics including descriptive statistics, probability, probability distributions, and estimation. Prerequisites: MTH 129; BAI 103L. 3 sem. hrs.

DSC 211. STATISTICS FOR BUSINESS II: Tests of hypotheses, analysis of variance, simple and multiple regression and correlation, and nonparametric methods. Prerequisite: DSC 210. 3 sem. hrs.

DSC 313. ADVANCED BUSINESS STATISTICS: Selected topics from advanced statistics with emphasis on business applications. Prerequisite: DSC 211 or equivalent. 3 sem. hrs.

**DSC 316. PRODUCTION AND OPERATIONS MANAGEMENT:** Study of the management of processes that produce goods and services. Emphasis on the use of quantitative techniques in the analysis of production systems. Discussion of current trends such as just-in-time, total quality, and flexible manufacturing. Prerequisite: DSC 211 or equivalent. *3 sem. hrs.*

**DSC 370. DECISION SUPPORT SYSTEMS:** Information systems and mathematical modeling for managerial analysis and decision making. Develops skills to solve problems using computer-based modeling in selected disciplines, such as marketing or finance. Topics include components of a DSS, linear programming, simulation modeling, group decision making, and intelligent support systems. Prerequisites: DSC 211; MIS 365. *3 sem. hrs.*

**DSC 410. DECISION THEORY:** Introduction to the analysis of decisions under uncertainty. Topics include structuring of the decision process, Bayesian decision theory, and multicriteria decision making. Prerequisite: DSC 211 or equivalent. *3 sem. hrs.*

**DSC 415. SIMULATION MODELING AND ANALYSIS:** Introduction to simulation models in support of business decision making. Emphasis on building and analyzing models in a variety of applications including manufacturing and service systems. Study and use of a simulation language. Prerequisites: BAI 103L; DSC 211. DSC 370 recommended. *3 sem. hrs.*

**DSC 430. QUALITY AND JIT IN MANUFACTURING:** The concepts of just-in-time manufacturing, total quality system, and statistical process control. Projects, tours, and guest speakers. Prerequisite: DSC 316. *3 sem. hrs.*

**DSC 435. ANALYSIS OF FACTORY SYSTEMS:** Concepts and techniques for the analysis, design, and management of factory production systems. Work-flow layout, scheduling techniques, stochastic process models, simulations, and computerized factory models. Prerequisites: DSC 370, 316. *3 sem. hrs.*

**DSC 440. CONTINUOUS IMPROVEMENT:** Theory and practice of continuous improvement especially as applied in manufacturing; comparison to the traditional operations management approach, tools and techniques, the KAIZEN approach. Prerequisite: DSC 316. *3 sem. hrs.*

**DSC 491-492. HONORS THESIS:** Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

**DSC 494. SEMINAR IN DECISION SCIENCES:** Study of selected topics or issues in applied statistics, quantitative business analysis, and production and operations management. Topics vary from time to time. May be taken more than once if topics change. Title will reflect topics covered in a particular offering. *3 sem. hrs.*

**DSC 497. LABORATORY WORK EXPERIENCE:** Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization, practical experience in work associated with the student's minor concentration. (See internship coordinator for details.) Does not satisfy MIS elective. Permission of chairperson required. *1-6 sem. hrs.*

**DSC 499. INDEPENDENT STUDY IN DECISION SCIENCES:** Research in conjunction with a faculty member on a subject within the general area of decision sciences. Normally open only to juniors and seniors who have attained a cumulative grade-point average of 3.0 or above. Permission of chairperson required. *1-6 sem. hrs.*

## ECO

### ECONOMICS (ECO)

The major program in economics is designed for students seeking careers as economists in education, government, or business. The major is excellent preparation for graduate work in either economics or business administration and for law school. The student is equipped with the tools for the systematic analysis of the economics of the firm, the industry, the nation, and the world.

The major in economics consists of ECO 203-204, Principles of Micro- and Macroeconomics; ECO 346, Intermediate Microeconomic Analysis; ECO 347, Intermediate Macroeconomic Analysis; and 15 semester hours of economics electives. Students in the College of Arts and Sciences desiring to major in economics will follow the program for the Bachelor of Arts in Economics. (See ECO, Chapter VI.)

The program below contains all of the junior and senior requirements for an economics major. There is flexibility in the sequencing of some courses. Consult the academic advisor for sequencing options.

#### PROGRAM B2-A: BACHELOR OF SCIENCE WITH A MAJOR IN ECONOMICS (ECO)

Dept.	No.	Course	Semester Hours	
Junior Year			1st Term	2nd Term
ECO	346	Intermediate Microeconomic Analysis	3	
ECO	347	Intermediate Macroeconomic Analysis		3
ECO	—	Economics elective		3
FIN	301	Business Finance	3	
MGT	311	Organization Behavior and Management	3	
MIS	365	Management Information Systems		3
MKT	305	Principles of Marketing		3
PHL	313	Business Ethics	3	
or				
REL	368	Christian Ethics and the Business World		
—	—	General Education requirement <sup>1</sup>	3	
—	—	General elective <sup>2</sup>		3
			<hr/>	<hr/>
			15	15
Senior Year				
DSC	316	Production and Operations Management	3	
ECO	—	Economics electives	6	6
MGT	490	Strategic Management and Policy		3
—	—	General Education requirement <sup>1</sup>	3	
—	—	General electives <sup>2</sup>	<hr/>	<hr/>
			3	6
			<hr/>	<hr/>
			15	15

<sup>1</sup>See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 313 or REL 368); others are to be chosen from the listing of approved courses set forth in Chapter V.

<sup>2</sup>At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. A minimum of 54 sem. hrs. of all academic work must be at the 300-400 level.

For a minor in economics, 18 semester hours are required:

ECO 203-204, Principles of Micro- and Macroeconomics

ECO 346-347, Intermediate Micro- and Macroeconomics Analysis

Six additional semester hours in economics.

## FACULTY

Elizabeth Gustafson, *Chairperson*

Hamid Beladi, *Charles R. and Patricia R. Niehaus*

*Chair in Memory of Al H. Mahrt and Marcie N. Mahrt in Business Administration*

*Professors:* Beladi, Chen, Rapp, Weiler, Winger

*Associate Professors:* Frasca, Gustafson, Hadley, Mohan, Sauer

*Assistant Professors:* Ruggiero, Steiner, Whyte

*Adjunct Instructor:* John

## COURSES OF INSTRUCTION

\* ECO 203. PRINCIPLES OF MICROECONOMICS: An introduction to consumer and producer behavior in a market economy, demand and supply, pricing and firm behavior under perfect and imperfect competition, and the distribution of income. Discussion of current topics in microeconomics may be included. 3 sem. hrs.

\* ECO 204. PRINCIPLES OF MACROECONOMICS: Introductory economic analysis of the macroeconomy; the determination of gross national product, employment, inflation and the interest rate in the U.S. economy. Government policy, money and banking, and international trade are analyzed. Prerequisite: ECO 203 recommended. 3 sem. hrs.

\* ECO 310. ECONOMICS OF THE ENVIRONMENT: Introduction to the economics of the global environment including an analysis of market failure as a cause of environmental degradation. Topics covered include cost-benefits analysis, criteria for public investment, regulation of the environment, and the sustainable global environment. Prerequisite: ECO 203 strongly recommended. 3 sem. hrs.

ECO 346. INTERMEDIATE MICROECONOMIC ANALYSIS: Analysis of the theory of consumer behavior, production theory, equilibrium of the firm, price determination in various market structures, distribution of income, allocation of resources, welfare economics. Prerequisite: ECO 203. 3 sem. hrs.

ECO 347. INTERMEDIATE MACROECONOMIC ANALYSIS: National income accounting and the determination of the level of income and employment; classical, Keynesian, and post-Keynesian models; private, government, and foreign sectors; theories of inflation and economic growth. Prerequisite: ECO 204. ECO 203 recommended. 3 sem. hrs.

ECO 390. ANTITRUST ECONOMICS: Study of how economic analysis has been applied in the interpretation of the antitrust statutes. Examines major anti-trust laws and relevant case law and reviews economic theories of market behavior. Prerequisite: ECO 203. 3 sem. hrs.

ECO 430. HISTORY OF ECONOMIC THOUGHT: Development of economic thinking from Biblical times to the present; overview of mercantilism, physiocracy, and classical, utilitarian, socialist, neoclassical, and Keynesian streams of thought. Prerequisites: ECO 203, 204. 3 sem. hrs.



ECO 441. **ECONOMETRICS:** Training in the art of making economic measurements from empirical data, using regression analysis as the principal tool; use of a computer program for determining the parameters and statistical measures of the regression equation; interpretation of the results by statistical inference. Prerequisites: Differential calculus and basic statistics or permission of the instructor.

*3 sem. hrs.*

ECO 442. **MONEY AND BANKING:** Principles of money and monetary systems; commercial banking and the role of the Federal Reserve System; monetary theory and policy; the mechanism of international payments. Prerequisites: ECO 203, 204.

*3 sem. hrs.*

ECO 445. **PUBLIC FINANCE:** The economic aspects of government finance at the local, state, and especially national level; the behavioral effects of various taxes, efficiency in spending, the changing role of the U.S. government, fiscal policy, and intergovernmental revenue and expenditure programs; emphasis on relating analytical tools to current developments. Prerequisites: ECO 203, 204.

*3 sem. hrs.*

ECO 450. **COMPARATIVE ECONOMIC SYSTEMS:** Analysis of the principal tools of economic systems of the world, primarily capitalism, socialism, and communism. A comparative analysis of how each type of economic system allocates resources to achieve desired economic goals. Prerequisites: ECO 203, 204.

*3 sem. hrs.*

ECO 460. **ECONOMIC DEVELOPMENT AND GROWTH:** Study of various dynamic economic theories of growth and structural change; the role of particular factors of production and related noneconomic variables in the development process, primarily, though not exclusively, of Third World nations. Prerequisites: ECO 203, 204.

*3 sem. hrs.*

ECO 461. **INTERNATIONAL TRADE:** Study of international trade and comparative advantage, trade interventions including tariffs and quotas, free trade agreements and trading blocks, international factor movements, and the international pattern of production and trade. Prerequisites: ECO 203, 204. ECO 346 recommended.

*3 sem. hrs.*

ECO 471. **LABOR ECONOMICS:** Theory of labor supply and demand, human capital theory, and the process by which wages are determined in various factor markets; applications to topics of unemployment, unions, migration, discrimination, and skill differentials. Prerequisites: ECO 203, 204.

*3 sem. hrs.*

ECO 485. **URBAN AND REGIONAL ECONOMICS:** Treatment of certain theoretical concepts such as location theory and theories of land use and land rent; an economic interpretation for the existence of cities; applying economic analysis to the problems of traffic congestion, pollution, race, poverty, and urban sprawl. Prerequisite: ECO 203. ECO 346 recommended.

*3 sem. hrs.*

ECO 491-492. **HONORS THESIS:** Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson.

*3 sem. hrs. each*

ECO 494. SEMINAR: Subject varies from time to time. May be taken more than once if topic changes. Prerequisites to be announced. *3 sem. hrs.*

ECO 496. COOPERATIVE EDUCATION: Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Does *not* count toward economics major. Permission of chairperson required. *3 sem. hrs.*

ECO 497. LABORATORY WORK EXPERIENCE: Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization; practical experience in work associated with the student's major or minor concentration. (See internship coordinator for details.) Does *not* count toward economics major. Permission of chairperson required. *3 sem. hrs.*

ECO 498. STUDIES IN ECONOMICS (HONORS): Directed readings and research in selected fields of economics. The number of sem. hrs. will depend on the amount of work chosen. The course will involve periodic discussions with faculty and other students in the course. May be taken more than once for additional credit. Prerequisite: 3.0 average in economics with a minimum of 9 sem. hrs. in economics; nomination by faculty and permission of chairperson required. *1-6 sem. hrs.*

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\*General Education course. See Chapter V.



# FIN

## FINANCE (FIN)

The major program in finance is designed for students seeking careers in finance, banking, security analysis, or financial institutions. A major in finance is also excellent preparation for graduate study in finance, business administration, and law.

The student majoring in finance will complete FIN 301, Business Finance; FIN 360, Investments; FIN 371, Money and Capital Markets; and a minimum of 12 semester hours of finance electives, 9 of which must be at the 400 level. The student has several optional considerations, which include corporate finance, investment banking, and financial institutions.

The program below contains all of the junior and senior requirements for a finance major. There is flexibility in the sequencing of some courses. Consult the academic advisor for sequencing options.

### PROGRAM B2-B: BACHELOR OF SCIENCE WITH A MAJOR IN FINANCE (FIN)

Dept.	No.	Course	Semester Hours	
Junior Year			1st Term	2nd Term
ECO	—	Economics elective <sup>1</sup>	3	
FIN	301	Business Finance	3	
FIN	360	Investments		3
FIN	371	Money and Capital Markets		3
MGT	311	Organization Behavior and Management	3	
MIS	365	Management Information Systems	3	
MKT	305	Principles of Marketing		3
PHL	313	Business Ethics		3
or				
REL	368	Christian Ethics and the Business World		
—	—	General Education requirement <sup>2</sup>		3
—	—	General elective <sup>3</sup>	3	
			15	15
Senior Year				
DSC	316	Production and Operations Management	3	
FIN	—	Finance electives <sup>4</sup>	6	6
MGT	490	Strategic Management and Policy		3
—	—	General Education requirement <sup>2</sup>	3	
—	—	General electives <sup>3</sup>	3	6
			15	15

<sup>1</sup>Choose any 300 or 400 level economics course.

<sup>2</sup>See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 313 or REL 368); others are to be chosen from the listing of approved courses set forth in Chapter V.

<sup>3</sup>At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. A minimum of 54 sem. hrs. of all academic work must be at the 300-400 level.

<sup>4</sup>The 12 sem. hrs. of finance electives must include at least 9 sem. hrs. at the 400 level.

For a minor in finance, 15 semester hours are required:

- FIN 301, Business Finance
- FIN 360, Investments
- FIN 371, Financial Markets and Institutions

Six additional semester hours in finance, which must include at least three semester hours at the 400 level.

## FACULTY

Elizabeth Gustafson, *Chairperson*

Hamid Beladi, *Charles R. and Patricia R. Niehaus*

*Chair in Memory of Al H. Mahrt and Marcie N. Mahrt in Business Administration*

*Professors:* Beladi, Chen, Rapp, Weiler, Winger

*Associate Professors:* Frasca, Gustafson, Hadley, Mohan, Sauer

*Assistant Professors:* Ruggiero, Steiner, Whyte

## COURSES OF INSTRUCTION

FIN 300. PERSONAL FINANCE: Principles and techniques for handling personal financial decisions: personal budgeting, obtaining credit, life and casualty insurance, buying a home, buying an automobile, and savings and investments. For both business and nonbusiness majors. 3 sem. hrs.

FIN 301. BUSINESS FINANCE: Principles and techniques used by business firms in managing and financing their current and fixed assets; sources of funds within the capital markets; determinants of the financial structure; analytical techniques. Prerequisites: ECO 203; ACC 207 or 301. 3 sem. hrs.

FIN 330. INSURANCE AND RISK MANAGEMENT: Study of the basic concepts of business and personal risks from the standpoint of creation, identification, reduction, elimination, and evaluation of risks; the use of insurance in meeting problems of risk. 3 sem. hrs.

FIN 336. PRINCIPLES OF REAL ESTATE: Survey of real estate industry with emphasis on its structure, regulation, growth, needs, financing, and future. Analysis of the methods of determining land use and evaluation of the theories of city development. 3 sem. hrs.

FIN 360. INVESTMENTS: The principles and techniques used by the investor in selecting securities, emphasis on the stock and bond markets; security valuation methods leading to the selection of individual issues; portfolio theory. Prerequisite: FIN 301. 3 sem. hrs.

FIN 371. FINANCIAL MARKETS AND INSTITUTIONS: Study of financial markets and financial institutions, including the Federal Reserve, interest rate theories, money and capital market securities, interest rate futures, options and swaps, international financial markets, such as commercial banking, insurance, and investment banking. Prerequisite: FIN 301. 3 sem. hrs.

FIN 450. INTERNATIONAL BUSINESS FINANCE: Introduction to problems facing financial management of international companies, including foreign exchange risk, working capital and capital budgeting decisions for multinational corporations, international financing, accounting and control. Prerequisite: FIN 301. 3 sem. hrs.

FIN 460. PORTFOLIO MANAGEMENT AND SECURITY ANALYSIS: Advanced valuation theory and security analysis; portfolio construction, evaluation, and management. Prerequisites: FIN 301, 360. *3 sem. hrs.*

FIN 471. MANAGEMENT OF FINANCIAL INSTITUTIONS: Integrated and comprehensive analysis of financial institutions that include depository institutions, finance companies, contractual intermediaries, securities firms, and investment companies. Prerequisites: FIN 301, 371. *3 sem. hrs.*

FIN 480. SPECULATIVE MARKETS: Study of options and futures markets fundamentals, trading strategies, hedging and speculation, pricing theories, and market regulations. Prerequisites: FIN 301, 360. *3 sem. hrs.*

FIN 490. ADVANCED FINANCIAL ANALYSIS: Advanced study of current developments in financial planning, acquisition of funds, asset management valuation; policy strategy and techniques in financial decision making. Prerequisite: FIN 301. *3 sem. hrs.*

FIN 491-492. HONORS THESIS: Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

FIN 493. SEMINAR IN INVESTMENTS: Application of investment theory and techniques in a real-world setting. Students manage a funded portfolio in terms of establishing objectives, selecting securities to buy (sell), and evaluating portfolio performance. Emphasis is placed upon attempting to identify undervalued common stocks. Prerequisite: FIN 360 required; FIN 460 highly recommended. Admission to the course is limited and must be approved by the instructor. *3 sem. hrs.*

FIN 494. SEMINAR: Subject varies from time to time. May be taken more than once if topic changes. Prerequisites: To be announced. *3 sem. hrs.*

FIN 496. COOPERATIVE EDUCATION: Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Does *not* count toward finance major. Permission of chairperson required. *3 sem. hrs.*

FIN 497. LABORATORY WORK EXPERIENCE: Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization; practical experience in work associated with the student's major or minor concentration. (See internship coordinator for details.) Does *not* count toward finance major. Permission of chairperson required. *3 sem. hrs.*

FIN 498. STUDIES IN FINANCE (HONORS): Directed readings and research in selected fields of finance. The number of semester hours will depend on the amount of work chosen. The course will involve periodic discussions with other students and faculty in the program. May be taken more than once for additional credit. Prerequisite: 3.0 average in finance with a minimum of 9 sem. hrs. in finance; nomination by faculty and permission of chairperson required. *1-6 sem. hrs.*

## INTERDISCIPLINARY STUDIES (BAI)

**BAI 150. BUSINESS EDUCATIONAL PLANNING:** Introduction to the School of Business Administration and the University. Development of approaches to all inclusive educational planning. Does not count toward minimum graduation requirement. *1 sem. hr.*

**BAI 103L. BUSINESS COMPUTING LABORATORY:** Basic computer literacy—hardware, software, databases, networks; introduction to business computer laboratories; use of word-processing, spreadsheet and other business software. Does not count toward minimum graduation requirement. *1 sem. hr.*

**BAI 199. BUSINESS SCHOLARS FORUM I:** Exploration and discussion of a wide range of business topics. Weekly sessions led by faculty members and guest professionals in their areas of expertise. Open only to first-year Business Scholars. *1 sem. hr.*

**BAI 201. BUSINESS SCHOLARS FORUM II:** Similar to BAI 199 with topics geared to sophomore Business Scholars. Open only to sophomore Business Scholars. *1 sem. hr.*

**BAI 295. CAREER DEVELOPMENT SEMINAR:** Seminar for exploration of career options. Involves exploring career options, investigating tentative career choices, deciding on potential career direction, and developing the knowledge and skill to pursue a career direction. Should be taken second semester sophomore year or either semester junior year. Prerequisite for internship or co-op experience if either is undertaken for academic credit. *1 sem. hr.*

**BAI 301. PRACTICUM IN INTERNATIONAL BUSINESS:** Study and analysis of international business concepts: objectives and ethics; planning; decision-making; business skills and entrepreneurial aptitudes. Comparative analysis of various cultures and their impact on international business operation. *3 sem. hrs.*

**BAI 400. DEAN'S LEADERSHIP LABORATORY:** For participation in student advisor program for first year students. Permission of dean's office required. *1 sem. hrs.*

**BAI 450. SEMINAR IN CURRENT GLOBAL ISSUES:** Seminar focusing on various contemporary international issues and regions; topics vary. Required of students completing the certificate in international business. *3 sem. hrs.*

**BAI 497. LABORATORY WORK EXPERIENCE:** Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization; practical experience in work associated with the student's major or minor concentration. (See internship coordinator for details.) Does not count toward major. Permission of dean required. *3-6 sem. hrs.*

## MGT

### MANAGEMENT (MGT)

The Department of Management and Marketing offers a major and a minor in both management and in marketing (see MKT).

A student with a major or minor in management learns the principles necessary for the coordination of organizational resources to achieve personal, organizational, and societal goals. Courses in the major are designed to help students develop understanding and competence in areas such as motivation, organizational design, human resource management, organizational change implementation, effective goal setting, job design, leadership, and project management.

Academic training in management makes students particularly suited for careers in which their understanding and ability to effectively influence human behavior is key to their success. Broadly, these might include such work responsibilities as overseeing operations and sales activities, coordinating transportation of goods and delivery of services, planning and implementing organizational change, selection and training of employees, and defining organizational strategies and setting organizational and individual goals to achieve those strategies. Because management is a broad-based discipline with application across many types of organizations, management majors are equipped for careers in business, educational, governmental, religious, or military organizations.

The major in management consists of:

- MGT 311, Organizational Behavior,
- MGT 312, Organizational Theory and Design and
- 15 additional semester hours of management electives.

The minor in management consists of:

- MGT 311, Organizational Behavior,
- MGT 312, Organizational Theory and Design, and
- 9 additional semester hours of 300-400 level management courses other than MGT 490. Students enrolled in the School of Business Administration may not use core courses for the nine-semester-hour requirement.

Management majors frequently combine their academic studies with either a co-op or internship work experience. Academic credit for such experiences is approved on a case-by-case basis with the criteria being the nature of the experience and its degree of integration into the student's academic program.

The program below contains all of the junior and senior requirements for a management major. Flexibility exists in the sequencing of some courses; however, students should consult an academic advisor for sequencing options.

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#### PROGRAM B3-A: BACHELOR OF SCIENCE WITH A MAJOR IN MANAGEMENT (MGT)

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Dept.	No.	Course	Semester Hours	
Junior Year			1st Term	2nd Term
DSC	316	Production and Operations Management		3
ECO	—	Economics elective <sup>1</sup>	3	
FIN	301	Business Finance	3	
MGT	311	Organizational Behavior	3	
MGT	312	Organization Theory and Design		3
MGT	—	Management elective		3

MIS	365	Management Information Systems		3
MKT	305	Principles of Marketing	3	
—	—	General Education requirement <sup>2</sup>		3
—	—	General elective <sup>3</sup>	3	
			<hr/>	<hr/>
			15	15
Senior Year				
MGT	490	Strategic Management and Policy		3
MGT	—	Management electives	6	6
PHL	313	Business Ethics		3
or				
REL	368	Christian Ethics and the Business World		
—	—	General Education requirement <sup>2</sup>	3	
—	—	General electives <sup>3</sup>	6	3
			<hr/>	<hr/>
			15	15

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<sup>1</sup>Choose any 300 or 400 level economics course.

<sup>2</sup>See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 313 or REL 368); others are to be chosen from the listing of approved courses set forth in Chapter V.

<sup>3</sup>At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. A minimum of 54 sem. hrs. of all academic work must be at the 300-400 level.

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The following courses are required for a minor in management:

MGT 311, Organization Behavior and Management

MGT 312, Organization Theory and Design

Nine additional semester hours of 300-400-level management courses other than MGT 490. Students enrolled in the School of Business Administration may not use core courses for the nine-semester-hour requirement.

## FACULTY

Wesley C. King, Jr., *Chairperson*

*Professors Emeriti:* Darr, R. Miller

*Professor:* Gould

*Associate Professors:* Bickford, Dehler, King, Lee, Schenk,  
Stilwell

*Assistant Professor:* Berger, Combs

*Lecturer:* Forlani

*Adjunct:* Manders, T. Miller, Kairis, Reed

## COURSES OF INSTRUCTION

MGT 203. LEGAL ENVIRONMENT OF BUSINESS: Introduction to the legal system and judicial process as they affect the business community. Development of legal reasoning in substantive law of contracts, torts, and agency. 3 sem. hrs.

MGT 311. ORGANIZATIONAL BEHAVIOR AND MANAGEMENT: Introduction to the study of organizational behavior, which concerns the behavior of people as they interact within organizations to achieve both personal and organizational goals. Prerequisite: Junior standing. 3 sem. hrs.



**MGT 312. ORGANIZATION THEORY AND DESIGN:** A survey course focusing on organization-level analysis, context and structure. Topics include environments, effectiveness, power, technology, culture and information processing. Prerequisite: Junior standing. *3 sem. hrs.*

**MGT 314. PERSONNEL AND HUMAN RESOURCE MANAGEMENT:** Survey of the basic personnel management functions—employment, wage and salary administration, training and development, labor relations, health and safety, and organizational and personnel planning—and their related policies. Prerequisite: MGT 311. *3 sem. hrs.*

**MGT 320. ENTREPRENEURSHIP:** Study of all phases in the life span of the owner-managed enterprise. Major topics include startup issues, business planning, financing, marketing, managing the growing firm, and succession. Prerequisite: MGT 311. *3 sem. hrs.*

**MGT 401. MULTI-CULTURAL MANAGEMENT:** Study of general cross-cultural differences and the development of cross-cultural frameworks in decision-making, negotiation, conflict management, communication, and general business relations. Primary emphasis on understanding how and why cultures differ and how such differences affect the organizational setting. Prerequisites: MGT 311, junior standing. *3 sem. hrs.*

**MGT 405. NEGOTIATION:** Consideration and analysis of conflict resolution and negotiation as applied to the practice of management. Prerequisite: MGT 311. *3 sem. hrs.*

**MGT 410. PROJECT MANAGEMENT AND TEAM BUILDING:** Focuses on the managerial activities (planning, implementing and controlling) associated with the project organizational design. Prerequisite: MGT 311; DSC 316 recommended. *3 sem. hrs.*

**MGT 417. INDUSTRIAL RELATIONS:** Study of interrelationships and interactions of employer and employee. Emphasis placed on how employee knowledge and skills can be used to provide competitive advantage for employer. Both union and nonunion situations studied and evaluated. Prerequisite: MGT 311. *3 sem. hrs.*

**MGT 430. MULTINATIONAL CORPORATE MANAGEMENT:** Introduction to multinational corporation strategies, policies, and various types of environments. Prerequisite: Senior standing. *3 sem. hrs.*

**MGT 440. WOMEN IN MANAGEMENT:** Study of the problems women encounter in the business world. Discussion includes why some bright women fail, why some do not try to compete, problems of the two-career family, sex stereotyping, and harassment. Prerequisite: Junior standing. *3 sem. hrs.*

**MGT 445. TOPICS IN HUMAN RESOURCE MANAGEMENT:** Subject varies from time to time. May be taken more than once if topic changes. Prerequisite: MGT 314. *3 sem. hrs.*

**MGT 450. MANAGEMENT SEMINAR:** A course in research on a subject within the student's major. Open only to those who have attained a cumulative grade point average of 3.0 or above in their sophomore and junior years. Prerequisites: Senior standing; permission of chairperson. *3 sem. hrs.*

**MGT 455. LEADERSHIP:** A study of the theoretical issues, applicational concerns and practical skills associated with managerial leadership. Prerequisite: MGT 311. *3 sem. hrs.*

**MGT 460. SMALL BUSINESS CONSULTING:** Application of business knowledge in resolving small business management problems. Emphasis on providing assistance and counseling to small business by giving the student an opportunity to aid in solving problems. Various techniques and methods of management consulting. Prerequisites: Senior standing; permission of chairperson. *3 sem. hrs.*

**MGT 471. MANAGEMENT AND SOCIETY:** A business firm's relation with society. Technological change, racism, poverty, affirmative action, urban problems, and environmental concerns. Prerequisite: Junior standing. *3 sem. hrs.*

**MGT 476. SUPERVISORY MANAGEMENT:** The basics of supervisory skills as applied to first-line and middle-level management positions. Prerequisite: MGT 311. *3 sem. hrs.*

**MGT 478. MANAGING TECHNOLOGY AND INNOVATION:** Analysis of issues related to managing in a changing technological environment, including innovation and the management of professionals. Prerequisite: MGT 311. *3 sem. hrs.*

**MGT 479. MANAGING SERVICE ORGANIZATIONS:** Introduction to service industries and the problems service managers face on a day-to-day basis. Prerequisite: MGT 311. *3 sem. hrs.*

**MGT 480. SPECIAL TOPICS IN ORGANIZATION THEORY:** A course uniquely designed for advanced, in-depth study of selected topics/issues in organization and management theory. Prerequisite: Senior standing. *3 sem. hrs.*

**MGT 483. CURRENT ISSUES IN MANAGEMENT:** Selected topics that consider and analyze current problems and emerging issues in the field of management and the manager's role in addressing them. Prerequisite: MGT 311. *3 sem. hrs.*

**MGT 489. TOPICS IN STRATEGIC MANAGEMENT:** Analysis and interpretation of the strategic functions within organizations. Readings, cases, research. Prerequisites: MGT 311; senior standing. *3 sem. hrs.*

**MGT 490. STRATEGIC MANAGEMENT AND POLICY:** The concept of organizational strategy and policy; the tasks and process of strategy formulation and implementation. Case method and/or computer simulation. Prerequisites: DSC 316, FIN 301, MGT 311, MIS 365, MKT 305; senior standing. *3 sem. hrs.*

**MGT 491-492. HONORS THESIS:** Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

**MGT 496. INTERNSHIP FOR MAJOR, MINOR, OR BLOCK CREDIT.** Practical work experience closely associated with student's major, minor, or block concentration. Permission of department chair or designee required. See internship coordinator for details. Prerequisites: BAI 295, junior standing, 6 (to receive minor or block credit) or 9 (to receive major credit) completed semester hours of MGT, overall GPA 2.5 or higher and 2.5 or higher GPA in completed MGT courses. *1-3 sem. hrs.*

**MGT 497. INTERNSHIP FOR GENERAL ELECTIVE CREDIT.** Practical work experience associated with career development and career exploration. See internship coordinator for details. Permission of department chair or designee required. Prerequisites: BAI 295, junior standing, overall GPA 2.25 or higher. *1-3 sem. hrs.*

**MGT 499. INDEPENDENT STUDY IN MANAGEMENT:** Supervised study involving directed readings, individual research (library, field, or experimental), or projects in specialized areas of management. May be taken only once. Prerequisites: Major in MGT; senior standing; permission of chairperson. *3 sem. hrs.*

**MGT 498. COOPERATIVE EDUCATION:** Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Permission of chairperson required. *3 sem. hrs.*



## MANAGEMENT INFORMATION SYSTEMS (MIS)

The Department of Management Information Systems and Decision Sciences offers courses in several quantitative and systems areas, a major and a minor in management information systems, and a minor in decision sciences. (See DSC.)

The major in management information systems enables the student to design, implement, and maintain effective information systems in organizations. The curriculum integrates the technical knowledge of computer and networking technologies and the business and organizational knowledge of the business curriculum. Significant emphasis is placed on developing the students' writing and speaking skills in presenting the results of their work and in team problem solving.

The curriculum prepares the graduate to assume any of a variety of positions in organizations dealing with the design, development, and maintenance of information systems as well as the education and training of users of information systems.

The curriculum consists of four major groups of courses:

1. *General Education* provides the student with a well rounded liberal education and includes such courses as history, philosophy, art, science, and English.
2. *Business* provides the student with the business and organizational concepts and skills to perform effectively in organizations.
3. *Computer Science* provides the student with the technical knowledge necessary to design and build effective information systems. Specifically, two courses in programming business applications and computer system networking and architecture are required: CPS 225 and CPS 437.
4. *Management Information Systems* provides knowledge and skills for analyzing the needs for and building systems supporting the information and decision needs in any organization. Specifically, the major consists of MIS 175, Introduction to Business Applications; MIS 380, Systems Analysis and Re-engineering; MIS 385, Systems Implementation with Database Management Systems; MIS 465, Analysis and Design in Teams; MIS 475, Design and Implementation in Teams; and DSC 370, Decision Support Systems.

The program below contains all of the requirements for the major in management information systems. There is flexibility in the sequencing of some courses—e.g., PHL 103 can be taken during either the first or the second semester; some courses listed in the first year can just as well be taken during the second year, and vice-versa; and some upper-level courses can also be taken during various terms of the junior and senior years. Consult the academic advisor for sequencing options.

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### PROGRAM B4: BACHELOR OF SCIENCE WITH A MAJOR IN MANAGEMENT INFORMATION SYSTEMS (MIS)

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Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
BAI	150	Business Educational Planning <sup>1</sup>	1	
BAI	103L	Business Computing Laboratory <sup>1</sup>	1	
ENG	101-102	College Composition I and II	3	3
HST	101 or 102	History of Western Civilization		3
MTH	128	Finite Mathematics <sup>2</sup>	3	
MTH	129	Calculus for Business		3

PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion	3	
CMM	101	Fundamentals of Oral Communication		3
—	—	Social science elective <sup>3</sup>	3	
—	—	General Education requirements <sup>4</sup>		4
			17	16
Sophomore Year				
ACC	207-208	Principles of Accounting I and II	3	3
MIS	175	Introduction to Business Applications <sup>7</sup>	3	
CPS	225	Programming for Business Systems with C/C++		4
DSC	210-211	Statistics for Business I and II	3	3
ECO	203-204	Principles of Microeconomics and Macroeconomics	3	3
—	—	Communication requirement <sup>5</sup>		3
MGT	203	Legal Environment of Business	3	
			15	16
Junior Year				
MIS	380	Systems Analysis and Re-engineering		3
MIS	385	Systems Implementation with Database Management Systems		3
DSC	316	Production and Operations Management	3	
FIN	301	Business Finance	3	
MGT	311	Organization Behavior and Management		
MIS	365	Information Systems in Organizations	3	
MKT	305	Principles of Marketing		3
—	—	General Education requirements <sup>4</sup>	3	6
			15	15
Senior Year				
CPS	437	System Architectures and Networking	3	
DSC	370	Decision Support Systems		3
ECO	—	Economics elective <sup>6</sup>	3	
MGT	490	Strategic Management and Policy		3
MIS	465, 475	Analysis and Design Project I, II	3	3
PHL	313	Business Ethics	3	
or				
REL	368	Christian Ethics and the Business World		
—	—	General electives <sup>8</sup>	3	3
—	—	General Education requirement <sup>4</sup>		3
			15	15

<sup>1</sup>Does not count toward minimum graduation requirement. Credit by examination for BAI 103L is available for those with adequate background.

<sup>2</sup>MTH 102 is recommended for students with insufficient knowledge of secondary mathematics. MTH 102 does not count toward minimum graduation requirement. MTH 168 is recommended in lieu of both MTH 128 and 129 for students with high mathematics test scores.

<sup>3</sup>Choose any course from one of the following: anthropology, political science, psychology, sociology.

<sup>4</sup>See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 103); others are to be chosen from the listing of approved courses set forth in Chapter V.

<sup>5</sup>Choose from ENG 370, ENG 372, ENG 378; CMM 309, CMM 310 or CMM 313.

<sup>6</sup>Choose any 300 or 400 level economics course.

<sup>7</sup>This may be taken any time after completing BAI 103L.

<sup>8</sup>Students may fulfill General elective requirements by Internship or Co-operative Education credits. See Chairperson for approval.

A minor in management information systems is available for students who wish to acquire skills needed to be an effective user of information systems and to specify needs for information systems.

Required courses:

BAI 103L,	Business Computing Laboratory,
MIS 175,	Introduction to Business Applications,
DSC 210-211,	Statistics for Business I and II,
MIS 380	Systems Analysis and Re-engineering,
DSC 370	Decision Support Systems, and
three credit hours of MIS or DSC electives	

## FACULTY

Jeffrey A. Hoffer, *Chairperson*

Prabuddha De, *Sherman-Standard Register Chair In MIS*

*Professors:* De, Dunne, Ferratt, Hoffer, Vlahos, Wells

*Associate Professors:* Amsden, Bohlen, Prasad, Sinha, Young

*Lecturer:* Davis

## COURSES OF INSTRUCTION

**MIS 175. INTRODUCTION TO BUSINESS APPLICATIONS: PROBLEM SOLVING WITH VISUAL TOOLS:** Introduction to the role of information technology (IT) in business, graphical user interface design using a visual programming language, and programming based on principles of problem-solving. Relationship of visual programming to business computing tools. Web-based programming. Prerequisite: BAI 103L or equivalent. 3 sem. hr.

**MIS 365. INFORMATION SYSTEMS IN ORGANIZATIONS:** Survey of theory and applications of computer-based information systems in organizations. The role of information in organizational processes, current information technology, decision support systems, and end-user computing and distributed processing systems. Prerequisites: BAI 103L and junior standing. 3 sem. hrs.

**MIS 380. SYSTEMS ANALYSIS AND RE-ENGINEERING:** Concepts, methods, techniques, and tools needed to initiate a systems development project and to conduct the requirements collection, analysis, and structuring activities of systems development. Structured life cycle and alternatives. Re-engineering business processes through information systems. Prerequisites: MIS 365. Prerequisite/Co-requisite: MIS 175. 3 sem. hrs.

**MIS 385. SYSTEMS IMPLEMENTATION WITH DATABASE MANAGEMENT SYSTEMS:** Concepts, techniques, and tools to convert a logical system design into a working application using a relational DBMS. File and data structures, logical and physical database design, security and data integrity, file design and processing. DBMS functions, SQL, 3GL and 4GL access to databases, linkage to WWW pages, database architectures, CASE. Prerequisite: MIS 225. 3 sem. hrs.

**MIS 410. ADVANCED BUSINESS SOFTWARE SYSTEMS:** Introduction to the theory and applications of advanced business software such as fourth-generation languages, artificial intelligence, and advanced software engineering tools. Prerequisite: MIS 175 or permission of instructor. *3 sem. hrs.*

**MIS 420. EXPERT AND KNOWLEDGE-BASED SYSTEMS:** Introduction to artificial intelligence and expert and knowledge-based systems; knowledge acquisition, implementation, and validation; advanced topics; applications to business. Use of expert system software. Prerequisite: BAI 103L or equivalent. DSC 370 recommended. *3 sem. hrs.*

**MIS 425. INFORMATION FOR TOTAL QUALITY:** Theory and practice of total quality management (TQM); applications of TQM in the information systems function, information system requirements for TQM programs. Prerequisite: DSC 316. *3 sem. hrs.*

**MIS 465. MIS PROJECT 1—ANALYSIS AND DESIGN IN TEAMS:** First of a two-course sequence. Team participation/management and project management skills. Apply these skills in teams to perform an analysis and preliminary re-design of an existing organization's information system. Emphasis on written and oral communications, including team-prepared reports and presentations. Prerequisites: MIS 380. *3 sem. hrs.*

**MIS 475. MIS PROJECT II—DESIGN AND IMPLEMENTATION IN TEAMS:** Continuation of MIS 465. With its organizational client, each team carries its project as far as possible towards final design and actual implementation. Emphasis on written and oral communications, including team-prepared reports and presentations. Prerequisite: MIS 465. Prerequisites/Co-requisites: MIS 385 and CPS 437. *3 sem. hrs.*

**MIS 491-492. HONORS THESIS:** Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

**MIS 494. SEMINAR IN MANAGEMENT INFORMATION SYSTEMS:** Study of selected technical and/or organizational issues in information systems. Topics vary from time to time. May be taken more than once if topics change. Title will reflect topics covered in a particular offering. *3 sem. hrs.*

**MIS 497. LABORATORY WORK EXPERIENCE:** Under faculty sponsorship and in association with a participating industrial, commercial, educational, health-care, or governmental organization; practical experience in work associated with the student's major concentration. (See internship coordinator for details.) Permission of chairperson required. *1-6 sem. hrs.*

**MIS 498. COOPERATIVE EDUCATION:** Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Permission of chairperson required. *1-6 sem. hrs.*

**MIS 499. INDEPENDENT STUDY:** Research in conjunction with a faculty member on a subject within the general area of management information systems. Open only to juniors or seniors who have attained a cumulative grade point average of 3.0 or above. Permission of chairperson required. *1-6 sem. hrs.*

## MARKETING (MKT)

The Department of Management and Marketing offers a major and a minor in both marketing and management (see MGT).

A student with a major or minor in marketing learns systematic ways for identifying, understanding, and satisfying consumer and organizational needs. Courses in the major are designed to instill in students an appreciation for both the total marketing process as well as specialized marketing activities such as purchasing sales, transportation, warehousing, and marketing research. They likewise focus on how to integrate the marketing process within the objectives of the organization, the functions of the economy, and the constraints of society from national and global perspectives. Students learn to apply conceptual principles and quantitative techniques in their study of consumer and business markets with the goal of becoming informed, skilled, and competent marketing professionals.

The breadth of courses provides for either a broad covering of marketing or a specialization. Through the proper selection of electives, marketing majors may obtain specialization in marketing management, marketing communications, retailing, or personal selling.

The major in marketing consists of:

- MKT 405, Consumer Behavior,
- MKT 430, Marketing Research,
- MKT 455, Marketing Planning and Strategy, and
- 9 additional semester hours of marketing electives.

The minor in marketing consists of:

- MKT 305, Principles of Marketing, and
- 12 additional semester hours of 300-400 level marketing courses in a pattern chosen in consultation with an academic advisor.

Marketing majors frequently combine their academic studies with either a co-op or internship work experience. Academic credit for such experiences is approved on a case-by-case basis with the criteria being the nature of the experience and its degree of integration into the student's academic program.

The program below contains all of the junior and senior requirements for a marketing major. Flexibility exists in the sequencing of some courses; however, students should consult an academic advisor for sequencing options.

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### PROGRAM B3-B: BACHELOR OF SCIENCE WITH A MAJOR IN MARKETING (MKT)

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<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
Junior Year			1st Term	2nd Term
DSC	316	Production and Operations Management		3
ECO	—	Economics elective <sup>1</sup>		3
FIN	301	Business Finance	3	
MGT	311	Organizational Behavior	3	
MIS	365	Management Information Systems	3	
MKT	305	Principles of Marketing	3	
MKT	405	Consumer Behavior		3



MKT	—	Marketing elective <sup>2</sup>		3
PHL	313	Business Ethics		3
or				
REL	368	Christian Ethics and the Business World		
—	—	General elective <sup>3</sup>	3	
			<hr/>	<hr/>
			15	15
		Senior Year		
MGT	490	Strategic Management and Policy		3
MKT	430	Marketing Research	3	
MKT	455	Marketing Planning and Strategy		3
MKT	—	Marketing electives <sup>2</sup>	3	3
—	—	General Education requirements <sup>4</sup>	6	
—	—	General electives <sup>3</sup>	3	6
			<hr/>	<hr/>
			15	15

<sup>1</sup>Choose one of the following: ECO 346, 347, 441, 442, 445, 461, 471, 485.

<sup>2</sup>Marketing courses selected in consultation with program advisor.

<sup>3</sup>At least 3 sem. hrs. of the general electives must be taken outside the School of Business Administration. A minimum of 54 sem. hrs. of all academic work must be at the 300-400 level.

<sup>4</sup>See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHL 313 or REL 368); others are to be chosen from the listing of approved courses set forth in Chapter V.

## FACULTY

Wesley C. King, Jr., *Chairperson*

*Distinguished Service Professor:* Murphy

*Professor Emeritus:* Comer

*Associate Professors:* DeConinck, Lewis, Merenski, Oumlil, Sekely, Yates-Wells

*Assistant Professor:* Sparks

*Lecturer:* Dicky

*Adjunct:* Krystofik

## COURSES OF INSTRUCTION

MKT 305. PRINCIPLES OF MARKETING: The general principles and practices underlying the processes of marketing. Analysis of the environmental conditions of manufacturers, wholesalers, retailers, and other marketing agencies. Prerequisite: Junior standing. 3 sem. hrs.

MKT 310. PRINCIPLES OF SELLING: The nature of selling, explored through the practical application of buying motives and selling techniques. Projects and role-playing to experience the preparation, closing, and post-purchase phases of selling. Prerequisite: MKT 305. 3 sem. hrs.

MKT 315. RETAIL MARKETING: Survey of the development of retailing and the impact of consumer behavior, fashion, computers, and other innovations. Structural organization, location, and layout. Merchandising operations including planning of sales, purchases, stock control, markup, and expense control. Prerequisite: MKT 305. 3 sem. hrs.

**MKT 318. RETAIL ADVERTISING AND SALES PROMOTION:** Principles and practices of promotion in retail stores with emphasis on advertising, display, and sales promotion. Developing creative efforts, budgeting, and coordination of where, when, what, and how to promote. Prerequisites: MKT 305, 315. *3 sem. hrs.*

**MKT 330. SERVICES MARKETING:** Basic concepts of services marketing including discussion of marketing concepts and their management implications in services organizations, the scope of ethics and social responsibility at the national and global levels, and how the external environment, both domestic and international, influences organization strategy. Prerequisite: MKT 305. *3 sem. hrs.*

**MKT 341. BUSINESS-TO-BUSINESS MARKETING:** Concepts and analytical procedures associated with marketing to business. Business consumer and competitor analysis, marketing information systems, marketing research, and demand forecasting. Strategy development in product, promotion, distribution, and pricing with focus on manufacturers of business products. Prerequisite: MKT 305. *3 sem. hrs.*

**MKT 345. ENTREPRENEURIAL MARKETING:** An examination of academic marketing aspects of a new and growing business with the practical side of operating an entrepreneurial company. Students will be shown the techniques applicable for successful marketing of small and entrepreneurial firms. Prerequisite: MKT 305. *3 sem. hrs.*

**MKT 405. CONSUMER BEHAVIOR:** Comprehensive study of buyer decision making which offers insight into the buyer-seller relationship. Application of theories from psychology and social psychology to investigate the behavior of industrial and consumer buyers. Prerequisite: MKT 305. *3 sem. hrs.*

**MKT 406. MARKETING CHANNELS:** Study of the place element of the marketing mix. A focus on the relationships between manufacturers, wholesalers, and retailers. Channel structure and design including franchising. Prerequisite: MKT 305. *3 sem. hrs.*

**MKT 408. MARKETING LOGISTICS:** Study of the physical distribution element of the marketing mix. Customer service, service quality, transportation, inventory, warehousing, and information systems used by manufacturers and retailers. Prerequisite: MKT 305. *3 sem. hrs.*

**MKT 411. SALES MANAGEMENT:** The structure of the sales organization; determination of sales policies; selection, training, and motivation of salespersons; establishing sales territories and quotas. Prerequisites: MKT 305, 310. *3 sem. hrs.*

**MKT 417. RETAIL BUYING AND MERCHANDISING:** Determining what and how much to buy, market research, and model stocks, as well as the mathematic principles involved in purchase planning, planning initial markup, terms and dating, stockturn, inventory methods. Prerequisites: MKT 305, 315. *3 sem. hrs.*

**MKT 421. ADVERTISING:** Nature and scope of advertising, social and economic aspects, role of research, creative strategy, media planning and selection, coordination with other marketing efforts. Prerequisite: MKT 305. *3 sem. hrs.*

**MKT 428. PROMOTION MANAGEMENT:** Integration course to familiarize marketing students interested in promotion and marketing communication with tools necessary for the development, implementation, and management of promotional programs. Focus on management and coordination of advertising, personal selling, publicity and public relations, sales promotion, and collateral materials. Prerequisite: MKT 421. *3 sem. hrs.*

**MKT 430. MARKETING RESEARCH:** Study of marketing information systems, research technology, value of information, research design and execution, questionnaire design, measurement and scaling, multivariable data analysis, metric and non-metric techniques, data interpretation, computer applications, and writing and interpreting research reports. Prerequisites: MKT 305, DSC 210-211. *3 sem. hrs.*

**MKT 435. PRODUCT DEVELOPMENT, MANAGEMENT, AND PRICING:** Investigation and analysis of the new product development process, the management of a product through its life cycle, and the importance of the price variable in the product management process. Prerequisite: MKT 305. *3 sem. hrs.*

**MKT 440. GLOBAL MARKETING:** Emphasis on understanding global marketing environments, developing skills of global market analysis, designing and developing appropriate marketing strategies for global markets, decision making in global marketing. Prerequisite: MKT 305. *3 sem. hrs.*

**MKT 445. SPECIAL TOPICS IN INTERNATIONAL MARKETING:** Study abroad program. Subject varies from time to time. May be taken more than once if topic changes. Prerequisite: Junior standing. *3 sem. hrs.*

**MKT 455. MARKETING PLANNING AND STRATEGY:** Integrative course in marketing with emphasis on managerial decision making. The course is designed around a strategic marketing planning approach with a clear emphasis on how to do strategic analysis and marketing planning. Prerequisite: Senior standing and MKT 430, FIN 301, ACC 207-208. *3 sem. hrs.*

**MKT 491-492. HONORS THESIS:** Selection, design, investigation, and completion of an independent original research thesis under the guidance of a departmental faculty member. Restricted to students in the University Honors Program with permission of the director of the program and the departmental chairperson. *3 sem. hrs. each*

**MKT 494. SPECIAL TOPICS IN MARKETING:** Subject varies from time to time. May be taken more than once if topic changes. Prerequisite: Varies with topic. *3 sem. hrs.*

**MKT 496. INTERNSHIP FOR MAJOR, MINOR, OR BLOCK CREDIT:** Practical work experience closely associated with student's major, minor, or block concentration. Permission of department chair or designee required. See internship coordinator for details. Prerequisites: BAI 295, junior standing, 6 (to receive minor or block credit) or 9 (to receive major credit) completed semester hours of MKT, overall GPA 2.5 or higher and 2.5 or higher GPA in completed MKT courses. *1-3 sem. hrs.*

**MKT 497. INTERNSHIP FOR GENERAL ELECTIVE CREDIT:** Practical work experience associated with career development and career exploration. See internship coordinator for details. Permission of department chair or designee required. Prerequisites: BAI 295, junior standing, overall GPA 2.25 or higher. *1-3 sem. hrs.*

**MKT 498. COOPERATIVE EDUCATION:** Optional full-time work period off campus alternating with study period on campus. (See Chapter X; consult Cooperative Education Office for details.) Permission of chairperson or designee required. Prerequisite: BAI 295. *3 sem. hrs.*

**MKT 499. INDEPENDENT STUDY IN MARKETING:** Study of one or more specific aspects of the marketing process with emphasis on individual reading and research. Subject matter to be determined by the instructor on the basis of interest and need of the student. Enrollment limited. Permission of chairperson or designee required. Prerequisite MKT 305. *3 sem. hrs.*

## TEACHER CERTIFICATION

### SCHOOL OF BUSINESS ADMINISTRATION BACCALAUREATE PROGRAM WITH TEACHER CERTIFICATION (E11B)

Students matriculating in the School of Business Administration may enroll in the teacher education program (Secondary Education Program) of the School of Education without transferring to the School of Education. For requirements in professional education courses and in teaching fields consult the chairperson of the Department of Teacher Education.

Enrollment in the E11B program is subject to the admission requirements, counseling, maintenance of a unified system of records, screening, and other provisions standard for regular students of the School of Education working toward the Bachelor of Science in Education. These include maintaining at least a 2.5 average overall, as well as in the principal teaching field and in professional education courses and taking the comprehensive National Teacher Examinations (NTE). Upon acceptance into the program each student is assigned an education advisor for counseling on certification requirements.

In order to finish in four years, students in the School of Business Administration will need to process their applications for admission to the teacher education program no later than the third semester of matriculation, at which time the professional education sequence should begin. Failure to enroll on time could necessitate going beyond the normal four years to qualify for teacher certification and graduation. The requirements for the School of Business Administration as well as the requirements designated by the School of Education and the State of Ohio for secondary school certification must be completed before any degree is granted. Students must complete 300 hours of field and/or clinical experience before student teaching.

Students who have completed the proper course requirements may register for student teaching in the eighth semester (provided their applications for student teaching are duly processed at the beginning of the semester directly prior to student teaching and they have passed the normal screening procedure).

Students who have completed the requirements for teacher certification should make application for the standard four-year Provisional Ohio Teaching Certificate through the Office of the Dean, School of Education. See also EDT, Chapter VIII.

### PROGRAM E11B: SECONDARY SCHOOL TEACHING CERTIFICATION

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
		First Year		
BAI	101	Business Educational Planning <sup>1</sup>	1	
BAI	103L	Business Computing Laboratory <sup>1</sup>	1	
EDT	110	The Profession of Teaching <sup>2</sup>		3
ENG	101-102	College Composition I and II <sup>3</sup>	3	3
HST	101 or 102	History of Western Civilization	3	
MTH	128	Finite Mathematics <sup>4</sup>	3	
MTH	129	Calculus for Business		3
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion	3	
CMM	101	Fundamentals of Oral Communication <sup>5</sup>		3
—	—	General Education requirements <sup>6</sup>		4
			17	16

Sophomore Year				
ACC	207-208	Principles of Accounting I & II	3	3
DSC	210-211	Statistical Analysis for Business I and II	3	3
ECO	203-204	Principles of Microeconomics and Macroeconomics	3	3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning <sup>2</sup>		3
MGT	203	Legal Environment of Business	3	
—	—	General Education requirements <sup>6</sup>	3	6
			18	18
Junior Year				
ECO	—	Economics elective <sup>7</sup>		3
EDT	318	Human Relations in Education <sup>8</sup>	2	
EDT	351	School, Self and Society <sup>2</sup>	3	
FIN	301	Business Finance	3	
MGT	311	Organization Behavior and Management		3
MIS	365	Management Information Systems		3
MKT	305	Principles of Marketing	3	
PHL	313	Business Ethics		3
or				
REL	368	Christian Ethics and the Business World		
—	—	Required major field courses <sup>9</sup>	6	6
			17	18
Senior Year				
DSC	316	Production and Operations Management	3	
EDT	404	Business Education in Secondary School	4	
EDT	419	Philosophy of Education		3
EDT	420	Student Teaching: Secondary		10
EDT	469	Reading in the Content Areas	2	
MGT	490	Strategic Management and Policy	3	
—	—	Required major field courses <sup>9</sup>	6	
			18	13

<sup>1</sup>Does not count toward minimum graduation requirement. A proficiency test for BAI 103L is available for those with adequate background.

<sup>2</sup>Field experience; register for EDT 100.

<sup>3</sup>Students placed in ENG 114 or 198 take a nonbusiness elective the second term.

<sup>4</sup>MTH 102 is recommended for students with insufficient knowledge of secondary mathematics. MTH 102, however, does not count toward graduation requirement.

<sup>5</sup>Students testing out of CMM 101 will substitute a nonbusiness elective.

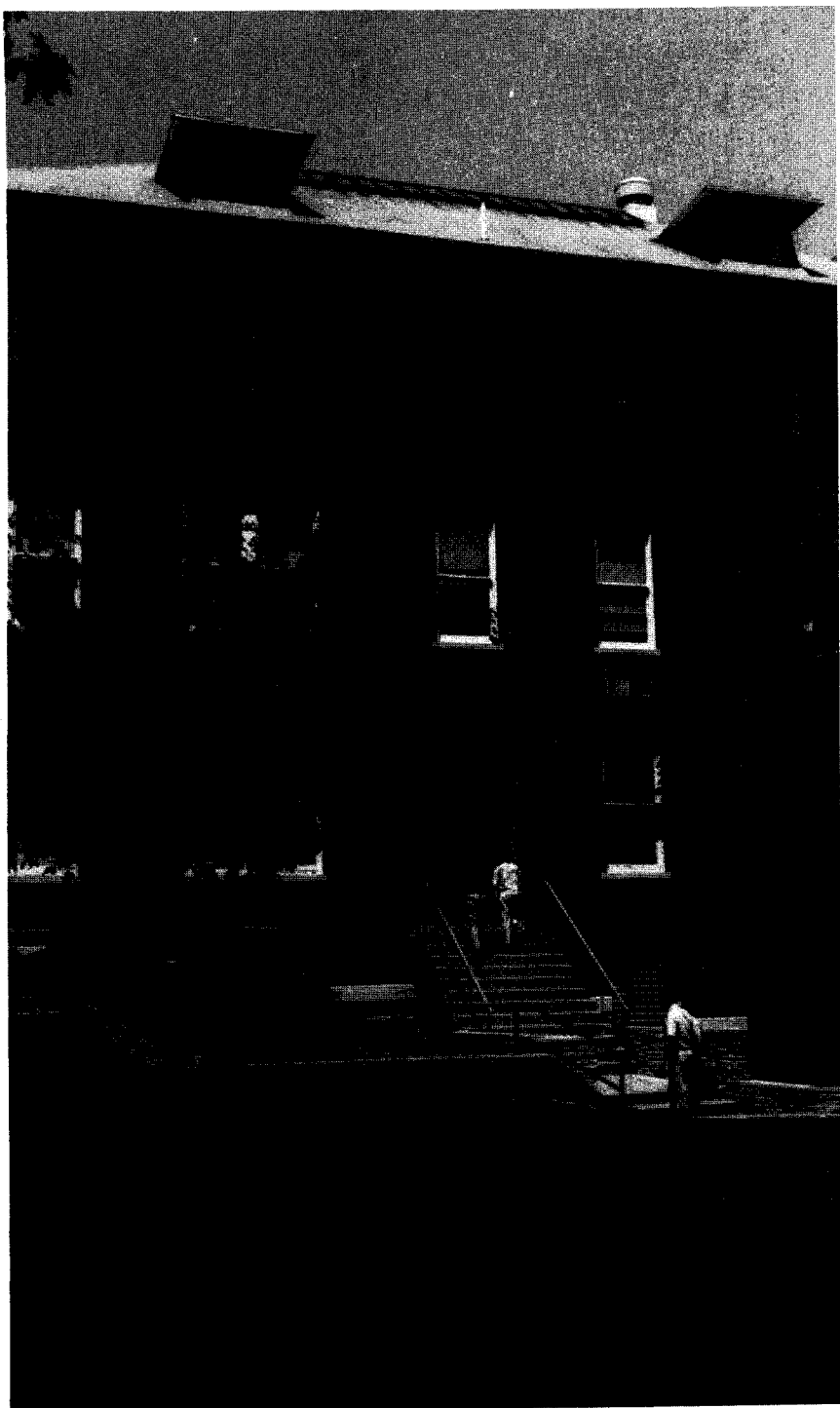
<sup>6</sup>See General Education Requirements, Chapter V. Some humanities based and thematic cluster courses are specified in the program (e.g., PHL 103); others are to be chosen from the listing of approved courses set forth in Chapter V.

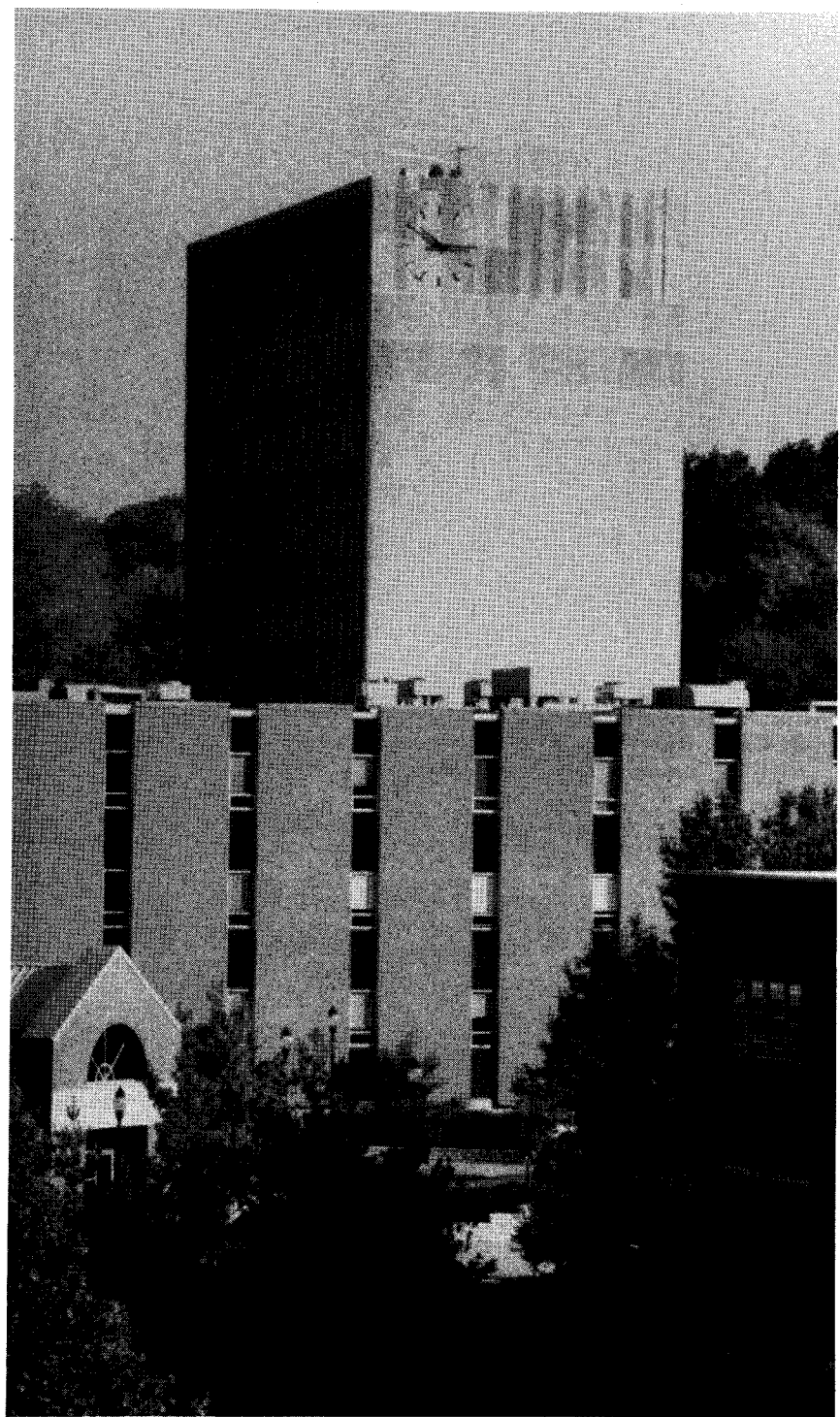
<sup>7</sup>Choose any 300 or 400 level economics course.

<sup>8</sup>Not required for students with management major, who take MGT 387.

<sup>9</sup>For students majoring in economics, finance, management, or marketing. Students majoring in accounting must complete a total of 24 sem. hrs. of required major field courses. The E11B program is not available to those majoring in management information systems.

The sample program above prepares the student for certification in bookkeeping and basic business. Additional certification is available with the inclusion of a few other courses. Consult checksheets and academic advisor. Students are encouraged to take 6 semester hours of typing to qualify for an endorsement in typewriting-keyboarding; this facilitates student teaching placement and obtaining a teaching position. Courses must be taken off campus and a transcript provided.





## VIII School of Education

Thomas J. Lasley, Dean

In conformity with the University's purposes, the School of Education endeavors to foster both the development of those general capacities of the students which flow directly from their human nature and the development of those particular capacities which enable them to become effective practitioners in the field of professional education.

The general capacities of the students are developed through a broad and sound general education. It acquaints them with the major areas of knowledge and provides planned opportunities for personal, social, and ethical development.

The particular concern of the School is the professional preparation of teachers for the elementary and secondary schools. Provisions for professional competence are made through (1) comprehensive study of specialized teaching fields, (2) thorough study of the professional foundations common to all teaching, (3) specialized study of the principles underlying a particular type and level of teaching, and (4) appropriate field-based experiences.

Students in the School of Education should appraise their commitment to teaching according to their development in specific knowledge, skills, attitudes, and values:

*Knowledge:* Students will demonstrate their knowledge of the teaching and learning process; of human nature and of human development, particularly in educational settings; of the means and ends of education; of the subjects they wish to teach; and of the special needs of students of minority groups, and students with disabilities.

*Skills:* Students will be able to assess pupil needs, interests, and level of understanding; to formulate learning objectives; to select appropriate learning content, materials, and activities; to facilitate learning activities and provide effective learning environments; to evaluate pupil progress and provide for self-evaluation by pupils; to assess their own teaching competencies and the effect these have on pupil learning; to foster tolerance and fairness in human relations; and to apply theory to practice in planned and supervised field experiences. Demonstrated competencies are essential in meeting the special needs of minority students and students with disabilities.

*Attitudes:* Students will seek self-development; accept others; trust, be open to and help others; and be enthusiastic for inquiry, experimentation, and discovery.

*Values:* Students will be committed to education for the betterment of others and society; to the Judeo-Christian principles that refer to a shared common humanity, the dignity of the person, the use of reason, and cooperation in seeking the common good and social justice; to the democratic principles; to a humanistic approach to learning; and to the Marianist tradition in education.



## DEGREE REQUIREMENTS

In this chapter are described specific four-year course requirements for licensure in early childhood, middle childhood, adolescent to young adult teaching, intervention specialist and special (art, foreign language, physical education, health education) teaching. All of these programs lead to the same degree—Bachelor of Science in Education (B.S. in Ed.). Several teaching endorsements and validations may also be obtained.

The departments have an extensive screening process for students in the first two years of the program. By the end of the first year, all students should have taken and passed the Praxis I (Pre-Professional Skills Test). At the end of their sophomore year, all students are required to apply for formal admission to the licensure program. At this point their work is reviewed by a faculty committee to determine the extent to which their personal traits, academic work, etc. point toward the likelihood of their success as professional teachers. Admission requires a GPA of 2.5 overall in professional education courses, in teaching field(s), and passing of Praxis I (PPST).

The responsibility for meeting the University and state requirements rests with the student. The student is cautioned to study the course requirements and to keep accurate count of the semester hours applicable to graduation. Students planning to teach in states other than Ohio should fulfill University requirements as well as those of the state in which they desire to teach.

Requirements for graduation and teacher licensure are the following:

1. Evidence of such general scholarship and personal and moral qualities as give promise of professional success. All students enrolled in programs leading to State of Ohio licensure must verify that they are of "good moral character," and be fingerprinted. (Consult the dean's office.) Pursuant to School of Education policy, these students must complete the appropriate forms provided by the Office of the Dean. All students will be notified regarding this necessary procedure.
2. Evidence of participation in a variety of planned clinical and field experiences essential to the development of the resourcefulness needed by teachers.
3. Successful completion of a minimum of 124 semester hours in approved courses; some programs may require more than 124 semester hours.
4. A cumulative point average of at least 2.5 overall, in the professional education courses and in each teaching field in which licensure is sought. Courses in professional education and the teaching fields, and in General Education and Basic Skills must be taken under grading Option 1.
5. Successful completion of the following professional education sequence:
  - A. Personal and Professional Development of the Teacher
  - B. Child and Adolescent in Education
  - C. Teaching and Learning
  - D. Computers/Technology in Education
  - E. Teaching in the Elementary School or School, Self, and Society
  - F. Mainstreaming or Human Relations
  - G. Special Methods<sup>1</sup>
  - H. Philosophy of Education
  - I. Student Teaching

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<sup>1</sup>Each program has one or more methods courses; see specific programs.

With the possible exception of A, B, C, and D, all courses in the above sequence must be taken at the University of Dayton. Transfer credits from other institutions normally are not accepted in substitution for courses E through H, and are never accepted for student teaching.

6. Completion of University requirements in General Education and Basic Skills. Students should see Chapter V and consult with their advisors.
7. A passing score on the Praxis I, (PPST), which must be taken no later than the second term of the first year.
8. A passing score on an exit examination, Praxis II (NTE, National Teachers Exam) mandated by the State Board of Education. Students should consult the dean's office for dates on which the examination will be administered.

## ADVISING AND SCHEDULING

All first-year education students are assigned faculty advisors from the departments in which they are enrolled. Scheduling for courses is completed through the department offices/advisors.

## UNIVERSITY POLICIES

Students are reminded to refer to pertinent sections of this *Bulletin* and the *Student Handbook* for all policies to which they are subject.

## STUDENT TEACHING

Student teaching, which consists of actual classroom teaching under competent supervision, involves full-day sessions for approximately one semester. During the semester of student teaching, the student is not ordinarily permitted to carry more than three semester hours of additional course work. These additional semester hours are scheduled outside the normal school day in order to keep the student-teaching experience intact for the full school day. Students should make financial arrangements such that they need not continue with part-time employment during this semester. The faculty of the School of Education screen each candidate who applies for student teaching on the basis of the following factors: (1) skill in oral and written communication, (2) an overall quality-point average in course work of at least 2.5, (3) physical and emotional fitness, (4) desirable personal and moral traits, (5) completion of the prerequisite courses and field and clinical experiences.

Prerequisites for candidacy for student teaching are (1) official enrollment in a teacher education program at the University, (2) prospective completion of the minimum residence requirement of thirty semester hours inclusive of student teaching, (3) formal application for processing by the screening committee to whom application must be submitted a term in advance of student teaching. (Application blanks may be secured from the department offices.) The campus supervisors have direct charge of the student teaching experience.

Once a week throughout the term a student teaching seminar is held on campus. Once students have been approved and placed for student teaching, they may not withdraw from the program except with the approval of the department chairperson. A student who withdraws without this approval forfeits future placement in student teaching.

## TEACHER PLACEMENT

Students who qualify for teacher licensure through the School of Education are aided in securing teaching positions by the Office of Education Placement Services. Placement requires cooperation from the candidate in filling out the necessary

papers and in submitting recommendations. Dates for interviews with prospective employers arranged by the Office of Educational Placement Services are announced in advance.

## TEACHER LICENSURE

The School of Education programs are approved by the State Department of Education and accredited by the National Council for Accreditation of Teacher Education. Ordinarily, Ohio licenses are recognized by other states. Students are encouraged to check licensure requirements for states in which they are seeking positions.

In addition to preparing properly licensed early childhood, middle childhood, adolescent to young adult teachers, the School also enables students to qualify for special certification in art, foreign language, physical education, health education, music, and the teaching of learners with mild to moderate exceptionalities. Endorsements and validations are available for adapted physical education, driver education, and reading.

## ATHLETIC TRAINING CERTIFICATION

The Department of Health and Sport Science offers the State Curriculum which enables a student to meet the State of Ohio Licensure and National Athletic Training Association (NATA) certification requirements upon completion. The University of Dayton Certificate curriculum is open to any student in the School of Education. This program consists of 45 semester hours of classroom work and 1500 supervised internship clock hours. Students complete 1000 clock hours in a traditional athletic setting and the remaining 500 clock hours in an allied clinical setting. This program is designed to give the student a variety of clinical experiences with team physicians, physical therapists, hospitals, and high school athletic programs. Upon completion of the State Certification curriculum, a student must pass the State of Ohio examination and NATA certification examination in order to practice in the State of Ohio. (See HSS in this chapter.)

## BACCALAUREATE PROGRAMS

The School of Education offers and administers nine basic programs leading to the baccalaureate degree. (Six of these are outlined and their requirements and options discussed in detail later in this chapter under code designations of course subject matter—for example, EDT signifies Teacher Education.) These are as follows:

- PROGRAM E1N: EARLY CHILDHOOD EDUCATION
  - PROGRAM E2N: MIDDLE CHILDHOOD EDUCATION
  - PROGRAM E3: PHYSICAL EDUCATION K-12
  - E3A: PHYSICAL EDUCATION 7-12
- See HSS.

## School of Education

- PROGRAM E4: HEALTH EDUCATION K-12  
E4A: HEALTH INFORMATION SPECIALIST
- PROGRAM E6: SPECIAL, grades K-12  
E6A: VISUAL ART  
See EDT. See also VAR, Chapter VI.
- E6B: FOREIGN LANGUAGE
- PROGRAM E7N: ADOLESCENCE TO YOUNG ADULT
- PROGRAM E8: EXERCISE SCIENCE AND FITNESS MANAGEMENT  
See HSS.
- E8A: EXERCISE SCIENCE AND PRE-PHYSICAL THERAPY.  
See HSS.
- PROGRAM E9: SPORT MANAGEMENT  
See HSS.
- PROGRAM E10N: INTERVENTION SPECIALIST
- PROGRAM E11A: TEACHER LICENSURE for students in the College of Arts and Sciences  
See EDT and Chapter VI.
- PROGRAM E12: FOOD AND NUTRITION, Option 1—Didactic Program in Dietetics  
E12A: NUTRITION AND FITNESS, Option 2—Nutrition

NOTE: All certification programs and teaching fields described in this chapter are subject to approval by the Ohio Department of Education under the certification standards effective July 1, 1998.

## GRADUATE PROGRAMS

For in-service teachers, the School of Education offers six graduate programs leading to the Master of Science in Education or Master of Science in Physical Education; these are designed to prepare master secondary teachers, master elementary teachers, school counselors, school psychologists, school social workers, social agency counselors, college student personnel professionals and school administrators. The degrees Educational Specialist and Doctor of Philosophy in Educational Leadership are also offered. For nonprofessional degree holders who are interested in becoming certified teachers, the Department of Teacher Education offers graduate programs leading to various certifications. For in-service teachers who wish to retrain for certification in other areas, the Department of Teacher Education offers a variety of programs. (For details on the graduate programs, request a copy of the Graduate Issue of the *University of Dayton Bulletin*.)

## HEALTH AND SPORT SCIENCE (HSS)

The mission of the Department of Health and Sport Science is to prepare students to be proficient and professional in a vocation encompassing the health and physical fitness needs of both youths and adults. The department prepares health and physical education teachers, and athletic trainers to meet the needs of public and private schools. It also prepares exercise science and fitness management specialists for careers in corporate, industrial, hospital, and university wellness programs. Students also have the opportunity to pursue degrees in pre-physical therapy and fitness/nutrition. A health information specialist program is offered for students interested in working with health agencies. An interdisciplinary sport management program prepares students for professional opportunities in private sports clubs, health clubs, sports organizations and federations, and various other aspects of sports and recreation. A 2.5 G.P.A. is required to enter any program within the department.

## PROGRAM E3: PHYSICAL EDUCATION (EDP) K-12

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
HSS	101	Intro to University	1	
HSS	109-110	Personal and Professional Development	2	2
HSS	117	Personal and Community Health	3	
HSS	130	Physical Education Activities	1	
HSS	182	Conditioning I/STEP Aerobics	2	
HSS	183	Conditioning II + HSS 130 courses		3
HSS	223	Basic Movement	3	
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1715		3
MTH	102	Fundamentals of Mathematics		3
CMM	101	Fundamentals of Oral Communication		3
PHL	103	Introduction to Philosophy OR	3	
REL	103	Introduction to Religion		
			18	17
Sophomore Year				
HSS	130	Physical Education Activities		2
HSS	200	Motor Learning	2	
HSS	225	Computer Applications in Physical Education	3	
HSS	275	History of Physical Activity and Sport		3
HSS	305	Human Anatomy	3	
HSS	306	Human Physiology		3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning <sup>2,3</sup>		3
—	—	General Education requirements (AS)	3	3
—	—	General Education requirements <sup>1</sup>	3	3
			17	16
Junior Year				
HSS	130	Physical Education Activities	2	2
HSS	220	Adapted Physical Education	3	
HSS	230	Basic Athletic Training		3
HSS	300	Methods of Teaching Physical Education	3	
HSS	324	Elementary Physical Education		3
HSS	344	Outdoor Education	2	

HSS	408-408L	Physiology of Exercise and Lab		3
HSS	431	Nutrition for Exercise and Sport		3
HSS	470	Curriculum Development in Physical Education		3
EDT	351	School, Self, and Society <sup>2,3</sup>	3	
—	—	General Education requirement (SS)	3	
			16	17
Senior Year				
HSS	—	HSS Electives	5	
HSS	130	Physical Education Activities		1
HSS	405	Tests and Measurements	3	
HSS	409-409L	Kinesiology and Laboratory	3	
HSS	417	Student Teaching		12
HSS	448	Safety and the Law in PE/Sports	2	
EDT	419	Philosophy of Education	3	
EDT	469	Reading in the Content Area	1	
			17	13

<sup>1</sup>See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

<sup>2</sup>Students should leave one half day open for field experience.

<sup>3</sup>Field experiences are arranged by the University. Register for EDT 100.

<sup>4</sup>Students will have seminar on campus once a week.

### PROGRAM E3A: PHYSICAL EDUCATION (EDP) 7-12

Dept. No.		Course	Semester Hours	
			1st Term	2nd Term
First Year				
HSS	101	Intro to University	1	
HSS	109-110	Personal and Professional Development	2	2
HSS	117	Personal and Community Health	3	
HSS	130	Physical Education Activities	2	
HSS	182	Conditioning I/STEP Aerobics	1	
HSS	182	Conditioning II + HSS 130 courses		3
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1715		3
MTH	102	Fundamentals of Mathematics		3
CMM	101	Fundamentals of Oral Communication		3
PHL	103	Introduction to Philosophy OR	3	
REL	103	Introduction to Religion		3
			15	17
Sophomore Year				
HSS	130	Physical Education Activities		2
HSS	200	Motor Learning	2	
HSS	225	Computer Applications in Physical Education	3	
HSS	275	History of Physical Activity and Sport		3
HSS	305	Human Anatomy	3	
HSS	306	Human Physiology		3
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning <sup>2,3</sup>		3
—	—	General Education requirement <sup>1</sup>	3	3
—	—	General Education requirement (AS)	3	
			17	14

Junior Year				
HSS	130	Physical Education Activities	2	2
HSS	209	Teaching Aerobic Dance		1
HSS	220	Adapted Physical Education	3	
HSS	230	Basic Athletic Training		3
HSS	300	Methods of Teaching Physical Education	3	
HSS	344	Outdoor Education	2	
HSS	373	Stress Management for the Educator		2
HSS	408-408L	Physiology of Exercise and Lab		3
HSS	431	Nutrition for Exercise and Sport		3
HSS	470	Curriculum Development in Physical Education		3
EDT	351	School, Self and Society <sup>2,3</sup>	3	
—	—	General Education requirement (SS)	3	
			16	17
Senior Year				
HSS	—	HSS Electives	5	
HSS	130	Physical Education Activities		1
HSS	405	Tests and Measurements	3	
HSS	409-409L	Kinesiology and Lab	3	
HSS	418	Student Teaching		12
HSS	448	Safety and the Law in PE/Sports	2	
EDT	419	Philosophy of Education	3	
EDT	469	Reading in the Content Area	1	
			17	13

<sup>1</sup>See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

<sup>2</sup>Students should leave one half day open for field experience.

<sup>3</sup>Field experiences are arranged by the University. Register for EDT 100.

<sup>4</sup>Students will have seminar on campus once a week.

## PROGRAM E8: EXERCISE SCIENCE AND FITNESS MANAGEMENT (EES)

Dept.	No.	Course	Semester Hours	
First Year			1st Term	2nd Term
HSS	101	Intro to University	1	
HSS	112	Intro to Exercise Science	2	
HSS	117	Personal and Community Health	3	
HSS	130	Aerobics/STEP/Water Aerobics		1
HSS	182-183	Conditioning I and II	1	1
HSS	360 OR	Addiction	2	2
HSS	361	Health Consumerism	2	2
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion		3
HST	102	History/Western Civilization Since 1715	3	
CMM	101	Fund of Oral Communication		3
ENG	101-102	College Composition I and II	3	3
MTH	207	Introduction to Statistics		3
			18	16
Sophomore Year				
HSS	184	Conditioning III	1	
HSS	275	History of Physical Activity and Sport		3

HSS	305	Human Anatomy	3	
HSS	307	Human Physiology		3
HSS	320	Essentials Muscular Strength/Condt.	3	
HSS	335	Massage Therapy	1	
CHM	123-124	General Chemistry and Laboratory	4	4
PSY	101	Intro to Psychology	3	
PSY	251	Human Growth/Development		3
BIO	151	Concepts of Biology (S)	3	
EHZ	295	Nutrition & Health		3
			<hr/>	<hr/>
			18	16

## Junior Year

ACC	207	Intro to Financial Accounting	3	
CMM	332	Publication Design	3	
HSS	222	Exercise for Special Populations		3
HSS	226	Computer Applications/Sport Science	3	
HSS	230	Basic Athletic Training		3
HSS	373	Stress Management	2	
HSS	408	Physiology of Exercise and Lab		3
HSS	431	Nutrition for Exercise and Sport		3
HSS	435	Exercise ECG		3
HSS	448	Safety and the Law in PE/Sport		2
MKT	305	Principles of Marketing	3	
PHL	—	General Education requirement	3	
			<hr/>	<hr/>
			17	17

## Senior Year

ECO	203	Principles of Microeconomics		3
HSS	405	Tests and Measurements in Sport Science	3	
HSS	409 & Lab	Kinesiology and Lab	3	
HSS	490	Internship—On Campus	2	
HSS	491	Internship—Off Campus		6
PSY	431	Interviewing and Counseling	3	3
PHL	315	Medical Ethics	3	
ENG	370	Report Writing	3	
—	—	General Education requirement		3
			<hr/>	<hr/>
			17	15

<sup>1</sup>See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

<sup>2</sup>Field experience required.

<sup>3</sup>Consult program director.

### PROGRAM E8A: EXERCISE SCIENCE AND PRE-PHYSICAL THERAPY (EPT)

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
HSS	101	Intro to the University	1	
HSS	114	Introduction to Physical Therapy		1
HSS	130	Water Aerobics	1	
REL	103	Introduction to Religion	3	
PHL	103	Introduction to Philosophy		3
HST	102	Western Civilization since 1715	3	
PSY	101	Introduction to Psychology	3	
ECO	203	Principles of Microeconomics		3
ENG	101	College Composition I	3	



ENG	102	College Composition II		3
MTH	148	Calculus		3
CHM	123	General Chemistry	3	
CHM	123L	General Chemistry Lab	1	
CHM	124	General Chemistry		3
CHM	124L	General Chemistry Lab		1
			<hr/>	<hr/>
			18	17
Sophomore Year				
CMM	101	Fundamentals of Oral Communication	3	
PSY	251	Human Growth & Development		3
PHY	201	General Physics	3	
PHY	201L	General Physics Lab	1	
PHY	202	General Physics		3
PHY	202L	General Physics Lab		1
BIO	151	Concepts of Biology I	3	
MTH	207	Introduction to Statistics	3	
HSS	230	Basic Athletic Training		3
HSS	305	Human Anatomy	3	
HSS	307	Human Physiology		3
HSS	335	Massage Therapy	1	
PHL		General Education requirement <sup>1</sup>		3
			<hr/>	<hr/>
			17	16
Junior Year				
PHL	315	Medical Ethics	3	
PSY	363	Abnormal Psychology	3	
CHM	313	Organic Chemistry	3	
CHM	313L	Organic Chemistry Laboratory	1	
CHM	314	Organic Chemistry		3
CHM	314L	Organic Chemistry Laboratory		1
HSS	222	Exercise for Special Populations		3
HSS	226	Computer Applications in Sport Science		3
HSS	330	Advanced Athletic Training	3	
HSS	405	Tests & Measurements	3	
HS	435	Exercise ECG		3
HST	466	History of Science		3
			<hr/>	<hr/>
			16	16
Senior Year				
BIO	309	Comparative Anatomy of Vertebrates		3
BIO	309L	Comparative Anatomy Lab		1
BIO	403	Physiology I	3	
BIO	403L	Physiology I Lab	1	
BIO	411	General Microbiology	3	
BIO	411L	General Microbiology Lab	1	
—	—	General Education requirement <sup>1</sup>		3
HSS	184	Conditioning III	1	
HSS	408	Physiology of Exercise		2
HSS	408L	Physiology of Exercise Lab		1
HSS	409	Kinesiology	2	
HSS	409L	Kinesiology Lab	1	
HSS	431	Nutrition for Exercise/Sport		3
HSS	448	Safety and the Law in PE/Sport		2
HSS	465	Physical Therapy Seminar	2	
HSS	466	Physical Therapy Research Design		3
			<hr/>	<hr/>
			17	18

<sup>1</sup>See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

## PROGRAM E9: SPORT MANAGEMENT (ESM) OPTION I

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
HSS	101	Intro to the University	1	
HSS	111	Introduction to Sport Management	2	
HSS	130	Physical Education Activities	2	1
HSS	226	Computer Applications in Sport Science		3
ENG	101-102	English Composition I and II	3	3
HST	102	History of Western Civilization Since 1715		3
MTH	102	Fundamentals of Mathematics	3	
CMM	101	Fundamentals of Oral Communication	3	
—	—	Course in minor		3
PHL	103	Introduction to Philosophy		3
REL	103	Introduction to Religion	3	
			17	16
Sophomore Year				
HSS	—	Physical Education Activities	2	
HSS	275	History of Physical Activity and Sport	3	
HSS	305	Human Anatomy OR	3	
HSS	306	Human Physiology	3	
—	—	Courses in minor	3	5
MGT	203	Legal Environment of Business	3	
MIS	365	Management Information Systems		3
MTH	207	Introduction to Statistics		3
—	—	General Education requirements <sup>1</sup>	3	6
			17	17
Junior Year				
ACC	207	Financial Accounting		3
MKT	421	Advertising	3	
ECO	203	Principles of Microeconomics	3	
HSS	349 OR	Financing Sport Operations	3	3
ENG	372	Applied Written Communications	3	
HSS	350	Principles of Sport Marketing	3	
HSS	352	Event Management		2
HSS	355	Sport Management Practicum		2
HSS	449	Sportswriting	3	
ENG	370	Report Writing		3
ENG	380	Sports in Literature		3
			18	16
Senior Year				
ACC	208	Accounting for Management	3	
HSS	351	Facility Management	3	
HSS	448	Safety and the Law in Physical Education and Sport	2	
HSS	485	Sport Management Internship <sup>2</sup>		12
FIN	301	Business Finance	3	
MGT	314	Personnel Management	3	
—	—	Electives	3	3
			17	15

<sup>1</sup>See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

<sup>2</sup>Consult program director.

## PROGRAM E9: SPORT MANAGEMENT (ESM) OPTION II

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
HSS	101	Introduction to the University	1	
HSS	111	Introduction to Sport Management	2	
HSS	130	Physical Education Activities	2	1
HSS	226	Computer Applications in Sport Science		3
ENG	101-102	English Composition I and II	3	3
HST	102	History of Western Civilization Since 1715		3
MTH	102	Fundamentals of Mathematics	3	
CMM	101	Fundamentals of Oral Communication	3	
—	—	Course in minor		3
PHL	103	Introduction to Philosophy		3
REL	103	Introduction to Religion	3	
			17	16
Sophomore Year				
ECO	203	Principles of Microeconomics	3	
HSS	130	Physical Education Activities	2	
HSS	275	History of Physical Activity/Sport	3	
HSS	305	Human Anatomy OR	3	
HSS	306	Human Physiology	3	
MIS	365	Management Information Systems		3
MTH	207	Introduction to Statistics		3
—	—	Courses in minor	3	5
—	—	General Education requirements <sup>1</sup>	3	6
			17	17
Junior Year				
ACC	301	Financial Accounting		3
MKT	421	Advertising	3	
HSS	—	General Elective	3	
HSS	350	Principles of Sport Marketing		3
HSS	352	Event Management		2
HSS	449	Sportswriting	3	
ENG	370	Report Writing		3
ENG	380	Sports in Literature	3	
MKT	310	Principles of Selling	3	
MKT	315	Retail Merchandising		3
—	—	Courses in minor		3
			15	17
Senior Year				
HSS	351	Facility Management	3	
HSS	448	Safety and the Law in Physical Education and Sports	2	
EDP	485	Sport Management Internship <sup>2</sup>		12
HSS	—	Course in minor	3	
MKT	405	Consumer Behavior	3	
—	—	Electives	6	
			17	12

<sup>1</sup>See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., HST 102); others are to be chosen from the listing of approved courses. Consult advisor.

<sup>2</sup>Consult program director.

## PROGRAM E4: HEALTH EDUCATION (EDH) K-12

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
HSS	110	The Profession of Teaching	3	
HSS	117	Personal and Community Health	3	
HSS	361	Health Consumerism		2
HSS	130	Physical Education Activities	1	1
ENG	101-102	College Composition I and II	3	3
HST	101 or 102	History of Western Civilization		3
MTH	102	Fundamentals of Mathematics		3
CMM	101	Fundamentals of Oral Communication	3	
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion		3
			16	15
Sophomore Year				
HSS	251	School Health Services & Environment	3	
HSS	305	Human Anatomy	3	
HSS	306	Human Physiology		3
HSS	363	Emotional Health		2
HSS	364	Sexuality Education		2
HSS	—	Health electives		2
EDT	207	Child and Adolescent in Education	3	
EDT	208	Teaching and Learning		3
EDT	469	Reading in the Content Area	1	
—	—	General Education requirements <sup>1</sup>	6	3
			16	15
Junior Year				
HSS	309	Methods for Teaching Health		3
HSS	360	Addiction Education	2	
HSS	362	Environmental Health Education	2	
HSS	412	Community Health Resources		3
HSS	—	Health electives	5	3
EDT	351	School, Self, and Society	3	
—	—	General education requirements <sup>1</sup>	3	3
—	—	Second Teaching Field or electives		4
			15	16
Senior Year				
HSS	407	Seminar in Current Health Issues	2	
HSS	419	Student Teaching*		12
HSS	428	Health Research and Evaluation		3
HSS	430	Principles and Administration of Health Programs	3	
HSS	—	Health electives	2	
EDT	419	Philosophy of Education	3	
HSS	226	Computer Applications in Sport Science	3	
—	—	Second Teaching Field or electives	4	
			17	15

<sup>1</sup>See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., HSS 305); others are to be chosen from the listing of approved courses. Consult advisor.

<sup>2</sup>Field experiences are arranged by the University. Register for EDT 100 section.

<sup>3</sup>Students should leave one half day open for field experience.

<sup>4</sup>Students will have seminar on campus once a week.

### PROGRAM E4A: HEALTH INFORMATION SPECIALIST (EHS)

Dept.	No.	Course	Semester Hours	
First Year			1st Term	2nd Term
HSS	101	Introduction to University	1	
HSS	117	Personal and Community Health	3	
HSS	130	Physical Education Activities	2	
ENG	101-102	College Composition I & II	3	3
REL	103	Introduction to Religion	3	
PHL	103	Introduction to Philosophy		3
HST	101-102	History of Western Civilization	3	3
CMM	101	Fundamentals of Oral Communication		3
MTH	102	Fundamentals of Mathematics	3	
			18	12
Sophomore Year				
REL/PHL		General Education requirements <sup>1</sup>	3	3
HSS	251	School Health Services and Environment	3	
HSS	305	Human Anatomy	3	
HSS	306	Human Physiology		3
HSS	—	Health elective	4	4
MKT	305	Principles of Marketing	3	
ENG	378	Professional and Technical Writing		3
HSS	226	Computer Applications in Sport Science		3
			16	16
Junior Year				
HSS	309	Methods of Teaching Health		3
HSS	367	Community Health Programs	3	
HSS	407	Seminar in Current Health Issues	2	
HSS	412	Community Health Resources		3
HSS	415	Health Agency Internships		2
HSS	—	Health electives	2	2
ACC	207	Intro to Financial Accounting	3	
—	—	General Education requirement <sup>1</sup>	6	
SOC	—	Sociology elective		3
—	—	Admin/Promotion elective		3
			16	16
Senior Year				
HSS	415	Health Agency Internships	2	4
HSS	428	Health Research/Evaluation	3	
HSS	430	Prin./Admin. Health Programs		3
—	—	Admin./Promotion elective	3	
—	—	EHS electives or Second Teaching Field	8	9
			16	16

<sup>1</sup>See General Education Requirements, Chapter V. Some General Education courses are specified in the program (e.g., HSS 305); others are to be chosen from the listing of approved courses. Consult advisor.

STATE CURRICULUM IN ATHLETIC TRAINING

Dept.	No.	Course	Semester Hours
PSY	101	Introduction to Psychology .....	3
PSY	251	Human Growth and Development .....	3
HSS	117	Personal and Community Health .....	3
HSS	220	Adapted Physical Education .....	3
OR			
HSS	222	Exercise for Special Populations .....	3
HSS	230	Basic Athletic Training .....	3
HSS	305	Human Anatomy .....	3
HSS	306/307	Human Physiology .....	3
HSS	330	Advanced Techniques for Athletic Training I .....	3
HSS	335	Massage Therapy .....	1
HSS	338	Athletic Training Internship (1500 clock hours) .....	6
HSS	408	Physiology of Exercise .....	2
HSS	408L	Physiology of Exercise Lab .....	1
HSS	409	Kinesiology .....	2
HSS	409L	Kinesiology Lab .....	1
HSS	431	Nutrition for Exercise and Sport .....	3
HSS	433	Advanced Techniques for Athletic Training II .....	3
EHZ	295	Nutrition and Health .....	3

49

STUDENTS MUST HAVE CURRENT FIRST AID AND CPR CERTIFICATION.



## FOOD AND NUTRITION (EHZ)

The Food and Nutrition Program (EHZ) offers two majors: Didactic Program in Dietetics (EHA) and Nutrition and Fitness (EHN). The curriculum of both programs is an integration of the humanities and arts, social sciences, and the physical and life sciences. The study of food and nutrition (EHZ) includes the science of food and the role of nutrients in the body to promote and maintain health. The Didactic Program in Dietetics (EHA) curriculum includes additional courses in food management and medical nutrition therapy for specific pathology. This curriculum has been granted continued approval by The American Dietetic Association since 1943 and supports pursuit of the Registered Dietitian (RD) credential. The Nutrition and Fitness (EHN) curriculum provides sufficient hours to obtain a minor to compliment nutrition career planning. Both programs challenge you to strive for excellence.

### PROGRAM E12: FOOD AND NUTRITION (EHA)

#### OPTION 1—DIDACTIC PROGRAM IN DIETETICS

This program leads to a Bachelor of Science in preparation for a required post-baccalaureate experience. Upon successful completion of the post-baccalaureate experience, graduates are eligible to become active members of The American Dietetic Association and to sit for the registration examination to become registered dietitians.

Acceptance into a post-baccalaureate program is very competitive. Post-baccalaureate programs maintain increasingly high admission standards. Acceptance is based on the grades of major and support courses, recommendation letters, work experience, extra-curricular activities, motivation, and knowledge of the profession. A grade point average above 2.9 in both the major and support courses is recommended. At the end of the second year the Advisory Committee evaluates all students enrolled in The American Dietetic Association Didactic Program in Dietetics. Any student whose cumulative average for two years of study is below 2.8 will be advised to draft a program for success or consider changing his or her major.

Most students make formal application in the second semester of their senior year to post-baccalaureate programs. Selection of the post-baccalaureate program is made through computer matching.

Students enrolled in The American Dietetic Association Didactic Program in Dietetics do not practice as student dietitians in any observation experience. There is, therefore, no professional liability insurance required.

Additional undergraduate costs may include a laboratory coat and public transportation fares to an observation site. Students are encouraged to join The American Dietetic Association as Affiliate members, currently at \$40.00 per membership year (June 1 to May 31).

### PROGRAM E12: FOOD AND NUTRITION (EHA)

#### OPTION 1—DIDACTIC PROGRAM IN DIETETICS

<i>Dept.</i>	<i>No.</i>	<i>Course</i>	<i>Semester Hours</i>	
First Year			<i>1st Term</i>	<i>2nd Term</i>
HSS	101	Introduction to the University	1	
EHZ	200	Introductory Foods and Laboratory	4	
EHZ	202	Introduction to Dietetics and Nutrition	1	1

ENG	101-102	College Composition I and II <sup>1</sup>	3	3
CHM	123-124	General Chemistry and Laboratory	4	4
CMM	101	Fundamentals of Oral Communication		3
HST	101 or 102	History of Western Civilization	3	
PHL	103	Introduction to Philosophy		3
PSY	101	Introduction to Psychology	3	
—	—	General Education requirement		3
			19	17
Sophomore Year				
BIO	151-152	Concepts of Biology and Laboratory	3	4
ENG	370	Report Writing <sup>2</sup>		3
ECO	203	Principles of Microeconomics OR		3
ECO	204	Principles of Macroeconomics		
EHZ	295	Nutrition and Health	3	
EHZ	304	Quantity Food Production/Buying	3	
EHZ	308	Computer Applications Food/Nutrition		3
REL	103	Introduction to Religion	3	
—	—	General Education requirement	3	
HSS	428	Health Research/Evaluation		3
			15	16
Junior Year				
CHM	313-314	Organic Chemistry Laboratory (recommended but not required)	3	3
HSS	307	Human Physiology	3	
EHZ	300	Cultural Foods and Laboratory		3
EHZ	305	Global Nutrition OR	3	
EHZ	401	Advanced Nutrition	3	3
EHZ	405	Educating the Community		
POL	201	The American Political System	3	
MGT	311	Organizational Behavior	3	
ACC	301	Financial Accounting		3
PSY	432	Interviewing and Counseling		3
			18	15
Senior Year				
EHZ	407	Foodservice Systems Management	3	
EHZ	475	Medical Nutrition Therapy	3	3
EHZ	495-495L	Introduction to Research	3	
BIO	411	General Microbiology and Laboratory	4	
CHM	420	Biochemistry		3
—	—	General Education requirement	3	6
MGT	314	Personnel and Human Resource Management		3
HSS	431	Nutrition for Exercise and Sport		3
			16	18

130 total hours

## General Education Requirements — Thematic Cluster

Could include second history GE

art study GE

religion/philosophy GE

3

3

6

<sup>1</sup> Or ENG 114 or 198<sup>2</sup> Or ENG 272 or 372<sup>3</sup> Old HEC 402 and 460



PROGRAM E12A: NUTRITION AND FITNESS (EHN)  
OPTION 2—NUTRITION

Students may fulfill medical or dental schools' requirements, or the Didactic Program in Dietetics, with additional courses.

PROGRAM E12A: NUTRITION AND FITNESS (EHN)  
OPTION 2—NUTRITION

Dept.	No.	Course	Semester Hours	
First Year			1st Term	2nd Term
HSS	101	Intro to the University	1	
EHZ	200	Introductory Foods and Lab	4	
EHZ	295	Introduction to Nutrition/Dietetics	1	
ENG	101-102	College Composition I and II	3	3
CMM	101	Fundamentals of Oral Communication		3
HST	101-102	History of Western Civilization	3	
REL	103	Introduction to Religion		3
CHM	123-124	General Chemistry and Laboratory	4	4
PSY	101	Introduction to Psychology		3
			16	16
Sophomore Year				
BIO	151-152	Concepts of Biology and Laboratory	3	4
HSS	226	Computer Applications in Sport Science		3
HST	275	History of Physical Activity and Sport	3	
MTH	207	Introduction to Statistics		3
ENG	370	Report Writing	3	
PHL	103	Introduction to Philosophy		3
PSY	251	Human Growth and Development	3	
EHZ	295	Nutrition and Health		3
MGT	311	Org. Behavior/Management	3	
			15	16
Junior Year				
CHM	313-314	Organic Chemistry	3	3
HSS	305	Human Anatomy	3	
HSS	307	Human Physiology		3
HSS	439	Vitamins and Minerals		3
EHZ	401	Advanced Nutrition	3	
EHZ	405	Educating the Community		3
PHL	315	Medical Ethics	3	
PSY	431	Interviewing & Counseling		3
SOC	204	Modern Social Problems	3	
			15	15
Senior Year				
HSS	405	Tests & Measurements	3	
HSS	408	Physiology of Exercise		2
HSS	408L	Physiology of Exercise Lab		1
HSS	428	Health Research & Evaluation		3
HSS	431	Nutrition for Exercise and Sport		3
HSS	490	Internship	3	3
CHM	420	Biochemistry OR	3	
BIO	440	Cell Biology		
COM	411	Health Communication	3	
EHZ	475	Medical Nutrition Therapy	3	
			15	12
			123 total hours	

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General Education Requirements — Thematic Cluster	
Could include second history GE	3
art study GE	3
religion/philosophy GE	6

<sup>1</sup> Or ENG 114 or 198<sup>2</sup> Or ENG 272 or 372

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## FACULTY

Lloyd L. Laubach, *Chairperson*

*Professors Emeriti:* LaVanche, Drees, Leonard, Morefield, Roberts

*Professor:* Schleppi

*Associate Professors:* Baer, Laubach, Siciliano, Vanderburgh

*Assistant Professors:* DeMarco, Palmert, Titlebaum

## COURSES OF INSTRUCTION

### HEALTH AND SPORT SCIENCE

**HSS 100. LIFEGUARDING AND FIRST AID/CPR SKILLS:** The primary purpose of this course is to provide students with Lifeguard, First Aid/CPR skills and knowledge necessary to keep the patrons of aquatic and recreation safe in and around the water. The course will teach students to recognize and respond quickly and effectively to all emergency situations including Lifeguarding Rescue Skill; First Aid Skill; CPR for Professional Workers; Responsibilities of a Professional Lifeguard; Interaction with the Public; Dealing with Uncooperative and Violent Behavior; and Injury Prevention.

2 sem. hrs.

**HSS 101. INTRODUCTION TO THE UNIVERSITY:** Examination of the values that inform academic progress in the College, discussion of strategies for taking full advantage of academic opportunities and integrating formal and experiential learning.

1 sem. hr.

**HSS 109. PERSONAL AND PROFESSIONAL DEVELOPMENT OF THE TEACHER:** A course to help the student define professional goals and assess personal strengths and weaknesses in the light of competencies deemed essential for a physical and/or health education teacher.

2 sem. hrs.

**HSS 110. PERSONAL AND PROFESSIONAL DEVELOPMENT OF THE TEACHER:** Practicum experiences on campus and in local area schools to enable the student to explore interests and test commitment to the teaching profession.

2 sem. hrs.

**HSS 111. INTRODUCTION TO SPORT MANAGEMENT:** A course to help the student define professional goals and assess personal strengths and weaknesses in the light of competencies deemed essential for a sport management career.

2 sem. hrs.

**HSS 112. INTRODUCTION TO EXERCISE SCIENCE AND FITNESS MANAGEMENT:** A course to help the student define professional goals and assess personal strengths and weaknesses in the light of competencies deemed essential for an exercise science and fitness management career.

2 sem. hrs.

HSS 114. INTRODUCTION TO PHYSICAL THERAPY: An introductory seminar discussing the history, present and future, of physical therapy. A successful undergraduate preparation for entrance into this highly selective graduate program will be this field's secondary focus. *1 sem. hr.*

HSS 117. PERSONAL AND COMMUNITY HEALTH: Survey of health science and principles of preventive medicine as introduction to other courses in health and sport science. *3 sem. hrs.*

HSS 130. PHYSICAL EDUCATION ACTIVITIES: Selected courses offered to Health and Sport Science majors only. *1 sem. hr.*

HSS 181. GYMNASTICS: Preparation of physical education teachers to instruct beginning-level gymnastics. Skills for both male and female events useful in teaching coeducational classes. Required for EDP majors. *1 sem. hrs.*

HSS 182. CONDITIONING I: Aerobic conditioning techniques developed primarily through running programs. Required for EES and EDP majors. *1 sem. hr.*

HSS 183. CONDITIONING II: Principles and techniques for developing muscular strength and endurance conditioning. Required for EES and EDP majors. *1 sem. hr.*

HSS 184. CONDITIONING III: A course designed for Exercise Science and Pre-Physical Therapy majors to introduce them to concepts and techniques of aerobic conditioning using exercise devices such as treadmills, bicycle ergometers, stairmasters, rowing machines, etc. *1 sem. hr.*

HSS 200. MOTOR LEARNING: Investigation of fundamental principles of human movement. Physical and psychological variables essential to motor learning are considered. Prerequisite for HSS 300. *2 sem. hrs.*

HSS 209. TEACHING AEROBICS: The fitness concept of aerobic conditioning through exercise routines done to music includes basic dance steps, patterns, teaching tips to enable students to choreograph their own warm-up, aerobic, and cool down routines. *2 sem. hrs.*

HSS 220. ADAPTED PHYSICAL EDUCATION: A course to prepare prospective teachers to adapt a physical education program so all children and youth can successfully participate in activity programs. Study of the atypical child in order to organize and administer a program which will meet individual needs. *3 sem. hrs.*

HSS 222. EXERCISE FOR SPECIAL POPULATIONS: A course designed to prepare prospective exercise specialists to adapt physical education and exercise so that all individuals can successfully participate in activity programs. A study of various disabilities and conditions in order to organize and administer a program which will meet individual needs. *3 sem. hrs.*

HSS 223. BASIC MOVEMENT EDUCATION: The child-centered approach to learning in physical education designed to help children develop greater understanding of themselves as movers, the space in which to move and the factors affecting efficient movement. Developmentally appropriate motor skills, movement concepts and activities (games, dance and gymnastics) are presented as the curriculum model K-12. Prerequisite for HSS 324. *3 sem. hrs.*

HSS 225. COMPUTER APPLICATIONS IN PHYSICAL EDUCATION: The course focuses on understanding the ethical uses of computers as a tool for assessment, instruction, grading and multimedia in physical education. Emphasis is placed on demonstrated proficiency in word processing with Word Perfect & Microsoft Works,

Children's Writing and Publishing, Microsoft Works Spreadsheet and Database, and the evaluation and use of educational software and specific sport packages for basketball and other sports. All programs will be on MAC or Apple II or IBM. *3 sem. hrs.*

**HSS 226. COMPUTER APPLICATIONS IN SPORT SCIENCE:** The course focuses on understanding the practical uses of computers as a tool in exercise science and sport management activities. Emphasis is placed on demonstrated proficiency in word processing, spreadsheets, graphics, Power Point, and databases and the evaluation and use of specific exercise science and sport management packages. Emphasis will be on use of IBM compatible computers. *3 sem. hrs.*

**HSS 230. BASIC ATHLETIC TRAINING:** Application of principles and methods involved in prevention, care, and treatment of athletic injuries. Prerequisite: HSS 305. Sophomore Level. *3 sem. hrs.*

**HSS 245. MODERN DANCE:** Basic and intermediate techniques in modern dance. The study of dance as an art form. First term. Elective. Required for Music Therapy majors. *2 sem. hrs.*

**HSS 251. SCHOOL HEALTH SERVICES & ENVIRONMENT:** The organization and administration of a school health program with emphasis on health services, and healthful school living. *3 sem. hrs.*

**HSS 275. HISTORY OF PHYSICAL EDUCATION AND SPORT:** Study of the historical development of physical education and sport as it relates to significant events in the history of Western civilization. *3 sem. hrs.*

**HSS 300. METHODS OF TEACHING PHYSICAL EDUCATION:** Study of the methods and skills essential for effective teaching in physical education. Prerequisite: HSS 200. *3 sem. hrs.*

**HSS 305. HUMAN ANATOMY:** Study of the human body with emphasis on the interdependent relationships of structure and function. Prerequisite to HSS 408-409. *3 sem. hrs.*

**HSS 306. HUMAN PHYSIOLOGY:** Study of the functions of body systems. Cell physiology, structural contributions or limitations, concepts of biochemistry, control of functions, physiological limits of function, and examples of pathologic developments. *3 sem. hrs.*

**HSS 307. HUMAN PHYSIOLOGY:** A survey of the functions of body systems with respect to general cell physiology and specialization into tissues, structural contributions to tissue/organ physiology, pertinent concepts of biochemical physiology, tissue metabolism and energy/food requirements during stress and exercise, recent research into control and regulation of functions of major systems, physiologic limitations outside environmental ranges, and selected examples of pathophysiology. Prerequisites: CHM 123 and CHM 124. *3 sem. hrs.*

**HSS 309. METHODS OF TEACHING HEALTH:** Study of the instructional phase of the school health program with emphasis on the methods of teaching health. *3 sem. hrs.*

**HSS 310. COACHING BASKETBALL:** The theory, skills, strategies, and methods of coaching basketball. First term, each year. Elective. *2 sem. hrs.*

**HSS 312. COACHING FOOTBALL:** The theory, skills, strategies, and methods of coaching football. Second term, each year. Elective. *2 sem. hrs.*

HSS 314. COACHING BASEBALL: The theory, skills, strategies, and methods of coaching baseball. Elective. *1 sem. hr.*

HSS 316. COACHING SOCCER: The theory, skills, strategies, and methods of coaching soccer. First term, each year. Elective. *1 sem. hr.*

HSS 317. COACHING TRACK AND FIELD: The theory, skills, strategies, and methods of coaching track and field. Elective. *1 sem. hr.*

HSS 318. TEACHING AND COACHING GOLF: The theory, skills, strategies, and methods of teaching and/or coaching golf. *1 sem. hr.*

HSS 320. ESSENTIALS OF MUSCULAR STRENGTH CONDITIONING: A course designed to prepare students for the certified strength and conditioning specialist (NSCA) exam. Topics included will pertain to muscular strength and endurance conditioning, physiology of strength conditioning, muscular strength testing and evaluation, and organization/administration of strength training programs. *3 sem. hrs.*

HSS 322. COACHING VOLLEYBALL: The theory, skills, strategies, and methods of coaching volleyball. Elective. *1 sem. hr.*

HSS 324. ELEMENTARY PHYSICAL EDUCATION: Basic theory, techniques and methods for conducting a program for elementary students. Prerequisite: HSS 223. Junior status. *3 sem. hrs.*

HSS 330. ADVANCED ATHLETIC TRAINING: Advanced techniques of evaluation, treatment, and rehabilitation of athletic injuries; basic pharmacology and therapeutic modalities. *3 sem. hrs.*

HSS 335. INTRODUCTION TO THERAPEUTIC MASSAGE: Introduction to bodywork and issues of health and wellness. Laboratory sessions will provide an opportunity to integrate and apply massage knowledge and skill drawn from a variety of healing systems; Swedish Massage, Acupressure, Reflexology and Hydrotherapy. Designed for students in Exercise Science, Athletic Training and Health Care. Open to University. Recommended that students have had Human Anatomy, Human Physiology, Physiology of Exercise and Kinesiology, but not required. *1 sem. hr.*

HSS 338. ATHLETIC TRAINING INTERNSHIP: Practical experience in a traditional athletic training program and allied clinical settings. Students must complete a minimum of 1500 clock hours. Prerequisites: HSS 230. *2 sem. hrs.*

HSS 344. OUTDOOR EDUCATION: Action seminar to familiarize teachers and recreation leaders with the curricula, teaching techniques, and skills for good outdoor education programs. *2 sem. hrs.*

HSS 349. FINANCING SPORT OPERATIONS: The financial concepts and theories and their application in the professional intercollegiate, recreational and commercial sport industries. Topics include revenues and expenses of professional, intercollegiate, and private sport industries; issues affecting these revenues and expenses; fundraising at the intercollegiate level; ownership in sport; and public and private funding for non-profit sports programs. *3 sem. hrs.*

HSS 350. PRINCIPLES OF SPORT MANAGEMENT: Examination of the nature of management from theoretical and practical perspectives in a variety of sport settings. Focus on managerial functions and skills. *3 sem. hrs.*

**HSS 351. FACILITY MANAGEMENT:** The processes of planning, constructing, equipping, and maintaining sport facilities are investigated in this course. In addition, the multi-faceted nature of event management is examined in a variety of sport settings. *3 sem hrs.*

**HSS 352. EVENT MANAGEMENT:** The purposes, types, organization, administration and evaluation of events as they relate to sport, facility and community environments. *2 sem. hrs.*

**HSS 353. SPORTS MEDIA:** This is the study and the appraisal of the media and the role that it plays in contemporary sports. Attention is also given to preparation and evaluation of media sports presentations. *3 sem. hrs.*

**HSS 355. SPORT MANAGEMENT PRACTICUM/SEMINAR:** The sport management practicum and seminar is designed for students to gain insight into a wide array of field experiences within this discipline. Students are given choices of field work within a variety of sport and recreation settings. In addition, a weekly seminar is required as part of the practicum experience. *2 sem. hrs.*

**HSS 360. ADDICTION EDUCATION:** This is a search into the causes of human compulsion which lead to addictive behavior, a survey of addictive substances, individual research into preventive and treatment programs, and the current display of attitudes by concerned social groups and individuals. *2 sem. hrs.*

**HSS 361. HEALTH CONSUMERISM:** Sorting fad from fact in using health products and services from the present market—includes fad diets, nutrition nonsense, survey of medical hoaxes, misleading advertising and protection that is available to all health consumers. Research into current fads and frauds and exposure of health myths and misconceptions is included. *2 sem. hrs.*

**HSS 362. ENVIRONMENTAL HEALTH EDUCATION:** A selected study of present environmental health conditions. Emphasis is on improvement of those conditions through individual effort and community action. *2 sem. hrs.*

**HSS 363. EMOTIONAL HEALTH:** Study of emotions, behavior, personality, social relationships, and adjustments to change. The aim is toward increased self-understanding, and improved efficiency for healthful living. *2 sem. hrs.*

**HSS 364. SEXUALITY EDUCATION:** Study of maturation, reproduction, pregnancy, birth, and physiological development in humans. Open to the University. Emphasis on the psychological concept of sexuality in American society. *2 sem. hrs.*

**HSS 365. EDUCATION FOR PARENTING:** Selected issues surrounding family composition and roles, life cycles, marriage, family relationships, and parenting. *2 sem. hrs.*

**HSS 367. COMMUNITY HEALTH PROGRAMS:** Development of those skills necessary to perform as a community health educator in a variety of settings. *2 sem. hrs.*

**HSS 373. STRESS MANAGEMENT FOR THE EDUCATOR:** Examination of life's stressors, utilization of reduction techniques, and assisting others with the management of stress. Special attention to controlling stress in the school setting. *2 sem. hrs.*

**HSS 374. HEALTHFUL LIFESTYLES:** Study of behaviors, attitudes, and values contributing to positive health practices. Assessment of individual lifestyle to improve health status. *2 sem. hrs.*

HSS 376. WOMEN'S HEALTH ISSUES: Women's Health Issues explores the myriad of health problems and concerns facing today's women. The focus is on examining the whole person from physical, emotional and spiritual perspectives. *2 sem. hrs.*

HSS 400. PHYSICAL EDUCATION WORKSHOPS: Various workshops will be conducted depending upon the needs of the clientele. *1-3 sem. hrs.*

HSS 404. COACHING INTERNSHIP: Practical coaching experience working in local schools with interscholastic teams. Elective. *1-3 sem. hrs.*

HSS 405. TESTS AND MEASUREMENTS IN SPORT SCIENCE: A direct relationship of tests and measurements to the field of sport science. *3 sem. hrs.*

HSS 407. HEALTH TOPICS FOR TEACHERS: A seminar on current health topics with emphasis on prevention, solution, and the related roles of the health educator. The discussion technique is used for the seminar presentations. *2 sem. hrs.*

HSS 408. PHYSIOLOGY OF EXERCISE: Detailed study of the effects of exercise on human functions, as a basis for the study of physical fitness, motor skills, and athletic training. Prerequisites: HSS 305-306-307. *2 sem. hrs.*

HSS 408L. PHYSIOLOGY OF EXERCISE LABORATORY: Course to accompany HSS 408. Weekly two-hour laboratory stressing practical applications of exercise physiology. Prerequisite: HSS 306 or 307. *1 sem. hr.*

HSS 409. KINESIOLOGY: Investigation and analysis of human motion based on anatomical, physiological, and mechanical principles. Prerequisites: HSS 305-306 or 307. *2 sem. hrs.*

HSS 409L. KINESIOLOGY LABORATORY: Course to accompany HSS 409. Weekly two-hour laboratory stressing the practical application of kinesiology. *1 sem. hr.*

HSS 412. COMMUNITY HEALTH RESOURCES: The functions and services of various local health agencies. Course members select agencies to visit and/or invite to campus. *3 sem. hrs.*

HSS 413. HEALTH EDUCATION FOR THE ELEMENTARY EDUCATOR: A study of the total school health program. Elementary education majors only. Junior level. *3 sem. hrs.*

HSS 414. PHYSICAL EDUCATION FOR THE ELEMENTARY EDUCATOR: A course designed to equip the elementary education major with basic theory, techniques, and methods for conducting a physical education program for elementary students. Elementary education majors only. Junior level. *2 sem. hrs.*

HSS 415. HEALTH AGENCY INTERNSHIP: Student spends 60 hours working with agency of his or her choice. Prerequisites: Junior standing; HSS 412. *1-6 sem. hrs.*

HSS 416. STUDENT TEACHING (ADAPTED PHYSICAL EDUCATION CERTIFICATION): Teaching under close supervision of a certified adapted physical education specialist for a minimum of three weeks. Prerequisite: Formal admission a full semester in advance. *3 sem. hrs.*

HSS 417. STUDENT TEACHING (K-12 TEACHING FIELD): Teaching under close supervision in the specialized subject area in both elementary and high school grades for a minimum of twelve weeks. A seminar is held once a week. Prerequisite: Formal admission a full semester in advance. *12 sem. hrs.*

HSS 418. STUDENT TEACHING (7-12 TEACHING FIELD): Teaching under close supervision in the specialized subject area in the high school grades for a minimum of twelve weeks. A seminar is held once a week. Prerequisite: Formal admission a full semester in advance. 12 sem. hrs.

HSS 419. STUDENT TEACHING (HEALTH): Teaching under close supervision in the specialized subject area in elementary, junior high, and high school grades for a minimum of twelve weeks. A seminar is held once a week. Prerequisite: Formal admission a full semester in advance. 12 sem. hrs.

HSS 420. LIFEGUARDING: The American Red Cross Senior Life Saving Course. Prerequisite: Advanced Swimming. First term, each year. Elective. 1 sem. hr.

HSS 428. HEALTH RESEARCH AND EVALUATION: An introduction to statistical analysis and research methodology. Emphasis will be on the use of these in determining health statistics, designing and evaluating health studies, accessing data banks; collection, analysis and interpretation of health statistics. 3 sem. hrs.

HSS 430. PRINCIPLES AND ADMINISTRATION OF HEALTH PROGRAMS: Establishment of the need for health education, historical development, survey of various philosophies, and discussion of specific professional standards, all aimed toward conceptualization of a personal philosophy by the health educator. 3 sem. hrs.

HSS 431. NUTRITION FOR EXERCISE AND SPORT: Investigation of current research in the nutritional assessment of the athlete. Topics include dietary needs, fluid replenishment, pre-game meals, and "fad" diets for the athlete. Prerequisite: EHZ 295. 3 sem. hrs.

HSS 432. ADVANCED ADAPTED PHYSICAL EDUCATION: A course designed for prospective Adapted Physical Education Specialists. Emphasis is placed on the responsibility, process and development of educating the exceptional population in a physical education setting. Prerequisite: Adapted Physical Education. 3 sem. hrs.

HSS 433. ADVANCED ATHLETIC TRAINING II: Advanced techniques emphasizing use of therapeutic modalities, rehabilitation of athletic injuries, and basic pharmacology. Prerequisites: Basic Athletic Training, CPR and Human Anatomy. 3 sem. hrs.

HSS 435. EXERCISE ECG: Evaluation of exercise electrocardiograms from healthy persons. Prerequisites: HSS 307; HSS 408, 408L. 3 sem. hrs.

HSS 439. VITAMINS AND MINERALS: To examine the metabolic and physiologic functions of vitamins and minerals in human metabolism. 3 sem. hrs.

HSS 448. SAFETY AND THE LAW IN PHYSICAL EDUCATION AND SPORTS: Study of the legal aspects of physical education and athletics. Analysis of specific court cases. Formulation of safety policies. 2 sem. hrs.

HSS 449. SPORTSWRITING: Analysis of and practice in written communications appropriate to sports including news releases, new articles, game programs, and features. 3 sem. hrs.

HSS 452. DEATH EDUCATION FOR LIVING: Emphasis is on "education for healthy living" which is accomplished by bringing the subject of death into reality and comfort. Field trips, group sharing and guest speakers are highlights. 2 sem. hrs.



HSS 453. CHILD ABUSE—THE EDUCATOR'S ROLE: The educator's legal responsibility in suspected child abuse. Attention to the local, state, and national incidence of child abuse, including physical, emotional, and sexual abuse. Teaching techniques for mental health education and parenting education. *2 sem. hrs.*

HSS 455. SELECTED STUDIES IN PHYSICAL EDUCATION: Investigating, analyzing, and reporting on a problem in physical education. Prerequisite: Permission of chairperson. Elective. *1-4 sem. hrs.*

HSS 459. SPORTS BROADCASTING: This course will examine the entire scope of sports broadcasting. This includes determined audiences; selecting what events to cover and why; writing; reporting; anchoring; producing; and job prospects. *3 sem. hrs.*

HSS 465. PHYSICAL THERAPY SEMINAR: Addresses current issues facing prospective and present physical therapists in a reforming healthcare industry. *2 sem. hrs.*

HSS 466. PHYSICAL THERAPY RESEARCH DESIGN: Establishment of the need for and consumership of research in the field of physical therapy, with direct application of research methodology culminating in a research proposal. *3 sem. hrs.*

HSS 470. CURRICULUM DEVELOPMENT IN PHYSICAL EDUCATION: Principles and procedures for curriculum construction and revision. Study of philosophies (institutional, professional, and personal) and their relationship to curriculum development. *3 sem. hrs.*

HSS 485. SPORT MANAGEMENT INTERNSHIP: Work experience carried out under the auspices and supervision of the sports management staff. Application and permission of director of Sports Management program required. *1-12 sem. hrs.*

HSS 490. EXERCISE SCIENCE INTERNSHIP—ON CAMPUS: Work experience carried out under the auspices and supervision of the University of Dayton Wellness Program staff. Application and permission of director of Exercise Science and Fitness Management program required. *2 sem. hrs.*

HSS 491. EXERCISE SCIENCE INTERNSHIP—OFF CAMPUS: Work experience carried out under the auspices of an industrial, commercial, educational, government or health agency-related wellness program. Application and permission of director of Exercise Science and Fitness Management program required. *1-6 sem. hrs.*

## DIETETICS/NUTRITION

EHZ 200. INTRODUCTORY FOODS: Study of scientific principles applied to the processing and preparation of food to maintain nutritional quality and aesthetic value. Corequisite: EHZ 200L. *2 sem. hrs.*

EHZ 200L. INTRODUCTORY FOODS LABORATORY: Course to accompany EHZ 200 lecture. Two 2-hour periods each week. Corequisite: EHZ 200. *2 sem. hrs.*

EHZ 202. INTRODUCTION TO DIETETICS AND NUTRITION: To acquaint the students interested in a career in dietetics or nutrition with the professions, roles, responsibilities, and opportunities afforded them. Examples of practice for each area will be explored. Required by all entering first-year students and open to students interested in food and nutrition careers. *1 sem. hrs.*

**EHZ 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.*

**EHZ 295. NUTRITION AND HEALTH:** Study of the nutrient needs of humans and of their choices as modified by socioeconomic, cultural, and life cycle factors. *3 sem. hrs.*

\* **EHZ 300. CULTURAL ASPECTS OF FOOD:** Study of the relationship among consumers, their culture and society and their food; the historical evolution of food; socioeconomic influences on foodways. Corequisite: EHZ 300L. *2 sem. hrs.*

**EHZ 300L. CULTURAL ASPECTS OF FOOD LABORATORY:** Course to accompany EHZ 300 lecture. One 3-hour period each week. Corequisite: EHZ 300. *1 sem. hr.*

**EHZ 304. QUANTITY FOOD PRODUCTION:** Study of quantity food service systems. Coordinated work experience. Prerequisite: EHZ 200, 200L. *3 sem. hrs.*

\* **EHZ 305. GLOBAL NUTRITION:** A study of the global nature of food systems focusing on the impact of food decisions on the environment, agriculture, production and processing, world population relative to food supply, hunger, biotechnology, and safety of our food supply. Open to the University. *3 sem. hrs.*

**EHZ 308. INSTITUTIONAL BUYING:** Application of principles for determining needs and procuring and storing foods in quantity. Institutional equipment selection, maintenance, and layout. Prerequisite: EHZ 304. *3 sem. hrs.*

**EHZ 310. CHILD NUTRITION:** Nutrition as it applies to the optimal and critical growth of children, including the relationships among the physical, mental, socioeconomic, and emotional factors of development. Not open for EHA or EHN Majors. *3 sem. hrs.*

**EHZ 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. Prerequisites: EHZ 200, 200L. Corequisite: EHZ 327L. *2 sem. hrs.*

**EHZ 327L. EXPERIMENTAL FOODS LABORATORY:** Course to accompany EHZ 327 lecture. One 3-hour laboratory period each week. Corequisite: EHZ 327. *1 sem. hr.*

**EHZ 357. FOOD MICROBIOLOGY:** Study of microorganisms that are related to foodborne illnesses, food preservation, and food sanitation. Prerequisites: BIO 101-102. Corequisite: BIO 411L. *3 sem. hrs.*

**EHZ 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: EHZ 295, BIO 403 or HSS 307, CHM 314. *3 sem. hrs.*

**EHZ 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.*

**EHZ 405. EDUCATING THE COMMUNITY:** Instructional planning and developing media, methods, and materials for food and nutrition. *3 sem. hrs.*

EHZ 407. FOODSERVICE SYSTEMS MANAGEMENT: Study of management theories as applied to institutional and commercial food service operations. 3 sem. hrs.

EHZ 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 and EHZ 401. Corequisite: EHZ 410L 1 sem. hr.

EHZ 410L. NUTRITIONAL BIOCHEMISTRY LABORATORY: Course to accompany EHZ 410 lecture. One 3-hour period each week. Corequisite: EHZ 410. 1 sem. hr.

EHZ 437. FOOD AND THE MARKETPLACE: Study of the influences on food patterns resulting from the relationship between the economy and the consumer. Open to the University. Corequisite: EHZ 437L. 2 sem. hrs.

EHZ 437L. FOOD AND THE MARKETPLACE LABORATORY: Course to accompany EHZ 437 lecture. One 2-hour period each week. Corequisite: EHZ 437. 1 sem. hrs.

EHZ 451. ADVANCED NUTRITIONAL BIOCHEMISTRY: Comprehensive study of the role of nutrients in the control of body metabolism. Prerequisites: CHM 420; EHZ 401. 3 sem. hrs.

EHZ 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 integrations. 3 sem. hrs.

EHZ 470. FOOD AND NUTRITION LABORATORY INTERNSHIP: Practical field experience in the student's major area of study. Prerequisite: Permission of department chair. Grade option 2. 1-6 sem. hrs.

EHZ 475. MEDICAL NUTRITION THERAPY: Includes the study of professional development issues, the process of nutrition assessment, nutrition care planning and the appropriate medical nutrition therapy for specific pathophysiology in humans. Designed for those planning to become a registered dietitian. Prerequisites: CHM 314; EHZ 401; and HSS 307 or BIO 403. 3 sem. hrs.

EHZ 490. TOPICS IN FOOD AND NUTRITION: Presentation and discussion of topics in a specialized area of food and nutrition. Can be repeated under special circumstances. 1-6 sem. hrs.

EHZ 495. INTRODUCTION TO RESEARCH: Introduction to the process of conducting research in nutrition and dietetics including: Writing the Research Proposal, Research Methods (Descriptive Research, Analytical Research, Techniques used in Nutrition and Dietetics Research), Statistical Application, Analysis and Interpretation of Data, Applications of Research to Practice. Required for EHZ 495L. 2 sem. hrs.

EHZ 495L. INTRODUCTION TO RESEARCH LABORATORY: Course to accompany EHZ 495, conducting and evaluating a research project. 1 sem. hr.

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\*General education course. See Chapter V.

## TEACHER EDUCATION (EDT)

The mission of the Department of Teacher Education is the development of competent and humane teachers. It provides students and faculty the opportunity to serve and learn in prekindergarten through secondary schools. It dedicates itself to the discovery and transmission of the knowledge, skills, attitudes, and values that enable teachers to be professional leaders.

To assure the competency of its students, the Department has established a selection and retention policy which requires students to demonstrate before student teaching at least a 2.5 grade-point average overall, in professional education courses, and in teaching fields; ability to pass the Praxis I (PPST); competency in the use of audio-visual equipment and materials and computers and related technologies; and competency in achieving selected objectives in clinical and field-based experiences. At the completion of their programs to receive a provisional license, all students are required to pass the Praxis II (NTE) exit examination(s) mandated by the State Board of Education, to verify they are of "good moral character," and to be fingerprinted.

## EARLY CHILDHOOD EDUCATION (ECE)

The Department of Teacher Education administers the program in Early Childhood Education (E1-N), which leads to the Bachelor of Science in Education and provisional licensure to teach prekindergarten through grade 3.

A student in the Early Childhood Education program is required to have a thematic strand of 27 or more semester hours in one of the following: Arts and the Human Experience; Catholic Intellectual Tradition, Cross Cultural, Perspectives on Global Environmental Issues, Social Justice, Values Technology, and Society, Honors/Scholars, and Core.

A student may also add a Reading Endorsement to their Early Childhood provisional license.

In order to do student teaching the Early Childhood Education major must earn a quality point average of at least 2.5 overall and in professional education courses, and pass the Praxis I (PPST). To be recommended for the provisional licensure, the early childhood education major must also pass the Praxis II (NTE) exit examination, verify they are of "good moral character" and be fingerprinted.

Checksheets for each licensure area are available in the Department of Teacher Education and the School of Education.

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### PROGRAM E1-N: EARLY CHILDHOOD EDUCATION (ECE)

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(Leading to Ohio Provisional Early Childhood License: prekindergarten-grade 3)

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Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
SCI	190-190L	Physical Universe	4	
EDT	109	Personal Aspects of Teaching	1	
EDT	110	The Profession of Teaching <sup>1</sup>		2
ENG	101-102	College Composition I and II	3	3

HST	102	History of Western Civilization Since 1715	3	
HST	251	American History		3
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion		3
VAE	101	Fundamentals and Materials of Art	2	
CMM	101	Fundamentals of Oral Communication		3
—	—	Thematic Strand Elective <sup>2</sup>		3
			<hr/>	<hr/>
			16	17

## Sophomore Year

EDT	211	Childhood Development 0-8 <sup>1</sup>	3	
EDT	212	Early Childhood Theory & Practice <sup>1</sup>		3
MTH	204-205	Mathematics Concepts I and II	3	3
SCI	210-210L	The Dynamic Earth		4
MUS	104	Music Lit. for the Elem. Classroom	2	
—	—	Thematic Strand REL/PHL <sup>2</sup>	3	
—	—	Thematic Strand Art Study <sup>2</sup>	3	
—	—	Thematic Strand Social Science <sup>2</sup>	3	
—	—	Thematic Strand Elective <sup>2</sup>		3
—	—	Thematic Strand Elective <sup>2</sup>		3
			<hr/>	<hr/>
			17	16

## Junior Year

EDT	341	Language Dev. & Emergent Literacy	3	
EDT	311	Developmentally Appropriate Practice <sup>1</sup>	3	
EDT	312	Working with Families Part I	1	
EDT	340	Educating Diverse Student Population in Inclusive Settings <sup>1</sup>	3	
SCI	230-230L	Organisms, Evolution and Environment	4	
EDT	301 or 302	Philosophy of Education Philosophy of Catholic Education	3	
EDT	313	Developmentally Appropriate Practice <sup>1,3</sup>		6
EDT	314	Working with Families Part II		1
EDT	315	Guided Practicum 3 to 5 <sup>1,3</sup>		3
HSS	XXX	Health, Nutrition and Movement		3
EDT	350	Teaching Reading w/Lit. 0-8		3
			<hr/>	<hr/>
			17	16

## Senior Year

EDT	451	Teaching Reading 6-8 <sup>1,4</sup>	3	
EDT	412	Developmentally Appropriate Practice 6-8 <sup>1,4</sup>	6	
EDT	414	Working with Families Part III	1	
EDT	343	Intro. to Learners with M/M Educational Needs	3	
EDT	450	Phonics	3	
EDT	472	Student Teaching Seminar		2
EDT	473	Student Teaching		12
			<hr/>	<hr/>
			16	14

<sup>1</sup>Field experiences are arranged by the University. Register also for EDT 100.<sup>2</sup>Thematic Strand courses fulfill Thematic Cluster and General Education requirements. Consult advisor and checksheets.<sup>3</sup>EDT 313, 314, 315 and 350 must be taken concurrently.<sup>4</sup>EDT 451, 412, 413 must be taken concurrently.

## MIDDLE CHILDHOOD (EMS)

The Department of Teacher Education administers the program in Middle Childhood Education (E2-N), which leads to the Bachelor of Science in Education and provisional licensure to teach grades 4-9.

A student in the Middle Childhood Education program is required to have two concentrations of 24 or more semester hours in the following: integrated mathematics, integrated sciences, integrated social studies and integrated language arts.

A student may also add a Reading Endorsement to their Middle Childhood provisional license.

In order to do student teaching and be recommended for provisional licensure the Middle Childhood Education major must earn a quality point average of at least 2.5 overall and in professional education courses, and pass the Praxis I (PPST).

Checksheets for each licensure area are available in the Department of Teacher Education and the School of Education.

## PROGRAM E2-N: MIDDLE CHILDHOOD (EMS)

(Leading to Ohio Provisional Middle Childhood License: grades 4-9)

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
SCI	190-190L	Physical Universe	4	
EDT	109	Personal Aspects of Teaching <sup>1</sup>	1	
EDT	110	The Profession of Teaching <sup>1</sup>		2
ENG	101-102	College Composition I and II	3	3
CMM	101	Fundamentals of Oral Comm.	3	
HST	102	History of Western Civ. Since 1715	3	
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion		3
MTH	204	Math Concepts		3
HST		Gen. Ed. HST requirement EDT 300 <sup>2</sup>		3
AS		Gen Ed Art Study requirement or Possible Cluster Course		3
			17	17
Sophomore Year				
EDT	222	Development in MC and AYA <sup>1</sup>	3	
SCI	210-210L	The Dynamic Earth	4	
—	—	Concentration <sup>3</sup>	3	
—	—	Concentration <sup>3</sup>	3	
—	—	Concentration <sup>3</sup>	3	
SS		Gen Ed SS requirement EDT 303		3
PHL, REL		Gen Ed PHL, REL requirement, Cluster Course suggested		3
—	—	Concentration <sup>3</sup>		3
—	—	Concentration <sup>3</sup>		3
—	—	Concentration <sup>3</sup>		3
			16	15

Junior Year			
EDT	321	Classroom Environment for MC <sup>14</sup>	3
EDT	340	Ed. Diverse Stud. Pop. in In.Set. <sup>4</sup>	3
EDT	425	The Mid. School, Princ. & Practices <sup>4</sup>	3
—	—	Concentration <sup>3</sup>	3
—	—	Concentration <sup>3</sup>	3
EDT	457	Literature for MC/AYA <sup>5</sup>	3
EDT	450	Phonics <sup>5</sup>	3
EDT	352	Reading Methods <sup>1,5</sup>	3
—	—	Concentration <sup>3</sup>	3
—	—	Concentration <sup>3</sup>	3
			<hr/>
			15
			<hr/>
Senior Year			
EDT	301 or 302	Phil. of Ed. or Cath. Phil. of Ed. <sup>2</sup>	3
—	—	Concentration <sup>3</sup>	3
—	—	Concentration <sup>3</sup>	3
—	—	Concentration <sup>3</sup>	3
—	—	Concentration <sup>3</sup> /or Elective	3
EDT	426, 427	Concentration #1 Methods <sup>1</sup>	3
	428, 429		
EDT	426, 427	Concentration #2 Methods <sup>1</sup>	3
	428, 429		
EDT	474	Student Teaching	11
			<hr/>
			15
			<hr/>
			17

<sup>1</sup>Field experiences are arranged by the University. Register also for EDT 100.

<sup>2</sup>A second General Education course in the Historical study area is a university requirement. EDT 300 fulfills the second historical study requirement and is also part of the Social Justice Cluster. A General Education course in Social Science is a university requirement. EDT 303 is part of the Cross Cultural Cluster. Students may take either EDT 300 or EDT 303. Only one of these is required. EDT 302 is a part of the Catholic Intellectual Cluster.

<sup>3</sup>Fewer concentration hours may be required depending upon chosen concentrations.

<sup>4</sup>Designates cohort courses to be taken together in the same semester.

<sup>5</sup>Designates cohort courses to be taken together in the same semester.

## ADOLESCENCE TO YOUNG ADULT EDUCATION (EYA)

The Department of Teacher Education administers the program in adolescence to young adult (E-7N), which leads to the Bachelor of Science in Education provisional licensure to teach learners ages twelve through twenty-one and grades seven through twelve.

A student in the Adolescence to Young Adult Education Program is required to have a single comprehensive teaching field totaling a minimum of 51 semester hours. Number of semester hours to complete teaching field requirements is dependent upon chosen teaching field and concentration within the teaching field. Semester hours needed beyond 51 may need to be taken during the summer. In order to do student teaching and be recommended for licensure, the student must earn an overall quality point average of at least 2.5; plus a cumulative point average of 2.5 for professional education courses and for the teaching field in which provisional licensure is sought. Students must verify "good moral character," be fingerprinted, and pass a state mandated Praxis II (NTE) exit exam.

Secondary education teaching fields include the following:

Earth Sciences	Integrated Social Studies
Integrated Language Arts	Life Sciences
Integrated Mathematics	Physical Sciences
Integrated Science	

Endorsement of an Adolescent to Young Adult provisional license is available for Reading.

Checksheets for each field are available in the Department of Teacher Education and the School of Education.

## PROGRAM E7-N: ADOLESCENCE TO YOUNG ADULT (EYA)

(Leading to Ohio Provisional Adolescence to Young Adult License: grades 7-12)

Dept. No.		Course	Semester Hours	
			1st Term	2nd Term
First Year				
EDT	109	Personal Aspects of Teaching	1	
EDT	110	The Profession of Teaching <sup>1</sup>		2
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1715	3	
MTH	102	Fundamentals of Mathematics	3	
PHL	103	Introduction to Philosophy	3	
REL	103	Introduction to Religion		3
—	—	General Education requirement <sup>2</sup>		3
—	—	Physical or health education elective	1	1
—	—	General Education requirements <sup>2</sup>	3	3
			17	16-17
Sophomore Year				
EDT	300	History of Education Since 1789 <sup>3</sup>		3
EDT	222	Development MC and AYA <sup>1</sup>	3	
EDT	208	Teaching and Learning <sup>1</sup>		3
EDT	209	Applications of Computers/Technology in Education	2	
CMM	101	Fundamentals of Oral Communication	3	
—	—	Teaching field <sup>3</sup>	9	9
—	—	General Education requirement <sup>2</sup>		3
			17	18



Junior Year			
EDT	303	School, Self, and Society <sup>1</sup>	3
EDT	452	Reading in the Content Areas <sup>1</sup>	2
—	—	Teaching field <sup>3</sup>	11
—	—	General Education requirements <sup>2</sup>	3
			17
Senior Year			
EDT	330	Human Relations in Education <sup>5</sup>	4
EDT	301, 302	Philosophy of Education <sup>5</sup>	3
EDT	475	Student Teaching—Secondary <sup>4</sup>	12
—	—	Special methods in teaching field <sup>1,5</sup>	4
—	—	Teaching field <sup>3</sup> and/or electives	6
			17
			15

<sup>1</sup>Field experiences are arranged by the University. Register also for EDT 100.

<sup>2</sup>See General Education Requirements, Chapter V. Some Humanities Base and thematic cluster requirements are specified in the program; others are to be chosen from the listing of approved courses. Two sciences, a social science and a religion or philosophy course are some of the general education requirements. Consult advisor and teaching-field checksheets.

<sup>3</sup>Some teaching fields have alternate courses; see checksheets.

<sup>4</sup>Students will have seminar on campus once a week.

<sup>5</sup>EDT 330, 301, and special methods in teaching field should be taken concurrently.

## INTERVENTION SPECIALIST (EMM)

The Department of Teacher Education administers the program for Intervention Specialist (E-10N), which leads to licensure to teach learners ages five through twenty-one, kindergarten through grade twelve with mild to moderate educational needs.

In order to do student teaching and be recommended for licensure, the Intervention Specialist student must have a quality point average of at least 2.5 overall, in professional education courses, and in any additional endorsement area; and must pass Praxis I (PPST).

At the completion of the program, to receive a provisional license, all students are required to pass the Praxis II (NTE) exit examinations mandated by the State Board of Education, to verify they are of "good moral character," and to be finger printed.

An Endorsement program is available in Reading.

Checksheets for each licensure area are available in the Department of Teacher Education and the School of Education.

Endorsement of an Adolescent to Young Adult provisional license is available for Reading.

Checksheets for each field are available in the Department of Teacher Education and the School of Education.

## PROGRAM E10-N: INTERVENTION SPECIALIST (EMM)

(Leading to Ohio Provisional Intervention Specialist License: grades K-12)

Dept.	No.	Course	Semester Hours	
			1st Term	2nd Term
First Year				
SCI	190-190L	Physical Universe	4	

EDT	109	Personal Aspects of Teaching <sup>1</sup>	1	
EDT	110	The Profession of Teaching <sup>1</sup>		2
ENG	101-102	College Composition I and II	3	3
HST	102	History of Western Civilization Since 1715	3	
HST	251 or 252	American History		3
PHL	103	Introduction to Philosophy		3
SCI	210-210L	Geology		4
REL	103	Introduction to Religion	3	
CMM	101	Fundamentals of Oral Communication	3	
EDT	209	Applications of Comp/Technology in Ed		2
			<hr/>	<hr/>
			17	17

## Sophomore Year

EDT	300	History of Education Since 1789	3	
EDT	222	Child and Adolescent in Education	3	
EDT	341	Language Development		3
SCI	230	Organisms, Evolution and Environment <sup>2</sup>		3
EDT	343	Introduction to Educ. of Learners Mild/Mod <sup>1</sup>		3
EDT	303	School, Self, and Society		3
EDT	340	Educating Diverse Student Populations in Inclusive Settings <sup>1</sup>	3	
MTH	204-205	Mathematical Concepts I and II	3	3
—	—	Elective	2	2
—	—	General Education requirement—Soc. Sci. Elective Cluster <sup>3</sup>	3	
			<hr/>	<hr/>
			17	17

## Junior Year

EDT	450	Phonics	3	
EDT	208	Teaching and Learning <sup>1</sup>	3	
EDT	352	Reading and Methods <sup>1</sup>	3	
EDT	350 + 457	Literature for Children and Adolescents		3
EDT	344	Collaborating with Families Professionals and Agencies		3
EDT	342	Behavior Management	3	
EDT	343	Learners with Mild/Mod Ed. Needs	3	
EDT	301 or 302	Philosophy of Education		3
EDT	452	Reading in the Content Area		3
—	—	General Ed—REL/PHL Elective Cluster <sup>4</sup>		3
—	—	General Ed—As Elective Cluster <sup>3</sup>		3
—	—	Elective		2
			<hr/>	<hr/>
			15	17

## Senior Year

EDT	442	Assessment M/M <sup>1</sup>	3	
EDT	443	Curriculum MM <sup>1</sup>	2	
EDT	445	Applications of Computers & Tech. Elective	2	
EDT	446	Career Education MM	2	
EDT	495	Student Teaching		12
EDT	444	Instructional Strategies <sup>1</sup>	3	
HSS	220	Adapted Health and Physical Ed	3	
			<hr/>	<hr/>
			17	12

<sup>1</sup>Field experiences are arranged by the University. Register also for EDT 100.<sup>2</sup>Students should take a lab with either SCI 210 or SCI 230.<sup>3</sup>See General Education Requirements, Chapter V. Some humanities base and thematic clusters requirements are specified in the program; others are to be chosen from the listing of approved courses. Consult advisor and checksheets.<sup>4</sup>EDT 442, 443, 444 and 445 must be taken concurrently. Field experience is required.

## MUSIC EDUCATION

The Department of Teacher Education cooperates with the Department of Music to offer provisional licensure K-12 through the E11A Program. See MUS, Chapter VI.

## SPECIAL PROGRAMS K-12

The Department of Teacher Education administers the program for special licensure (E6) to teach grades K-12, which leads to the Bachelor of Science in Education.

A student in the Special K-12 Program is required to have one teaching field totalling a minimum of 45 semester hours. In order to do student teaching and be recommended for licensure, the student must earn a quality point average of at least 2.5 overall, in professional education courses and in teaching field(s), and pass the Praxis I (PPST). At the end of the program, in order to receive a provisional license must pass an exit exam, Praxis II (NTE), verify "good moral character," and be fingerprinted.

Special teaching fields include the following:

Visual Art (EAR), with four concentrations available:

Commercial Design      Photography      Studio Art      Art History

Foreign Language (ELA), with three concentrations available:

French      German      Spanish

Music Education (K-12) is also available through the E11A Program. Endorsement of a standard Special License is available for Reading.

Checksheets for each field are available in the Department of Teacher Education and the School of Education. The suggested four-year schedule of courses is similar to that shown for the Secondary Education Program, E2.

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## READING (ENDORSEMENT): Valid for grades specified in standard license.

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Following are requirements for the reading endorsement. The student must meet all the requirements in addition to satisfying the requirements for a standard teaching license.

EDT 352	Reading and Language Arts (including field experience at appropriate level) .....	3
EDT 350	Literature for Children and Adolescents .....	3
	or 457	
EDT 453	Diagnosis of Reading Difficulties (including field experience at appropriate level) .....	4
EDT 452	Reading in the Content Areas (including field experience) .....	2
EDT 450	Phonics .....	3

## LICENSURE FOR STUDENTS IN ARTS AND SCIENCES

PROGRAM E11A: B.A. or B.S. WITH TEACHER LICENSURE (refer to page 232).

Students in the College of Arts and Sciences may enroll in the Department of Teacher Education's Adolescence to Young Adult Education Program without transferring to the School of Education. For requirements in professional education

courses and in teaching fields consult the chairperson of the Department of Teacher Education.

Enrollment in this program (E11A for students matriculating in the College of Arts and Sciences) is subject to the same admission requirements, counseling, maintenance of a unified system of records, screening, and other professional provisions standard for regular students of the School of Education working toward the B.S. in Education. These include passing the Praxis I (PPST); maintaining an overall average of 2.5; completing field-clinical and student teaching hours; taking the comprehensive Praxis II (NTE); and being in good academic standing at the University.

In order to finish in four years, a student in the College of Arts and Sciences will need to process an application for admission to the Adolescence to Young Adult Education Program no later than the third semester and begin the professional education sequence. Failure to enroll on time may necessitate going beyond the normal four years in order to qualify for teacher licensure and graduation. The requirements for the College of Arts and Sciences (Chapter VI) and those of the School of Education must be completed before any degree is granted.

When the proper course requirements have been completed, the student may register for student teaching, provided that the application for student teaching is duly processed at the beginning of the semester directly prior to the one during which student teaching will take place and that the student has passed the normal screening procedure.

When all the requirements for teacher licensure are completed, the student should make application for the standard State Teaching Provisional License through the official recommending officer of the School of Education, C-104.

## FACULTY

C. Daniel Raisch, *Chairperson*

Patricia Hart, *Assistant Chairperson*

*Professor Emerita:* Frye

*Professors:* Fuchs, Geiger, E. Joseph, Losito, Watras

*Associate Professors:* Biddle, Hart, Hunn, Rowley, Tillman, Sudzina, Weaver

*Assistant Professors:* Adams, Bowman, Carlsen, Egnor-Brown,

L. Joseph, Kinnucan-Welsch, Seery, Talbert-Johnson

*Lecturer:* Neff, Grogan, Watts

*Administrative Faculty:* Ferguson, Mathes

*Field Experience Coordinators:* Coy, Werbrich

*CMC Coordinator:* Raney

*CTE Coordinator:* Oberlander

*Other Faculty:* Zahner

## COURSES OF INSTRUCTION

EDT 100. FIELD-BASED EXPERIENCES: Planned, supervised, and evaluated activities in urban, suburban, or rural schools. Students register for this course in conjunction with appropriate courses in the professional education sequence.

*No credit*

EDT 109. PERSONAL ASPECTS OF TEACHING: General introduction to education and the University. Identification of students' personal values, goals, motives, and strengths in light of the qualities and requirements of effective teaching. Introduction to technology, the portfolio and educational issues. Field experience (10 hrs.). 1 sem. hr.

EDT 110. THE PROFESSION OF TEACHING: Study of the principal teacher behaviors that facilitate learning and those that stand in its way. Emphasis on aspects of learning theory and their application to the teaching and learning process. Educational issues, developing a community of learning, cooperative learning groups, service learning, professional standards, the portfolio, and teaching Marianist traditions are other topics of the course. Clinical and field experiences (24 and 20 hrs.). 2 sem. hrs.

EDT 207. CHILD AND ADOLESCENT IN EDUCATION: Study of the empirical principles of intellectual, moral, physical, personality, and social development as related to performance in the classroom. Interpretations for appropriate generic teaching behaviors and developmental causes of behavior problems. Clinical experience (20 hrs.). Prerequisite: EDT 110 or permission. 3 sem. hrs.

EDT 208. TEACHING AND LEARNING: Study of the empirical principles of learning such as reinforcement, discovery, motivation, and transfer. Interpretations for generic teaching behaviors especially in diagnosis, prescription, and evaluation. Clinical and field experience (10 and 20 hrs.). Prerequisite: EDT 207. 3 sem. hrs.

EDT 209. APPLICATIONS OF COMPUTERS/TECHNOLOGY IN EDUCATION: Basic computer applications to education including spreadsheet, desktop publishing, and instructional utility programs; software evaluation; telecommunications, multimedia, and hypermedia in education; resources; legal/ethical issues. Prerequisite: EDT 110. 2 sem. hrs.

EDT 211. CHILDHOOD DEVELOPMENT BIRTH TO AGE 8: This course focuses on the study of typical and atypical physical, social, emotional, linguistic, cognitive, aesthetic and moral development of young children ages preconception through eight. Students will use this knowledge to reflect on and make decisions about practices that serve the needs of young children and their families. This course includes 20 clinical hours to be completed in class and 30 field hours to be completed at the University of Dayton's Children Center. 3 sem. hrs.

EDT 212. EARLY CHILDHOOD THEORY AND PRACTICE: This course is an introduction to the theory base that drives developmentally appropriate practice for working with young children birth through age eight. It extends knowledge of how children develop and learn to provide opportunities that support the physical, social, emotional, language, cognitive, and aesthetic development of all young children from birth through age eight. Students will learn the principles of planning and implementing developmentally appropriate curriculum and instruction based on knowledge of individual children, families and the community. Field experience: (30 hours at the UD Children's Center.) 3 sem. hrs.

EDT 222. DEVELOPMENT IN MC AND AYA: Study the physical, social, emotional, intellectual, and moral characteristics of the developmental period of early adolescence to young adulthood within a framework of human growth and development. Study of the changes in family setting, social/community contexts, threats to health and safety, and risk behaviors are covered. Clinical field experience: (5 and 25 hrs.). 3 sem. hrs.

\*EDT 300. HISTORY OF EDUCATION SINCE 1789: Study of the relationship of schools and social changes in Europe and America from the French Revolution to the present in order to determine if schools advance social justice. Prerequisites: HST 102 or permission. 3 sem. hrs.

- \* EDT 301. PHILOSOPHY OF EDUCATION: This course includes the study of normative principles including the Marianist perspective, and analysis of philosophical concepts related to education. Interpretations for the development of a critical and humane theory of teaching are also covered. Prerequisite: PHL 103. *3 sem. hrs.*
- \* EDT 302. CATHOLIC PHILOSOPHY OF EDUCATION: This course includes the study of normative principles and analyses of concepts related to Catholic education. Interpretations for the development of a theory of teaching compatible with Catholicism are incorporated. Prerequisite: PHL 103. *3 sem hrs.*
- \* EDT 303. SCHOOL, SELF, AND SOCIETY: A study of the relationships among institutional reform, personality development, and social change in rural, urban, and suburban schools in order to see if the differences found in the different schools derive from differences in the cultures of the communities they serve. An effort will also be made to see how local districts responded differently to national laws and policies affecting minorities and handicapped students. A 34-hour field experience is required. *3 sem hrs.*
- EDT 311. DEVELOPMENTALLY APPROPRIATE PRACTICE FOR THE BIRTH TO THREE YEAR OLD: This course will expand the knowledge of how young children birth to age three learn and develop and how to provide opportunities that support the physical, social, emotional, linguistic, cognitive and aesthetic development of all young children from birth through age 8. Field Experience: 20 hours UD Children's Center. *3 sem. hrs.*
- EDT 312. WORKING WITH FAMILIES PART I: This course is the first in a three part series of courses that emphasize families as important partners in the education process. This course is taken in conjunction with Developmentally Appropriate Practice for the Birth to Three Year Old and serves as a study of the collaborative group process needed to effectively include parents, educators, and professionals from agencies in the educational decision making process. Family systems theory and family empowerment will be emphasized. *1 sem. hr.*
- EDT 313. DEVELOPMENTALLY APPROPRIATE PRACTICE FOR THE THREE TO FIVE YEAR OLD: This course will expand the knowledge of how young children age three through five learn and develop and how to provide opportunities that support the physical, social, emotional, language, cognitive and aesthetic development of children from three through age five. *6 sem. hrs.*
- EDT 314. WORKING WITH FAMILIES PART 2: As the second of three courses on family-professional relationships, this course serves as a study of the collaborative group process needed to effectively include parents, educators, and professionals from agencies in the educational decision making process. This course is part of the Three to Five Block and utilizes the 40 hrs. of field experience in an urban Headstart facility. *1 sem. hrs.*
- EDT 315. GUIDED PRACTICUM 3-5: This practicum serves as an extended supervised field experience and is designed to support students in developing a firm understanding of how play is an integral part of development and implementation of an early childhood curriculum based in the principles of developmentally appropriate practice. Field experience: 40 hours, Urban Headstart. *3 sem. hrs.*

EDT 321. CLASSROOM ENVIRONMENT FOR MIDDLE CHILDHOOD: Study of the middle childhood student within the classroom environment. Theories of learning and practical applications of these, motivation, classroom management and discipline, lesson and unit planning, teaching methodologies and assessment are evaluated, studied and practiced through clinical and field experiences. (5 hrs. and 90 hrs.) Prerequisite: EDT 222. Co-requisites: EDT 340 and EDT 425. *3 sem. hrs.*

EDT 330. HUMAN RELATIONS IN EDUCATION: Study and development of the human relations skills that promote learning and democratic classroom interaction and management regardless of race, political affiliation, religion, age, sex, socio-economic status, or exceptionality. Clinical experience (15 hrs.) Prerequisite: EDT 208. *4 sem. hrs.*

EDT 331. TEACHING RELIGION: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching religion to students with varied needs and abilities. Prerequisites: REL courses, junior standing. *3 sem. hrs.*

EDT 340. EDUCATING DIVERSE STUDENT POPULATIONS IN INCLUSIVE SETTINGS: Study of the characteristics, legal aspects, and educational needs of students with learning problems. Role of the general educator in making curricular modifications and accommodations, adapting instruction and collaborating with other educators to facilitate learning in the regular classroom for these students. Field and clinical experience: (20 and 10 hrs.) *3 sem. hrs.*

EDT 341. LANGUAGE DEVELOPMENT: Study of language in children with implications for the learner with special needs. Clinical experience. Prerequisite or concurrently: EDT 340. *3 sem. hrs.*

EDT 342. BEHAVIOR MANAGEMENT: Principles and methods of observing, recording, measuring, and managing human behavior with emphasis on students with mild/moderate disabilities. Clinical experience. Prerequisite: EDT 343 or concurrently. *3 sem. hrs.*

EDT 343. INTRODUCTION TO EDUCATION OF LEARNERS WITH MILD/MODERATE LEARNING PROBLEMS: Study of the role and function of the special educator. Issues in definition, identification and placement procedures. Knowledge of major researchers and historians, variations in beliefs, traditions and values across cultures, and current practices in the field. Field experience: (20 hrs.) Prerequisite: EDT 340. *3 sem. hrs.*

EDT 344. COLLABORATING WITH FAMILIES, PROFESSIONALS AND AGENCIES: Theories and techniques to assist teachers in working with colleagues, parents, and agency personnel to provide an appropriate educational program, to improve home-school relationships and to develop parent-professional partnerships. Historical and legal perspective of parental influence on special education service delivery. Clinical experiences. Prerequisite: EDT 343. *3 sem. hrs.*

EDT 350. TEACHING READING WITH LITERATURE FOR THE BIRTH THROUGH 8 YEAR OLD: The course will study the use of children's books in the instruction of reading and emergent literacy. It will also address selection of books for specific needs, interests, and reading abilities in eight genres as well as techniques for use in classroom and home settings for children birth through age eight. They practice collaboration techniques with parents, educators, and professionals. This course is part of the Six to Eight Block and the 30 hrs. of field experience. *3 sem. hrs.*



EDT 352. READING METHODS: An integrated language arts course focusing on the knowledge base underpinning the teaching of reading and related language arts processes within the language arts and across the curriculum to students of various ages, needs, and abilities. Topics include planning, instructional methods, materials, assessment and evaluation techniques. Field experience: (30 hrs.) Co-requisites: EDT 450 and EDT 457. *3 sem. hrs.*

EDT 400. INDEPENDENT STUDY: Study of selected topics in teaching. Student develops an individual learning plan that includes objectives, schedule of activities, products, and methods of evaluation. Prerequisite: Permission of chairperson or assistant chairperson. *1-3 sem. hrs.*

EDT 401. ADVANCED COMPUTERS/TECHNOLOGY IN EDUCATION: Integration of computers and related technology into teaching in all subject areas; criteria for effective software and hardware; creation of teaching, evaluation, and management instruments. Prerequisite: EDT 209 or permission. *3 sem. hrs.*

EDT 402. METHODS—COMPUTERS/TECHNOLOGY IN EDUCATION: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching computer science; K-12 curriculum in computer/technology literacy; the educational technology resource person; establishing and maintaining technology facilities in schools. Field and clinical experience required. Prerequisite: EDT 401. *3 sem. hrs.*

EDT 403. CREATIVE TEACHING WITH NEWSPAPERS AND OTHER MATERIALS: Innovative uses of newspapers and other inexpensive or free materials to teach mass communication media literacy and enhance the academic skills of students of varied needs and abilities. Dayton newspapers cooperate in implementing this course. *3 sem. hrs.*

EDT 404. CURRENT INNOVATIONS IN EDUCATION: Presentation, examination, and evaluation of recent trends in curriculum and instructional strategies in elementary and secondary schools. *3 sem. hrs.*

EDT 412. DEVELOPMENTALLY APPROPRIATE PRACTICE FOR THE SIX THROUGH EIGHT YEAR OLD: This course will extend the students' knowledge of how children ages six through eight years develop and learn in order to provide opportunities that support the physical, social, emotional, language, cognitive, and aesthetic development of all young children. Students will learn to use knowledge of how young children ages six through eight differ in their development and approaches to learning in order to provide individually appropriate opportunities for learning. The course will emphasize teaching in the content areas to include: Science, Social Studies, Language Arts, Foreign Languages and Mathematics and will focus on the Ohio Curriculum Models. Field experience: 20 hours, Urban Parochial. *6 sem. hrs.*

EDT 414. WORKING WITH FAMILIES PART 3: As the third of three courses on family professional relationships, this course serves as a study of the role of the parent in the assessment and IEP process. Students continue to practice their understanding family system's theory and family empowerment while expanding their ability to observe, record and assess children's language and literacy development for the purpose of planning appropriate programs. *1 sem. hr.*

EDT 423. DISCIPLINE SKILLS IN THE CLASSROOM: Study of selected theories and strategies to improve student behavior for academic success. *2-3 sem. hrs.*



EDT 425. THE MIDDLE SCHOOL PRINCIPLES AND PRACTICES: This course is primarily a study of the organization (school structure), philosophy and curriculum of middle level education (9-14 year olds), grades four through nine. It is designed to present the theoretical knowledge base about middle childhood education. Issues and concerns, current trends and the essential elements relating to middle level education will be discussed throughout the semester of study. Clinical experience (5 hrs.). Prerequisite: EDT 222. Co-requisites: EDT 321, 340. *3 sem. hrs.*

EDT 426. READING/LANGUAGE ARTS FOR MIDDLE CHILDHOOD: Study of the implications of recent research and methodology on teaching reading, writing, spelling, and grammar in the middle school classroom. The Ohio Model Competency-Based Language Arts Program will be incorporated. Clinical experience (5 hrs.). Prerequisites: EDT 321, 425. *3 sem. hrs.*

EDT 427. MATH FOR MIDDLE CHILDHOOD: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching mathematics to students in the middle schools with varied needs and abilities. Topics include understanding and use of the Ohio Model (K-9), various resources and technologies, manipulatives and other visuals, interdisciplinary connections, various groupings, current research, and various assessments. Clinical experience (5 hrs.). Prerequisites: EDT 321, 425. *3 sem. hrs.*

EDT 428. SCIENCE FOR MIDDLE CHILDHOOD: This course will explore resources and techniques available to provide all middle childhood students with a holistic, interdisciplinary understanding of science. Students will design lessons, activities and assessments which link the national standards, state model, and international goals to contemporary events and children's daily lives. Pre-service teachers will learn how to provide developmentally appropriate experiences and will practice processes, inquiry, and problem-solving skills. Current research findings on adolescent learning will be addressed along with major concerns of safety, ethical treatment of living organisms, classroom management, science, society, and technology issues, as well as professional and legal obligations of science teaching. Clinical experience (5 hrs.). Prerequisites: EDT 321, 425. *3 sem. hrs.*

EDT 429. SOCIAL STUDIES FOR MIDDLE CHILDHOOD: This course is designed to familiarize the pre-service teacher with a variety of techniques used to teach social studies/citizenship education in the middle level classroom. A variety of objectives from the Ohio Model will be modeled, instructional activities will be demonstrated and critical reflection will be expected. Clinical experience (5 hrs.). Prerequisites: EDT 321, 425. *3 sem. hrs.*

EDT 431. LANGUAGE ARTS METHODS AYA: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching English and communication to students with varied needs and abilities. Field and clinical experience required. First term. Prerequisite: EDT 303. *4 sem. hrs.*

EDT 432. MATH METHODS FOR AYA: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching all levels of mathematics to students with varied needs and abilities. Field and clinical experience required. First term. Prerequisite: EDT 303. *4 sem. hrs.*

EDT 433. FOREIGN LANGUAGE FOR AYA: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching modern foreign languages in elementary and secondary schools to students with varied needs and abilities. Field and clinical experience required. First term. Prerequisite: EDT 303. *4 sem. hrs.*

EDT 434. SCIENCE METHODS FOR AYA: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching the biological and physical sciences to students with varied needs and abilities. Field and clinical experience required. First term. Prerequisite: EDT 303. *4 sem. hrs.*

EDT 435. SOCIAL STUDIES METHOD FOR AYA: Planning, diagnosis, instructional methods, materials, and evaluation techniques for teaching history, sociology, political science, psychology, and other social studies to students with varied needs and abilities. Field and clinical experience required. First term. Prerequisite: EDT 303. *4 sem. hrs.*

EDT 442. ASSESSMENT: MILD/MODERATE: Study of the multidisciplinary use of assessment devices and techniques in the diagnosis, planning, and evaluation of the special needs learner and the development of individual education plans. Clinical experiences. Prerequisites: EDT 340, 343. Concurrent with EDT 443 and 444. *3 sem. hrs.*

EDT 443. CURRICULUM: MILD/MODERATE: Curriculum for development of motor, cognitive, academic, social, language, affective, functional, life skills and individual programming for students with mild/moderate disabilities. Field/clinical experience. Prerequisite: EDT 343. Concurrent with EDT 442, 444. *2 sem. hrs.*

EDT 444. INSTRUCTIONAL STRATEGIES FOR MILD/MODERATE: Strategies, materials, and evaluation techniques for teaching students with mild/moderate learning problems. Field experience. Prerequisite: EDT 343. Concurrent with EDT 442 and 443. *3 sem. hrs.*

EDT 445. APPLICATION OF COMPUTERS/TECHNOLOGY IN SPECIAL EDUCATION: Basic computer application to special education, including instructional programs, software evaluation, telecommunications, multimedia and hypermedia in special education, assistive technology, augmentative devices, resources, and legal/ethical issues. Clinical experiences. Prerequisites: EDT 209, 341 and concurrent with EDT 444. *3 sem. hrs.*

EDT 446. CAREER EDUCATION/SPECIAL EDUCATION: Theory and techniques of job classification, assessment, selection, placement, and activities related to work experience from pre-school to adult. Clinical Experiences. Prerequisite: EDT 343. *2 sem. hrs.*

EDT 450. PHONICS: This course provides the background knowledge necessary for effectively teaching and assessing the role of phonics in the reading process. Emphasis is on developing phonemic awareness, phonics, spelling, and word recognition embedded in the context of a total reading/language arts program focused on meaning construction. *3 sem. hrs.*

EDT 451. TEACHING READING TO THE SIX THROUGH EIGHT YEAR OLD: This course will explore developmentally and individually appropriate ways to teach reading to children ages six through eight recognizing diverse learning styles and special learning needs in the area of reading. A variety of instructional skills will be incorporated. Students will also learn how to construct environments that support and value child-activated literacy experiences. Field experience: 20 hours. *3 sem. hrs.*

EDT 452. READING IN THE CONTENT AREAS: Exploration of the problems of developing vocabulary and critical reading ability in a variety of curriculum areas. Field experience. Prerequisites: EDT 352, 450. *3 sem. hrs.*

EDT 453. ASSESSMENT AND EVALUATION OF READING DIFFICULTIES: Study of formal and informal diagnostic tests and procedures for identifying reading strengths and weaknesses with applications for reading programs across grade levels. Field experience. Prerequisites: EDT 352, 450. *3 sem. hrs.*

EDT 457. LITERATURE FOR MC AND AYA: This course is designed to study the background and development of literature for students of all needs and abilities in the 4th and 12th grades. The course will focus on the literature's practical application in the classroom curriculum and the formulation of critical standards for judging the quality of the various nine genres. There are six clinical hours of experience required. Prerequisites: EDT 222, 321. *3 sem. hrs.*

EDT 471. STUDENT TEACHING—LANGUAGES K-12: Full-time supervised and evaluated teaching of foreign languages in both elementary and secondary classes. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning foreign language teacher after completion of a 65-hr. on-site clinical experience. Weekly seminar. Prerequisites: Formal admission to student teaching a full semester in advance; EDT 433. *12 sem. hrs.*

EDT 472. STUDENT TEACHING SEMINAR: This capstone course will provide support to student teachers through weekly seminars. The themes of developmentally appropriate practice, family empowerment, transdisciplinary teaming, scaffolding development, integrated curriculum, individually appropriate practice, and play will be discussed as they apply to the student teaching experience. This seminar will systematically address program evaluation, environmental safety, health appraisal procedures, multi-culturalism in the classroom, classroom management and the guidance of behavior, professional code of ethics and the development of professionalism. *2 sem. hrs.*

EDT 473. STUDENT TEACHING IN EARLY CHILDHOOD: The student teaching experience is a full-time, evaluated experience in an early childhood setting, ages six through eight. Student Teaching: 150 hours, Inclusive Primary. *12 sem. hrs.*

EDT 474. STUDENT TEACHING—MIDDLE CHILDHOOD: Full-time student teaching of at least 10 weeks in the semester in grades 4-9 in at least one of the two concentration subjects. This field experience will be supervised and evaluated by a qualified teacher and a university supervisor. Prerequisites: Formal admission to student teaching a full semester in advance and the methods courses. *11 sem. hrs.*

EDT 475. STUDENT TEACHING AYA: Full-time supervised and evaluated teaching in content area junior or senior high school classroom. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning secondary teacher after completion of a 65-hr. on-site clinical experience. Weekly seminar. Prerequisites: formal admission to student teaching a full semester in advance; methods course. *12 sem. hrs.*

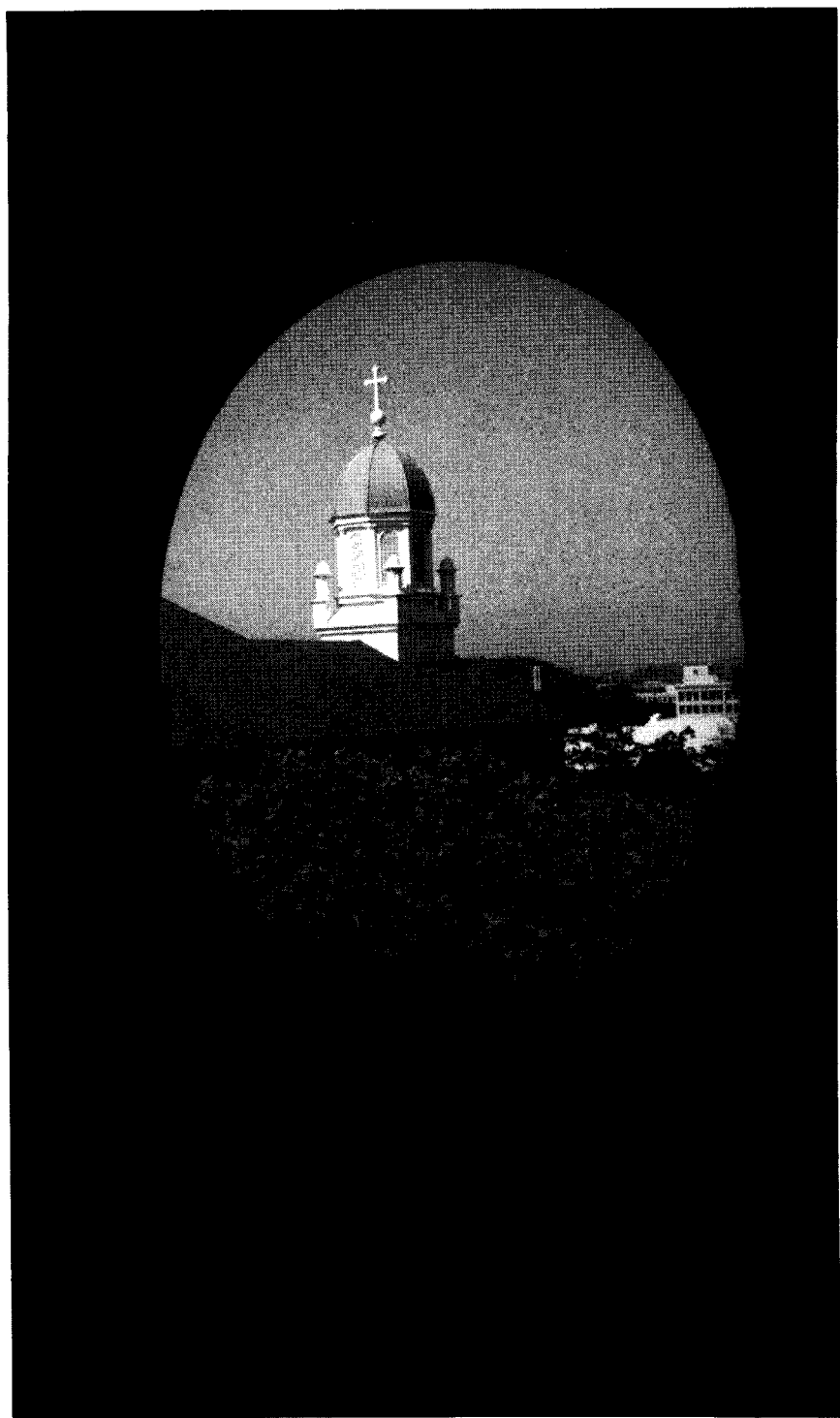
EDT 476. STUDENT TEACHING:MILD/MODERATE: Full-time supervised and evaluated teaching with students demonstrating mild/moderate learning problems. Prerequisites: EDT 343, 342, 344, 442, 443, 445, 446. *12 sem. hrs.*

EDT 477. STUDENT TEACHING—ART K-12: Full-time supervised and evaluated teaching in art classes in elementary and secondary grades. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning teacher after completion of a 65-hr. on-site clinical experience. Weekly seminars. Prerequisites: formal admission to student teaching a full semester in advance; methods course. *12 sem. hrs.*

EDT 479. STUDENT TEACHING—MUSIC K-12: Full-time supervised and evaluated teaching in music classes in elementary and secondary grades. Student is to demonstrate the knowledge, skills, attitudes, and values required of a beginning music teacher after completion of a 65-hr. on-site clinical experience. Weekly seminar. Prerequisites: Formal admission to student teaching a full semester in advance; methods courses. *12 sem. hrs.*

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\*General Education course. See Chapter V.



## IX School of Engineering

Blake E. Cherrington, Dean

Richard J. Kee, Associate Dean for Undergraduate Programs

Donald L. Moon, Associate Dean for Graduate Programs, Research,  
and Information Technology

Antionette Letavec, Assistant to the Dean

The School of Engineering has as its purpose the preparation of men and women for professional careers in engineering and in technology so that they may assume responsible positions of a technical nature in business, industry, education, and government. Of primary concern is the development of professional competencies and philosophies within the various engineering and technology disciplines, as well as providing a broad view of the technical and social problems that confront society. Additionally, the engineering and technology programs provide excellent background for other career areas.

As an educational unit of a private university, the School of Engineering strongly emphasizes the advising of students so that they may achieve their educational objectives within the engineering program. Each student is assigned a faculty advisor. Academic advising begins before the students begin their formal course work and continues as they progress toward their objectives.

The broader responsibilities of the engineering profession demand that the professional education of an engineer include a significant component of humanities, ethics, and social science studies so that the student will become aware of the urgent problems of society and develop a deeper appreciation of the cultural achievements of humanity. Additionally, such studies provide the proper framework to insure that scientific discoveries and developments by engineers may result in the true advancement of the human race. The engineering programs are described beginning on page 341, and the engineering technology programs are described beginning on pages 370.

### OPTIONAL COOPERATIVE EDUCATION

Cooperative education offers the student the opportunity to put classroom work into practical use while still in school, resulting in early career identification and greater motivation as well as providing a source of funds. All students majoring in engineering and engineering technology may participate in the cooperative education program. To be eligible, they must have completed three semesters and have a cumulative grade-point average of not less than 2.3. Those applying for the program will be accepted on the basis of grade-point average, motivation, and attitude. The number of students placed depends on the availability of jobs. See also Chapter X.

### UNDERGRADUATE ENGINEERING PROGRAMS

The engineering program in each of the fields of chemical, civil, computer, electrical, and mechanical engineering is designed to lead to a bachelor's degree in a four-year period. While students pursue curricula they themselves have chosen according to their fields of interest, they all take certain core courses in mathematics, chemistry, physics, English, computer science, and engineering fundamentals. All of the programs permit additional specialization (as an overload) in 16 minors and

in two concentrations in areas such as aerospace, computer engineering, engineering mechanics, computer systems, structures, and industrial engineering in the School of Engineering and in other areas such as music, languages, and political science in other units of the University. Although emphasis is on fundamental theories, continued attention is paid to the solution of practical problems which the student will encounter in the practice of engineering.

The programs in chemical engineering, civil engineering, electrical engineering, and mechanical engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

## TRANSFER STUDENTS

The engineering programs welcome transfer students from both community and senior colleges and work closely with many schools to facilitate transfers from pre-engineering programs. Students may complete the first two years of study in other accredited institutions and transfer to the University of Dayton with little or no loss of credit provided that they have followed programs similar to those prescribed by the University of Dayton School of Engineering.

The School of Engineering has dual degree arrangements with Wilberforce University and the College of Mount St. Joseph (Ohio) as well as curriculum agreements with Sinclair Community College.

## MINORS IN ENGINEERING

The student majoring in chemical, civil, computer, electrical, or mechanical engineering may choose a minor area of technical study. The minors program in the School of Engineering provides an opportunity to specialize in a particular technical sub-area while still pursuing a major program of study in one of the traditional and well recognized engineering disciplines. The minors program was designed in response to the needs of industry and government and to the educational needs and career objectives of students. Election of the minor is optional; it may require additional courses for completion.

The minor is defined as 12 semester hours of work. It can be composed of any number of 1- to 3-semester-hour courses selected from the approved list of minor areas of study, which currently includes the following:

Aerospace Engineering  
Bio-Engineering<sup>1</sup>  
Chemical Processing  
Computer Systems  
Control Systems  
Design and Manufacturing Engineering  
Dynamic Analysis of Mechanical Systems  
Energy Conversion

Engineering Management  
Engineering Mechanics  
Environmental Engineering  
Materials Engineering  
Mechanics of Engineering Systems  
Structures  
Thermal Engineering  
Water Resources Engineering

<sup>1</sup>Although the absence of a bio-engineering supporting department or departmental specialty curriculum prevents the offering of a bio-engineering minor, the courses constitute a preparation for bio-engineering graduate work. "Bio-Engineering preparation" will appear on the student's transcript.

A 12-semester-hour concentration in computer engineering is available to electrical engineering undergraduates. A 15-semester-hour concentration in aerospace engineering is also available to mechanical engineering students. Additional minors from outside the School of Engineering are available in many subject areas.

Students, in consultation with their faculty advisors, normally select the minor or concentration in the second semester of the sophomore year. The minor or concentration is designated on the student's transcript.

## ENGINEERING FIRST-YEAR REQUIREMENTS

Students who are recent high school graduates or who have earned fewer than 15 semester hours of collegiate credit are classified as first-year students and must meet the common engineering program requirements as detailed below. Such credit requirements may be met in a number of ways, including (1) advanced college-level course work at the University of Dayton or other collegiate institutions; (2) advanced placement examinations; (3) departmental examinations during the first term, or (4) taking the prescribed courses as part of the first year. Each request for advanced standing by credit must be initiated by the student in consultation with the engineering faculty advisor, to the office of the dean of engineering.

### REQUIRED FIRST-YEAR PROGRAM<sup>1</sup>

Dept.	No.	Courses	Semester Hours
—	—	First-Year Student Orientation .....	1
CHM	123	General Chemistry .....	3
CPS	—	Programming <sup>1</sup> .....	0-4
EGR	101	Introduction to Engineering Design <sup>2</sup> .....	3
ENG	101-102 or 114 or 198	English Composition I, II .....	3 or 6
HST	101 or 102	History of Western Civilization <sup>3</sup> .....	3
MTH	168-169	Analytic Geometry and Calculus I, II .....	8
PHL	103	Introduction to Philosophy <sup>3</sup> .....	3
PHY	206	General Physics I <sup>4</sup> .....	3
REL	103	Introduction to Religion .....	3
—	—	Basic Science Laboratory <sup>5</sup> .....	1
Total first-year requirements .....			31-35

<sup>1</sup>Chemical and civil engineering students are not required to take any programming course in the first-year. Computer engineering students must take CPE-designated CPS 151 in the second semester; electrical engineering students must take CPS 130 in the second semester; mechanical engineering students postpone CPS 132 until second year and take MEE 104L in the first year.

<sup>2</sup>Chemical, computer, and electrical engineering students are strongly advised to take EGR 101 in the first semester.

<sup>3</sup>Chemical engineering students must take CHM 124 and CHM 124L in the second semester and postpone one of the three Humanities Base courses until the third semester.

<sup>4</sup>Computer engineering students postpone this requirement until the third semester.

<sup>5</sup>Chemical, civil, and mechanical engineering students must take CHM 123L; Computer Engineering students postpone this requirement until the third semester and take PHY 210L; and electrical engineering students may take either CHM 123L or PHY 210L.



## DEGREE REQUIREMENTS

A student enrolls in the curriculum prescribed for the academic year in which he or she is registered as a first-year student at the University of Dayton or elsewhere. If for any reason it is necessary or desirable to change to a subsequently established curriculum, the student must meet all of the requirements of the new curriculum.

The degree Bachelor of Chemical, Civil, Electrical, or Mechanical Engineering and Bachelor of Science in Computer Engineering is conferred at commencement if the general requirements of Chapter V have been fulfilled as well as those listed below:

1. All prescribed courses outlined in the respective curricula must have been passed with grades of D or better and the student must obtain a minimum grade point average of 2.000 for the prescribed courses. Although courses may be scheduled in terms other than as listed, all prerequisites and corequisites must be met.
2. All students in the School of Engineering must register under Grade Option 1 for *all* courses in engineering, mathematics, and science except those offered only under Grade Option 2.
3. The cumulative grade-point average in all courses which have an engineering prefix must be at least 2.0 (C average).
4. The student must have attended the School of Engineering at the University of Dayton during the senior year, carrying at least 30 semester hours.

The semester hours of credit required for graduation in each engineering curriculum administered by the School of Engineering are as follows:

Bachelor of Chemical Engineering .....	137
Bachelor of Civil Engineering .....	137
Bachelor of Electrical Engineering .....	135
Bachelor of Mechanical Engineering .....	137
Bachelor of Science in Computer Engineering .....	133

## 5-YEAR COMBINED BACHELOR'S-MASTER'S ENGINEERING PROGRAM

The School of Engineering offers a combined 5-year program leading to both a bachelor's degree in a departmental major (chemical, civil, electrical, or mechanical engineering) and a master's degree. Physics majors (College of Arts and Sciences) may also participate. The program is designed for the qualified student who wishes to pursue either greater specialization in a major area or to complement the undergraduate program with a related graduate-level concentration. Most students who select the program have received some advanced placement upon entry to engineering at the freshman level or take occasional summer courses.

The formal request for entrance into this program is made before the first semester of the student's junior year. Admission requirements include a minimum cumulative grade point average of 3.00 and permission from the chairperson of the department corresponding to the student's undergraduate major. Selection of the graduate (master's) program area is indicated below:

### *Undergraduate Program*

Chemical Engineering

Civil Engineering

Electrical Engineering

Mechanical Engineering

Physics

### *Graduate Program Selections*

Aerospace Engineering  
Chemical Engineering  
Engineering Management  
Engineering Science  
Materials Engineering

Civil Engineering  
Engineering Management  
Engineering Science  
Materials Engineering

Aerospace Engineering  
Electrical Engineering  
Engineering Management  
Engineering Science  
Materials Engineering

Aerospace Engineering  
Engineering Management  
Engineering Science  
Materials Engineering  
Mechanical Engineering

Materials Engineering

The department chairperson and the graduate program director serve as an advisory committee to the student in establishing the 5-year combined program requirements. The freshman, sophomore, and junior years follow the curriculum of the student's selected bachelor's program. The guideline curriculum requirements for the 4th and 5th years are given below.

A student who elects the 5-year combined program must satisfy both undergraduate and graduate degree requirements as to required cumulative grade point average for graduation. The graduate of the combined program will receive a bachelor's degree in the undergraduate major (e.g., Bachelor of Mechanical Engineering) and a master's degree in the graduate area (e.g., Master of Science in Material Engineering). A student in the 5-year combined program who chooses not to complete the program must complete all the undergraduate major program requirements to receive the bachelor's degree.

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#### PROGRAM EN6: 5-YEAR BACHELOR'S-MASTER'S PROGRAM

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<i>Course Area</i>	<i>Semester Hours</i>	
	1st Term	2nd Term
Senior Year		
Undergraduate department major	11	11
Undergraduate department or University requirement or electives	3	3
Graduate major (graduate credit)	3	3
	17	17
Fifth Year		
Graduate major (including thesis or project)	12	12



## CHEMICAL ENGINEERING (CME)

Chemical engineering applies the principles of the physical sciences, economics, and human relations to fields that pertain to processes and process equipment in which matter is treated to effect a change in state, energy, content, or composition.

The majority of chemical engineers are involved in the chemical process industries that produce many of the materials and items needed in everyday life. These include medicine, food, fertilizers, plastics, synthetic fibers, petroleum, petrochemicals, ceramics, and pulp and paper products. A chemical engineer may pursue a professional career in many other fields, such as energy conversion, pollution control, medical research, and materials development in aerospace and electronic industries. Chemical engineers are employed in research, development, design, production, sales, consulting, and management positions. They are also found in government and education. Many use a chemical engineering education as a stepping stone to law, medicine, or corporate management.

The curriculum in chemical engineering serves as basic training for positions in these diverse areas of the manufacturing industry or for graduate study leading to advanced degrees. The first part of the chemical engineering curriculum provides a firm foundation in mathematics, physics, and chemistry. The chemistry background is stressed. The second part of the curriculum offers a balance between classroom and laboratory experience in stressing chemical engineering topics such as transport phenomena, thermodynamics, kinetics and reactor design, separation processes, fluid flow and heat transfer operations, process control, and process design. The curriculum allows concentrations in emerging technologies such as environmental engineering and materials engineering.

Those interested in pursuing careers in medicine or biochemical engineering should consult the department chairperson.

### PROGRAM EN1: BACHELOR OF CHEMICAL ENGINEERING (CME)<sup>1</sup>

Dept.	No.	Course	1st Term <sup>2</sup>	2nd Term
Sophomore Year				
CME	203	Material and Energy Balances	3-0-3	
CME	204	Experimental Methods in Chemical Engineering		3-0-3
CHM	313-314	Organic Chemistry I, II	3-3-4	3-3-4
MTH	218	Analytic Geometry and Calculus III	4-0-4	
MTH	219	Applied Differential Equations		3-0-3
—	—	Engineering Elective <sup>3</sup>		4-0-4
PHY	207	General Physics II	3-0-3	
—	—	General Education requirements <sup>4</sup>	3-0-3	3-0-3
			17	17
Junior Year				
CME	311	Chemical Engineering Thermodynamics	4-0-4	
CME	324-325	Transport Phenomena I, II	3-0-3	3-0-3
CME	326L	Transport Phenomena Laboratory		0-3-1
CME	381	Applied Mathematics for Chemical Engineers	3-0-3	
CME	365	Separation Processes		3-0-3
CHM	304	Physical Chemistry		3-3-4
CHM	—	Chemistry Elective <sup>5</sup>	3-3-4	
—	—	Technical Elective <sup>5</sup>		3-0-3
CMM	101	Fundamentals of Oral Communication	3-0-3	
—	—	General Education requirement <sup>4</sup>		3-0-3
			17	17

Senior Year			
CME 406	Chemical Reaction Kinetics and Engineering	3-0-3	
CME 465	Flow and Heat Transfer Processes	3-0-3	
CME 466L	Chemical Engineering Operations Laboratory	0-5-2	
CME 430-431	Chemical Engineering Design I, II		6-0-6
CME 452	Process Control	3-0-3	
CME 453L	Process Control Laboratory		0-5-2
—	Chemical Engineering Elective <sup>5</sup>	3-0-3	
—	Technical elective <sup>5</sup>		3-0-3
—	General Education requirements <sup>4</sup>	3-0-3	6-0-6
		<u>17</u>	<u>17</u>

<sup>1</sup>All engineering, mathematics and science courses must be taken for grading option 1.

<sup>2</sup>For example: 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. credit.

<sup>3</sup>Select between EGM 213 (4-0-4) or ECE 323 (4-0-4)

<sup>4</sup>See General Education Requirements, Chapter V. Some General Education requirements are specified in the program; others are to be chosen from the listing of approved courses. Consult advisor.

<sup>5</sup>Select courses from list approved by the Department of Chemical and Materials Engineering.

## FACULTY

Tony E. Saliba, *Chairperson, Department of Chemical and Materials Engineering*

*Professors:* Eylon, Lee, Myers, T. Saliba, Sandhu, Servais, Snide

*Associate Professors:* Flach, Lu

## COURSES OF INSTRUCTION

CME 101. INTRODUCTION TO CHEMICAL ENGINEERING: Introduction to the chemical engineering faculty, facilities, and curriculum; survey of career opportunities in chemical engineering. Introduction to the University first-year experience. 1 sem. hr.

CME 203. MATERIAL AND ENERGY BALANCES: Introductory course on the application of mass and energy conservation laws to solve problems typically encountered in chemical process industries. Prerequisites: CHM 123; MTH 168. First term, each year. 3 sem. hrs.

CME 204. EXPERIMENTAL METHODS IN CHEMICAL ENGINEERING: Introduction to experimental methods, instrumentation, digital data acquisition, data analysis, and report writing. Use of digital computer in emphasized. Prerequisites: CME 203; CHM 124L; EGR 101. Second term, each year. 3 sem. hrs.

CME 311. CHEMICAL ENGINEERING THERMODYNAMICS: Development of the fundamental principles of thermodynamics, particularly with respect to chemical engineering processes. Prerequisites: CME 203; MTH 218. First term, each year. 4 sem. hrs.

CME 324. TRANSPORT PHENOMENA I: Viscosity, shell momentum balances, isothermal equations of change, thermal conductivity, shell energy balances, non-isothermal equations of change, diffusivity, concentration profiles. Prerequisites: CME 203; MTH 219. Corequisite: CME 381. First term, each year. 3 sem. hrs.

CME 325. TRANSPORT PHENOMENA II: Multidimensional transport, dimensionless parameters, turbulence, and numerical solution methods. Prerequisites: CME 324, 381. Second term, each year. 3 sem. hrs.

CME 326L. TRANSPORT PHENOMENA LABORATORY: Viscosity, conductivity, diffusion coefficient measurements, velocity, temperature, concentration profiles, engineering instrumentation, and experimental error analysis. Prerequisite: CME 324. Corequisite: CME 325. Second term, each year. 1 sem. hr.

CME 365. SEPARATION TECHNIQUES: Distillation, evaporation, extraction, adsorption, drying, and filtration. Prerequisites: CME 311, 324. Second term, each year. 3 sem. hrs.

CME 381. ADVANCED MATHEMATICS FOR CHEMICAL ENGINEERS: Study of analytical and numerical techniques to support upper-level chemical engineering classes. Vector analysis, matrices, differential equations, numerical integration and differentiation, root finding, and curve fitting. Prerequisite: MTH 219. First term, each year. 3 sem. hrs.

CME 406. CHEMICAL REACTION KINETICS AND ENGINEERING: Chemical kinetics, ideal reactor analysis and design, and heterogeneous catalysis. Prerequisite: CME 311. First term, each year. 3 sem. hrs.

CME 409. INTRODUCTION TO POLYMER ENGINEERING: Introduction to the chemistry, structure, and properties of polymers; polymer synthesis and processing. Prerequisites: CME 311; CHM 314. 3 sem. hrs.

CME 430. CHEMICAL ENGINEERING DESIGN I: Study of the principles of process development, plant design, and economics. Corequisite: CME 431. Second term, each year. 3 sem. hrs.

CME 431. CHEMICAL ENGINEERING DESIGN II: Application of the principles of process development, plant design, and economics. Corequisite: CME 430. Second term, each year. 3 sem. hrs.

CME 452. PROCESS CONTROL: Mathematical models, Laplace transform techniques, and process dynamics. Feedback control systems, hardware, and instrumentation. Introduction to frequency response, advanced techniques, and digital control systems. Prerequisite: CME 381. First term, each year. 3 sem. hrs.

CME 453L. PROCESS CONTROL LABORATORY: Project-oriented study of process dynamics and control using computer-based data acquisition and control systems. Prerequisites: CME 466L, 452. Second term, each year. 2 sem. hrs.

CME 465. FLUID FLOW AND HEAT TRANSFER PROCESSES: Fluid mechanics, transportation and metering of fluids, agitation and mixing, heat transfer and its applications. Prerequisites: CME 311, 324. First term, each year. 3 sem. hrs.

CME 466L. CHEMICAL ENGINEERING OPERATIONS LABORATORY: Study of the equipment and utilization of various chemical engineering processes. Prerequisite: CME 365. Corequisite: CME 465. First term, each year. 2 sem. hrs.

CME 499. SPECIAL PROBLEMS IN CHEMICAL ENGINEERING: Particular assignments to be arranged and approved by chairperson of the department. 1-6 sem. hrs.

## CIE

### CIVIL ENGINEERING (CIE)

The Department of Civil and Environmental Engineering and Engineering Mechanics offers a Bachelor of Civil Engineering with sufficient elective courses to obtain a concentration in construction, environmental engineering, structures, water resources, or other related areas such as geotechnical and transportation.

Civil engineering is the profession in which a knowledge of the mathematical and physical sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize the materials and forces of nature economically in improving and protecting the environment and providing structures and facilities for community, industry, and transportation for the progressive well-being of humanity.

Civil engineers, leading users of high technology in wide-ranging applications in both the public and the private sectors, are essential to the continued improvement of society. Civil engineers can enter traditional fields such as construction, bridge and building design and analysis, highway design and traffic control, water treatment and distribution, environmental engineering, hydraulics, and geotechnics. However, their broad education also prepares them for materials engineering, engineering management, and the aerospace and automotive industries. Civil engineering has applications in conceptual and detail design, field operations, computers, and consulting.

The civil engineering curriculum prepares the graduate to function not only within the civil, environmental, and aerospace communities but also with other engineering disciplines and nontechnical components of society. The first and second years build a sound foundation in mathematics, physics, chemistry, and basic engineering science. The junior and senior years focus on technical subjects related primarily to civil engineering, with electives available to permit either specialization or preparation for graduate study.

Members of the student chapter of the American Society of Civil Engineers have the opportunity to meet regularly with practicing engineers in the Dayton community.

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#### PROGRAM EN2: BACHELOR OF CIVIL ENGINEERING (CIE)

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Dept.	No.	Course	1st Term	2nd Term	3rd Term
Sophomore Year					
CIE	213	Surveying	2-0-2		
CIE	221L	Civil Computation Laboratory	2-2-2		
CHM	124	General Chemistry II	3-0-3		
EGM	201	Statics	3-0-3		
MTH	218	Analytic Geometry and Calculus III	4-0-4		
PHY	207	General Physics II	3-0-3		
CIE	408	Seminar	1-0-0	1-0-0	
CIE	214	Highway Geometrics		2-0-2	
EGM	202	Dynamics		3-0-3	
EGM	303	Strength of Materials		3-0-3	
MTH	219	Applied Differential Equations		3-0-3	



CMM	101	Fundamentals of Oral Communication <sup>2</sup>	3-0-3		
—	—	General Education requirement <sup>2</sup>	3-0-3		
CIE	215L	Surveying Field Practice			3-0-3
			17	17	3
Junior Year					
CIE	313	Hydraulics	3-3-4		
CIE	318	Analysis of Structures	3-0-4		
CIE	320	Civil Engineering Analysis	3-0-3		
GEO	218	Engineering Geology	3-0-3		
PHL	316	Engineering Ethics	3-0-3		
CIE	408	Seminar	1-0-0	1-0-0	
CIE	310L	Civil Engineering Laboratory		0-3-1	
CIE	312	Soil Mechanics		3-3-4	
CIE	333	Water Resources Engineering		3-0-3	
—	—	Engineering or science elective <sup>3</sup>		3-0-3	
—	—	General Education requirement <sup>2</sup>		6-0-6	
			17	17	
Senior Year					
CIE	403	Transportation Engineering	3-0-3		
CIE	411	Design of Steel Structures	3-0-3		
CIE	412	Design of Concrete Structures	3-0-3		
CIE	420	Engineering Economics	1-0-1		
CIE	434	Water & Wastewater Engineering	3-3-4		
CIE	—	Civil engineering electives <sup>3,4</sup>	3-0-3	6-0-6	
CIE	408	Seminar	1-0-0	1-0-0	
CIE	450	Civil Engineering Design		3-0-3	
HST	343	History of Civil Engineering		3-0-3	
—	—	Engineering or science elective <sup>3</sup>		3-0-3	
			17	15	

<sup>1</sup>For example, 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. credit.

<sup>2</sup>See General Education Requirements, Chapter V. Some General Education requirements are specified in the program (e.g., GEO 218); others are to be chosen from the listing of approved courses. Consult advisor.

<sup>3</sup>Select from list approved by the Department of Civil and Environmental Engineering and Engineering Mechanics.

<sup>4</sup>May be used to concentrate studies in the areas of Environmental, Construction, Structures, Soils, Transportation, and Water Resources Engineering.

## FACULTY

Joseph E. Saliba, *Chairperson*

*Professors Emeriti:* Payne, Thomson

*Distinguished Service Professor:* Ryckman

*Professors:* Bogner, Phillips, J. Saliba, Whitney

*Associate Professors:* G. Shaw, Zoghi

*Assistant Professors:* Chase, Safferman

*Lecturer:* Al-Akkad

*Adjunct Assistant Professors:* McCrate, Donaldson, Herman, Sack

## COURSES OF INSTRUCTION

CIE 101. INTRODUCTION TO CIVIL ENGINEERING: Introduction to the civil engineering faculty, facilities, and curriculum; to the career opportunities offered by the civil engineering profession; and to the areas of specialization within civil engineering.

1 sem. hr.



CIE 213. SURVEYING: Theory of measurements, computation, and instrumentation. Boundary and construction surveys, triangulation, and level net adjustments. Corequisite: MTH 168. First term, each year. *2 sem. hrs.*

CIE 214. HIGHWAY GEOMETRICS: Study of circular and spiral curves, vertical curves, grade lines, earthwork and mass diagram, slope and grade stakes, and contour grading. Prerequisite: CIE 213. Second term, each year. *2 sem. hrs.*

CIE 215L. SURVEYING FIELD PRACTICE: Field work and computation in topography, highway surveying, triangulation, level net, celestial observations, evaluation of errors, and preparation of plans. Five eight-hour days a week for three weeks. Prerequisite: CIE 214. Summer, each year. *3 sem. hrs.*

CIE 221L. CIVIL COMPUTATION LABORATORY: Civil engineering applications of minicomputers and microcomputers. Introduction to computer-aided drafting and fundamentals of civil engineering graphics. Word processing, spreadsheet, database applications, and mathematical application tools. Corequisite: EGM 201. *2 sem. hr.*

CIE 310L. CIVIL ENGINEERING LABORATORY: Experiments and studies relating the engineering properties of certain building materials to their fundamental nature and composition. Prerequisite: EGM 303. Second term, each year. *1 sem. hr.*

CIE 312. SOIL MECHANICS: Principles of soil structures, classification, capillarity, permeability, flow nets, shear strength, consolidation, stress analysis, slope stability, lateral pressure, bearing capacity, and piles. Prerequisites: CIE 313; GEO 218. Corequisite: CIE 312L. Second term, each year. *3 sem. hrs.*

CIE 312L. SOIL MECHANICS LABORATORY: Laboratory tests to evaluate and identify soil properties for engineering purposes. Design problems included. Corequisite: CIE 312. Second term, each year. *1 sem. hr.*

CIE 313. HYDRAULICS: Principles of liquid statics and fluid flow including similitude, measuring devices, channel and pipe flow, turbines, and pumps. Corequisites: CIE 313L; EGM 202. First term, each year. *3 sem. hrs.*

CIE 313L. HYDRAULICS LABORATORY: Laboratory experiments and problems associated with CIE 313. Corequisite: CIE 313. First term, each year. *1 sem. hr.*

CIE 318. ANALYSIS OF STRUCTURES: Elastic analysis of determinate and indeterminate structures, virtual work, Castigliano's theorems; slope deflection and moment distribution, development of stiffness matrices for use in computer analysis; influence lines, shear center, unsymmetric bending. Prerequisite: EGM 303. First term, each year. *4 sem. hrs.*

CIE 320. CIVIL ENGINEERING ANALYSIS: Mathematical modeling and numerical solution of civil engineering problems: basic concepts of probability with emphasis on applications to structures, transportation, and hydraulics problems; application of numerical computational methods in civil engineering problems. Prerequisites: EGM 202, 303; MTH 219. First term, each year. *3 sem. hrs.*

CIE 333. WATER RESOURCES ENGINEERING: Integrated study of the principles of water movement and management. Focus areas include hydrology, water distribution, waste water collection and storm water management. Prerequisites: CIE 313, 313L. Second term, each year. *3 sem. hrs.*

CIE 390. ENVIRONMENTAL POLLUTION CONTROL: Study of environmental pollution problems relating to air, water, and land resources. Causes and effects of pollution; technology for solving the problems. Legal and political considerations. For juniors and seniors other than civil engineering students. Credit may not be applied toward civil engineering degree. Prerequisite: Some knowledge of chemistry.

3 sem. hrs.

CIE 403. TRANSPORTATION ENGINEERING: Fundamentals of transportation engineering, including design, construction, maintenance, and economics of transportation facilities. Design of pavement structures and drainage systems. Prerequisites: CIE 310L, 313. Corequisite CIE 420.

3 sem. hrs.

CIE 408. SEMINAR: Practice in the presentation and discussion of papers; lectures by staff and prominent engineers. Attendance required of all civil engineering sophomores, juniors, and seniors.

No credit

CIE 411. DESIGN OF STEEL STRUCTURES: Design and behavior of structural steel connections, columns, beams, and beams subjected to tension, compression, bending, shear, torsion, and composite action. Prerequisites: CIE 310L, 318.

3 sem. hrs.

CIE 412. DESIGN OF CONCRETE STRUCTURES: Design and behavior of reinforced concrete slabs, beams, columns, walls, and footings subjected to tension, compression, bending, shear, and torsion. Prerequisites: CIE 310L, 318.

3 sem. hrs.

CIE 420. ENGINEERING ECONOMICS: Basic principles and techniques of economic analysis of engineering projects. Prerequisite: MTH 169.

1 sem. hr.

CIE 421. CONSTRUCTION ENGINEERING: Organization, planning, and control of construction projects, including a study of the use of machinery, economics of equipment, methods, materials, estimates, cost controls, and fundamentals of CPM and PERT. Departmental elective. Corequisite: CIE 403.

3 sem. hrs.

CIE 422. DESIGN AND CONSTRUCTION PROJECT MANAGEMENT: Fundamentals of project management as they relate to the design and construction professional, and the application of project management techniques to the design and construction of major projects. Prerequisite: CIE 421.

3 sem. hrs.

CIE 434. WATER & WASTEWATER ENGINEERING: Problems of water pollution; development and design of public water supply and waste water disposal systems; legal, political, ethical, and moral considerations. Prerequisite: CHM 124. First term, each year.

3 sem. hrs.

CIE 434L. WATER & WASTEWATER ENGINEERING LABORATORY: Laboratory exercises, demonstrations, and design problems associated with environmental engineering. Corequisite: CIE 434.

3 sem. hrs.

CIE 441. INTRODUCTION TO HYDROLOGY: Detailed study of the hydrologic cycle including precipitation, precipitation losses, and rainfall/runoff processes. Concepts relating to streamflow, urban drainage, river and reservoir routing, hydrologic measurement, subsurface flow, and water quality are also addressed. Unit hydrograph theory, watershed modeling, and analysis and design of drainage structures. Prerequisites: CIE 312, 313.

3 sem. hrs.

CIE 450. CIVIL ENGINEERING DESIGN: Group design of complete projects, drawing on the knowledge acquired in a spectrum of civil engineering subjects. Prerequisites: CIE 312, 403, 411, 412, 420, 434. *3 sem. hrs.*

CIE 470. CIE COMPUTER APPLICATIONS: Applications of mainframe, mini, and micro computers to the solution of selected civil engineering problems, including data analysis, plotting, optimization, and simulation. Prerequisite: CIE 320. *3 sem. hrs.*

CIE 499. SPECIAL PROBLEMS IN CIVIL ENGINEERING: Particular assignments to be arranged and approved by chairperson of the department. Departmental elective. *1-6 sem. hrs.*



## ELECTRICAL & COMPUTER ENGINEERING (ECE)

The Department of Electrical and Computer Engineering offers two undergraduate programs leading to Bachelor of Electrical Engineering (Program EN3A), and Bachelor of Science in Computer Engineering (Program EN3B). The Bachelor of Electrical Engineering degree program also allows the opportunity to take sufficient elective courses to obtain a concentration in computer engineering or enhanced knowledge in several specific areas. The department offers master's and doctoral degrees in electrical engineering and is closely coupled to the graduate program in electro-optics where both master's and doctoral degrees are offered.

Electrical engineering is an exciting field within the engineering discipline. It offers the opportunity to enter some of the most rewarding and challenging careers available. The explosion of capabilities in the computer, communication, automotive, and aerospace industries has resulted from advances in the electronics field. Electrical engineers are equipped to enter this dynamic arena as well as equally challenging and rewarding careers in the fields of electro-optics, computer engineering, signal processing, biomedicine and many more. Electrical engineers work in all phases of technological programs. They are involved from the conception of the basic ideas through design, fabrication, verification, manufacturing, and marketing of the final product.

Computer engineering represents perhaps the most sought-after professional component of an engineering team which develops the technological possibilities inherent in the design, construction, and operation of computer systems. The computer engineer performs a wide variety of tasks involving hardware, software, peripherals, computer-controlled systems, and hardware-software integration.

Both electrical engineering and computer engineering are broad-based engineering disciplines that provide for a wide range of career choices within the engineering field as well as providing an excellent basis for careers in such diverse areas as business, law and medicine.

The electrical engineering curriculum is designed to provide an understanding of basic electrical engineering principles with emphasis on the development of problem solving skills. An extensive laboratory experience is integrated with the classroom work to assure that the student develops a working knowledge of the fundamentals. Upper level courses integrate the knowledge base with current technology and computational tools resulting in a graduate capable of making a contribution to the engineering profession by either entering the work force or pursuing a graduate education.

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### PROGRAM EN3A: BACHELOR OF ELECTRICAL ENGINEERING (ELE)

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Dept.	No.	Course	1st Term <sup>1</sup>	2nd Term
Sophomore Year				
ECE	201	Circuit Analysis	4-0-4	
ECE	201L	Circuit Analysis Laboratory	0-2-1	
ECE	211	Probability and Statistics	1-0-1	
MTH	218	Analytic Geometry and Calculus III	4-0-4	
EGM	213	Statics and Mechanics of Materials	4-0-4	

PHY	207-208	General Physics II & III	3-0-3	3-0-3
ECE	202	Signals and Systems		4-0-4
ECE	202L	Signals and Systems Laboratory		0-2-1
ECE	215	Introduction to Digital Systems		3-0-3
MTH	219	Applied Differential Equations		3-0-3
CMM	101	Fundamentals of Oral Communications		3-0-3
			17	17
Junior Year				
ECE	301	Electronic Devices	3-0-3	
ECE	301L	Electronic Devices Laboratory	0-2-1	
ECE	334	Discrete Signals and Systems	3-0-3	
ECE	332	Electromagnetics	3-0-3	
ECE	315-316	Random Signals I & II	1-0-1	1-0-1
—	—	General Education requirements <sup>2</sup>	6-0-6	3-0-3
ECE	333	Applied Electromagnetics		3-0-3
ECE	302	Electronic Systems		3-0-3
ECE	302L	Electronic Systems Laboratory		0-2-1
ECE	314	Fundamentals of Computer Architecture		3-0-3
—	—	Mathematics Elective <sup>3</sup>		3-0-3
			17	17
Senior Year				
ECE	401	Communication Systems	3-0-3	
ECE	401L	Communication Systems Laboratory	0-2-1	
ECE	414	Electro-Mechanical Devices	3-0-3	
—	—	Technical Elective <sup>3</sup>	6-0-6	6-0-6
—	—	General Education requirements <sup>3</sup>	3-0-3	3-0-3
ECE	415	Control Systems		3-0-3
—	—	Engineering Thermodynamics Elective <sup>3</sup>		3-0-3
ISE	401	Engineering Economics		1-0-1
			16	16

<sup>1</sup>For example: 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. credit.

<sup>2</sup>See General Education requirements, Chapter V.

<sup>3</sup>Select from list approved by the Department of Electrical and Computer Engineering.

The computer engineering curriculum is designed to provide an understanding of basic computer engineering principles with emphasis on the development of problem solving skills. The software aspects of computer engineering are introduced in the first year, while hardware and hardware-software integration topics are emphasized starting in the sophomore year. An extensive hands-on laboratory experience is integrated with the classroom work to assure that the student develops a working knowledge of the fundamentals.

#### PROGRAM EN3B: BACHELOR OF SCIENCE IN COMPUTER ENGINEERING (CPE)

Dept.	No.	Course	1st Term <sup>1</sup>	2nd Term
Sophomore Year				
ECE	201	Circuit Analysis	4-0-4	
ECE	201L	Circuit Analysis Laboratory	0-2-1	
CPS	250	Algorithms & Programming III	3-1-4	

PHY	210L	General Physics Laboratory 1	0-2-1	
MTH	218-219	Analytic Geometry & Calculus III	4-0-4	
PHY	206-207	General Physics I, II	3-0-3	3-0-3
MTH	219	Applied Differential Equation		3-0-3
ECE	202	Signals & Systems		4-0-4
ECE	202L	Signals & Systems Laboratory		0-2-1
ECE	215	Introduction to Digital Systems		3-0-3
CMM	101	Fundamentals of Oral Communication		3-0-3
			<hr/> 17	<hr/> 17
Junior Year				
EGM	213	Statics and Mechanics of Materials	4-0-4	
—	—	General Education requirement <sup>2</sup>	3-0-3	
CPS	350	Data Structures and Algorithms	3-0-3	
ECE	314	Fundamentals of Computer Architecture	3-0-3	
ECE	301	Electronics Devices	3-0-3	
ECE	301L	Electronics Devices Laboratory	0-2-1	
ECE	302	Electronic Systems		3-0-3
ECE	302L	Electronic Systems Laboratory		0-2-1
ECE	211	Probability & Statistics		1-0-1
CPS	341	Discrete Structures		3-0-3
CPS	346	Operating Systems I		3-0-3
MTH	302	Linear Algebra & Matrices		3-0-3
—	—	Technical Elective <sup>3</sup>		3-0-3
			<hr/> 17	<hr/> 17
Senior Year				
ECE	439	Social Implications of Computing	2-0-2	
ECE	449	Computer Systems Engineering	3-0-3	
CPS	418	Software Engineering	3-0-3	
CPS	444	Systems Programming	3-0-3	
—	—	General Education requirement <sup>2</sup>	6-0-6	6-0-6
ECE	446	Microelectronics Systems Design		3-0-3
—	—	Technical Elective <sup>3</sup>		6-0-6
			<hr/> 17	<hr/> 15

<sup>1</sup>For example: 3-0-3 means 3 class hrs., 0 laboratory hrs., 3 sem. hrs. credit

<sup>2</sup>See General Education Requirements, Chapter V. Consult advisor.

<sup>3</sup>Select from list approved by the Department of Electrical and Computer Engineering.

## FACULTY

Mohammad A. Karim, *Chairperson*

*Distinguished Service Professor:* Schmidt

*Professor Emeritus:* Evers

*Professors:* Karim, Moon, Pasala, Thiele

*Associate Professors:* Atiquzzaman, Duncan, Scarpino, Westerkamp, Williamson

*Assistant Professors:* Daniels, Dominic, Hardie, Hayat, Kee, Koh, Penno, Subramanyam

*Adjunct Professor:* Repperger

## COURSES OF INSTRUCTION

ECE 101. INTRODUCTION TO ELECTRICAL AND COMPUTER ENGINEERING: Introduction to electrical and computer engineering faculty, facilities, and curriculum. Career opportunities in electrical and computer engineering and areas of specialization are discussed. *1 sem. hr.*

ECE 201. CIRCUIT ANALYSIS: Principles of linear circuit analysis and problem solving techniques associated with circuits containing both passive and active components. Analysis of both transient and steady-state behavior of circuits with D.C. and sinusoidal excitation. Corequisite: MTH 169. Concurrent with ECE 201L. *4 sem. hrs.*

ECE 201L. CIRCUIT ANALYSIS LABORATORY: Laboratory course stressing experimental techniques, laboratory reporting, safety, and instrumentation. Experimental investigation of basic steady-state and transient circuits. Concurrent with ECE 201. *1 sem. hr.*

ECE 202. SIGNALS AND SYSTEMS: Mathematical framework associated with the analysis of linear systems including signal representation by orthogonal functions, convolution, Fourier and Laplace analysis, and frequency response of circuits and systems. Prerequisites: ECE 201; MTH 218. Concurrent with ECE 202L. *4 sem. hrs.*

ECE 202L. SIGNALS AND SYSTEMS LABORATORY: Laboratory investigation of signals and systems including signal decomposition, system impulse response, convolution, frequency analysis of systems, and filter design and realization. Concurrent with ECE 202. *1 sem. hr.*

ECE 211. PROBABILITY AND STATISTICS: Introduction to the topics of random variables, probability density functions, cumulative distribution functions, mean values and moments. Prerequisite: MTH 168. *1 sem. hr.*

ECE 215. INTRODUCTION TO DIGITAL SYSTEMS: Introduction to binary systems, logic circuits, Boolean algebra, simplification methods, combinational circuits and networks, programmable logic devices, flip flops, registers, counters, memory elements, and analysis and design of sequential circuits. Prerequisite: ECE 201. *3 sem. hrs.*

ECE 301. ELECTRONIC DEVICES: Study of the terminal characteristics of electronic devices and basic single stage amplifier configurations using bipolar junction transistors and field-effect transistors. Analysis of the devices includes a qualitative physical description, volt-ampere curves, and the development of small- and large-signal equivalent circuit models. Prerequisites: ECE 202, 202L. Concurrent with ECE 301L. *3 sem. hrs.*

ECE 301L. ELECTRONIC DEVICES LABORATORY: Laboratory investigation of electronic devices: diodes, bipolar junction transistors, field-effect transistors and operational amplifiers. Concurrent with ECE 301. *1 sem. hr.*

ECE 302. ELECTRONIC SYSTEMS: Study of cascaded amplifiers, feedback amplifiers, linear integrated circuits, and oscillators including steady state analysis and analysis of frequency response. Prerequisite: ECE 301. Concurrent with ECE 302L. *3 sem. hrs.*

ECE 302L. ELECTRONIC SYSTEMS LABORATORY: Design, construction and verification of multistage feedback amplifiers, passive and active filters. Automated data collection. Concurrent with ECE 302. *1 sem. hr.*

ECE 314. FUNDAMENTALS OF COMPUTER ARCHITECTURE: Study of computer systems organization, representation of data and instructions, instruction set architecture, processor and control units, memory devices and hierarchy, I/O devices and interfacing peripherals, high- to low-level language mapping, system simulation and implementation, applications and practical problems. Prerequisite: ECE 215.

*3 sem. hrs.*

ECE 315. RANDOM SIGNALS I: Study of multiple random variables, continuous and discrete random processes, autocorrelation and cross correlation. Prerequisites: MTH 218; ECE 211.

*1 sem. hr.*

ECE 316. RANDOM SIGNALS II: Continuation of Random Signals I. Study of spectral density and its relation to autocorrelation, statistical characterization of noise, and the response of linear systems to random inputs. Prerequisites: ECE 202, 315.

*1 sem. hr.*

ECE 323. BASIC ELECTRONIC CIRCUITS: Analysis and design of passive and active electrical and electronic circuits using time-domain- and frequency-domain methods. Includes amplifiers, switches, and other types of electronic circuits. Lectures will be reinforced with practical and computer exercises. For chemical, civil, environmental and mechanical engineering students. Prerequisites: MTH 218; PHY 207.

*4 sem. hrs.*

ECE 332. ELECTROMAGNETICS: Study of vector calculus, electro- and magneto-statics, Maxwell's equations, and electromagnetic plane waves and their reflection and transmission from discontinuities. Prerequisites: PHY 207; MTH 219; ECE 202.

*3 sem. hrs.*

ECE 333. APPLIED ELECTROMAGNETICS: Electromagnetic theory applied to problems in the areas of waveguides, radiation, electro-optics and electromagnetic interference and electromagnetic compatibility. Prerequisite: ECE 332.

*3 sem. hrs.*

ECE 334. DISCRETE SIGNALS AND SYSTEMS: Introduction to discrete signals and systems including sampling and reconstruction of continuous signals, digital filters, frequency analysis, the Z-transform, and the discrete Fourier transform. Prerequisites: ECE 202, 215.

*3 sem. hrs.*

ECE 401. COMMUNICATION SYSTEMS: Study of amplitude, angle, pulse, and digital communication systems including generation, detection, and analysis of modulated signals and power, bandwidth, and noise considerations. Prerequisites: ECE 316, 302, and 334 or equivalent. Concurrent with ECE 401L.

*3 sem. hrs.*

ECE 401L. COMMUNICATION SYSTEMS LABORATORY: Design, fabrication, and laboratory investigation of modulators, detectors, filters, and associated communication components and systems. Concurrent with ECE 401.

*1 sem. hr.*

ECE 414. ELECTRO-MECHANICAL DEVICES: Properties and theory of electro-mechanical devices: nonlinear electromagnetic actuators; rotating machine analysis; field and circuit concepts; rotating fields; direct current, synchronous, and induction machines; special-purpose machines; and fractional horsepower machines. Prerequisites: ECE 202, 333.

*3 sem. hrs.*

ECE 415. CONTROL SYSTEMS: Study of mathematical models for control systems and analysis of performance characteristics and stability. Design topics include pole-placement, root locus, and frequency domain techniques. Prerequisite: ECE 202.

*3 sem. hrs.*



ECE 439. SOCIAL IMPLICATIONS OF COMPUTING: Professional, social and ethical issues in computing; computers and privacy; crime, abuse, hacking, and virus; responsibility and liability; artificial intelligence and expert systems. 2 sem. hrs.

ECE 440. PHYSICAL ELECTRONICS: Introduction to wave mechanics, electron ballistics, theory of metals and semiconductors, electron emission, space charge flow, and modern electron devices. Prerequisites: MTH 219; PHY 208. 3 sem. hrs.

ECE 441. INTEGRATED CIRCUIT ELECTRONICS: Integrated circuit design, construction and verification including the study of biasing, multistage differential and analog power amplification, and computer assisted design tools for "on-chip" design and layout. Prerequisite: ECE 302. 3 sem. hrs.

ECE 442. ENGINEERING ELECTROMAGNETICS: Processing Maxwell's equations and applying the predictions to the analysis and design of engineering systems that make use of electromagnetic energy from ELF through optical frequencies. Topics include propagation, radiation, interactions with matter, guided waves, and antenna fundamentals. Prerequisite: ECE 333. 3 sem. hrs.

ECE 443. INTRODUCTION TO ELECTRO-OPTICS: Introductory overview of electro-optics starting with Maxwell's equations and leading to lasers, holography, and other timely applications. Prerequisite: ECE 332. 3 sem. hrs.

ECE 444. ADVANCED DIGITAL DESIGN: Systems approach to digital design including: structured top-down development process using simple and complex logic modules from various logic families; practical aspects of the design, construction, and verification of digital subsystems; application of microcomputer and/or controller as a flexible logic device; real-time embedded systems design; and the use of HDL tools and simulation. Prerequisite: ECE 314. Additional prerequisite for ELE program: ECE 334 or equivalent. 3 sem. hrs.

ECE 445. SIGNAL PROCESSING: Study of signal conditioning, digital signal processing, and data processing. Topics include transducers, high gain amplifier design, digital filtering, and spectrum estimation. Specialized application determined by instructor. Prerequisites: ECE 314, and 334 or equivalent. 3 sem. hrs.

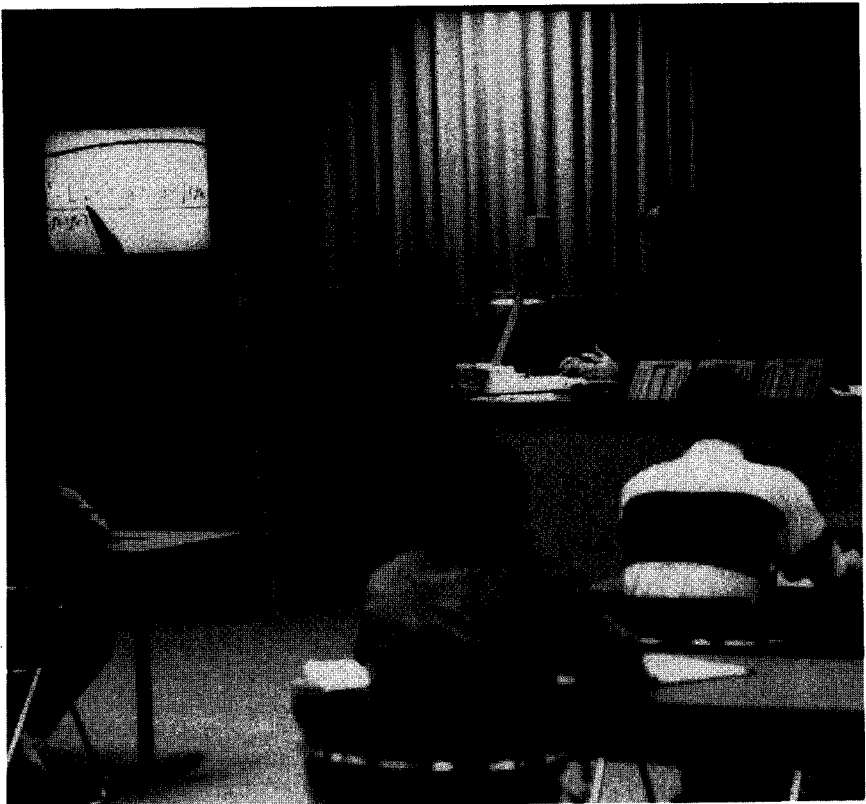
ECE 446. MICROELECTRONIC SYSTEMS DESIGN: Basic integrated circuit design concepts, system layout, application of design methodology, the fabrication process, manufacturing limitations of the design process, and CAD/CAE utilization to realize the design process. Prerequisite: ECE 302. Additional prerequisite for ELE program: ECE 334 or equivalent. 3 sem. hrs.

ECE 447. DIGITAL CONTROL SYSTEMS: Analysis and synthesis of feedback control systems including digital compensators. Topics include performance and stability analysis, regulator and servomechanism design using time and frequency domain methods, and digital implementation case studies. Prerequisites: ECE 415, and 334 or equivalent. 3 sem. hrs.

ECE 448. FIBER OPTIC COMMUNICATIONS: General light guidance principles; ray optics; dispersion; single mode, multimode, and graded index fibers; basic laser and LED source principles; photodetectors; error probability in digital optical systems; rise time analysis; loss budget analysis; local area networks and long haul communication links. Prerequisite: ECE 333. Corequisite: ECE 401. 3 sem. hrs.

**ECE 449. COMPUTER SYSTEMS ENGINEERING:** An introduction to advanced computer architecture and computer systems design. Topics include: exploration of principle architecture features of modern computers, instruction set principles, pipelining, storage systems, interconnection networks, introduction to parallel and multiprocessor systems, and the use of hardware description languages (HDLs) in system implementation. Prerequisites: ECE 314 and CPS 346, or permission of instructor. *3 sem. hrs.*

**ECE 450L. PROJECTS LABORATORY:** Project-oriented laboratory applying engineering skills in the design, development, and demonstration of electrical and electronic systems. Prerequisite: permission of the project advisor. *1-3 sem. hrs.*



## MEE

### MECHANICAL ENGINEERING (MEE)

The Department of Mechanical and Aerospace Engineering offers a Bachelor of Mechanical Engineering with sufficient elective courses to permit a concentration in aerospace or minors in several other areas. The department offers master's and doctoral degrees in both mechanical engineering and aerospace engineering.

Mechanical engineering is an active, versatile, creative branch of engineering. Mechanical engineers conceive, design, and plan a wide variety of devices, machines, and systems and direct their manufacture, distribution, and operation. They are concerned with energy—its transformation, transmission, and utilization.

The field of mechanical engineering is so broad that several specialized branches have grown from it. Mechanical engineers engage in all the engineering functions—creative design, applied research, development, application and sales, and management. The mechanical engineer's widely diversified professional curriculum gives the graduate a broad base for further development. A mechanical engineering background forms the basis for training in many other fields such as law, medicine, and business management. It is also an excellent professional base for interdisciplinary activities.

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#### PROGRAM EN4: BACHELOR OF MECHANICAL ENGINEERING (MEE)

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Dept.	No.	Course	1st Term <sup>1</sup>	2nd Term
Sophomore Year				
CMM	101	Fundamentals of Oral Communication <sup>2</sup>	3-0-3	
EGM	201	Statics	3-0-3	
MTH	218	Analytic Geometry and Calculus III	4-0-4	
MEE	227L	Computer Graphics II	0-3-1	
—	—	General Education requirement <sup>2</sup>	3-0-3	
PHY	207-208	General Physics II, III	3-0-3	3-0-3
CPS	132	Computer Programming		3-0-3
MTH	219	Applied Differential Equations		3-0-3
MEE	301	Thermodynamics I		3-0-3
EGM	202	Dynamics		3-0-3
MEE	340L	Engineering Experimentation Laboratory		0-4-2
			17	17
Junior Year				
MEE	302	Thermodynamics II	3-0-3	
MEE	308	Fluid Mechanics	3-0-3	
ECE	323	Basic Electronic Circuits	3-3-4	
MEE	312	Engineering Materials I	3-3-4	
MEE	316	Mechanical Engineering Analysis	3-0-3	
MEE	414B	Seminar	1-0-0	1-0-0
—	—	General Education requirements <sup>2</sup>		3-0-3
EGM	303	Strength of Materials		3-0-3
MEE	313	Engineering Materials II		2-0-2
MEE	319	Mechanical Vibrations		3-0-3
MEE	321	Theory of Machines		3-0-3
MEE	410	Heat Transfer		3-0-3
			17	17

Senior Year				
MEE	310L	Machining Laboratory	0-3-1	
ISE	401	Engineering Economy		1-0-1
MEE	423L	Mechanical Engineering Laboratory <sup>6</sup>	0-9-3	
—	—	Design elective <sup>3</sup>	3-3-4	
—	—	Controls elective <sup>4</sup>	3-0-3	
—	—	Open electives	3-0-3	3-0-3
MEE	414	Seminar	1-0-0	1-0-1
MEE	—	Mechanical engineering electives		6-0-6
—	—	Ethics elective <sup>5</sup>		3-0-3
—	—	General Education requirement <sup>2</sup>	3-0-3	3-0-3
			17	17

<sup>1</sup>For example: 3-0-3 means 3 class hrs., 0 lab. hrs., 3 sem. hrs. credit.

<sup>2</sup>See General Education requirements, Chapter V. Some General Education requirements are specified in the program (e.g., PHY 208); others are to be chosen from the listing of approved courses. Consult advisor.

<sup>3</sup>Either MEE 427, Mechanical Design I, or MEE 425, Aerospace Design.

<sup>4</sup>Either MEE 435, Feedback Control Systems, or MEE 408, Aircraft Performance and Control.

<sup>5</sup>Either PHL 316, Engineering Ethics, or REL 369, Christian Ethics and Engineering.

<sup>6</sup>Students interested in Aerospace Engineering can substitute MEE 424L for MEE 423L.

## FACULTY

Glen E. Johnson, *Chairperson*

*Professors Emeriti:* Chuang, Minardi, Wurst

*Professors:* Ballal, Boehman, Brockman, Doepker, Doyle, Eastep, Eimermacher,

Jain, Johnson, Lestingi, Sargent, Schauer

*Associate Professors:* Endres, J. Ervin, Hallinan, Harmer, Kashani, Petrykowski, Takahashi

*Assistant Professors:* E. Ervin, Kissock, Murray

*Adjunct Professor:* Shine

*Adjunct Associate Professor:* Ostdiek

## COURSES OF INSTRUCTION

MEE 101. INTRODUCTION TO MECHANICAL ENGINEERING: Weekly meeting of first-semester first-year mechanical engineering students. Orientation and selected topics. 1 sem. hr.

MEE 104L. COMPUTER GRAPHICS I: Fundamentals of engineering graphics and the part that graphical communication plays in engineering. Introduction to computer aided design (CAD). 1 sem. hr.

MEE 227L. COMPUTER GRAPHICS II: Advanced engineering graphics and graphical communication in engineering; introduction to project design and engineering  
Prerequisite: MEE 104L. 1 sem. hr.

MEE 301. THERMODYNAMICS I: Concepts, definitions, and laws of thermodynamics. Properties of pure substances, introduction to use of thermodynamic property tables and equations of state. Applications of the laws of thermodynamics to processes, heat engines, and control volumes. Corequisite: MTH 218. *3 sem. hrs.*

MEE 302. THERMODYNAMICS II: Gas and two-phase heating, cooling, power cycles. Gas mixtures and air conditioning. First and second law analysis of reacting systems. Chemical equilibrium. High velocity nozzle and diffuser flow. Prerequisite: MEE 301. *3 sem. hrs.*

MEE 308. FLUID MECHANICS: Laws and theory relative to incompressible fluids, continuity, momentum, and energy relations in flow situations; internal and external flow in laminar and turbulent regimes. Prerequisites: MEE 301; MTH 219. *3 sem. hrs.*

MEE 310L. MACHINING LABORATORY: Study of metal removal processes and machine tools such as lathes, grinders, milling machines, shapers, and planers; theory and practice of precision dimensional metrology. Three hours of laboratory. Prerequisites: MEE 104L; PHY 206. *1 sem. hr.*

MEE 312. ENGINEERING MATERIALS I: Principles of the mechanical behavior of metallic and ceramic materials. Structure of solids, deformation of solid, diffusion in solids, strengthening mechanisms in materials, equilibrium and non-equilibrium processes in ferrous and nonferrous metals and ceramic materials. Introduction to fracture mechanics. Prerequisites: EGM 303; MEE 301; PHY 208, or permission of instructor. Corequisite: MEE 312L. *3 sem. hrs.*

MEE 312L. MATERIALS LABORATORY: Experiments illustrating the behavior of metallic, ceramic, and polymeric materials. Strengthening mechanisms, crystallization, metallography, corrosion, thermal processing. Corequisite: MEE 312. *1 sem. hr.*

MEE 313. ENGINEERING MATERIALS II: Chemistry and properties of high polymers, composite materials, electrical properties of conductors and semiconductors, dielectric and magnetic properties of materials, optical and thermal properties of materials, and corrosion science. Prerequisite: MEE 312 or permission of instructor. *2 sem. hrs.*

MEE 316. MECHANICAL ENGINEERING ANALYSIS: Problem formulation and mathematical modeling of engineering systems and control volumes. Development of computer skills; analysis and generalization of system responses. Introduction to vibration and heat transfer theory and to the application of Fourier series and partial differential equations to engineering problems. Prerequisites: CPS 132; MTH 219; MEE 301; EGM 202. *3 sem. hrs.*

MEE 319. MECHANICAL VIBRATIONS: Undamped and damped, free and forced vibrations of single degree of freedom translational and rotational systems; vibration isolation and absorption; multi-degree of freedom systems, continuous system, transient vibration, approximate and numerical solution. Prerequisites: CPS 132, EGM 202, MTH 219. Corequisite: EGM 303. *3 sem. hrs.*

MEE 321. THEORY OF MACHINES: Applications and design of mechanisms; use of graphical and analytical techniques for the kinematic and dynamic analysis and synthesis of machines. Analysis and design of cams, gears, and gear trains. Balancing of rotating masses. Prerequisite: EGM 202. *3 sem. hrs.*



**MEE 340L. ENGINEERING EXPERIMENTATION LABORATORY:** Design of experiments; use of instrumentation; data acquisition and processing; error and statistical analysis; comparison to theory; oral presentation; technical report writing. Measurement of basic engineering properties including temperature, pressure, flow rate, power, frequency, displacements, friction, stress, and voltage. Prerequisites: ENG 102; PHY 207. Corequisite: MTH 219. *2 sem. hrs.*

**MEE 401. AERODYNAMICS:** Fundamentals of steady incompressible, inviscid aerodynamic flows over wings. Emphasis on force and moment determination for air foil and finite wings. Prerequisite: MEE 308. *3 sem. hrs.*

**MEE 402. ENERGY CONVERSION SYSTEMS:** Introduction to global energy concerns; fossil and nuclear fuels; energy consumption analysis; solar energy and alternative energy concepts; nuclear power plants, steam power plants, industrial gas turbines, and total energy power plants; energy management and conservation techniques. Prerequisite: MEE 302 or CME 305 or MCT 232. *3 sem. hrs.*

**MEE 408. AIRCRAFT PERFORMANCE AND CONTROL:** Elementary development of aircraft equations of motion; performance in level flight; climbing and descending performance; turning performance, takeoff and landing performance; static and dynamic stability and control in all three axes. Prerequisites: MEE 401; EGM 202. *3 sem. hrs.*

**MEE 409. AEROSPACE STRUCTURES:** Structural properties of wing and fuselage sections. Nonsymmetrical bending of skin-stringer wing sections. Shear stresses in thin-walled and skin-stringer multiple-celled sections. Deflection by energy methods. Introduction to finite element stiffness method. Prerequisite: EGM 303. *3 sem. hrs.*

**MEE 410. HEAT TRANSFER:** Fundamentals of conduction, convection, and thermal radiation energy transfer. Conduction of heat in steady and unsteady state. Principles of boundary layer theory applicable to free and forced convection heat transfer for internal and external flows. Radiation analysis with and without convection and conduction. Prerequisites: MEE 308, 316. *3 sem. hrs.*

**MEE 413. PROPULSION:** Principles of propulsive devices, aerothermodynamics, diffuser and nozzle flow, energy transfer in turbo-machinery; turbojet, turbo-fan, prop-fan engines; turbo-prop and turboshaft engines. RAM and SCRAM jet analysis and a brief introduction to related materials and air frame-propulsion interaction. Prerequisite: MEE 418. *3 sem. hrs.*

**MEE 414A. SEMINAR:** Presentations on contemporary mechanical engineering subjects by students, faculty, and engineers in active practice; student involvement in professional and service activities. Registration required of all students in their last term prior to graduation. *1 sem. hr.*

**MEE 414B. SEMINAR:** Presentations on contemporary mechanical engineering subjects by students, faculty, and engineers in active practice; student involvement in professional and service activities. Registration required of all junior and senior students not registered in MEE 414A. *No credit*

**MEE 417. INTERNAL COMBUSTION ENGINES:** Combustion and energy release processes. Applications to spark and compression ignition, thermal jet, rocket, and gas turbine engines. Emphasis on air pollution problems caused by internal combustion engines. Idealized and actual cycles studied in preparation for laboratory testing of I. C. engines. Prerequisite: MEE 301 or permission of instructor. *3 sem. hrs.*

**MEE 418. GAS DYNAMICS:** Application of the basic thermodynamic and fluid motion laws to the solution of engineering problems in fluid mechanics. Use of differential and integral equations for internal and external flow of compressible fluids with friction and heat transfer. Isentropic flow; adiabatic flow; normal and oblique shocks; Prandtl-Meyer flow; Fanno and Rayleigh line flow. Prerequisite: MEE 308. *3 sem. hrs.*

**MEE 420. HEATING AND AIR CONDITIONING:** Theory and methods of maintaining comfortable industrial and residential environments. Psychrometrics; effects of solar radiation; heat transmission through solid boundaries and transparent materials; heating and cooling load calculations; sizing of equipment; energy conservation and management concepts. Corequisite: MEE 410 or permission of instructor. *3 sem. hrs.*

**MEE 423L. MECHANICAL ENGINEERING LABORATORY:** Three-hour laboratory session and three-hour out-of-class group session each week. Analysis, modeling, testing, and oral and written presentation of studies in power generation, heat transfer, and fluid dynamic systems. Prerequisites: MEE 302, 308, 340L, 410. *3 sem. hrs.*

**MEE 424L. AEROSPACE ENGINEERING LABORATORY:** Analysis, modeling, testing, and oral and written presentation of studies in aerodynamics; propulsion, heat transfer, and controls. Three-hour laboratory session and three-hour out-of-class group session each week. Prerequisites: MEE 302, 308, 340L, 410. *3 sem. hrs.*

**MEE 425. AEROSPACE DESIGN:** Design project in which teams of students synthesize an engineering solution to a complex aerospace related problem through the integration of mechanical and aerospace engineering principles. Prerequisites: MEE 408, 409, 413 or permission of instructor. Corequisite: MEE 425L. *3 sem. hrs.*

MEE 425L. AEROSPACE DESIGN LABORATORY: Laboratory to accompany MEE 425. Prerequisites: MEE 408, 409, 413. Corequisite: MEE 425. *1 sem. hr.*

MEE 427. MECHANICAL DESIGN I: Stress and deflection analysis of machine components; theories of failure; fatigue failure of metals; design and analysis of mechanical components such as spur gears, shafts, springs, fasteners. Prerequisites: EGM 303; MEE 321. Corequisite: MEE 427L. *3 sem. hrs.*

MEE 427L. MECHANICAL DESIGN LABORATORY I: Design projects applying principles covered in MEE 427. Solution of complex problems with emphasis on synthesis and design of mechanical systems. Corequisite: MEE 427. *1 sem. hr.*

MEE 428. MECHANICAL DESIGN II: Advanced topics in stress and deflection analysis; analysis and design of mechanical elements such as gears, journal and ball bearings, belts, brakes, and clutches; principles of fracture mechanics; failure analysis; machinery construction principles. Contemporary design methods and issues associated with the product development cycle. Prerequisite: MEE 427. *3 sem. hrs.*

MEE 430. MECHANICS OF MANUFACTURING PROCESSES: Casting processes, design of castings, and casting defects; metal working processes, such as extrusion, forging, rolling, and drawing, and principles of die design; metal shearing and forming; welding processes, design of weldments, and study of microstructure in heat affected zone; powder metallurgy and design principles for P/M parts; metal removal processes. Prerequisites: EGM 303; MEE 310L, 312. *3 sem. hrs.*

MEE 435. FEEDBACK CONTROL SYSTEMS: Analyses of automatic feedback control systems using time domain solutions, Laplace transforms, block diagrams, transfer functions, characteristic equations, stability criteria, and control actions. System performance based on Nyquist, Bode, and root-locus with system compensation. Prerequisite: MEE 319. *3 sem. hrs.*

MEE 436. VEHICLE PERFORMANCE ANALYSIS: Ground, air, water, space vehicles. Development of force, moment, and kinematic equations. Advanced applications including stability, control, performance evaluations. Vehicle simulation. Analog computation. Prerequisite: MEE 308 or permission of instructor. *3 sem. hrs.*

MEE 438. ROBOTICS AND FLEXIBLE MANUFACTURING: Overview of industrial robots; physical configuration, operation, and programming of robots; actuators, drive mechanisms, sensors, vision systems, controls, and control methods for robots; economic considerations; and automated factory concept. Prerequisite: MEE 321. *3 sem. hrs.*

MEE 499. SPECIAL PROBLEMS IN MECHANICAL AND AEROSPACE ENGINEERING: Particular assignments to be arranged and approved by department chairperson. *1-6 sem. hrs.*

In addition to the courses listed above, students may select as undergraduate electives mechanical or aerospace engineering (MEE or AEE) courses from the 500 series listed in the Graduate Issue of the *Bulletin*.



## SERVICE (EGR, EGM, ISE) AND INTERDISCIPLINARY (ENI) COURSES FOR ENGINEERING

### COURSES OF INSTRUCTION—EGR

EGR 100. ENRICHMENT WORKSHOP: A workshop structured to provide collaborative learning of engineering calculus facilitated with upper-class engineering students.  
*No credit*

EGR 101. INTRODUCTION TO ENGINEERING DESIGN: A team taught integrated introduction to engineering design. Emphasizes problem-solving skills, team work, multi-disciplinary approaches to engineering projects and problems, experiential hands-on experience, and structural programming.  
*3 sem. hrs.*

EGR 102. SEMINAR FOR UNDECLARED STUDENTS: A seminar to acquaint the student with the University and the departments of the School of Engineering.  
*1 sem. hr.*

\*EGR 201. TECHNOLOGY AND THE ENGINEERING METHOD: Survey of the fields of engineering and their tasks and tools. Development of simplified engineering skills with application to case problems. Review of contemporary technology. Exposure to an engineering design and laboratory experience. Not for engineering and/or technology majors.  
*3 sem. hrs.*

EGR 320. SYSTEMS DESIGN—HONORS: Interdisciplinary systems-design experience to emphasize the basic problem-solving approach and philosophy of engineering for students of varied backgrounds. By permission only.  
*3 sem. hrs.*

EGR 498. HONORS THESIS: Selection, design, investigation, and completion of an independent, original research study resulting in a document prepared for submission as a potential publication and a completed undergraduate thesis. Restricted to students in University Honors Program.  
*3-6 sem. hrs.*

EGR 499. SPECIAL PROBLEMS IN ENGINEERING: Particular assignments to be arranged and approved by the dean of engineering.  
*1-6 sem. hrs.*

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\*General Education course. See Chapter V.

## COURSES OF INSTRUCTION—EGM

Engineering mechanics (EGM) courses are taught and administered by the Department of Civil and Environmental Engineering and Engineering Mechanics.

EGM 201. STATICS: The principles of mechanics; force systems, free body diagrams, resultants and equilibrium, centroids and centers of gravity; application to trusses, frames, machines, and beams; friction; moments of inertia. Corequisite: MTH 169.

3 sem. hrs.

EGM 202. DYNAMICS: Kinematics, including translation, rotation, plane motion, and relative motion; kinetics of particles and bodies by the methods of force-mass-acceleration, work-energy, and impulse-momentum. Prerequisite: EGM 201.

3 sem. hrs.

EGM 213. STATICS AND MECHANICS OF MATERIALS: The principles of mechanics, force systems, resultants and equilibrium, centroids and center of gravity and moment of inertia, application to mechanics and frames. Also the study of stresses, strains, and deflections under different loading conditions for beams and columns. Not for CIE and MEE majors.

4 sem. hrs.

EGM 303. STRENGTH OF MATERIALS: The study of stresses, strains, and deflections in tension, compression, shear, flexure, and torsion; shear and moment diagrams; analysis of stresses and strains at a point; Mohr's circle; analysis of columns. Prerequisite: EGM 201. Each term.

3 sem. hrs.

EGM 304. ADVANCED STRENGTH OF MATERIALS: Stresses and strains at a point; shear center; unsymmetrical bending; curved beams; flat plates; torsion of noncircular bars; beams on elastic support; buckling. Prerequisite: EGM 303. First and second terms each year.

3 sem. hrs.

EGM 445. FINITE ELEMENT APPLICATIONS: Introduction to the fundamentals of the finite element method; modeling of engineering systems and elements using computer-aided engineering. Prerequisites: EGM 303; MTH 219.

3 sem. hrs.

EGM 499. SPECIAL PROBLEMS IN ENGINEERING MECHANICS: Particular assignments to be arranged and approved by chairperson of the department.

1-6 sem. hrs.

## COURSES OF INSTRUCTION—ISE

Industrial and systems engineering (ISE) courses are taught and administered by the Department of Engineering Management and Systems.

ISE 313. ENGINEERING LAW: Legal principles applied to engineering.

3 sem. hrs.

ISE 369. PROBABILITY AND STATISTICS FOR ENGINEERS: Conceptual and hands-on development of probability and statistics with software exercises. Probability problems, random variables, moments, distributions, data description and analysis, estimation (bootstrap), hypothesis testing, regression, analysis of variance, non-parametrics. Prerequisite: MTH 218.

3 sem. hrs.

ISE 401. ECONOMIC DECISION ANALYSIS FOR ENGINEERS: Introduction to the models and methods of economic decision analysis as they relate to engineering decisions. Fundamental economic concepts, cost estimates, interest and time value of money, comparison of alternatives, before- and after-tax analysis, analysis of public activities, decision making under risk and uncertainty, break-even analysis, linear programming models. Prerequisite: MTH 218.

1-3 sem. hrs.

## ISE, ENI

ISE 421. RELIABILITY AND MAINTAINABILITY: Application of probability and statistical theory to engineering reliability design and analysis; reliability of components and assemblies; design of systems for reliability and maintainability. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 423. QUALITY ASSURANCE: Principles of statistical quality control. Application of attributes and variable acceptance sampling plans; control charts; design of quality control systems and procedures. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 428. DESIGN AND ANALYSIS OF ENGINEERING EXPERIMENTS: Application of statistical methods to engineering experimentation; analysis of experimental response through statistical methods. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 451. PRODUCTION AND INVENTORY PLANNING AND CONTROL: Analysis and design of systems of personnel and machines for production processes. Forecasting, scheduling, production and inventory control. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 452-453. OPERATIONS RESEARCH I AND II: Applications and elementary theory of selected topics such as linear programming, transportation and assignment problems, network analysis, game theory, nonlinear programming, queueing theory, and Markov processes. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs. each*

ISE 455. PRINCIPLES OF SYSTEMS: Basic concepts of structure in dynamic systems; starting point for systems approach to dynamic systems in multidisciplinary courses in urban, ecological, corporate, or other social systems. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ISE 499. SPECIAL PROBLEMS IN SYSTEMS: Particular assignments to be arranged and approved. *1-6 sem. hrs.*

## COURSES OF INSTRUCTION—ENI

Information on engineering interdisciplinary (ENI) courses is available in the Office of the Dean of the School of Engineering.

ENI 299. SPECIAL PROBLEMS: Special problems courses at an introductory level relative to engineering problems and activities. To be arranged and approved by the dean. *1-6 sem. hrs.*

ENI 451. INTRODUCTION TO PUBLIC POLICY PLANNING: Introduction to public policy and program planning, the role of engineering in public policy formulation, systems approaches to complex decision making, introduction to interpretive structural modeling and its policy-oriented uses. *3 sem. hrs.*

ENI 455. SYSTEMS MODELING I: Introduction to the modeling of social systems, emphasizing feedback loops and their behavior; development of methods for understanding mechanisms underlying growth, stagnation, and cyclical fluctuations; formulation of models for industrial, economic, social, and ecological systems; laboratory digital simulation. Prerequisites: MTH 368 or ISE 369; CPS 132. *3 sem. hrs.*

ENI 456. SYSTEMS MODELING II: An individual or group project in guided research with emphasis on modeling of economic, industrial, urban, ecological, and world systems. Prerequisite: ENI 455. *3 sem. hrs.*

## ENGINEERING TECHNOLOGY

The School of Engineering also offers a Bachelor of Science in Engineering Technology. The programs in which the degree is offered are electronic engineering technology, industrial engineering technology, manufacturing engineering technology and mechanical engineering technology. The engineering technologist is usually involved in the design, performance evaluation, service and sales of products, equipment, and manufacturing systems or the management of these activities. The management of process operations and plant facilities are also important career paths.

The engineering technology programs provide: (1) specialized technical courses that emphasize rational thinking and the application of engineering and scientific principles to the practical solution of technological problems; (2) courses in applied mathematics and science sufficient to support the technical courses and to prepare the student for future growth; and (3) education to prepare students to communicate intelligently and to take places in society as responsible, humane, complete professionals.

All programs in engineering technology, are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

### TRANSFER STUDENTS

The engineering technology programs welcome transfer students from associate degree programs in engineering technology who wish to pursue the Bachelor of Science in Engineering Technology. Graduates of two-year associate degree programs in engineering technology should normally expect to undertake at least two additional years of work for the bachelor's degree.

### MINORS IN ENGINEERING TECHNOLOGY

Students majoring in any engineering technology program may earn a minor in another engineering technology program by completing 12 approved semester hours of work in the second discipline. Courses already required in the student's program may not be counted in the minor. The director of the program in which the minor is to be earned is responsible for approving the list of courses for the minor. Engineering technology students also may earn a minor in computer science by taking the set of courses prescribed by the Department of Computer Science. Non-engineering technology majors may earn a minor in an engineering technology discipline.

### ENGINEERING TECHNOLOGY FIRST-YEAR REQUIREMENTS

Students selecting any of the four engineering technology majors should take the courses prescribed for the first year as listed in the individual curricula later in this section of the *Bulletin*. Undeclared engineering technology students should follow the first-year schedule listed below.

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**FIRST YEAR PROGRAM—UNDECLARED ENGINEERING  
TECHNOLOGY STUDENTS**


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<i>Dept.</i>	<i>No.</i>	<i>Courses</i>	<i>Semester Hours</i>
MTH	106	Introductory Mathematics for Engineering Technology .....	3-0-3
MTH	137	Calculus I with Review .....	4-0-4
SET	153L	Technical Computation Laboratory .....	0-3-1
CHM	123	General Chemistry .....	3-3-4
IET	215	Organization and Management .....	3-0-3
ENG	101-102	English Composition I, II .....	6-0-6
REL	103	Introduction to Religion .....	3-0-3
PHL	103	Introduction to Philosophy .....	3-0-3
HST	101 or 102	History of Western Civilization I or II .....	3-0-3
CMM	101	Fundamentals of Oral Communication .....	3-0-3
SET	100	First Year Seminar .....	1-0-1
		Total first-year requirements .....	34

**ENGINEERING TECHNOLOGY PROGRAMS  
DEGREE REQUIREMENTS**

The degree requirements listed under the engineering degree requirements are applicable to the engineering technology degree programs. Only the number of semester credit hour requirements for graduation differ. The semester hours required for the engineering technology programs are:

**Bachelor of Science in Engineering Technology:**

Electronic Engineering Technology Major	131
Industrial Engineering Technology Major	132
Manufacturing Engineering Technology Major	130
Mechanical Engineering Technology Major	131

## ELECTRONIC ENGINEERING TECHNOLOGY (EET)

The Electronic Engineering Technology Program prepares students for careers in the electronics field. The curriculum includes a strong emphasis on computer engineering technology while centering on applied engineering topics in circuit analysis, electronic design, communications, digital circuits, microprocessors, and instrumentation. The graduate is prepared to work in industry at a variety of tasks including analog and digital design, microprocessor hardware and software applications, electronic controls, automation, engineering sales, product design and development, and electronic communications. The curriculum provides the strong foundation in basic electronics necessary to support any future career studies or development as dictated by changing technology or career roles.

**PROGRAM T2: BACHELOR OF SCIENCE WITH A MAJOR IN  
ELECTRONIC ENGINEERING TECHNOLOGY  
(EET)**

Dept.	No.	Course	1st Term <sup>1</sup>	2nd Term
<b>First Year</b>				
SET	100	First-Year Seminar	1-0-1	
PHL	103	Introduction to Philosophy <sup>2</sup>	3-0-3	
MTH	106	Introductory Mathematics for Engineering Tech.	3-0-3	
SET	153L	Technical Computation	0-3-1	
EET	110-120	Electrical Circuits I, II	3-3-4	3-3-4
ENG	101-102 or 114 or 198	College Composition I, II <sup>2</sup>	3-0-3	3-0-3
HST	101/102	History of Western Civilization <sup>2</sup>		3-0-3
REL	103	Introduction to Religion <sup>2</sup>		3-0-3
MTH	137	Calculus I with Review		4-0-4
			<hr/> 15	<hr/> 17
<b>Sophomore Year</b>				
CMM	101	Fundamentals of Oral Communication	3-0-3	
EET	220	Electrical Circuits III	3-0-3	
EET	223L	Schematics and Diagrams	0-3-1	
EET	224	Digital Computer Fundamentals	3-3-4	
MTH	138	Calculus I with Review	4-0-4	
SET	334	Technical Writing	2-0-2	
EET	206	Electron Devices I		3-3-4
CHM	123	General Chemistry		3-3-4
EET	357	Microprocessors I		3-3-4
MTH	149	Calculus II		3-0-3
			<hr/> 17	<hr/> 15
<b>Junior Year</b>				
EET	306	Electron Devices II	3-3-4	
EET	358	Microprocessors II	3-0-3	
MTH	207	Introduction to Statistics	3-0-3	
PHY	201	General Physics	3-2-4	
EET	—	Electronic Engineering Technology Electives	3-0-3	3-0-3
EET	208	Cathode Ray Oscilloscope		1-0-1

EET	361	Programming Structures		3-0-3
EET	328	Electronic Communications		3-3-4
IET	215	Organization and Management		3-0-3
MCT	220	Statistics and Dynamics		3-0-3
			17	17

Senior Year				
EET	427	Pulse and Digital Circuits	3-3-4	
SET	499	Seminar	1-0-1	
—	—	General Education requirements <sup>2</sup>	6-0-6	9-0-9
—	—	Technical electives	6-0-6	6-0-6
EET	430	Special Electronic Projects	1-0-1	
			17	16

<sup>1</sup>For example, 3-0-3 means 3 class hrs., 0 lab. hrs., and 3 sem. hrs. of credit.

<sup>2</sup>See General Education requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHY 203); others are to be chosen from the listing of approved courses.

## FACULTY

Joseph A. Untener, *Chairperson of Department of Engineering Technology*

Joseph M. Farren, *Program Coordinator*

*Professors Emeriti:* Hazen, Rooney

*Professors:* Farren, Hanneman

*Associate Professor:* Ismail

*Part-time Instructors:* Iselin, VanDonkelaar

## COURSES OF INSTRUCTION

EET 110. ELECTRICAL CIRCUITS I: Practical concepts of DC circuits: resistance, resistivity, power, and magnetism. Circuit calculations using basic formulas.

3 sem. hrs.

EET 110L. ELECTRICAL CIRCUITS I LABORATORY: To accompany EET 110. Three hours of laboratory a week.

1 sem. hr.

EET 120. ELECTRICAL CIRCUITS II: Practical concepts of AC circuits: capacitance, inductance, reactance, impedance, phase, and circuit analysis. Circuit calculations utilize vectors and complex quantities. Prerequisites: EET 110, 201 or PHY 202.

3 sem. hrs.

EET 120L. ELECTRICAL CIRCUITS II LABORATORY: To accompany EET 120. Three hours of laboratory a week.

1 sem. hr.

EET 201. FUNDAMENTALS OF ELECTRONIC TECHNOLOGY: Physics of electricity, DC and AC circuit fundamentals, measurements, and electron devices for non-electronic engineering technology majors. Prerequisite: Precalculus Math.

3 sem. hrs.

EET 206. ELECTRON DEVICES I: Fundamentals of semiconductor diodes, transistors (bipolar and field effect), amplifiers, biasing and small signal analysis. Prerequisite: EET 120 and MTH 138.

3 sem. hrs.

EET 206L. ELECTRON DEVICES I LABORATORY: To accompany EET 206. Three hours of laboratory a week. *1 sem. hr.*

EET 208. CATHODE RAY OSCILLOSCOPE: Study of the design, operation and application of the cathode ray oscilloscope. Prerequisite: EET 120. *1 sem. hr.*

EET 220. ELECTRICAL CIRCUITS III: Topics in AC circuits including power factor correction, resonance, polyphase circuits, transformers, pulse response, and the use of PSpice to analyze circuits. Prerequisite: EET 120. *3 sem. hrs.*

EET 223L. SCHEMATICS AND DIAGRAMS: Procedures, standards and symbols used on electronic circuit diagrams. Introduction to schematic capture using a CAD system. Three hours of laboratory a week. Prerequisite: EET 120. *1 sem. hr.*

EET 224. DIGITAL COMPUTER FUNDAMENTALS: Fundamental theory and techniques of electronic data processing to include binary arithmetic, switching theory (Boolean algebra), and basic circuitry (gates, adders, registers, and memory). Prerequisite: Permission of advisor. *3 sem. hrs.*

EET 224L. DIGITAL COMPUTER FUNDAMENTALS LABORATORY: To accompany EET 224. Three hours of laboratory a week. *1 sem. hr.*

EET 306. ELECTRON DEVICES II: Fundamentals of integrated circuits, operational amplifiers, transistors, photoelectric devices, silicon-controlled rectifiers, and their associated circuits. Prerequisite: EET 206; MTH 138. *3 sem. hrs.*

EET 306L. ELECTRON DEVICES II LABORATORY: To accompany EET 306. Three hours of laboratory a week. *1 sem. hr.*

EET 307. ELECTRICAL MEASUREMENTS: Application of direct and alternating current circuit analysis to electrical measuring methods and techniques with emphasis on industrial problems and considerations. Prerequisite: EET 120. *3 sem. hrs.*

EET 328. ELECTRONIC COMMUNICATIONS: Principles of operation of filters, modulators, demodulators, and converters. Prerequisite: EET 306. *3 sem. hrs.*

EET 328L. ELECTRONIC COMMUNICATIONS LABORATORY: To accompany EET 328. Three hours of laboratory a week. *1 sem. hr.*

EET 357. MICROPROCESSORS I: Study of microprocessor architecture, hardware, software, and application. Prerequisite: EET 224. Corequisite: EET 357L must be taken at same time. *3 sem. hrs.*

EET 357L. MICROPROCESSORS I LABORATORY: To accompany EET 357. Emphasis on memory design, I/O design, and software development. Three hours of laboratory a week. *1 sem. hr.*

EET 358. MICROPROCESSORS II: Studies in microprocessor software design, mass storage systems, and applications. Prerequisite: EET 357. *3 sem. hrs.*

EET 361. PROGRAMMING STRUCTURES: The study of programming language structure concepts for microcomputers. Emphasis on the C programming language and its application to software and hardware development. Topics include C operators, flow control statements, functions, pointers and arrays, I/O structures, and library routines. Prerequisites: Precalculus Math and Basic Programming. *3 sem. hrs.*



**EET 362. CONCEPTS AND APPLICATIONS OF COMPUTER OPERATING SYSTEMS:** Introduction to the fundamentals and applications of computer operating systems and the interaction of hardware and software. Operating systems for large-scale, mini-, and microcomputers introduced through case studies. Prerequisite: EET 357.

3 sem. hrs.

**EET 400. SELECTED ELECTRONIC TOPICS:** Investigation and discussion of current technical topics in electronic engineering technology. May be taken more than once. Prerequisite: Permission of department chairperson.

1-4 sem. hrs.

**EET 427. PULSE AND DIGITAL CIRCUITS:** Design and analysis of circuits relating to computers and digital control. Topics include integrators, differentiators, multivibrators, flip-flops, time-base generators, and programmable logic devices (PLD's). Laplace transform analysis is utilized. Prerequisites: EET 220, 224.

3 sem. hrs.

**EET 427L. PULSE AND DIGITAL CIRCUITS LABORATORY:** To accompany EET 427. Three hours of laboratory a week.

1 sem. hr.

**EET 430. SPECIAL ELECTRONIC PROJECTS:** Laboratory work and reading associated with a phase of electricity selected by the student and approved by department chairperson. Prerequisite: EET 306.

1 sem. hr.

**EET 450. MICROELECTRONICS:** Study of the principles, design techniques, and fabrication processes utilized in the construction of thick film, thin film, and integrated circuits. Prerequisite: EET 206.

3 sem. hrs.

**EET 451. ADVANCED INSTRUMENTATION:** Unstructured laboratory study of modern instrumentation. Independent projects including CRT system, integrating DVM, acoustical equipment, and advanced standards. Prerequisite: EET 208.

3 sem. hrs.

**EET 452. FEEDBACK CONTROLS:** Study of signal flow, circuit stability. Nyquist criteria, Bode plots, oscillators, amplifiers, and electromechanical devices. Prerequisite: EET 306.

3 sem. hrs.

**EET 453. ANTENNAS:** Study of basic antenna types and their application to arrays and other systems. Prerequisite: EET 328.

3 sem. hrs.

**EET 454. ENVIRONMENTAL NOISE CONTROL:** Study of noise, noise measurement, physiological effects of noise, federal regulations, and design criteria for noise reduction. Prerequisite: Junior status.

3 sem. hrs.

**EET 459. MICROPROCESSOR SYSTEMS DESIGN:** Introduction to industrial design procedures for microprocessor-based control systems. Emphasis on the integration of microcomputer hardware and software. Prerequisite: EET 357.

3 sem. hrs.

**EET 460. ADVANCED MICROPROCESSOR SYSTEMS:** Study of advanced microprocessor families and their applications to systems, including single and multi-processor design. Prerequisite: EET 357.

3 sem. hrs.

**EET 461. POWER DISTRIBUTION AND CONTROL:** Study of power distribution systems including components, basic operation, and characteristics. Emphasis on the generation of electric power, its transmission and control. Prerequisite: EET 120 or 201.

3 sem. hrs.

EET 462. TELECOMMUNICATIONS TECHNOLOGY: Study of the theoretical and practical electronic structures involved in the telecommunications industry. Applications to data transmission, satellite communications, telephony, and television. Prerequisites: EET 224 and EET 328 or communications background. *3 sem. hrs.*

EET 463. ELECTRONIC CAD: Methods and techniques utilizing computer-aided design in electronic design, layout, and evaluation. Prerequisites: EET 206, 223L. Corequisite: EET 463L. *2 sem. hrs.*

EET 463L. ELECTRONIC CAD LABORATORY: To accompany EET 463. Three laboratory hours a week. *1 sem. hr.*

EET 464. PROGRAMMABLE LOGIC CONTROLLERS: Study of Programmable Logic Controllers (PLC's) and their applications in manufacturing. Topics include PLC architecture, programming, program documentation, system monitoring, automated manufacturing systems, and man-machine-interfacing software. Prerequisite: Junior Status. *3 sem. hrs.*

EET 465. DIGITAL DATA COMMUNICATIONS: Study of the techniques for transmission of messages between digital electronic devices separated by short and long distances. Various data formats used along with hardware, codes, and I/O devices. Prerequisite: EET 357 or equivalent. *3 sem. hrs.*

EET 466. MICROCOMPUTER ARCHITECTURE: To develop an understanding of the basic hardware and software architecture of an industry standard microcomputer such as the IBM-PC series. To become familiar with the various terms and concepts used in the PC industry. To research current and future developments in PC hardware and software. Prerequisite: EET 357 or equivalent. *3 sem. hrs.*



## INDUSTRIAL ENGINEERING TECHNOLOGY (IET)

The Industrial Engineering Technology Program has as its objective providing specialized education to prepare students for management and technical staff positions in such areas as manufacturing, health care, banking, transportation, food service, and government. They may be involved in the economic selection and location of equipment, the planning of work methods and expected output, and the scheduling and controlling of the flow of materials. The curriculum emphasizes courses in time and motion study, production planning and control, facilities layout, economic analysis, statistical process control, labor and wage administration, and mathematical decision making.

PROGRAM T4: BACHELOR OF SCIENCE WITH A MAJOR IN  
INDUSTRIAL ENGINEERING TECHNOLOGY  
(IET)

Dept.	No.	Course	1st Term <sup>1</sup>	2nd Term
First Year				
MTH	106	Introductory Mathematics for Engineering Tech.	3-0-3	
SET	100	First-Year Seminar	1-0-1	
MFG	108L	Manufacturing Processes Laboratory	0-3-1	
MCT	110L	Technical Drawing and CAD	0-6-2	
CHM	123	General Chemistry	3-3-4	
REL	103	Introduction to Religion <sup>2</sup>	3-0-3	
ENG	101-102 or 114 or 198	College Composition I, II <sup>2</sup>	3-0-3	3-0-3
MTH	207	Introduction to Statistics		3-0-3
SET	153L	Technical Computation		0-3-1
IET	215	Organization and Management		3-0-3
HST	101/102	History of Western Civilization <sup>2</sup>		3-0-3
PHL	103	Introduction to Philosophy <sup>2</sup>		3-0-3
			17	16
Sophomore Year				
MTH	137	Calculus I with Review	4-0-4	
EET	361	Programming Structures	3-0-3	
IET	108	Production Methods and Controls	3-0-3	
PHY	201	General Physics	3-3-4	
CMM	101	Fundamentals of Oral Communication	3-0-3	
MTH	138	Calculus I with Review		4-0-4
IET	225	Elements of Cost Control		3-0-3
MCT	220	Statistics and Dynamics		3-0-3
MFG	204	Industrial Materials and Process		3-3-4
IET	318	Statistical Process Control		3-0-3
			17	17
Junior Year				
IET	316	Quantitative Methods in Industrial Engineering Technology	3-0-3	
IET	317	Industrial Economic Analysis	3-0-3	
IET	422	Human Factors	3-0-3	
MCT	313	Industrial Mechanisms	3-0-3	
SET	334	Technical Writing	2-0-2	
—	—	Technical elective	3-0-3	

IET	230	Work Measurement		3-3-4
MFG	206L	Dimensional Metrology		0-3-1
EET	201	Fundamentals of Electronic Technology		3-0-3
IET	418	Cost Estimating		3-0-3
—	—	General Education requirement <sup>2</sup>		3-0-3
—	—	General Education requirement <sup>2</sup>		3-0-3
			17	17
Senior Year				
SET	499	Seminar	1-0-1	
IET	420	Industrial and Environmental Safety	3-0-3	
IET	432	Facilities Layout	2-3-3	
—	—	General Education requirement <sup>2</sup>	3-0-3	3-0-3
—	—	Technical electives	6-0-6	3-0-3
IET	405	Labor Administration		3-0-3
IET	421	Project Management		3-0-3
—	—	General Education requirement <sup>2</sup>		3-0-3
			16	15

<sup>1</sup>For example, 3-0-3 means 3 class hrs., 0 lab. hrs., and 3 sem. hrs. of credit.

<sup>2</sup>See General Education requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHY 203); others are to be chosen from the listing of approved courses.

## FACULTY

Joseph A. Untener, *Chairperson of the Department of Engineering Technology*

Charlie P. Edmonson, *Program Coordinator*

*Professors Emeriti:* Courtright, McGraw

*Professors:* Simon (MFG), Summers, Untener (MCT)

*Associate Professor:* Edmonson

## COURSES OF INSTRUCTION

IET 108. PRODUCTION METHODS AND CONTROLS: Introduction to the principles and current practices of optimizing the production of goods and services. Just-in-time, set-up reduction, materials requirements planning, forecasting, bills of material, scheduling, and theory of constraints. 3 sem. hrs.

IET 215. ORGANIZATION AND MANAGEMENT: Study of the structure of industrial and service organizations; the responsibilities and duties of a manager or supervisor in developing an effective production team. Written and oral team presentations, role playing, and the application of human relations. 3 sem. hrs.

IET 225. ELEMENTS OF COST CONTROL: Survey of the methods of breakdown and cost analysis of labor, material, and overhead used in manufacturing and service organizations. Basic financial and cost accounting including balance sheets, income statements, change of financial condition, ratio analysis and activity-based costing. Prerequisites: SET 153L; MTH 106. 3 sem. hrs.

IET 230. WORK MEASUREMENT: Fundamentals of work simplification and motion economy using the techniques of time-and-motion study. Setting of labor standards using the techniques of stop watch, pre-determined time, standard data, and work sampling. Introduction to CIM and automated manufacturing. Prerequisites: MTH 106; SET 153L. Corequisite: IET 230L. *3 sem. hrs.*

IET 230L. WORK MEASUREMENT LABORATORY: The application of real-world time-and-motion-study techniques such as flow process, man-machine, and gozinta charts. Calculations for time standards, production efficiency, line balance, cost reduction, manpower, and equipment. A written and oral report on an automated machine line; computer programs and computerized time studies. Three hours of laboratory each week. Prerequisites: MTH 106; SET 153L. Corequisite: IET 230. *1 sem. hr.*

IET 316. QUANTITATIVE METHODS IN INDUSTRIAL ENGINEERING TECHNOLOGY: Introduction of the mathematical techniques used to support decision making and managerial analysis. Probability theory, decision theory, linear programming, and queuing theory. Prerequisites: MTH 207; SET 153L. *3 sem. hrs.*

IET 317. INDUSTRIAL ECONOMIC ANALYSIS: Comparison of manufacturing or service industry projects and investments based on their economic value. Quantification of costs and benefits; analysis using present worth, annual worth, and rate of return methods. Study of simple and compound interest. Prerequisites: MTH 106; SET 153L. *3 sem. hrs.*

IET 318. STATISTICAL PROCESS CONTROL: Statistics and probability theory applied to produce control charts ( $\bar{x}$ ,  $R$ ,  $s$ ,  $p$ ,  $u$ , and  $c$ ) to monitor processes. Interpretation and application of these charts. Sample size selection, reliability, pareto analysis, and modern quality management techniques. Prerequisites: MTH 207; SET 153L. *3 sem. hrs.*

IET 319. QUALITY IMPROVEMENT METHODS: Study of problem-solving methodologies and techniques. Team development. Students will learn to use Pareto diagrams, force field analysis, cause and effect diagrams, process mapping and other problem-solving tools. Quality costs, product liability, and ethics are also covered. Prerequisites: IET 318; SET 153L. *3 sem. hrs.*

IET 320. QUALITY ASSURANCE TECHNIQUES: Students will be exposed to a variety of current quality assurance topics that companies use to improve quality, increase productivity and reduce costs. Topics include: total preventive maintenance, quality function deployment, reliability engineering, design of experiments, and Taguchi methods. Prerequisites: IET 318; MTH 207; SET 153L. *3 sem. hrs.*

IET 321. QUALITY MANAGEMENT: Provides students with an understanding of managing a total quality environment to improve quality, increase productivity and reduce costs. An introduction to Deming, Juran, and others. Total Quality Management implementation strategies, requirements of ISO 9000, QS 9000, and the Malcolm Baldrige award will be covered. Prerequisites: IET 318; MTH 207; SET 153L. *3 sem. hrs.*

IET 400. SELECTED TOPICS: A self-paced research course. Preparation of a documented written research project on an engineering technology subject. May not be taken more than once. Prerequisites: Junior or senior status; permission of program director. *3 sem. hrs.*

IET 405. LABOR ADMINISTRATION: Brief history of labor legislation and labor unions to provide an understanding of the origins of current labor practices. Case studies on current labor topics as examples of management techniques. Collective bargaining, employee rights, contracts, grievances, and arbitration. *3 sem. hrs.*

IET 418. COST ESTIMATING: Study of the fundamentals of cost estimating of labor, material, and overhead for products, projects, operations, and systems. The concepts of internal and external cost estimating, types of costs, ethics, budgets, and profit. Semester team and individual projects, written and oral. Prerequisites: MTH 106, 207; SET 153L. *3 sem. hrs.*

IET 420. INDUSTRIAL AND ENVIRONMENTAL SAFETY: Study of practices and devices such as OSHA, Life Safety Code 101, sprinkler systems, special protection systems, hazardous materials, SARA, machine guarding, poisons, pests, construction, helicopters, the National Electric Code, health, and personal protection. Written inspection reports. *3 sem. hrs.*

IET 421. PROJECT MANAGEMENT: Study of the structure, techniques, and application of project management including mathematical models, decision making, styles of management, and communications. Analysis of and oral reports on project management problems. Semester team project with written and oral presentations. Prerequisites: SET 153L, 334; CMM 101; IET 225, 317, 418, 432. *3 sem. hrs.*

IET 422. HUMAN FACTORS: Methods of improving the interface of humans with their physical work environment. Study of human characteristics to determine the best designs for tasks, products, work stations, and other environmental features. Written and oral projects. Prerequisite: Junior or senior status. *3 sem. hrs.*

IET 423. THE IET IN SERVICE ORGANIZATIONS: Case studies, articles, guest speakers, and projects to provide insight into how industrial engineering technology skills and training can be applied to service industries including hospitals, banks, and eating and retailing establishments. Prerequisite: IET junior status. *3 sem. hrs.*

IET 432. FACILITIES LAYOUT: Design of facilities for the most efficient flow of raw materials, work-in-process, and completed stock through a work place. Facilities layout, material handling, and warehousing in relation to trends toward reduced inventory, smaller lot sizes, and just-in-time. Prerequisites: IET 230, 230L, and IET junior status. Corequisite: IET 432L. *2 sem. hrs.*

IET 432L. FACILITIES LAYOUT LABORATORY: To accompany IET 432. Projects to investigate efficient layouts of production facilities, hospitals, libraries, warehouses, receiving docks, and other areas. Three hours of laboratory each week. Prerequisites: MCT 110L; SET 153L; IET 230, 230L; IET junior status. Corequisite: IET 432. *1 sem. hr.*

## MANUFACTURING ENGINEERING TECHNOLOGY (MFG)

The Manufacturing Engineering Technology Program prepares graduates for professional careers in technical and management positions in a broad range of industries such as those producing automobiles or consumer goods; the metals, paper, or food process industries; the plastics, metal and wood parts fabricating industries; and those which produce manufacturing machinery. Career opportunities in manufacturing engineering include: facilities, manufacturing automation, and tooling design; plant, quality, and process capability engineering; manufacturing supervision, and technical sales.

The curriculum is highly interdisciplinary since the manufacturing professional must possess extensive technical skills and excellent humanistic skills in communications, computers, teamwork, information technology, globalism and multiculturalism. The technical courses emphasize engineering materials and manufacturing processes; mechanical and fluid power automation; electronic controls; computer integrated manufacturing; manufacturing planning and control; extensive laboratory experiences; the technical sciences and applied mathematics from college algebra, probability, statistics, calculus, and linear programming. The curriculum contains strong components from the humanities, social sciences, and communications. The technical electives allow the student versatility in developing technical breadth or depth. The program is designed to prepare the graduates for challenging careers in manufacturing and a base for a variety of continued study.

This program is accredited by The Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

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### PROGRAM T5: BACHELOR OF SCIENCE WITH A MAJOR IN MANUFACTURING ENGINEERING TECHNOLOGY (MFG)

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Dept.	No.	Course	1st Term <sup>1</sup>	2nd Term
First Year				
MTH	106	Introductory Mathematics for Engineering Technology	3-0-3	
MFG	108L	Manufacturing Processes Laboratory	0-3-1	
SET	100	First Year Seminar	1-0-1	
MCT	110L	Technical Drawing and CAD	0-6-2	
SET	153L	Technical Computation Laboratory	0-3-1	
REL	103	Introduction to Religion <sup>2</sup>	3-0-3	
CMM	101	Fundamentals of Oral Communication	3-0-3	
ENG	101-102 or 114 or 198	College Composition I, II <sup>2</sup>	3-0-3	3-0-3
MTH	137	Calculus I with Review		4-0-4
MFG	204	Industrial Materials and Processes		3-3-4
PHL	103	Introduction to Philosophy <sup>2</sup>		3-0-3
HST	101/102	History of Western Civilization <sup>2</sup>		3-0-3
			17	17

Sophomore Year				
EET	361	Programming Structures	3-0-3	
PHY	201	General Physics	3-2-4	
IET	108	Production Methods and Control	3-0-3	
MCT	220	Statics and Dynamics	3-0-3	
MTH	138	Calculus I with Reveiw	4-0-4	
MFG	206L	Dimensional Metrology		0-3-1
MTH	207	Introduction to Statistics		3-0-3
IET	318	Statistical Process Control		3-0-3
MCT	221	Strength of Materials		3-0-3
MFG	240	Manufacturing Design		3-0-3
MCT	231	Fluid Mechanics		3-0-3
			17	16
Junior Year				
IET	316	Quantitative Methods in Industrial Engineering Technology	3-0-3	
MFG	434	Numerical Control	3-0-3	
MCT	313	Industrial Mechanisms	3-0-3	
MCT	336	Fluid Power	3-3-4	
CHM	123	General Chemistry	3-3-4	
—	—	Technical elective		3-0-3
—	—	General Education requirement <sup>2</sup>		3-0-3
MFG	426	Automated Manufacturing Systems and CIM		3-0-3
MFG	431	Controls for Industrial Automation		3-0-3
EET	201	Fundamentals of Electronic Technology		3-0-3
SET	499	Seminar		1-0-1
			17	16
Senior Year				
MFG	450	Manufacturing Engineering Technology Project	2-0-2	
MCT	333L	Mechanical Measurements	0-3-1	
IET	317	Industrial Economic Analysis	3-0-3	
—	—	Technical electives	3-0-3	6-0-6
—	—	General Education requirements <sup>2</sup>	6-0-6	6-0-6
IET	215	Organization and Management		3-0-3
			15	15

<sup>1</sup>For example, 3-0-3 means 3 class hours, 0 lab. hours, and 3 sem. hrs. of credit.

<sup>2</sup>See General Education requirements, Chapter V. Some General Education courses are specified in the program (e.g., PHY 203); others are to be chosen from the listing of approved courses.

## FACULTY

Joseph A. Untener, *Chairperson of the Department of Engineering Technology*

Robert L. Wolff, *Program Coordinator*

*Professors:* Simon, Summers (IET), Wolff, Untener (MCT)

*Adjunct Professor:* Wendeln



## COURSES OF INSTRUCTION

**MFG 108L. MANUFACTURING PROCESSES LABORATORY:** Application of metal-cutting theory using single- and multiple-point cutting tools, basic metal removal process of toolroom and production machines. Experience on conventional milling machines, shapers, lathes, surface grinders, and drill presses. Three hours of laboratory a week. *1 sem. hr.*

**MFG 204. INDUSTRIAL MATERIALS AND PROCESSES:** Chemical and physical properties of metals, ceramics, and polymers; casting processes; powdered metallurgy; metal forming; plastic processes. Oral and written presentation of a team case study. Corequisite: MFG 204L. *3 sem. hrs.*

**MFG 204L. INDUSTRIAL MATERIALS AND PROCESSES LABORATORY:** Destructive testing of metal using standard test instruments and procedures for tension, impact, and hardness. Heat-treatment including tempering, hardening, annealing, and hardenability curve determination. Hardness including Rockwell, Brinell, and Shore Scleroscope. Impact testing. Visits to local industries. Corequisite: MFG 204. *1 sem. hr.*

**MFG 206L. DIMENSIONAL METROLOGY:** Theory and practice of dimensional metrology including the surface plate, angle and sine plates, basic measuring instruments, optical microscope and profile projector, electronic gauges, co-ordinate measuring machine, fixed gauges, length standards, measurement of geometric sizes of parts, height gauges, dial indicators, study of sources of measurement error, engineering drawing interpretation. Three hours of laboratory a week. Prerequisites: MTH 106, 137; MCT 110L. *1 sem. hr.*

**MFG 240. MANUFACTURING DESIGN:** Manufacturing planning; drawing interpretation; geometric dimensioning and tolerancing; process planning; machine tools; workholders; power presses; blanking, forming, and draw dies; fine blanking; group technology. Prerequisites: MFG 108L, 204; MCT 110L. Corequisite: MFG 206L. *3 sem. hrs.*

**MFG 400. SELECTED MANUFACTURING TOPICS:** Investigation and discussion of current topics in manufacturing engineering technology. May be taken more than once. Prerequisite: Permission of the program director. *1-4 sem. hrs.*

**MFG 424. ROBOTICS:** Study of robotics including history, robot geometry, cost justification, end-effector (types, use, and design), sensors, and programming. Application of robots in industries. Robot programming and operation projects and end-effector design projects. Prerequisites: SET 153L; MCT 220 or 313. *3 sem. hrs.*

**MFG 426. AUTOMATED MANUFACTURING SYSTEMS AND CIM:** CIM systems and interrelationships; group technology, computer-aided process planning, expert systems, local area networks, automated flow lines, data collection, material handling. Team project to plan, design, and make an oral presentation of a proposal for a complete manufacturing cell. Prerequisites: MFG 108L, 204; SET 153L. *3 sem. hrs.*

**MFG 431. CONTROLS FOR INDUSTRIAL AUTOMATION:** Electrical motor and control types and selection, conventional machinery control input-output devices, stepper motors. Interpretation and design of conventional ladder relay logic control systems, programmable logic controller systems using manual data input and off-line computer-programming projects, and moving-part pneumatic logic systems. Prerequisites: EET 201; MTH 137; SET 153L. *3 sem. hrs.*

**MFG 432. MATERIALS AND PROCESSES-PLASTICS AND COMPOSITES:** Introduction to the more common plastics and composite engineering materials and their properties. Study of processes including extrusion, injection molding, blow molding, compression and transfer molding, forming. Topics on part and tooling design. Prerequisites: MFG 204; CHM 123. *3 sem. hrs.*

**MFG 434. COMPUTER NUMERICAL CONTROL:** CNC programming for the mill and lathe; application of CAM software to design CNC programs, edit programs, and display tool paths. Parametric part programming concepts to produce complex surfaces. Machine set-up and operation. Design, programming, and production of a product on the CNC mill and lathe. Prerequisites: MTH 137; SET 153L; MFG 108L; MCT 110L. *3 sem. hrs.*

**MFG 435. ADVANCED NUMERICAL CONTROL:** Instruction in the programming of complex, multi-axis CNC machines. Extended parametric programming. Programming language techniques. Prerequisite: MFG 434. *3 sem. hrs.*

**MFG 450. MANUFACTURING ENGINEERING TECHNOLOGY PROJECT:** Study and research in a specific area that integrates major elements from previous design and manufacturing process courses, culminating in individual and/or group projects and technical reports. Prerequisite: MFG senior status. *2 sem. hrs.*



# MCT

## MECHANICAL ENGINEERING TECHNOLOGY (MCT)

The Mechanical Engineering Technology Program emphasizes the practical application of the principles of the mechanical field. Career opportunities are in mechanical design, computer-aided design, product evaluation and development, manufacturing engineering, computer-aided manufacturing, plant engineering, technical sales, technical service, fluid power, automation, and supervision. A significant portion of the graduates are in technical management. The curriculum includes a core of technical sciences; applied courses in design, thermodynamics, fluid mechanics, and manufacturing; extensive laboratory experiences; and mathematics from college algebra through probability, statistics, calculus, and differential equations. Courses are required in oral and written communication, with components in the humanities and social sciences to provide insight into the impact of technology on society. Concepts from basic education are stressed in technical courses. The curriculum is broad to prepare graduates for employment and provide a foundation on which to base continued study of changing technology.

### PROGRAM T6: BACHELOR OF SCIENCE WITH A MAJOR IN MECHANICAL ENGINEERING TECHNOLOGY (MCT)

Dept.	No.	Course	1st Term <sup>1</sup>	2nd Term
First Year				
CHM	123	General Chemistry	3-3-4	
MCT	110L	Technical Drawing and CAD	0-6-2	
SET	100	First Year Seminar	1-0-1	
MTH	106	Introductory Mathematics for Engineering Technology	3-0-3	
REL	103	Introduction to Religion <sup>2</sup>	3-0-3	
SET	153L	Technical Computation Laboratory	0-3-1	
ENG	101-102 or 114 or 198	College Composition I, II <sup>2</sup>	3-0-3	3-0-3
MTH	137	Calculus I with Review		4-0-4
MCT	111L	Introduction to Design Laboratory		0-6-2
MFG	108L	Manufacturing Processes Laboratory		0-3-1
MFG	204	Industrial Materials and Processes		3-3-4
HST	101/102	History of Western Civilization <sup>2</sup>		3-0-3
			17	17
Sophomore Year				
MCT	220	Statistics and Dynamics	3-0-3	
MTH	138	Calculus I with Review	4-0-4	
EET	361	Programming Structures	3-0-3	
PHL	103	Introduction to Philosophy <sup>2</sup>	3-0-3	
PHY	201-202	General Physics	3-2-4	3-2-4
MTH	149	Calculus II		3-0-3
MCT	313	Industrial Mechanisms		3-0-3
MCT	221	Strength of Materials		3-0-3
MCT	231	Fluid Mechanics		3-0-3
			17	16

Junior Year			
MTH	207	Introduction to Statistics	3-0-3
MCT	217	Dynamics	3-0-3
MCT	333L	Mechanical Measurements	0-3-1
MCT	336	Fluid Power	3-3-4
MCT	342	Thermodynamics	3-0-3
MFG	206L	Dimensional Metrology	0-3-1
SET	499	Seminar	1-0-1
MFG	240	Manufacturing Design	3-0-3
MCT	330	Design of Machine Elements	3-0-3
MCT	334L	Fluid and Thermal Laboratory	1-0-1
—	—	Technical elective	3-0-3
CMM	101	Fundamentals of Oral Communication <sup>2</sup>	3-0-3
—	—	General Education requirement <sup>2</sup>	3-0-3
			<hr/>
			16
			<hr/>
Senior Year			
MCT	433	Mechanical Design	2-0-2
EET	120	Elec. Circuits II	3-0-3
—	—	Technical Electives	6-0-6
—	—	General Education requirements <sup>2</sup>	6-0-6
IET	215	Organization and Management	3-0-3
			<hr/>
			17
			<hr/>
			15

<sup>1</sup>For example, 3-0-3 means 3 class hours, 0 lab. hours, and 3 sem. hrs. of credit.

<sup>2</sup>See General Education requirements, Chapter V. Some General Education courses are specified in the program; others are to be chosen from the listing of approved courses.

## FACULTY

Joseph A. Untener, *Chairperson of Department of Engineering Technology*

David H. Myszka, *Program Coordinator*

*Professor Emeritus:* Wilder

*Professors:* Mott, Untener, Wolff (MFG)

*Associate Professors:* Edmonson (IET), Myszka

## COURSES OF INSTRUCTION

MCT 109L. INTRODUCTION TO CAD: Coordinate systems; display commands; computer generation of various geometric primitives such as points, lines, arcs, strings, text, groups, and symbols; editing and manipulating geometry; layers and layering standards; three-dimensional modeling. Three hours of laboratory a week. Prerequisite: Approval only. 1 sem. hr.

MCT 110L. TECHNICAL DRAWING AND CAD: Technical sketching and shape description, orthographic projection theory, multi-view drawings, necessary views, sectional views, working and shop drawings, dimensioning practices, tolerancing, thread and fastener representation and nomenclature, assembly and detail drawings. Six hours of laboratory a week using conventional drafting instruments and commercial computer-aided design (CAD) software. 2 sem. hrs.

MCT 111L. INTRODUCTION TO DESIGN LABORATORY: ANSI Y14.5-1982 tolerancing and drafting standards, auxiliary views, selected topics from descriptive geometry, weld symbols, machining and surface finish symbols. Blueprint reading. Individual and team design projects. Laboratory assignments utilizing traditional and computer-aided design (CAD) techniques. Advanced topics from CAD, three-dimensional solid and surface modeling. Prerequisite: MCT 110L. 2 sem. hrs.

MCT 215. STATICS: Principles of applied engineering mechanics: force systems, free body diagrams, resultants and equilibrium in both two- and three- dimensional systems; centroids and centers of gravity; distributed load systems; application of loads to trusses, frames, machines, and beams; friction; moments of inertia of areas. Prerequisites: SET 153L; MTH 106. 3 sem. hrs.

MCT 217. DYNAMICS: Principles of applied engineering dynamics; kinematics including translation, rotation, plane motion, and relative motion; kinetics of particles and bodies by the methods of force-mass-acceleration, work-energy, and impulse-momentum; introduction to mechanical vibrations. Prerequisites: MCT 313; SET 153L; MTH 137. 3 sem. hrs.

MCT 220. STATICS AND DYNAMICS: Study of forces on bodies at rest and in motion using Newton's three laws of motion. Vectors, force systems, components, reactions, resultants, free body diagrams, equilibrium, centroids, moment of inertia, kinetics, and kinematics. Prerequisites: SET 153L. Corequisite: MTH 137. 3 sem. hrs.

MCT 221. STRENGTH OF MATERIALS: Analysis and design of load-carrying members, considering stress, strain, and deflection. Study of direct tension, compression, and shear; torsion; shear and moment diagrams; bending; combined stress; analysis of columns; pressure vessels. Prerequisites: MCT 215 or 220; SET 153L; MTH 137. 3 sem. hrs.

MCT 231. FLUID MECHANICS: Fluid properties, fluid statics including manometry, submerged surfaces, buoyancy and stability of floating bodies. The principles of fluid flow including Bernoulli's and energy equations, energy losses, and pump power. Analysis and design of pipe line systems and open channels; pump selection. Prerequisites: SET 153L; MTH 106. 3 sem. hrs.

MCT 313. INDUSTRIAL MECHANISMS: Design and analysis of linkages and cams. Graphical solutions to kinematics problems including the concepts of instantaneous motion and relative motion. Development and analysis of motion diagrams. Study of geometric features of gears and gear transmission systems. Prerequisites: MCT 110L, 220; SET 153L. Corequisite: MTH 137. 3 sem. hrs.

MCT 330. DESIGN OF MACHINE ELEMENTS: Analytical design techniques used to evaluate machine elements; stress analysis, working stress, failure theories, fatigue failure; design methods for spur gears, shafts, keys and couplings, roller and journal bearings, and springs. Original design project. Prerequisites: MCT 110L, 221, 313; SET 153L. 3 sem. hrs.

MCT 333L. MECHANICAL MEASUREMENTS: Laboratory evaluations of metal fatigue, stress, strain, noise, vibration, buckling, and nondestructive examination. Utilization of power supplies, transducers, conditioners, amplifiers, recorders; computer data acquisition. Log books and written final reports. Prerequisites: ENG 102; EET 201; MFG 204, 204L; MCT 221. 1 sem. hr.

MCT 334L. FLUID AND THERMAL LABORATORY: Experiments in fluid mechanics, thermodynamics, and energy conversion. Pressure, temperature, flow, and power measurements using mechanical devices and electronic instrumentation including transducers, sensors, and data acquisition. Prerequisite: MCT 231. *1 sem. hr.*

MCT 336. FLUID POWER: Study of hydraulic and pneumatic fluid power components and systems used in industrial, mobile, and aerospace applications; standard symbols in circuit design; circuit analysis; specification for pumps, valves, cylinders, and circuits; hydraulic fluids; filtration; electric motors; system efficiencies; proportional control and electrohydraulic servo control systems; seals; fluid conductors; pneumatic components and systems. Library research project. Prerequisite: MCT 231. Corequisite: MCT 336L. *3 sem. hrs.*

MCT 336L. FLUID POWER LABORATORY: To accompany MCT 336. Evaluation of fluid power components: pressure, flow, RPM, sound level, current, voltage, power, torque, and time. Graphical design, computational analysis, assembly, and testing of typical circuits and systems. Testing of hydraulic fluids for viscosity, pour point, flash and fire point, specific gravity. Three hours of laboratory a week. *1 sem. hr.*

MCT 342. THERMODYNAMICS: Energy analysis of engineering systems using the concepts and laws of thermodynamics. The principle of the mechanical equivalent of heat, behavior of pure substances, use of thermodynamic property tables, and study of gas mixtures. Application of the Carnot cycle to both heat engines and reversed heat engines. Prerequisites: SET 153L; MTH 138. *3 sem. hrs.*

MCT 400. SELECTED MECHANICAL TOPICS: Investigations and discussion of current technical topics in mechanical engineering technology. Research report. May be taken more than once. Prerequisite: Permission of the department chairperson. *1-4 sem. hrs.*

MCT 423. PRODUCT DEVELOPMENT: Synthesis of mechanical devices and systems. Emphasis on the integration of various machine elements into a single unit. Activities include design, scheduling, budgeting, purchasing, fabrication, assembly and performance testing of an original team project. Prerequisite: MCT 330. *3 sem. hrs.*

MCT 430. DESIGN OF FLUID POWER SYSTEMS: Energy efficiency; pressure drop determinations, variable volume pressure-compensated pumps, accumulators, proportional and electrohydraulic valves, cylinder design, hydraulic motor selection; circuit design, open and closed loop systems, power unit design; sizing of electric motors; use of industrial data and National Fluid Power Assn.-JIC design standards. Individual design project. Prerequisite: MCT 336. *3 sem. hrs.*

MCT 432. HEAT POWER: Applications of the principles of thermodynamic cycles. Analysis of energy transfer systems such as internal combustion and gas turbine engines. Power generation through steam cycles including reheat and regenerative cycles. Reversed heat engine cycles and vapor compression cycles used in heating and cooling. Prerequisites: MCT 342; SET 153L. *3 sem. hrs.*

MCT 433. MECHANICAL DESIGN: Bringing together analytical and graphical techniques from previous courses to accomplish the design of a complete mechanism, machine, or mechanical system. Conceptual, preliminary, and final design; design criteria; decision analysis; scheduling; electric motor selection, fastening, and joining. Written and oral reports. Prerequisite: MCT 330. *2 sem. hrs.*

**MCT 438. HEAT TRANSFER:** The principles of conduction, convection, and thermal radiation energy transfer. Conduction through series and parallel walls, pipes, and containers. Forced and free convection through films, thermal radiation of energy between surfaces, and the overall transfer of heat. Prerequisites: MCT 231; 342; SET 153L. *3 sem. hrs.*

**MCT 440. APPLIED VIBRATIONS:** Free and forced vibration of single degree of freedom systems with and without damping. Industrial applications including reciprocating and rotating machinery, balancing, isolation, and noise reduction. Demonstrations of vibration sensors and instrumentation. Prerequisites: MCT 217; SET 153L. *3 sem. hrs.*

**MCT 445. EXPERIMENTAL MECHANICS:** Principles of experimental stress analysis and motion measurement using strain gauges, photoelasticity, brittle coatings, accelerometers, and computerized data acquisition and analysis. Computer analysis of strain gauge rosettes to determine principal stresses. Prerequisites: EET 201; SET 153. Corequisites: MCT 330, 445L. *2 sem. hrs.*

**MCT 445L. EXPERIMENTAL MECHANICS LABORATORY:** Installation of strain gauge rosettes. Experiments to determine the state of strain and stress in structures using strain gauges, photoelasticity, and brittle coatings. Vibration measurement using strain gauges, accelerometers, and motion transducers. Written and oral reports. Corequisite: MCT 445. *1 sem. hr.*

**MCT 446. APPLIED FINITE ELEMENT MODELING:** Introduction to the fundamentals of structural finite element modeling. Geometry creation, element types, material specification, problem solution and results postprocessing. A focus is placed on modeling techniques using commercially available software. Prerequisites: SET 153L; MCT 221. *3 sem. hrs.*



## ENGINEERING TECHNOLOGY SERVICE COURSES (SET)

### FACULTY

Joseph A. Untener, *Chairperson of Department of Engineering Technology*

### COURSES OF INSTRUCTION

SET 100. ENGINEERING TECHNOLOGY FIRST YEAR SEMINAR: A seminar for undeclared engineering technology majors. Introduction to the University of Dayton, the School of Engineering, and Engineering Technology, engineering technology programs and careers. Academic policies, academic planning, registration procedures, counseling and career placement services, and assistance in selecting a major. 1 sem. hr.

SET 112. PRECALCULUS FOR ENGINEERING TECHNOLOGY: Engineering technology applications of linear, polynomial, rational, exponential, logarithmic, and trigonometric functions, triangle trigonometry, vectors and complex numbers. 4 sem. hrs.

SET 153L. TECHNICAL COMPUTATION LABORATORY: Introduction to technical computation. Use of personal computers, text processors, computer programming using QBASIC, and spreadsheets. Programming logic, syntax, input, output, looping, branching, arrays, and subprograms. 1 sem. hr.

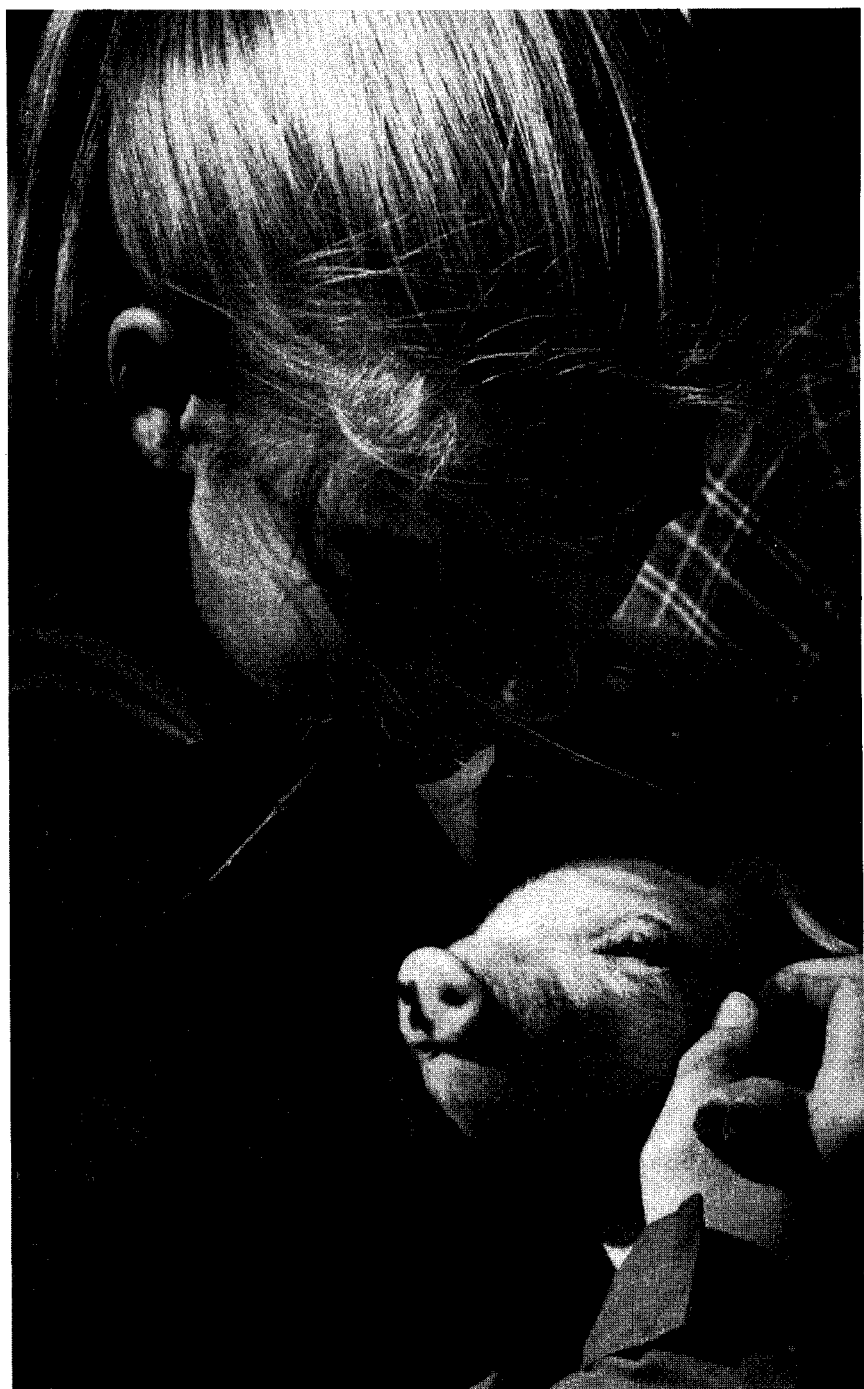
SET 334. TECHNICAL WRITING: Comprehensive treatment of the fundamentals of writing effective technical documentation for industry, including use of technical illustrations and tables. Prerequisite: ENG 102. 2 sem. hrs.

SET 400. SPECIAL TOPICS IN ENGINEERING TECHNOLOGY: Investigation and discussion of current topics in engineering technology. May be taken more than once. Prerequisite: Permission of instructor. 1-4 sem. hrs.

SET 401. DESIGN OF SYSTEMS: An interdisciplinary course in which a team of students solves a complex problem using a three-phased systems approach. Projects vary from term to term, but all are concerned with societal problems, such as transportation, energy, or environment. 3 sem. hrs.

SET 499. SEMINAR: Career planning for engineering technology majors. The job search process, resume preparation, the job interview, professional development. Required of all engineering technology majors in the junior or senior year. 1 sem. hr.





## X Interdisciplinary, Experimental, and Special Areas

### AFFIRMATIVE ACTION OFFICE

As an integral part of the Office of Human Resources, the Office of Compliance and Affirmative Action, in St. Mary's Hall, Room 122, provides services to all employees, including student employees. The assistant director of human resources for compliance and affirmative action is the University's compliance officer for Affirmative Action/Equal Employment Opportunity (AA/EEO), Title IX of the Education Amendment of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, Section 402 of the Vietnam Era Veterans Readjustment Assistance Act of 1974, and the Age Discrimination Act of 1975.

### AIR FORCE RESERVE OFFICERS TRAINING CORPS (AFROTC)

The Air Force Reserve Officers Training Corps (AFROTC) program is offered through the Department of Aerospace Studies at Wright State University. Students may enroll in Air Force ROTC courses through the consortium cross-registration procedures (contact the Registrar's Office to obtain a list of course numbers, scheduled class times and locations). For more information contact the Air Force ROTC Detachment located in Room 232 of the Frederick A. White Health Center at Wright State University or phone 775-2730.

### CENTER FOR INTERNATIONAL PROGRAMS

The Center for International Programs provides leadership, coordination and administrative support for the development of international understanding among faculty, staff and students. This is accomplished through organizing international conferences and workshops, hosting visiting scholars, organizing study abroad programs, maintaining relationships with foreign universities and supporting the Model United Nations. The Center for International Programs is also committed to outreach programming that builds links between the University of Dayton, Dayton's business, cultural and humanitarian groups, and the international community. The Center for International Programs seeks to promote the University of Dayton's involvement in international peace building, human rights and cooperation.

The Center for International Programs includes the International Educational Programs office, which coordinates the International Summer Study Abroad Program (ISSAP) and provides international education and travel counseling. The Center for International Programs also includes the Office of International Services, which coordinates international recruitment, admission, advising, orientation, credential evaluation, immigration and other issues or services for international students and faculty.

## CENTER FOR THE STUDY OF FAMILY DEVELOPMENT

The Center for the Study of Family Development provides an interdisciplinary minor in family development within the College of Arts and Sciences. It also promotes, conducts, and disseminates research on contemporary family issues and serves as a resource to the community and to national Church and professional associations in developing solutions to the problems of families. The center is committed to an integrated perspective on families that draws on both the humanities and the social sciences. See also FDV, Chapter VI.

## COMPUTER FACILITIES AND SERVICES

The University operates more than twenty computer laboratories and a DEC Alpha 2100 system for the benefit of students, faculty, and staff. In addition to the scientific, engineering, statistical, business, and programming software available on campus, access to the Ohio Supercomputer Center is available from the University network for large parallel processing applications such as visualization, finite element analysis, and molecular modeling. Faculty, staff and students with a multi-purpose user account have access to the DEC Alpha system and the University network, as well as telnet, ftp, Netscape, and other Internet and World Wide Web programs. Multi-purpose user accounts require a valid University ID and may be applied for at the Administrative Computing and Telecommunication Services (ACTS) office in Miriam Hall 300. The Computer Store in Miriam Hall 43 sells manuals which explain the University's equipment and how to use the DEC Alpha system.

Student monitors, consultants, and technicians are hired each year to assist the staff in providing computing services to the University community. Students interested in working in any of these positions are encouraged to visit the Instructional Computing, ACTS/Network Services, or ACTS/Microcomputer Services offices, or any of the departmental labs.

## CONTINUING EDUCATION

Continuing Education serves adults of the Dayton community who are not full-time students. It introduces them to, and facilitates their entry into, courses and programs the University offers that they may find useful for any number of their own purposes. It helps them adapt the University's broad range of academic offerings to their personal schedules, interests, and goals.

In addition, Continuing Education provides a variety of noncredit courses, many in the form of workshops, seminars, study tours, conferences, and teleconferences. These are planned to meet the educational and training needs of organizations and of the community and are held both on and off campus. This office also administers Elderhostel, the Institute for Learning in Retirement, and Senior Fellows, for persons sixty and over. Continuing Education Units (CEU) are awarded for some offerings.

## COOPERATIVE EDUCATION (COP)

Cooperative education is an optional plan of full-time, on-campus study alternating with terms of full-time, off-campus work training. Among the expected benefits to the student are on-the-job experience, career identification, financial assistance,

## Special Areas

and professional development. The work training terms average seventeen weeks. Three full terms of work training are considered minimum for the program. Students are encouraged to begin their first co-op work experience after their third semester of academic study.

Qualifications for entering and remaining in cooperative education are (1) to be admitted to the University as a full-time undergraduate with the intention of graduating; (2) to be a declared major in one of the academic departments participating in the co-op program; (3) to maintain good academic standing as specified by the particular academic department; (4) to engage in full-time study and make progress toward the degree during each study term following each full-time work training term; and (5) to be a U.S. citizen or permanent resident of the United States. Placement in a job is not guaranteed since it depends on the student's qualifications and on the availability of jobs.

Cooperative education is currently available as an option to full-time undergraduate majors in the following:

**COLLEGE OF ARTS AND SCIENCES:** Chemistry (CHM), Computer Science (CPS), Computer Information Systems (CIS), Mathematics (MTH), Biology (BIO), Physics (PHY), Physics-Computer Science (PCS), Environmental Biology (EVB), Communication (CMM), and English (ENG).

**SCHOOL OF BUSINESS ADMINISTRATION:** All majors are eligible to apply.

**SCHOOL OF ENGINEERING:** All engineering and engineering technology majors are eligible to apply.

If the cooperative education option becomes available in other majors, notice will be released through the admission counseling staff of the University.

Incoming first-year students or transfer students interested in cooperative education should attend a Co-op New Student Seminar during the new student orientation week in August. Incoming sophomore, junior level or transfer students interested in cooperative education should attend one of the seminars held in September and January of each year. After each Co-op New Student Seminar, such students may begin the process of entering the program, which includes filing an application and having an initial interview with one of the Assistant Directors. Those who start as first-year students at the University are eligible for placement after completing three terms of full-time study on campus. Transfer students, whether from two-year or four-year institutions, spend one full-time study term on campus after transferring before becoming eligible for the first work-training term.

Further information on the cooperative education program may be obtained by writing or calling the Career Placement Center, University of Dayton, Dayton, Ohio 45469-1110; telephone (937) 229-2045.

## CORE

CORE is an interdisciplinary curriculum designed to fulfill and to integrate the University's General Education requirements. Students take ten courses (six in the first-year, three in the second, and one in the third) which fulfill all General Education requirements (except physical and life sciences) as well as the Basic Skills requirement in reading and writing. Faculty teaching in CORE work together to integrate the material in their courses and encourage students to draw on what they are learning in other CORE classes.

Annually, CORE accepts approximately 150 students with a variety of academic profiles; it is not an accelerated or honors program. All entering first-year students are invited to apply; students in some majors in the College of Arts and Sciences are enrolled automatically.

## DEVELOPMENTAL SKILLS (DEV)

Developmental courses are offered by the Learning Assistance Center. (See Chapter II.) Their purpose is to assist students who need additional work in reading, writing, or mathematics. Although credit is attached to these courses, this credit is not applicable toward graduation in any academic program. It is counted, however, in determining class status and eligibility for financial aid.

## COURSES OF INSTRUCTION

DEV 050. CRITICAL READING AND STUDY SKILLS: Instruction and practice in critical reading and thinking skills necessary to analyze, synthesize and evaluate college-level material; also study skills such as time management, note taking, test taking and textbook reading. *3 sem. hrs.*

DEV 060. DEVELOPMENTAL MATHEMATICS: Mastery review of the skills of arithmetic and basic algebra; math confidence-building, communication of problem-solving principles, and study skills. *3 sem. hrs.*

DEV 070. DEVELOPMENTAL WRITING: Individualized instruction and practice in the writing process with emphasis on developing student abilities in organizing ideas, generating support, and expressing ideas effectively; also basic grammar skills such as sentence structure, usage, and punctuation. *3 sem. hrs.*

## GENERAL STUDIES (GEN)

Students who find the traditional programs with departmental majors unsuitable to their purposes, needs, or interests may follow patterns of their own design in choosing courses under the General Studies Program, which leads to the degree of Bachelor of General Studies. See GEN, Chapter VI.

## GRADUATE GUIDANCE CENTER

The mission of the Graduate Guidance Center is to assist undergraduate students in determining their needs with respect to graduate schools. The Center has an up-to-date library of graduate school bulletins as well as information on scholarships and fellowships. In addition, it offers help in filing applications and seeking nationally recognized fellowships and scholarships. It can inform students whether they may be eligible for any of these awards and assist them in preparing applications. Any UD undergraduate interested in pursuing graduate studies is encouraged to visit the Center and take advantage of its services.

## HOME-STUDY COURSES

Students who wish to accrue academic credit during the summer but find it inconvenient to be on campus for classroom courses during either session of the third term should see the official third-term composite of courses and consult with

their advisors for information about the home-study courses that several departments offer. These are conducted by mail on a tutorial or semitutorial basis for students who have proven their ability and their motivation to work alone.

## THE INSTITUTE FOR PASTORAL INITIATIVES

The Institute for Pastoral Initiatives mobilizes the resources of the University of Dayton for partnership with the church that create and implement innovative pastoral initiatives designed to meet the needs of the church and to articulate faith within the context of contemporary culture. The Institute is engaged in education, consultative services, networking, applied pastoral research and multimedia religious education production and publication. The Institute is currently focusing on five key areas for program implementation in the next three years: (1) Media, Culture & Faith Formation; (2) Being Church in the Postmodern World; (3) Catholic Inclusive Education; (4) New Paradigms for Adult Religious Formation; and, (5) Human Dignity, Technology & Environment. The Institute invites faculty and students to explore creative and innovative ways to address the above areas to impact the international and national church.

## INTERDISCIPLINARY STUDIES

All interdisciplinary and experimental studies at the University of Dayton must involve University students and faculty, must be commensurate with University resources or resources accessible to the University, and must further the recognized goals and purposes of the University. When these studies involve disciplines within the College of Arts and Sciences or one of the Schools, they are administered by or through the offices of the respective deans. When they are University-wide, i.e., inter-school, they are usually administered by the Office of the Provost. See also Interdisciplinary Studies in Chapters VI (ASI), VII (BAI), IX (ENI).

## UNIVERSITY INTERDISCIPLINARY STUDIES (UDI)

Courses considered suitable for the UDI designation are submitted for approval to the Committee on Minicourses (COMC), which is accountable to the Provost. UDI courses are administered through University Continuing Education.

The following courses have been offered at least once from the first term of 1995-96 through the second term of 1996-97.

## COURSES OF INSTRUCTION

**UDI 158M. INTRODUCTION TO CAREER DEVELOPMENT:** Survey of career development theories and the world of work. Determining career interests, decision making, and developing a personal plan of action. Some field experience required.

**UDI 169M. GETTING ALONG IN ITALIAN:** An introduction to conversational Italian designed to give the prospective traveler to Italy the basic tools and information necessary to get along in the language.

**UDI 215M. SEARCHING OUT LIFE/FAITH PATTERNS:** This course is designed to help students explore their spiritual life within the context of their entire life. Through class presentations and discussion, daily journal keeping, and weekly meetings with a mentor, the students will have the opportunity to reflect upon their spiritual and life journey and be exposed to practical means to continue to grow spiritually.

**UDI 232M. RESPONSIBILITY IN A HUNGRY WORLD:** This course explores the social and personal responsibility for solving the problem of world hunger. Students will identify and analyze hunger problems globally and locally and propose systematic solutions to these problems.

**UDI 234M. FROM MOZART TO FREUD: THE HISTORY AND CULTURE OF AUSTRIA:** This course will survey musical, literary, and visual arts from a range of non-Western cultures through lectures, demonstrations, and attendance at specified performances.

**UDI 249M. REFLECTIONS ON COMMUNITY SERVICE:** This service-learning minicourse combines community service with reflection. Requirements include 20 hours of meaningful service, an observation/reflection journal, required readings, a reaction paper to a book of one's choice on community service, and class discussions on related issues.

**UDI 253M. LITERACY TUTOR TRAINING:** This course will train and prepare students to be adult literacy tutors. Upon completion of this thorough preparatory course, tutors will be matched with an adult student to strengthen his or her reading skills.

**UDI 254M. TEACHING ENGLISH AS A SECOND LANGUAGE:** This course trains students to be Adult Literacy Tutors for English as a Second Language students. The student in this course will become familiar with the multitude of materials available for ESL tutors and their students. This training enhances a student's knowledge of cultural awareness, language acquisition, whole language, assessment, lesson planning, and teaching techniques. Students will be certified through two national literacy organizations: Laubach Literacy Action and Literacy Volunteers of America. The student will then tutor ESL students for the remainder of the semester.

**UDI 277M. REFLECTIONS ON LAY MINISTRY** This lay ministry minicourse operates out of a framework of praxis, the finely-tuned interplay between action and theological reflection. Students will also be challenged to discern the current trends in lay ministry, and they will draw upon their previous experiences in the field. Requirements include required readings, weekly reflection papers, a reaction paper to a book of one's choice on lay ministry, and class discussion on related topics.

**UDI 320M. PROCESS—MUSIC AS A THERAPY:** This course is an integrated approach to psych theories and music therapy practices. Practice through experiential sessions, self-study, and written projects. Prerequisite: PSY 101. Juniors and seniors only.

## THE MARIAN LIBRARY/INTERNATIONAL MARIAN RESEARCH INSTITUTE

The Marian Library/International Marian Research Institute is recognized as the world's largest and most comprehensive collection of printed materials on Mary and as one of the world's leading centers for Marian studies.

The Marian Library aims to further study and research and to promote well-founded devotion to Mary. The library comprises a Marian collection—theological treatises, books on shrines, sermon collections, anthologies of Marian poetry—and a complementary reference collection in scripture, patristics, systematic and spiritual theology, history, religious art and general bibliography.

Established in 1943 by the Marianists at the University of Dayton, the Marian Library now holds over 92,000 books and pamphlets in some 50 languages, as well as extensive collections of clippings from newspapers and magazines, postcards,

holy cards and Christmas cards. The non-print media collections include video and audio cassettes, statues, nativity sets, Marian art slides, postage stamps, recordings of Marian music and medals.

One of the principal missions of the Marian Library is to be an international center of research and study in Marian theology and on the role of Mary in Christian life. Founded in 1975 at the University of Dayton in affiliation with the Pontifical Theological Faculty Marianum in Rome, the academic program offers the doctorate (S.T.D.) and licentiate (S.T.L.) in sacred theology; and the master's degree in religious studies with a Marian concentration (in conjunction with the Religious Studies Department), a certificate in Marian studies, and a guided studies program. The academic program is organized in a three-year cycle, with courses taught in three sessions: summer, fall and spring. It serves a diverse, international student population: laity, religious and clergy, both men and women. While most students seek advanced degrees in theology with specialization in mariology, others simply wish to satisfy a personal interest in Marian studies.

The Marian Library provides guided tours for groups, a video loan program, circulation of some books, interlibrary loan, reference services, conferences, workshops, and art exhibits. Three publications originate at the Marian Library: *Marian Library Studies*, a scholarly annual of original research; *Marian Studies*, the journal of the Mariological Society of America; and *The Marian Library Newsletter*, a newsletter reporting on Marian topics of current interest, the center's activities and book reviews.

## MINI COURSES

Minicourses are special, short-term, interdisciplinary credit courses developed by University faculty, (or sometimes by students with the advice and consent of a faculty member), to meet specific, sometimes highly current needs or interests not provided for in the regular curricula. They are free of charge to all full-time students, even if the course puts them over the full-time limit, and are open to part-time and non-UD students for credit or audit. The minicourse program is administered by Continuing Education. The typical minicourse carries one semester hour of credit, or fifteen class hours. Classes can be in various sequences, extending over several weeks or concentrated within a few days. Some minicourses take the form of workshops. Occuring at various times in the year, minicourses are publicized throughout campus. They can be added to students' schedules during the term. For a sample listing of minicourses, see University Interdisciplinary Studies (UDI).

## OFFICE OF EDUCATIONAL SERVICES

The Office of Educational Services provides assistance to Catholic schools and public school districts to enable school personnel to reach policy decisions based on relevant knowledge and value commitments. "Relevant knowledge" includes financial studies, needs assessments, attitude surveys, enrollment projections, and other information necessary for making intelligent decisions about specific policies. "Value commitments" include consideration of educational aims and ethical questions inherent in policy decisions. One of the priorities of the Office is service to Catholic schools. Another is its effort to act as a network linking those who share value concerns as they relate to educational policy-making. The Office is located in, draws support from, and uses the resources of the School of Education.



## PRELAW

The Prelaw Program, designed to serve students from all areas of the University, provides those interested in law school with the opportunities to acquire the knowledge and skills necessary for a successful legal career. While students interested in careers in law should choose their undergraduate majors in accord with their interests and abilities, they should also contact the Prelaw Program as early in their undergraduate careers as possible so they can receive effective prelaw advice.

The Prelaw Program, with its six prelaw advisors, provides students with suggestions for courses that help develop skills needed for legal education, with information about the law school admission process, and with aid in taking the Law School Admission Test (LSAT) including simulated tests and prep courses. In addition, the Program sponsors a prelaw internship where students work at legal duties in an attorney's office, a mock trial program where students compete locally, regionally, and nationally, and intensive counseling on an individual basis.

For further information concerning the Prelaw Program at the University of Dayton, students should contact the Prelaw Program secretary in Alumni Hall.

## RESEARCH INSTITUTE (UDRI)

The University includes research as one of its stated purposes. In addition to faculty members in academic departments, a large staff of research scientists, engineers, and technicians conduct basic and applied research. Most of these activities are externally funded and are conducted in the laboratories of the University of Dayton Research Institute.

Several hundred students are employed on research programs in accord with the University's emphasis on integration of research and instruction. In addition to financial benefits, this research participation provides students with valuable experience and an exposure to issues at the forefront of contemporary science and engineering.

## RESERVE OFFICERS TRAINING CORPS (ROTC)

The Department of Military Science offers the Army ROTC training program on campus, leading to a commission as a second lieutenant in the U.S. Army at the time of graduation. See MIL, Chapter VI.

## STRATEGIES FOR RESPONSIBLE DEVELOPMENT

Strategies for Responsible Development (SRD) is the neighborhood development center at the University of Dayton where University and community work in partnership to address urban issues. Founded in 1974, SRD reflects the concern of the Church for social and economic justice, as well as the University's sense of responsibility to the larger community.

On campus, SRD works with faculty to enrich the curriculum with special seminars, neighborhood tours, information, referrals and help in turning community needs into practical service-learning projects. For the greater Dayton community, SRD offers policy-makers and neighborhood organizations access to University resources and SRD's own services. These include: the annual Citylinks neighbor-

hood conference; start-up and planning assistance to neighborhood groups; headquarters for Dayton's AmeriCorps program "Serve with Energy and Talent"; and a resource center that promotes neighborhood leadership, affordable housing efforts, community reinvestment, and new models of community-based economic development.

## STUDY ABROAD

### AUGSBURG EXCHANGE PROGRAM

Students in the School of Business Administration are eligible to participate in an exchange program with the University of Augsburg in Germany. About thirty business students spend eleven weeks each summer in Augsburg taking courses from both University of Dayton and University of Augsburg faculty. Classes are taught in English, although students are required to take on elementary German course before going to Augsburg. Students may reside in dormitories or apartment units or with host German families. Augsburg and Dayton are sister cities, and the sister city organizations facilitate cultural exchanges while students are in Augsburg. Students are given the opportunity to visit and have discussions with executives of German firms. In addition, several Augsburg students attend the University of Dayton during the regular semesters in the graduate program in business and assist with the exchange program.

### INTERDEPARTMENTAL SUMMER STUDY ABROAD PROGRAM

The Interdepartmental Summer Study Abroad Program (ISSAP) was established in 1972 to give students from all majors the opportunity to study and experience one or more foreign cultures. The program is open to anyone attending or eligible to attend the University of Dayton. The program sites, which vary from year to year, are major European cities. Students spend one month at a site with University of Dayton professors and may choose to attend one or two of the sites. Various courses are offered at each site, and a variety of disciplines are represented each year. A two-site participant can complete a full semester of course work abroad.

In the past, ISSAP students have studied in Athens, Dublin, Florence, Fribourg, London, Madrid, Munich, Paris, Rome, and Vienna, where they have taken courses in art history, business, communication, foreign languages, history, literature, music, philosophy, photography, political science, religious studies, and sociology. For more information, contact the Center for International Programs.

### SUMMER STUDY IN MARBURG, GERMANY

The Summer Study Program in Marburg, Germany, provides a month-long experience of living and studying in a German setting. Students take two classes, one with German professors at a Language School in Marburg and another with the accompanying University of Dayton professor. Program participants live either in a dormitory or with families. One full-day excursion is planned for the group. Because students are expected to use German exclusively, completion of intermediate German or the equivalent is required.

## SUMMER STUDY IN MEXICO

The Summer Study in Mexico Program provides an intensive, thirty-day program of immersion in Cuernavaca, where program participants live with Mexican families. Students take two courses with the accompanying University of Dayton professor and Spanish professors at the Cemanahuac Comunidad Educativa. Excursions outside Cuernavaca include a visit to Tepoztlán, Taxco, Xochicalco, Teotihuacán and Mexico City. This program is available to students who have completed elementary Spanish II or the equivalent.

## SUMMER STUDY IN QUEBEC

Summer Study in Quebec offers a three or a five-week program of total immersion in Chicoutimi, situated in the beautiful Saguenay-Lac St. Jean region of Quebec. Program participants live with Francophone families. The academic program features intensive language courses at all levels that put emphasis on oral communication, as well as classes in Quebec culture; courses are taught by faculty from the Université du Québec à Chicoutimi. In addition, students participate in workshops with qualified instructors that allow them to practice their linguistic skills while engaging in social, cultural, and sports activities. This program is available to students who have completed elementary French II or the equivalent.

## SUMMER STUDY IN SEGOVIA, SPAIN

The Summer Study in Segovia Program is a thirty-day program of total immersion in a Spanish environment. The academic program includes intensive language study as well as courses in culture and literature. To complement their course work, students visit museums, theaters, palaces, and castles in and near Segovia and take tours to such historical sites as Madrid, Toledo, and El Escorial. This program, in which participants are required to use Spanish at all times, is available only to students who have completed intermediate Spanish II or the equivalent.

## UNIVERSITY HONORS

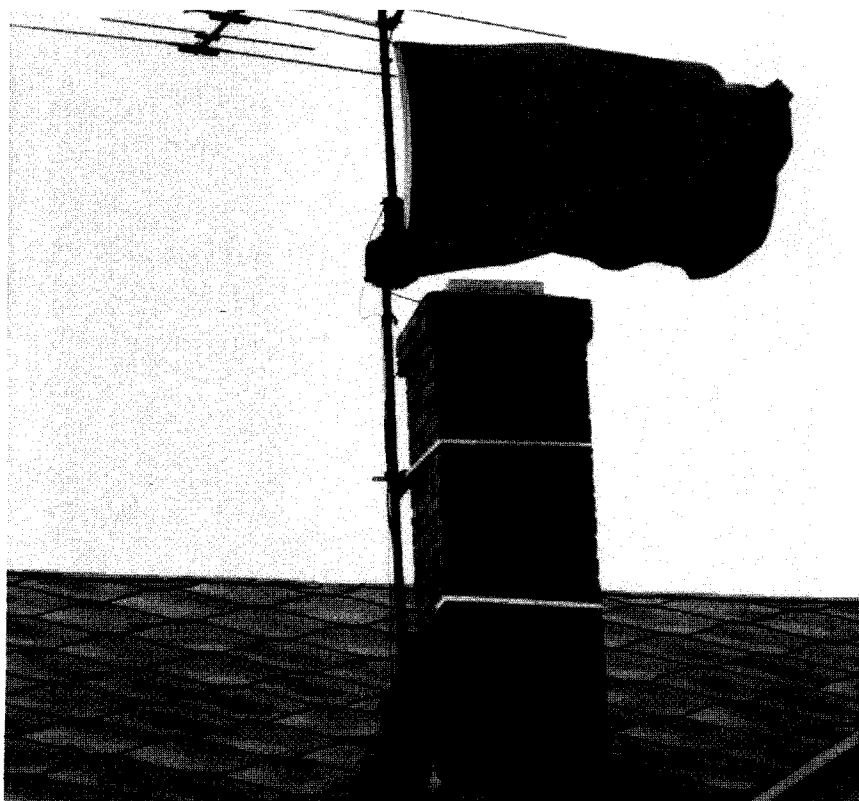
The University Honors Program provides unique opportunities for academically gifted undergraduate students to develop their skills and talents in a supportive educational environment. Each year a limited number of entering first-year students from the four undergraduate divisions—Arts and Sciences, Business Administration, Education, and Engineering—are selected from the pool of applicants. Participation in the program entitles these students to numerous benefits and privileges, including eligibility for honors scholarships.

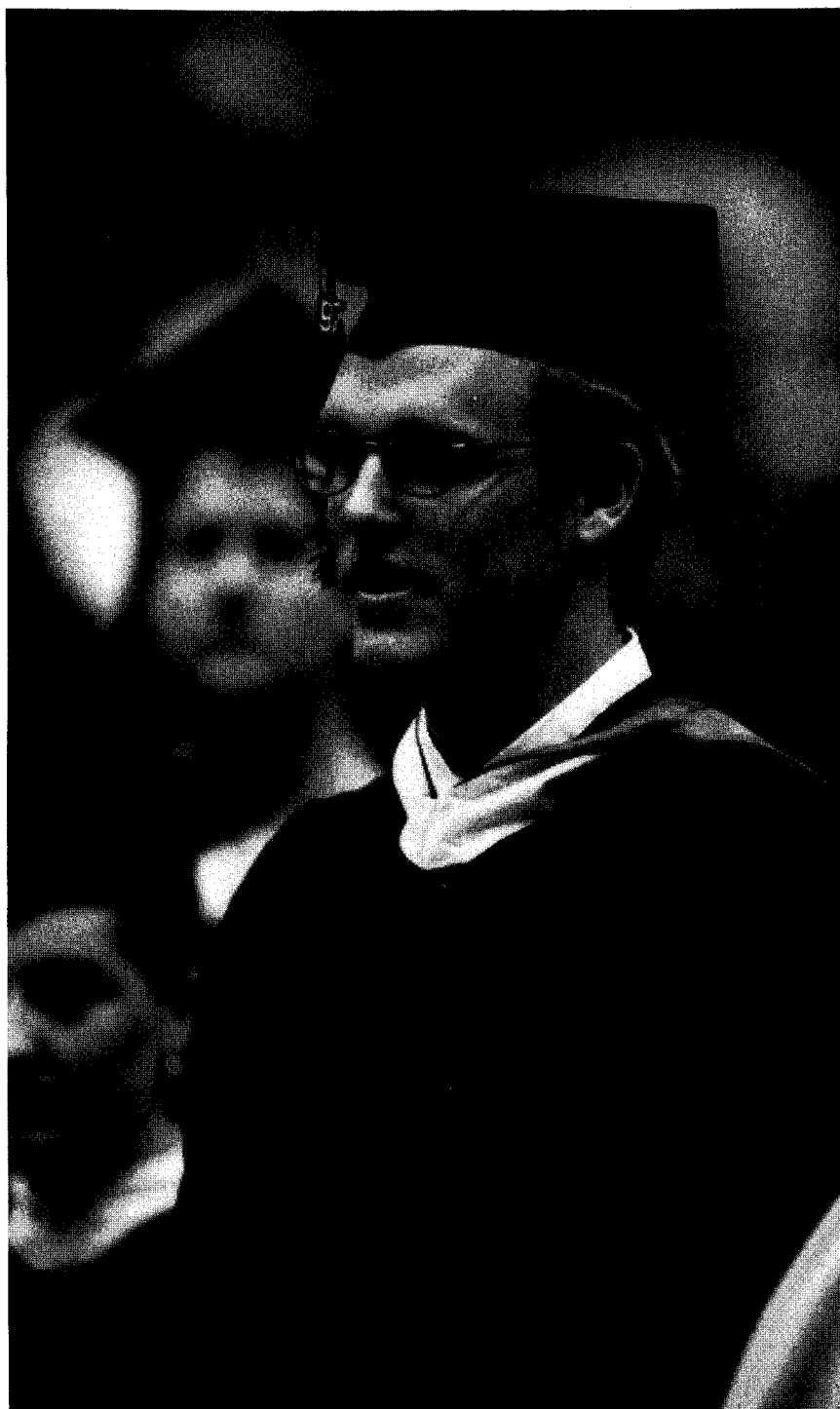
The honors curriculum consists of a sequence of five honors seminars and a thesis. In most instances the seminars fulfill University requirements and fit well into each student's regular course of study. The honors thesis is a major research project selected by the student in the junior year and completed before graduation. Honors research grants are available to cover housing expenses, travel, and supplies. All honors students are expected to maintain a 3.0 grade-point average.

## UNIVERSITY SCHOLARS

The University Scholars Program provides curricular offerings, programming, and benefits to undergraduates who have superior academic records. Students earn the designation "University Scholar" in one of two ways. Entering first-year students with outstanding credentials are automatically accepted into the Scholars Program. (They are also eligible to apply for admission to the Honors Program.) Matriculated students who have achieved a 3.5 grade-point average at the end of their first, second, or third years are also designated University Scholars. All Scholars are expected to maintain at least a 3.0 grade-point average.

University Scholars are offered a wide selection of courses each term, ranging from special sections of General Education courses to senior-level seminars. While enrollment in Scholars courses is not mandatory in most instances, first-year University Scholars will usually be placed in English 114. In addition, the program sponsors numerous speakers, cultural events, and at least one symposium each year. Special housing is available for a limited number of Scholars. Upperclass students who have completed at least two Scholars courses are eligible to apply for grants to support their professional and academic development.





## XI Directories

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Communication .....	Donald O. Yoder
Computer Science .....	Barbara A. Smith
Counselor Education and Human Services .....	(Interim) William R. Drury
Economics and Finance .....	Elizabeth F. Gustafson
Educational Administration .....	TBA
Electrical and Computer Engineering .....	Mohammed A. Karim
Engineering Technology .....	Joseph A. Untener
English .....	Alex J. Cameron
Geology .....	Michael R. Sandy
Health and Sport Science .....	Lloyd L. Laubach
History .....	Lawrence J. Flockerzie
Languages .....	Arthur D. Mosher
Management and Marketing .....	Wesley C. King, Jr.
Management Information Systems and Decision Sciences .....	Jeffrey A. Hoffer
Mathematics .....	Thomas E. Gantner
Mechanical and Aerospace Engineering .....	Glen E. Johnson
Military Science .....	Lt. Col. Dennis M. Gassert
Music .....	Richard P. Benedum
Philosophy .....	Patricia A. Johnson
Physics .....	J. Michael O'Hare
Political Science .....	David W. Ahern
Psychology .....	F. Thomas Eggemeier
Religious Studies .....	Terrence W. Tilley
Sociology, Anthropology, and Social Work .....	Dan E. Miller
Teacher Education .....	C. Daniel Raisch
Visual Arts .....	Sean Wilkinson



## ACADEMIC PROGRAMS

### *Directors*

American Studies .....	Una M. Cadegan
Criminal Justice Studies .....	James A. Adamitis
Food and Nutrition .....	Julia A. Palmert
International Studies .....	Mark Ensalcaco
Premedical and Predental Studies .....	B. Lawrence Fox

## UNIVERSITY LIBRARIES

Dean, University Libraries and Information Technologies .....	Rev. Edward D. Garten
Head, Client Services .....	TBA
Supervisor, Circulation/Reserve/Document Delivery .....	Bonnie Vandenbos
Supervisor, Building Services .....	James Blair
Supervisor, Reference Team .....	Kathy Webb
Coordinator & Head, Collection Management .....	Fred Jenkins
Head, Bibliographic Management .....	Susan Tsui
University Archivist .....	Kerrie Moore
Director, Marian Library .....	Rev. Thomas A. Thompson, S.M.

## RESEARCH

Vice President for Graduate Studies and Research, Dean of the Graduate School, and Director, Research Institute .....	Gordon A. Sargent
Assistant to the Director .....	Karen K. Pettus
Technical Editor .....	Niki L. Maxwell
Associate Director for Operations & Financial Planning .....	Michael V. McCabe
Division Head, Aerospace Mechanics .....	Blaine S. West
Division Head, Electrical and Computer Engineering .....	Dennis D. Stafford
Division Head, Experimental and Applied Mechanics .....	George J. Roth
Division Head, Materials Engineering .....	Dennis A. Gerdeman
Division Head, Metals and Ceramics .....	John A. Detrio
Division Head, Nonmetallic Materials .....	Kenneth A. Davis
Division Head, Structural Integrity .....	Robert J. Andrews
Controller .....	John U. Weckesser
Accounting Administrator .....	Karen L. Miller
Purchasing Agent and Property Administrator .....	Sigmund W. Brzezicki
Facilities and Support Services Manager .....	Dennis F. Holthaus
Research Computing Services Administrator .....	Michael J. Gutman
Associate Director for Technology Partnerships .....	Lloyd Huff
Technical Information Services and Grant Information Library .....	Catherine E. Collins
Associate Director for Contracts and Grants .....	Robert P. Boehmer
Contracts and Grants Administrator .....	Claudette M. Groeber
Associate Director for Human Resources .....	Paula L. Miller
Government Security, Export, and Safety .....	M. Francina Lester

## CAMPUS MINISTRY

Director .....	Rev. James Fitz, S.M.
Assistant Director, Residence Life .....	Jody O'Neil, S.P.
Assistant Directors for Social Concerns .....	Nancy Bramlage, S.C.
Campus Ministers .....	Phil Aaron, S.M.
	Nicholas Cardilino
	Rev. Gerald Chinchar, S.M.
	Yolanda Copeland
	Mary Louise Foley, F.M.I.
	Monica Gundler, S.C.
	Daniel Jordan
	Mary Theresa Lauer
	Margaret Matley
	Conor McIntyre
	Thomas Pieper, S.M.
	Kathleen Rossman, O.S.F.
	Allen Stock
	Patti Stock
	Rev. Kenneth Templin, S.M.

## ADMINISTRATION

Senior Vice President for Administration .....	Bernard J. Ploeger, S.M.
Special Assistant to the Senior VP for —	
Property Acquisition .....	Paul M. Lavin
Special Assistant to the Senior VP,	
Organizational Learning Coordinator .....	Richard K. Kruse
Vice President for Financial Affairs and Treasurer .....	Thomas E. Burkhardt
Internal Auditor .....	Cynthia M. Miller
Investment Officer .....	Delanie S. Moler
Comptroller .....	Thomas J. Weckesser
Bursar, Coordinator of Pricing Policies .....	Nancy V. Graft
Director of Purchases and Business Services .....	Ken R. Soucy
Director of Administrative Computing and	
Telecommunication Services .....	Keith A. Weber
Assistant Director for Telephone and Cable Services .....	William A. Honingford
Assistant Director for Microcomputing	
and Networking Services .....	Barbara Deschappelles
Assistant Director of Operations .....	John C. Turner
Assistant Director for Business Information Systems .....	Robert C. Zink
Assistant Director for Student Information Systems .....	Victoria Adams
Director of Facilities Management .....	Herman A. Cole
Assistant Director for Operations .....	James R. Hogue, Jr.
Assistant Director for Interior Design .....	Beth H. Keyes
Assistant Director for Energy and Budgets .....	Russell A. Potyrala
Environmental Safety Administrator .....	Sandra F. Kulik
Manager of External Contracts .....	Joseph M. Eaglowski
Grounds Manager .....	E. Roger Banks
Director of Human Resources .....	Charles E. Chamberlain
Assistant Director for Records .....	Helen L. Gross
Assistant Director for Benefits .....	Beth A. Jacobs
Assistant Director for Employment .....	Daniel J. Giner
Assistant Director for Compliance and Affirmative Action .....	TBA
Personnel Assistant for Support Services .....	Bro. Raymond Martin, S.M.

Director of Institutional Studies .....	Patricia P. Detzel
Research Assistant .....	Susan K. Sexton
Director of Legal Affairs and University Counsel .....	John E. Hart
Special Assistant for Legal Affairs .....	Lisa A. Sandner

## STUDENT DEVELOPMENT

Vice President for Student Development and Dean of Students .....	William C. Schuerman
Assistant Dean of Students .....	Mary Sue Hufnagle
Assistant Vice President .....	Rosemary T. O'Boyle
Director, Student Activities .....	Lou E. Talbott
Director, Educational and Special Programs .....	Molly A. Schaller
Assistant Vice President: Residential Services .....	Joseph A. Belle
Director of Kennedy Union and Conference Services .....	Amy D. Lopez
Associate Dean of Students: Residential Programs .....	Carol Cummins-Collier
Director, Learning Assistance Center .....	James J. Melko
Director, African American Student Services .....	Kathleen D. Henderson
Director, Counseling and Health Services .....	Steven D. Mueller
Medical Director .....	John H. Dirckx, M.D.
Director, Public Safety .....	John J. Delamer
Director, Recreational Sports .....	Billy R. Mayo
Director, University Food Services .....	Paula H. Smith

## UNIVERSITY ADVANCEMENT

Vice President for University Advancement .....	Frances E. Ary
Director of Development .....	TBA
Director, Corporate Relations .....	E. Shelley Outlaw
Director, Foundation Relations .....	Douglas Jenks
Director, Major & Planned Gifts .....	Janice I. Lively
Director, Annual Fund .....	Jodi Barnard
Director, Advancement Services .....	Susan Sauer
Director, Alumni Relations .....	Regis J. Lekan
Assistant Director, Alumni Chapters .....	TBA
Assistant Director, Dayton Area Programming .....	William E. Hunt
Assistant Director, Class Reunion Program .....	Richard K. Munn
Director, Public Relations .....	Teri J. Rizvi
Director, Publications .....	Deborah McCarty Smith
Director, Media Relations .....	Pamela J. Huber

## ATHLETIC PROGRAMS AND FACILITIES

Vice-President/Director of Athletics .....	Ted Kissell
Secretary to the Director .....	Joyce Kling
Assistant to the Director .....	Megan McCallister
Senior Associate Director of Athletics .....	R. Elaine Dreidame
Senior Associate Director of Athletics .....	Tim Wabler
Assistant Athletics Director .....	Ken Keck
Assistant Athletics Director for Compliance and Academic Services .....	Don Ross
Compliance Coordinator .....	Cindy Pittner
Educational Counselor .....	Tony Bennett
Sports Information Director .....	Doug Hauschild
Assistant SID .....	TBA
Coordinator of Student-Athlete Services .....	Joe Owens
Director of Arena Operations and Athletics Business Manager .....	Tim O'Connell
Assistant Director of Arena Operations .....	Norm Dupler
Assistant Athletics Business Manager .....	Margaret Gantt
Director of Men's Basketball Season Tickets .....	Gary McCans
Box Office Manager .....	Joe Granito
Athletics Marketing Manager .....	Lisa Beutel
Baseball Coach .....	Chris Sorrell
Assistant Coach .....	Clint Albert
Men's Basketball Coach .....	Oliver Purnell
Assistant Coaches .....	Frank Smith, Wade O'Connor, Bill Comar
Women's Basketball Coach .....	Jaci Clark
Assistant Coaches .....	Tammi Shain, Ellen McGrew
Men's Cross Country Coach .....	Rich Davis
Women's Cross Country/Track & Field Coach .....	Harold "Lefty" Martin
Football Coach .....	Mike Kelly
Assistant Coaches .....	Dave Whilding, Rick Chamberlin, Eric Schibler
Men's Golf Coach .....	Jim Larkin
Women's Golf Coach .....	Brad Smith
Men's Soccer Coach .....	Jim Launder
Assistant Coach .....	Dave Schureck
Women's Soccer Coach .....	Mike Tucker
Assistant Coach .....	Rebecca Myers
Softball Coach .....	Jodi Eickemeyer
Men's Tennis Coach .....	Steve Brumbaugh
Women's Tennis Coach .....	Mike Unger
Volleyball Coach .....	Pete Hoyer
Assistant Coaches .....	Xiangrong Liu, Sally Schulte
Head Trainer .....	Steve Foster
Assistant Trainer .....	Vic Miller, Jennifer Burke
Equipment & Awards Manager .....	Tony Caruso
Assistant Equipment Manager .....	Tim Ahner
Senior Development Officer Liaison to Intercollegiate Athletics .....	James Brothers
Director of Athletic Fund Development .....	Jim Paxson
Faculty Athletics Representative .....	J. Michael O'Hare

## FACULTY

### DEANS EMERITI

Hoben, William J. (1956), *Accounting* — B.S., University of Dayton, 1950; M.B.A., Xavier University, 1960; C.P.A., Ohio, 1960.

Joseph, Ellis A. (1961), *Education*—A.B., University of Notre Dame, 1955; M.A., 1956; Ph.D., 1962; L.H.D. (Honorary), College of Mt. St. Joseph, 1989.

### PROFESSORS EMERITI

Anderson, Gordon S. (1969), *Teacher Education* — B.A., Bethany College, 1953; M.S., State University of New York, 1959; Ed.D., Case Western Reserve University, 1969.

Beauregard, Erving E. (1947), *History*—A.B., University of Chicago, 1942; M.A., University of Massachusetts, 1945; Ph.D., Union Institute, 1976.

Burns, Rev. Norbert C., S.M. (1959), *Religious Studies*—B.A., University of Dayton, 1945; S.T.L., University of Fribourg, 1954; S.T.D., The Angelicum, 1955.

Casey, Anthony L. (1969), *Management Information Systems and Decision Sciences*—M.Ed., Wright State University, 1973; M.S., University of Dayton, 1972.

Chuang, Henry N. (1965), *Mechanical and Aerospace Engineering*, Professor—B.S., National Taiwan University, 1958; M.S., University of Maryland, 1962; Ph.D., Carnegie Institute of Technology, 1966. Reg. Prof. Engr.

Clark, Willard C., Jr. (1963), *Accounting*—B.S., University of Dayton, 1959; M.B.A., Miami University, 1960; C.P.A., Ohio, 1962.

Cochran, Bud T. (1958), *English* — B.A., College of Steubenville, 1955; M.A., Ohio State University, 1957; Ph.D., 1967.

Comer, Orville L. (1950), *Marketing*—B.S., Washington University, 1948; M.S., 1949.

Deibel, Francis A., S.M. (1954), *Library*—A.B., University of Dayton, 1929; B.S.L.S., Western Reserve University, 1943.

Drees, Doris A. (1956), *Health & Sport Science* — B.S., University of Dayton, 1956; M.A., The Ohio State University, 1959; Ph.D., University of Iowa, 1968.

Drury, William R. (1984), *Educational Administration*—B.S., University of Dayton, 1958; M.S., 1962; Ed.D., Wayne State University, 1971.

Eley, Marion J. (1961), *Accounting*—B.S., University of Dayton, 1959; M.B.A., Xavier University, 1964; C.P.A., Ohio, 1966.

Evers, Anthony J. (1966), *Electrical Engineering* — B.E.E., University of Dayton, 1953; M.S.E.E., University of Notre Dame, 1955. Reg. Prof. Engr.

Eveslage, Sylvester L. (1948), *Chemistry*—B.S., University of Notre Dame, 1944; M.S., 1945; Ph.D., 1953.

Fioriti, Andrew A. (1965), *Accounting*—B.S., University of Scranton, 1956; M.B.A., University of Detroit, 1958; C.P.A., New Jersey, 1964.

## Faculty

- Fraker, John R. (1975), *Engineering Management and Systems*—B.S., University of Tennessee, 1956; M.S., 1965; Ph.D., Clemson University, 1971. Reg. Prof. Engr.
- Frick, Roy K. (1987), *Engineering Management and Systems* — B.S., Clemson University, 1950; M.S., Ohio State University, 1966; Ph.D., 1970.
- Frye, Helen B. (1967), *Teacher Education*—B.A., Ohio Wesleyan University, 1944; M.Ed., Wittenberg University, 1962; Ph.D., Ohio State University, 1967.
- Gay, James E. (1968), *Teacher Education* — B.A., Ohio University, 1951; M.A., University of Wisconsin, 1956; D.Ed., University of Maryland, 1972.
- George, Norman (1962), *Law* — Ohio State University, 1950; M.B.A., University of Pittsburgh, 1954; Ph.D., Ohio State University, 1962; J.D., Salmon Chase College, 1967
- Gilvary, Patrick S. (1955), *Communication—Theatre*—B.S., University of Dayton, 1950; M.A., Xavier University, 1963; Ph.D., Ohio State University, 1975.
- Grob, M. Audrey (1961), *Teacher Education*—B.S., University of Dayton, 1942; M.A., 1948; Ph.D., Catholic University of America, 1961.
- Gross, David I. (1981), *Chemical Technology*—B.Ch.E., Georgia Institute of Technology, 1959; M.S., Air Force Institute of Technology, 1965. Reg. Prof. Engr.
- Hopfengardner, Jerrold (1978), *Educational Administration* — B.A., University of Dayton, 1959; M.Ed., Miami University, 1961; Ph.D., The Ohio State University, 1970.
- Huth, Mary Jo (1962), *Sociology, Anthropology, and Social Work*— B.S., University of Dayton, 1950; M.A., Indiana University, 1951; Ph.D., St. Louis University, 1955.
- Jehn, Lawrence A. (1946), *Computer Science*—B.M.E., University of Dayton, 1943; M.S., University of Michigan, 1949. Reg. Prof. Engr.
- Kester, Jack E. (1966), *Computer Science* — B.S., University of Dayton, 1952; M.S., Ohio State University, 1958.
- King, Edwin R. (1953), *History*—B.S., University of Dayton, 1949; M.A., Western Reserve University, 1950.
- Klosterman, Rita (1960), *Teacher Education*—B.A., Immaculate Heart College, 1942; M.A., St. John's College, 1956; Ph.D., Indiana University, 1968.
- Koehler, Rev. Theodore A., S.M. (1969), *Library*—Lic. es lett., University of Strasbourg 1934; Lic. Thl., University of Fribourg, 1942.
- Kubach, Reinhold W. (1958), *Electrical Engineering*—B.E.E., Staatliche Ingenieurschule, Esslingen, 1947; M.S.E., University of Dayton, 1966.
- Labadie, Patricia B. (1959), *English* — B.A., University of Washington, 1946; M.A., Miami University, 1961; Ph.D., University of Cincinnati, 1974.
- Laufersweiler, Joseph D. (1963), *Biology*—B.S., University of Notre Dame, 1952; M.Sc., Ohio State University, 1954; Ph.D., 1960.
- Leonard, Mary T. (1956), *Health and Sport Science*, A.B., Radcliffe College, 1948; M.S., MacMurray College, 1951; Ed.D., Boston University, 1960.
- Leonard, Thomas J. (1969), *Library* — B.A., St. John's University, 1951; M.S., Kansas State Teachers College, 1956.

- McDougall, Kenneth J. (1966), *Biology*, Professor—B.A., Northland College, 1957; M.S., Marquette University, 1959; Ph.D., Kansas State University, 1964.
- McGraw, James L. (1952), *Industrial Engineering Technology*—B.S.I.E., Lafayette College, 1951; M.B.A., Xavier University, 1960.
- Maras, Raymond J. (1959), *History*—B.A., University of California, 1946; M.A. Catholic University of America, 1948; Ph.D., University of California, 1955.
- Martin, Herbert W. (1970), *English*, Professor — B.A., University of Toledo, 1964; M.A., State University of New York at Buffalo, 1967; M.I., Middlebury College, 1972; D.A., Carnegie-Mellon University, 1979.
- Mathias, Frank F. (1963), *History*—A.B., University of Kentucky, 1950; M.A., 1961; Ph.D., 1966.
- Michaelis, Carl I. (1954), *Chemistry*—B.A., University of Kansas, 1945; M.A., 1947; Ph.D., University of Florida, 1953.
- Miller, Richard L. (1968), *Management and Marketing* — B.S., Ohio State University, 1947; M.B.A., 1959; Ph.D., University of Cincinnati, 1981.
- Minardi, John E. (1964), *Mechanical Engineering*, Professor—B.M.E., University of Dayton, 1955; M.S.M.E., University of Southern California, 1957; Ph.D., University of Cincinnati, 1973.
- Montavon, Robert E. (1966), *Library*—B.A., St. Charles College, 1955; M.A., Catholic University of America, 1962; M.S.L.S., 1965.
- Morefield, Donald W. (1969), *Health and Sport Science*, Assistant Professor—B.S. in Ed., University of Dayton, 1957; M.A. in Ed., Ball State University, 1967; Ed.S., University of Dayton, 1988.
- Murphy, Lorraine M. (1953), *English*—B.A., Augustana College, 1946; M.A., Miami University, 1962.
- Nartker, Raymond H. (1962), *Library*—B.A., University of Dayton, 1942; M.S.L.S., Western Reserve University, 1955.
- Nersoyan, H. James (1967), *Philosophy*—Baccalaureate, College Champagnat des Freres Maristes, 1939; S.T.B., Berkeley Divinity School, 1949; Ph.D., Columbia University, 1966.
- Palumbo, Suzanne D. (1965), *English*—B.A., Northwestern University, 1957; M.A., University of Dayton, 1965.
- Patyk, Josef (1963), *Political Science*—Certificate, School of Public Administration, Poland, 1935; LL.M., Jagiellonski University, 1945; Ph.D., University of Colorado, 1965.
- Payne, Elmer H. (1961), *Civil and Environmental Engineering and Engineering Mechanics* — B.S.C.E., Washington University, 1958; M.S., 1961. Reg. Prof. Engr.
- Purcell, Sylvia S. (1967), *Library*—A.B., University of Illinois, 1940; M.A.L.S., Kent State University, 1955.
- Ramsey, James M., (1964), *Biology*— B.S., Wilmington College, 1948; M.S., Miami University, 1951.
- Rang, Jack C. (1979), *Communication*— B.S., Northwestern University, 1948; M.A., Aquinas College, 1965; Ph.D., Northwestern University, 1972.

## Faculty

- Ray, Alden E. (1961), *Mechanical and Aerospace Engineering*—B.A., Southern Illinois University, 1953; Ph.D., Iowa State University, 1959.
- Rhee, Tong-Chin (1967), *History*, Professor—B.A., Seoul National University, 1959; M.P.A., 1961; Certificate (M.A.), University of Wales, 1961; M.A., Lehigh University, 1962; Ph.D., Clark University, 1967.
- Rhodes, Rev. Edmund L., S.M. (1947), *Philosophy*—A.B., University of Dayton, 1934; S.T.L., Catholic University of America, 1942.
- Ritter, Charles J. (1967), *Geology*—B.S., University of Dayton, 1959; M.S., Massachusetts Institute of Technology, 1962; Ph.D., University of Michigan, 1971.
- Roberts, Carole L. (1968), *Health and Sport Science*, Assistant Professor—B.S. in Ed., Ohio State University, 1964; M.A., 1968.
- Schroeder, Elizabeth (1950), *Human Ecology*—B.S., College of Mt. St. Joseph-on-the-Ohio, 1942; M.S., Ohio State University, 1958.
- Staub, Albert E. (1956), *Engineering Technology*—A.B., University of Missouri, 1951; M.A., Miami University, 1963.
- Steiner, Wilfred J. (1946), *History*—A.B., Loras College, 1936; M.A., Harvard University, 1938; Ph.D., Ohio State University, 1957.
- Stockum, Eleanore K. (1957), *English*—B.A., College of St. Teresa, 1950; M.A., Marquette University, 1953.
- Thomson, Robert A. (1952), *Civil and Environmental Engineering and Engineering Mechanics*—B.S. in Ed., University of Dayton, 1950; B.M.E., 1954; Ph.D., Illinois Institute of Technology, 1958. Reg. Prof. Engr.
- Vines, Alice G. (1969), *History*—B.A., B.S. in Ed., University of Cincinnati, 1960; M.A., 1961; Ph.D., 1975.
- Wilder, Jesse H. (1953), *Mechanical Engineering Technology*—B.S.M.E., Duke University, 1947; M.S., State University of Iowa, 1949. Reg. Prof. Engr.
- Wolff, Florence I. (1969), *Communication*—B.S., Temple University, 1941; M.Ed., Duquesne University, 1967; Ph.D., University of Pittsburgh, 1969.
- Wurst, John C., (1957), *Mechanical and Aerospace Engineering*—B.M.E., University of Dayton, 1957; M.S., 1968; Ph.D., 1971.
- Zembaty, Jane S. (1975), *Philosophy*, Professor—B.A., State University of New York at Buffalo, 1971; M.A., Georgetown University, 1975; Ph.D., 1976.

## REGISTRAR EMERITUS

- Palmert, Daniel F. (1977), *Registrar*, Administrative—B.S., University of Dayton, 1950; M.B.A., 1978.

## DISTINGUISHED SERVICE PROFESSORS

- Drees, Doris A. (1956), *Health and Sport Science*—B.S., University of Dayton, 1956; M.A., The Ohio State University, 1959; Ph.D., University of Iowa, 1968.
- George, Norman (1962), *Law*—Ohio State University, 1950; M.B.A., University of Pittsburgh, 1954; Ph.D., Ohio State University, 1962; J.D., Salmon Chase College, 1967.



Joseph, Ellis A. (1961), *Education*—A.B., University of Notre Dame, 1955; M.A., 1956; Ph.D., 1962; L.H.D. (Honorary), College of Mt. St. Joseph, 1989.

Kohmescher, Rev. Matthew F., S.M. (1951), *Religious Studies* — A.B., University of Dayton, 1942; S.T.D., University of Fribourg, 1950; M.A., Western Reserve University, 1956.

Lucier, John J., S.M. (1945), *Chemistry*—B.S., University of Dayton, 1937; M.S., Western Reserve University, 1950; Ph.D., 1951.

Murphy, Harry C. (1950), *Marketing*—B.B.A., University of Minnesota, 1948; B.S., 1949; M.A., 1951.

Noland, George B. (1955), *Biology*—B.S., University of Detroit, 1950; M.S., 1952; Ph.D., Michigan State University, 1955.

Ryckman, Seymour J. (1959), *Civil and Environmental Engineering and Engineering Mechanics*—B.S., Michigan State University, 1939; M.S., University of Missouri, 1942. Reg. Prof. Engr.

Schmidt, Bernhard M. (1948), *Electrical Engineering*—B.E.E., University of Dayton, 1942; M.S., Ohio State University, 1957; Ph.D., 1963. Reg. Prof. Engr.

Schraut, Kenneth C. (1940), *Mathematics*—A.B., University of Illinois, 1936; M.A., University of Cincinnati, 1938; Ph.D., 1940.

Springer, George H. (1946), *Geology*—A.B., Brown University, 1938; ScM., 1940.

Stick, Henry H. (1975), *Economics and Finance* — B.S., U.S. Military Academy, 1945; M.B.A., University of Pennsylvania, 1951; Ph.D., Ohio State University, 1957.

## DISTINGUISHED TEACHING PROFESSOR

Burns, Rev. Norbert C., S.M. (1959), *Religious Studies* — B.A., University of Dayton, 1945; S.T.L., University of Fribourg, 1954; S.T.D., The Angelicum, 1955.

## RANKED FACULTY

Aaron, Philip T., S.M. (1979), *International Studies Program, Administrative*—B.S., University of Dayton, 1954; M.S., St. Louis University, 1964; Ph.D., Case Western Reserve University, 1973.

Achbach, Myron H. (1970), *Director of Admission, Administrative*—B.A., University of Dayton, 1958; M.A., Western Reserve University, 1966.

Adamitis, James A. (1970), *Criminal Justice Studies, Associate Professor*—B.A., Kent State University, 1965; M.A., 1967; Ph.D., Miami University, 1981.

Adams, Shauna M. (1993), *Teacher Education, Assistant Professor* — B.S., University of Dayton, 1979; M.S., 1986; Ed.D., University of Cincinnati, 1996.

Ahern, David W. (1977), *Political Science, Associate Professor*—B.A., Southern Connecticut State College, 1970; M.A., University of Maryland, 1972; Ph.D., 1976.

Al-Akkad, Riad S. (1986), *Civil and Environmental Engineering and Engineering Mechanics, Lecturer*—B.C.E., University of Dayton, 1980; M.S.C.E., 1981.

Alexander, Roberta S. (1969), *History, Professor*—B.A., University of California, 1964; M.A., University of Chicago, 1966; Ph.D., 1974.

## Faculty

- Allik, Judith P. (1976), *Psychology*, Associate Professor—B.A., Wellesley College, 1958; M.S., University of Pittsburgh, 1974; Ph.D., 1978.
- Amin, Julius A. (1989), *History*, Associate Professor—B.A., University of Cameroon, 1979; M.A., West Texas State University, 1983; Ph.D., Texas Tech University, 1988.
- Amsden, Robert T. (1978), *Management Information Systems and Decision Sciences*, Associate Professor—B.A., University of New Hampshire, 1960; M.S., Rutgers University, 1964; Ph.D., 1969.
- Anderson, Darrell F. (1974), *Communication—Theatre*, Associate Professor—B.A., University of Dayton, 1969; M.F.A., Ohio State University, 1991.
- Anderson, Rev. William P. (1968), *Religious Studies*, Professor—A.B., Bloomfield College, 1961; B.D., Princeton Theological Seminary, 1964; Th.D., 1968.
- Angel, Mary A. (1988), *Communication*, Lecturer — B.A., University of Cincinnati, 1977; M.A., 1979.
- Artz, Theodora S. (1974), *Law Library*, Assistant Professor—B.Ed., University of Toledo, 1962; M.A.L.S., 1974.
- Ary, Frances E. (1993), *Vice President for Advancement*, Administrative—B.A., Emory University, 1976.
- Atiquzzaman, Mohammed (1997), *Electrical and Computer Engineering*, Associate Professor— B.Sc., Bangladesh University, 1982; M.Sc., University of Manchester, 1984; Ph.D., 1987.
- August, Eugene R. (1966), *English*, Professor—B.A., Rutgers University, 1958; M.A., University of Connecticut, 1960; Ph.D., University of Pittsburgh, 1965.
- Avila-John, Karin (1993), *English Language and Multicultural Institute*, Administrative — B.A., Instituto Nacional Superior del Profesorado Joaquin v Gongalez, 1979; M.A., So. Illinois University, 1982.
- Baccus, James (1979), *Instructional Computing Group*, Administrative — B.S., University of Dayton, 1964; M.S., Purdue University, 1966.
- Back, Stanley J. (1959), *Mathematics*, Associate Professor—B.S., University of Dayton, 1957; M.S., Purdue University, 1959.
- Baer, Janine T. (1994), *Health and Sport Science*, Associate Professor — B.S., Mt. Mary College, 1983; M.S. Virginia Polytechnic Institute and State University, 1985; Ph.D., 1988.
- Bajpai, Praphulla K. (1964), *Biology*, Professor—B.V.Sc. and A.H., Agra University, 1958; M.V.Sc., 1960; M.Sc., Ohio State University, 1963; Ph.D., 1965.
- Ballal, Dilip R. (1990), *Mechanical and Aerospace Engineering*, Professor—B.Sc. (Eng.), Maulana Azad College of Technology, 1967; M.Sc., Cranfield Institute of Technology, 1968; Ph.D., 1972.
- Barnes, Michael H. (1968), *Religious Studies*, Professor, Alumni Chair in the Humanities—A.B., St. Louis University, 1961; Ph.L., 1962; Ph.D., Marquette University, 1976.
- Becker, Roger J. (1988), *Electro-Optics*, Associate Professor—B.A., Lake Forest College, 1967; M.S., Massachusetts Institute of Technology, 1972; Ph.D., Thomas Jefferson University, 1976.

- Bedard, Beatrice W. (1982), *Coordinator, Students with Disabilities, Administrative*—B.A., University of Dayton, 1974; M.A., 1976.
- Bedard, B. J. (1962), *English*, Professor—A.B., University of Notre Dame, 1949; M.A., University of Michigan, 1950; Ph.D., 1959.
- Bednarek, Janet R. (1992), *History*, Assistant Professor — B.A., Creighton University, 1981; M.A., 1983; Ph.D., University of Pittsburgh, 1987.
- Beitel, Frank E. (1989), *Computer Science*, Adjunct Professor—B.S., University of Dayton, 1974; M.S., Wright State University, 1984.
- Beladi, Hamid (1988), *Economics and Finance*, Professor, Niehaus Chair in Business Administration—B.A., Utah State University, 1976; M.S., 1979; Ph.D., 1983.
- Bell, Tom W. (1995), *Law*, Associate Professor — B.A., University of Kansas, 1987; M.A., University of So. California, 1989; J.D., University of Chicago, 1993.
- Belle, Joseph A. (1973), *Assistant Vice President; Residential Services*, Administrative—B.S., University of Dayton, 1973; M.S., 1975.
- Benedum, Richard P. (1973), *Music*, Professor—B.A., Concordia Teachers College, 1966; D.M.A., University of Oregon, 1972.
- Benson, Paul H. (1985), *Philosophy*, Associate Professor—B.A., St. Olaf College, 1979; Ph.D., Princeton University, 1984.
- Benz, Carolyn R. (1990), *Educational Administration*, Professor—B.A., Indiana University, 1964; M.A.T., 1967; Ed.D., University of Akron, 1980.
- Beran, Donna L. (1995), *Communication*, Lecturer — B.F.A., Eastern Kentucky University, 1979; B.A., 1980; M.F.A., University of Cincinnati, 1982.
- Berger, Robert N. (1964), *Management and Marketing*, Assistant Professor—B.S., University of Dayton, 1960; M.A., Ohio University, 1963; J.D., Chase School of Law, 1970.
- Berney, Rex L. (1978), *Physics*, Associate Professor—B.S., University of Missouri, 1971; M.S., 1973; Ph.D., 1978.
- Bickford, Deborah J. (1988), *Management and Marketing*, Associate Professor—B.A., State University of New York, Cortland, 1974; M.S.B.A., University of Massachusetts, 1976; Ph.D., 1980.
- Biddle, James R. (1990), *Teacher Education*, Associate Professor — B.A., Bob Jones University, 1968; M.Ed., University of Cincinnati, 1970; Ph.D., Ohio State University, 1973.
- Biers, David W. (1976), *Psychology*, Associate Professor—B.A., Lafayette College, 1966; M.S., Northwestern University, 1968; Ph.D., 1970.
- Bilocerkowycz, Jaro M. (1985), *Political Science*, Associate Professor—B.A., Eastern Illinois University, 1973; M.A., University of Washington, 1975; Ph.D., 1983.
- Blatt, Stephen J. (1971), *Communication*, Associate Professor—B.A., Morehead State University, 1964; M.A., Ohio University, 1967; Ph.D., 1969.
- Boehman, Louis I. (1967), *Mechanical and Aerospace Engineering*, Professor—B.M.E., University of Dayton, 1960; M.S.M.E., Illinois Institute of Technology, 1963; Ph.D., 1967. Reg. Prof. Engr.

## Faculty

- Boehnlein, James M. (1992), *English*, Assistant Professor — B.A., University of Dayton, 1973; M.S.Ed., 1978; M.A., 1988; Ph.D., Miami University, 1992.
- Bogner, Fred K. (1969), *Civil and Environmental Engineering and Engineering Mechanics*, Professor—B.S.C.E., Case Institute of Technology, 1961; M.S.E.M., 1964; Ph.D., 1967.
- Bohlen, George A. (1980), *Management Information Systems and Decision Sciences*, Associate Professor—B.S.M.E., Clemson University, 1958; M.S.I.E., Purdue University, 1963; M.S.B.A., George Washington University, 1968; Ph.D., Purdue University, 1973.
- Bower, Samuel M. (1965), *Psychology*, Associate Professor—B.A., Mexico City College, 1957; Ph.D., Vanderbilt University, 1963.
- Bowers, Jeanne (1993), *English Language and Multicultural Institute*, Administrative — B.A., California State University, Sacramento, 1974; M.S., 1977.
- Bowman, Connie L. (1997), *Teacher Education*, Assistant Professor — B.A., Capital University, 1975; M.Ed., University of Cincinnati, 1981; Ph.D., Ohio State University, 1995.
- Brady, Thomas J. (1981), *Accounting*, Associate Professor—B.S., New York University, 1966; M.B.A., Adelphi University, 1968; Ph.D., St. Louis University, 1981.
- Branick, Vincent P. (1979), *Religious Studies*, Professor—B.A., Chaminade College of Honolulu, 1963; M.A., Catholic University of America, 1964; S.T.B., University of Fribourg, 1966; S.T.L., 1969; D.Phil., 1971; S.S.B., Pontifical Biblical Institute, 1972; S.S.L., 1973; S.S.D., 1975; M.B.A., University of Dayton, 1983.
- Brecha, Robert J. (1993), *Physics*, Assistant Professor—B.S., Wright State University, 1983; Ph.D., University of Texas at Austin, 1990.
- Bredestege, Paul F., S.M. (1981), *Languages*, Lecturer—B.A., University of Dayton, 1960; M.A., Middlebury College, 1970; M.S., University of Dayton, 1985.
- Breitwisch, Randall J. (1988), *Biology*, Associate Professor—B.S., University of Miami, 1973; M.S., 1977; M.S., University of Michigan, 1982; Ph.D., University of Miami, 1987.
- Brenner, Susan W. (1988), *Law*, Associate Professor—B.A., Southwestern Oklahoma State University, 1968; M.A., Kent State University, 1971; J.D., Indiana University, 1981.
- Brockman, Robert A. (1984), *Mechanical and Aerospace Engineering*, Professor — B.S.M.E., Carnegie-Mellon University, 1973; M.M.E., University of Dayton, 1974; Ph.D., 1979.
- Brown, Darryl K. (1996), *Law*, Assistant Professor — B.A., East Carolina University, 1984; J.D., University of Virginia, 1990; M.A., College of William & Mary, 1991.
- Brown, Squire L. (1995), *Engineering Management and Systems*, Adjunct Professor — B.S.A.S.E., University of Texas at Austin, 1963; Ph.D., 1967. Reg. Prof. Engr.
- Browning, Charles E. (1976), *Materials Engineering*, Adjunct Professor—B.S., West Virginia University, 1966; M.S., Wright State University, 1970; Ph.D., University of Dayton, 1976.
- Buby, Rev. Bertrand A., S.M., (1967), *Religious Studies*, Assistant Professor—B.A., University of Dayton, 1955; S.T.L., Pontifical Biblicum Institute, 1964; S.S.L., University of Fribourg, 1966; S.T.D., Pontifical University of the Marianum, 1980.

- Buckley, David M. (1968), *Library*, Associate Professor—B.A., Miami University, 1966; M.A.L.S., Western Michigan University, 1968; M.A., University of Dayton, 1975.
- Buckley, James P. (1993), *Computer Science*, Assistant Professor — B.A., State University of New York at Oswego, 1981; M.E., Tulane University, 1990, Ph.D., 1994.
- Bueche, Frederick J. (1961), *Physics*, Distinguished Professor at Large—B.S., University of Michigan, 1944; Ph.D., Cornell University, 1948.
- Burkhardt, Thomas E. (1992), *Vice President for Financial Affairs and Treasurer*, Administrative—B.S., University of Dayton, 1970.
- Burky, Albert J. (1973), *Biology*, Professor—B.A., Hartwick College, 1964; Ph.D., Syracuse University, 1969.
- Burnell, Juliann (1991), *Psychologist, Counseling Center*, Administrative — B.S. Ed., Miami University, 1979; Psy. D., Wright State University, 1989.
- Burrows, Ron J. (1981), *Accounting*, Associate Professor—B.S., Northern Illinois University, 1965; M.S., 1968; Ph.D., Pennsylvania State University, 1980.
- Butter, Beverly J. (1984), *Assistant Director for Special Populations, Learning Assistance Center*, Administrative — B.A., Hunter College, 1966; M.Ed., University of Massachusetts, 1971.
- Butter, Eliot J. (1971), *Psychology*, Professor—B.A., Brooklyn College, 1965; M.A., 1969; Ph.D., University of Massachusetts, 1971.
- Cadegan, Una M. (1987), *History*, Assistant Professor—B.A., University of Dayton, 1982; A.M., University of Pennsylvania, 1983; Ph.D., 1987.
- Cameron, Alex J. (1964), *English*, Associate Professor—A.B., University of Notre Dame, 1959; Ph.D., 1973.
- Carlsen, Roger N. (1981), *Teacher Education*, Assistant Professor—B.S. Ed., Northern Illinois University, 1967; M.S. Ed., Chicago State University, 1972; Ed.D., Western Michigan University, 1979.
- Carlson, Marybeth (1993), *History*, Assistant Professor—B.A., University of Maryland, 1979; M.A., University of Wisconsin, 1986; Ph.D., 1992.
- Carr, Bruce, *Minority Engineering Program*, Administrative — B.S., Bowling Green State University, 1983; M.S., University of Dayton, 1990.
- Castro, Pécio B. de, Jr. (1994), *Languages*, Assistant Professor—Law, Fluminense Federal University (Rio de Janeiro), 1984; M.A., Temple University, 1989, Ph.D., Temple University, 1991.
- Chantell, Charles J. (1965), *Biology*, Associate Professor—B.S., University of Illinois, 1961; M.S., University of Notre Dame, 1963; Ph.D., 1965.
- Chartoff, Richard P. (1984), *Chemical and Materials Engineering*, Professor—B.S., Case Institute of Technology, 1961; M.S., Princeton University, 1962; M.A., 1965; Ph.D., 1968.
- Chase, Donald V. (1993), *Civil and Environmental Engineering and Engineering Mechanics*, Assistant Professor — B.S.C.E., University of Kentucky, 1985; M.S.C.E., 1989; Ph.D., 1993.
- Chen, Rong-chin Carl (1977), *Economics and Finance*, Professor—B.A., National Taiwan University, 1969; M.S., Auburn University, 1973; Ph.D., University of Georgia, 1977.

## Faculty

- Chenoweth, Richard K. (1983), *Music*, Professor—B.M., Manhattan School of Music, 1970; M.M., University of Cincinnati, 1984; D.M.A., 1988.
- Cherrington, Blake E. (1997), *Electrical and Computer Engineering and Engineering Management and Systems*, Professor—B.A.Sc., University of Toronto, 1959; M.A.Sc., 1961; Ph.D., University of Illinois at Urbana-Champaign, 1965.
- Chiodo, Andria J. (1968), *Languages*, Assistant Professor—B.A., University of Oregon, 1966; M.A., 1968.
- Church, Kevin M. (1990), *Chemistry*, Associate Professor—B.S., University of Nebraska, 1982; M.S., University of Nebraska Medical Center, 1985; Ph.D., 1988.
- Cochran, Rebecca A. (1991), *Law*, Assistant Professor—B.A., Colorado College, 1974; M.A., Northwestern University, 1975; J.D., John Marshall Law School, 1984.
- Columbus, Thomas M. (1967), *Public Relations*, Administrative—A.B., College of the Holy Cross, 1966; M.A., University of Virginia, 1967.
- Conard, Robert C. (1967), *Languages*, Professor—B.B.A., University of Cincinnati, 1956; M.A., 1962; Ph.D., 1969.
- Conlon, Rev. Christopher W., S.M. (1988), *Campus Ministry*, Administrative—B.A., University of Dayton, 1957; S.T.L., University of Fribourg, 1966; M.S.Rel.Ed., Loyola University of Chicago, 1972.
- Conniff, Brian P. (1990), *English*, Associate Professor—B.A., Rutgers University, 1978; M.A., University of Scranton, 1980; Ph.D., University of Notre Dame, 1984.
- Conte, Francis J. (1987), *Law*, Professor—B.A., Pennsylvania State University, 1964; J.D., University of Texas, 1969.
- Corbitt, Elizabeth M. (1995), *Psychology*, Assistant Professor—B.A., Brown University, 1985; M.A., University of Kentucky, 1990; Ph.D., 1993.
- Courtney, Nancy D. (1986), *Library*, Assistant Professor—B.A., Northwestern University, 1983; M.S., University of Illinois, 1984.
- Cox, Donna M. (1990), *Music*, Associate Professor—B.A., Virginia Union University, 1979; M.M., Washington University, 1982; Ph.D., 1986.
- Craver, Bruce A. (1978), *Physics*, Associate Professor—B.S., Purdue University, 1969; M.S., 1971; Ph.D., 1976.
- Crist, Maria Perez (1989), *Law*, Instructor—B.A., Northwestern University, 1978; J.D., University of Michigan, 1981.
- Crum, Roger J. (1991), *Visual Arts*, Associate Professor—B.A., University of Michigan, 1985; M.A., 1986; Ph.D., University of Pittsburgh, 1992.
- Cummins-Collier, Carol D. (1984), *Associate Dean of Students: Residential Programs*, Administrative—B.A., Indiana University, 1976; M.S., 1978.
- Cusella, Louis P. (1985), *Communication*, Professor—B.A., Kent State University, 1971; M.A., Ohio State University, 1974; Ph.D., Purdue University, 1978.
- Cusma, Teresa Paumier (1985), *Associate Director, Student Activities*, Administrative—B.S., University of Dayton, 1977; M. Ed., Kent State University, 1984.
- Dandaneau, Steven P. (1992), *Sociology, Anthropology, and Social Work*, Assistant Professor—B.A., Michigan State University, 1986; M.A., Brandeis University, 1990; Ph.D., 1992.

- Daniels, Malcolm W. (1989), *Electrical and Computer Engineering*, Assistant Professor—B.Sc., University of Strathclyde, 1979; Ph.D., 1982.
- DaPolito, Frank J. (1970), *Psychology*, Professor—B.A., Bowling Green State University, 1959; Ph.D., Indiana University, 1966.
- Darrow, David (1996), *History*, Assistant Professor—B.A., University of Northern Iowa, 1986; M.A., University of Iowa, 1988; Ph.D., 1996.
- Davis, Richard A. (1993), *Geology*, Adjunct Professor—B.A., Cornell College, 1963; M.S., University of Iowa, 1965; Ph.D., 1968.
- Davis, Thomas I. (1990), *Management Information Systems and Decision Sciences*, Lecturer—B.S., University of Wyoming, 1964; M.S., Air Force Institute of Technology, 1970.
- Davis-Berman, Jennifer L. (1986), *Sociology, Anthropology, and Social Work*, Associate Professor—B.S., Denison University, 1979; M.S.W., Ohio State University, 1982; Ph.D., 1985.
- De, Prabuddha (1987), *Management Information Systems and Decision Sciences*, Professor, Sherman-Standard Register Chair in MIS—B.Sc., University of Calcutta, 1968; M.Tech., 1971; M.S., Pennsylvania State University, 1975; Ph.D., Carnegie-Mellon University, 1979.
- DeConinck, James B. (1992), *Management and Marketing*, Associate Professor—B.S.B.A., University of Missouri, 1981; M.B.A., Central Missouri State University, 1984; Ph.D., University of Arkansas, 1988.
- Deep, Ronald (1989), *Engineering Management and Systems*, Associate Professor—B.S., U.S. Air Force Academy, 1960; M.S.E., Purdue University, 1970; Ph.D., Florida State University, 1976.
- Dehler, Gordon E. (1988), *Management and Marketing*, Associate Professor—B.A., University of Northern Colorado, 1974; M.A., Ohio State University, 1977; M.A.I.R., University of Cincinnati, 1986; Ph.D., 1990.
- Delgado, Clara S. (1993), *Director, English Language and Multicultural Institute*, Administrative—B.A., Murray State University, 1974; M.A., Wright State University, 1984.
- Dellinger, H. Barrett (1982), *Electro-Optics*, Associate Professor—B.S., University of North Carolina, 1971; Ph.D., Florida State University, 1975.
- De Luca, Barbara M. (1975), *Educational Administration*, Associate Professor—B.S., University of Dayton, 1971; M.Ed., Miami University, 1975; Ph.D., Ohio State University, 1984.
- DeMarco, Jr. George M. (1997), *Health and Sport Science*—Assistant Professor, B.S., Bridgewater State College, 1978; M.S., Ithaca College, 1992; Ed.D., University of Georgia, 1998.
- Demmitt, Alan (1996), *Counselor Education and Human Services*, Assistant Professor—B., M., 1991; Ph.D., Iowa State University, 1994.
- Detrio, John A. (1988), *Electro-Optics*, Associate Professor—B.S., Spring Hill College, 1959; M.S., University of Alabama, 1961.
- Diaz, Miguel H. (1996), *Religious Studies*, Assistant Professor—B.A., St. Thomas University, 1988; M.A., University of Notre Dame, 1992; Ph.D., 1997.

## Faculty

- Dickey, Irene J. (1992), *Management and Marketing*, Lecturer — B.S., University of Dayton, 1982; M.B.A., Wright State University, 1987.
- Dickinson, Kelvin H. (1979), *Law*, Professor—B.A., Western Michigan University, 1965; LL.B., Harvard University, 1968.
- Dirckx, John H. (1967), *Medical Director, Health Center*, Administrative — B.S., University of Dayton, 1959; M.D., Marquette University School of Medicine, 1963.
- Doepker, Philip E. (1984), *Mechanical and Aerospace Engineering*, Professor—B.M.E., University of Dayton, 1967; M.S.M.E., Ohio State University, 1968. Reg. Prof. Engr.
- Dominic, Vincent G. (1993), *Electro-Optics*, Assistant Professor — B.S.E.E., University of Dayton, 1986; M.S.E.E., University of Southern California, 1987, Ph.D., 1993.
- Donnelly, Patrick G. (1979), *Sociology, Anthropology, and Social Work*, Associate Professor—B.S., St. Joseph's College, 1974; M.A., University of Delaware, 1977; Ph.D., 1981.
- Dorsey, Donald L. (1993), *Chemical and Materials Engineering*, Adjunct Professor — B.S., The Johns Hopkins University, 1983; M.S., Washington University, 1987; D.Sc., 1988.
- Doyle, Dennis M. (1984), *Religious Studies*, Associate Professor—B.A., LaSalle College, 1974; M.A., Ohio University, 1978; M.A., Catholic University of America, 1980; Ph.D., 1984.
- Doyle, George R., Jr. (1982), *Mechanical and Aerospace Engineering*, Professor—B.S.A.E., Purdue University, 1965; M.S.A.E., 1967; Ph.D., University of Akron, 1973. Reg. Prof. Engr.
- Dreidame, R. Elaine (1970), *Athletics*, Administrative—B.S. in Ed., University of Cincinnati, 1964; M.Ed., 1966; Ph.D., Ohio State University, 1974.
- Duke, Bruce E. (1974), *Counseling Center, Assistant Director*, Administrative — B.A., William Paterson College, 1965; M.A., Ohio State University, 1968; Ph.D., Ohio State University, 1983.
- Duncan, Bradley D. (1991), *Electrical and Computer Engineering and Electro-Optics*, Associate Professor—B.S.E.E., Virginia Polytechnic Institute and State University, 1986; M.S., 1988; Ph.D., 1991.
- Dunlevy-Shackleford, Linda (1994), *Communication-Theatre*, Assistant Professor — B.A., University of Kentucky, 1970; M.F.A., Indiana University, 1987.
- Dunne, E. James (1982), *Management Information Systems and Decision Sciences*, Professor—B.S., St. Louis University, 1962; M.S., Air Force Institute of Technology, 1964; Ph.D., University of Illinois, 1971.
- Durham, James Geoffrey (1980), *Law*, Professor—A.B., University of California at Berkeley, 1973; J.D., University of California at Davis, 1976.
- Durham, Joyce R. (1980), *English*, Associate Professor—B.S.Ed., Ohio University, 1962; M.A., Ohio State University, 1966; Ph.D., University of Maryland, 1974.
- Eastep, Franklin E. (1980), *Mechanical and Aerospace Engineering*, Professor—B.S., Ohio State University, 1958; M.S., Air Force Institute of Technology, 1963; Ph.D., Stanford University, 1968.
- Ebeling, Charles E. (1988), *Engineering Management and Systems*, Associate Professor — B.S., University of Pittsburgh, 1965; M.S., Air Force Institute of Technology, 1969; Ph.D., Ohio State University, 1973.



- Edmonson, Charlie P. (1993), *Engineering Technology*, Associate Professor—B.S., Tennessee State University, 1964; M.S., University of Pittsburgh, 1968.
- Edwards, Elizabeth I. (1987), *Visual Arts*, Associate Professor—B.F.A., Temple University, 1982; M.F.A., Indiana University, 1987.
- Eggemeier, F. Thomas (1986), *Psychology*, Professor—B.A., University of Dayton, 1967; M.A., Ohio State University, 1969; Ph.D., 1971.
- Egnor-Brown, Rose M. (1983), *Teacher Education*, Assistant Professor—B.S.Ed., University of Dayton, 1975; M.S.Ed., 1977.
- Eid, Leroy V. (1961), *History*, Professor—B.S. in Ed., University of Dayton, 1953; M.A., St. John's University, 1958; Ph.D., 1961; M.A., University of Toronto, 1968.
- Eimermacher, John P. (1986), *Mechanical and Aerospace Engineering*, Professor—M.E., University of Cincinnati, 1963; M.S.M.E., 1967; Ph.D., 1973. Reg. Prof. Engr.
- Eloe, Paul W. (1980), *Mathematics*, Professor—B.A., Vanderbilt University, 1975; M.S., University of Missouri, 1977; Ph.D., 1980.
- Elvers, Greg C. (1990), *Psychology*, Associate Professor—B.S., Purdue University, 1984; B.A., 1985; M.S., 1987; Ph.D., 1989.
- Endres, Thomas E. (1987), *Mechanical and Aerospace Engineering*, Associate Professor—B.M.E., University of Dayton, 1966; M.S.M.E., 1969. Reg. Prof. Engr.
- Ensalaco, Mark (1989), *Political Science*, Associate Professor—B.A., State University of New York at Buffalo, 1981; M.T., Harvard University, 1984; Ph.D., State University of New York at Buffalo, 1991.
- Erdei, John E. (1983), *Physics*, Associate Professor—B.S., Cleveland State University, 1973; M.S., 1976; Ph.D., University of Cincinnati, 1983.
- Ervin, Elizabeth A. (1994), *Mechanical and Aerospace Engineering*, Assistant Professor — B.S., University of Toledo, 1983; M.S., 1984; Ph.D., University of Michigan, 1994.
- Ervin, Jamie S. (1992), *Mechanical and Aerospace Engineering*, Associate Professor — B.S.M.E., Michigan Technological University, 1984; M.S.M.E., 1986; Ph.D., University of Michigan, 1991.
- Evwaraye, Andrew O. (1995), *Physics*, Professor — B.S., University of Dayton, 1964; Ph.D., University of Saskatchewan, 1969.
- Eylon, Daniel (1986), *Chemical and Materials Engineering*, Professor—B.Sc., Technion, Israel Institute of Technology, 1966; M.Sc., 1968; D.Sc., 1972.
- Fackovec, William M., S.M. (1960), *Library*, Associate Professor—B.S. in Ed., University of Dayton, 1949; M.S.L.S., Western Reserve University, 1959.
- Farrelly, Barbara A. (1985), *English*, Lecturer—B.A., Good Counsel College, 1965; M.A., University of Dayton, 1969.
- Farrelly, James P. (1967), *English*, Professor—B.A., Providence College, 1964; M.A., University of Dayton, 1966; Ph.D., Boston University, 1974.
- Farren, Joseph M. (1966), *Engineering Technology*, Professor—B.S., Bluffton College, 1959; B.E.E., University of Dayton, 1961; M.S., 1966; M.B.A., 1977. Reg. Prof. Engr.

## Faculty

- Fasano, Julian B. (1985), *Chemical and Materials Engineering*, Adjunct Professor—B.S.C.E., University of Dayton, 1965; M.B.A., 1974; M.S.C.E., Lehigh University, 1970.
- Ferguson, Richard T. (1973), *Assistant to the President for Regional and Government Relations*, Administrative—B.A., University of Dayton, 1973; M.A., The Ohio State University, 1993.
- Ferratt, Thomas W. (1986), *Management Information Systems and Decision Sciences*, Professor—B.B.A., University of Notre Dame, 1968; M.B.A., Ohio State University, 1973; Ph.D., 1974.
- Fischer, Marilyn R. (1992), *Philosophy*, Assistant Professor—B.A., Wheaton College, 1971; M.A., Boston University, 1975; Ph.D., 1978.
- Fitz, Raymond L., S.M. (1969), *Engineering Management and Systems*, Professor—B.E.E., University of Dayton, 1964; M.S., Polytechnic Institute of Brooklyn, 1967; Ph.D., 1970.
- Flach, Lawrance (1989), *Chemical and Materials Engineering*, Associate Professor—B.Sc., University of Cape Town, 1980; M.Sc., 1982; Ph.D., University of Colorado, 1989.
- Flanagan, Melissa T. (1989), *Assistant Director of Student Activities*, Administrative—B.S., Western Illinois University, 1986; M.A., Bowling Green State University, 1988.
- Flannery, David L. (1988), *Electro-Optics*, Associate Professor—B.E.E., General Motors Institute, 1964; M.S., Massachusetts Institute of Technology, 1964; Ph.D., 1968.
- Flockerzie, Lawrence J. (1987), *History*, Associate Professor—B.A., University of Massachusetts, 1976; M.A., Indiana University, 1982; Ph.D., 1987.
- Fogel, Lucetta J. (1989), *Languages-Teacher Education*, Lecturer—B.S., Indiana University of Pennsylvania, 1967; M.A., Ohio State University, 1969; M.S., University of Dayton, 1984.
- Fogel, Norman J. (1971), *Political Science*, Associate Professor—B.S., Millersville State College, 1960; M.A., University of Delaware, 1968; Ph.D., Ohio State University, 1975.
- Forlani, Victor M., S.M. (1995), *Management and Marketing*, Lecturer—B.S., University of Dayton, 1965; B.S.Ed., 1965; M.S., Syracuse University, 1973; M.B.A., University of Pittsburgh, 1989; D.B.A., Boston University, 1995.
- Fouke, Daniel C. (1988), *Philosophy*, Associate Professor—B.A., University of Iowa, 1975; M.A., University of Chicago, 1983; Ph.D., 1986.
- Fox, B. Lawrence (1966), *Chemistry*, Professor—B.S., John Carroll University, 1962; Ph.D., Ohio State University, 1966.
- Frasca, Ralph R. (1972), *Economics and Finance*, Associate Professor—B.A., C.W. Post College, 1967; M.A., Indiana University, 1971; Ph.D., 1975.
- Fratini, Albert V. (1967), *Chemistry*, Professor—B.S., University of Rhode Island, 1960; Ph.D., Yale University, 1966.
- Fred, L. B. (1985), *Director, Special Programs—Student Development*, Administrative—B.S.Ed., Miami University, 1977; M.S. Ed., University of Dayton, 1979.
- Frericks, Donald J. (1978), *Educational Administration*, Associate Professor—B.S., University of Dayton, 1956; M.A., Miami University, 1958; Ph.D., Ohio State University, 1970.

- Friedland, Eric L. (1968), *Religious Studies*, Professor, Harriet Sanders Professor of Judaic Studies—B.A., Boston University, 1960; M.A., Brandeis University, 1962; Ph.D., 1967.
- Friel, J. William (1963), *Mathematics*, Associate Professor—B.S., Loras College, 1959; M.A., Duquesne University, 1962.
- Friese, Carl F. (1992), *Biology*, Assistant Professor — B.S., University of Connecticut, 1982; M.S., University of Rhode Island, 1984; Ph.D., Utah State University, 1991.
- Frost, Rev. William P. (1967), *Religious Studies*, Professor—Drs. Th., Carolus Magnus University, Netherlands, 1961; M.A., Loyola University, 1966.
- Fuchs, Gordon E. (1967), *Teacher Education*, Professor—B.S., University of Wisconsin, 1958; M.S., 1961; Ph.D., Ohio State University, 1974.
- Gallagher, Joseph P. (1984), *Materials Engineering*, Professor—B.S.C.E., Drexel University, 1964; M.S., University of Illinois, 1965; Ph.D., 1968.
- Gannon, Loren S., Jr. (1975), *History*, Adjunct Professor—B.S., University of Omaha, 1963; M.A., University of Dayton, 1970.
- Gantner, Thomas E. (1966), *Mathematics*, Professor—B.S., University of Dayton, 1962; M.S., Purdue University, 1964; Ph.D., 1966.
- Greer, Melinda L. (1997), *Chemistry*, Assistant Professor — B.S., Western Kentucky University, 1991; Ph.D., Vanderbilt University, 1997.
- Garten, Rev. Edward D. (1985), *Library*, Professor—B.S., Concord College, 1968; M.A., M.Div., in consortium, Pontifical College Josephinum, Ohio State University, and Methodist Theological School in Ohio, 1972; M.L.S., Kent State University, 1974; Ph.D., University of Toledo, 1977.
- Gassert, Dennis M., Lieutenant Colonel, U.S. Army (1996), *Military Science*, Professor — B.S., U.S. Military Academy, 1975; M.S., Georgia Institute of Technology, 1984.
- Geary, K. Michael (1976), *Accounting*, Associate Professor—B.S., Indiana University, 1969; M.B.A., Miami University, 1974; Ph.D., University of Cincinnati, 1982; C.P.A., Illinois, 1975; Ohio, 1976.
- Geiger, Donald R., S.M. (1964), *Biology*, Professor—B.S., University of Dayton, 1955; M.S., Ohio State University, 1960; Ph.D., 1963.
- Geiger, John O. (1970), *Teacher Education*, Professor—B.A., Marquette University, 1966; Ph.D., 1972.
- George, Teresa M. (1992), *Psychologist*, Administrative — B.A., San Jose State University, 1986; M.A., University of Maryland, 1988; Ph.D., Arizona State University, 1992.
- Gerla, Harry S. (1979), *Law*, Professor—B.A., Queens College, 1970; M.A., University of Florida, 1972; J.D., Ohio State University, 1975.
- Ghere, Richard K. (1984), *Political Science*, Assistant Professor—B.A., Concordia College, 1968; M.A., University of Toledo, 1970; Ph.D., Wayne State University, 1975.
- Giebelhaus, Carmen R. (1994), *Teacher Education*, Assistant Professor — B.A., The University of Colorado, 1972; M.A., 1974; Ph.D., The Ohio State University, 1993.
- Goetz, Barry J. (1996), *Sociology, Anthropology & Social Work*, Assistant Professor — B.A., Boston University, 1979; M.A., University of California Berkeley, 1985; Ph.D., 1991.

## Faculty

- Goldman, Daniel (1997), *Geology*, Lecturer — B.A., State University of New York at Buffalo, 1985; M.A., 1987; Ph.D., 1993.
- Gooch, Peter G. (1986), *Visual Arts*, Associate Professor—B.S., B.F.A., Eastern Michigan University, 1978; M.F.A., Western Michigan University, 1984.
- Gorton, Robert B. (1969), *Mathematics*, Associate Professor—B.S., Illinois Institute of Technology, 1964; M.S., 1966; Ph.D., 1970.
- Gould, Sam (1985), *Management and Marketing*, Professor—B.S., Ohio University, 1965; M.B.A., University of Colorado, 1970; Ph.D., Michigan State University, 1975.
- Govednik, John (1996), *Residential Programs*, Administrative — B.S., Santa Clara University, 1993; M.S., Indiana University, 1995.
- Gowda, Raghava G. (1983), *Computer Science*, Associate Professor—B.S.E.E., Banaras Hindu University, 1971; M.B.M., 1973; M.B.I.S., Georgia State University, 1981; Ph.D., 1988.
- Graetz, Kenneth A. (1992), *Psychology*, Assistant Professor—B.S., University of Wisconsin-Madison, 1986; M.A., University of North Carolina at Chapel Hill, 1989; Ph.D., 1992.
- Graham, Thomas P. (1964), *Physics*, Professor—B.S., Providence College, 1956; Ph.D., Iowa State University, 1967.
- Griffin, James F. (1985), *Chemical and Materials Engineering*, Adjunct Professor—B.A., Oberlin College, 1961; M.S.Ch.E., Ohio University, 1967.
- Griffin, Jeffrey L. (1990), *Communication*, Associate Professor—A.B., University of North Carolina, 1979; M.A., University of Texas, 1983; Ph.D., University of North Carolina, 1990.
- Gustafson, Elizabeth F. (1983), *Economics and Finance*, Associate Professor—B.A., Duke University, 1970; Ph.D., University of North Carolina, 1974.
- Gustafson, Steven C. (1988), *Electro-Optics*, Associate Professor—B.S., University of Minnesota, 1967; M.S., Duke University, 1969; Ph.D., 1974.
- Hadley, Lawrence H. (1977), *Economics and Finance*, Associate Professor—B.A., Rutgers University, 1967; M.A., University of Connecticut, 1969; Ph.D., 1975.
- Hadley, Linda B. (1990), *Accounting*, Lecturer—B.S., State University of New York at Albany, 1968; M.B.A., University of Connecticut, 1969; C.P.A., Ohio, 1985.
- Hadley, Wanda M. (1980), *Assistant Director, Learning Assistance Center*, Administrative — B.S., Ohio State University, 1978; M.A., 1979.
- Hagel, Thomas L. (1982), *Law*, Associate Professor—B.S., University of Nebraska, 1972; J.D., 1976; LL.M., Temple University, 1982.
- Hall, Scott E. (1996), *Counselor Education and Human Services*, Assistant Professor—B.S.B.A., West Carolina University, 1986; M.Ed., Ohio University, 1991; Ph.D., The Ohio State University, 1994.
- Hallinan, Charles G. (1983), *Law*, Associate Professor—B.A., University of Dayton, 1969; J.D., University of Toledo, 1977; LL.M., Yale University, 1983.

- Hallinan, Kevin P. (1988), *Mechanical and Aerospace Engineering*, Associate Professor — B.S., University of Akron, 1982; M.S., Purdue University, 1984; Ph.D., Johns Hopkins University, 1988.
- Hanley, Thomas L. (1982), *Law Library*, Assistant Professor—A.B., Earlham College, 1970; J.D., Indiana University, 1973; M.S.L.S., Western Michigan University, 1975.
- Hanneman, Douglas A. (1956), *Engineering Technology*, Professor—B.E.E., University of Dayton, 1956. Reg. Prof. Engr.
- Harawa, Bernard A. (1977), *Educational Administration*, Associate Professor—Dip. Ed., Stranmillis College, Belfast, 1961; B.S.Ed., University of Dayton, 1965; M.S.Ed., 1967; Ed.D., Columbia University, 1974.
- Hardie, Russell C. (1993), *Electrical and Computer Engineering*, Assistant Professor—B.E.S., Loyola College, 1988; M.E.E., University of Delaware, 1990; Ph.D., 1992.
- Harmer, Richard S. (1971), *Mechanical and Aerospace Engineering*, Associate Professor—B.S., University of Illinois, 1963; M.S., 1967; Ph.D., 1971.
- Hart, Patricia M. (1988), *Teacher Education*, Associate Professor — B.S., University of Dayton, 1973; M.S., 1983, Ph.D., Ohio State University, 1989.
- Hartley, Linda A. (1991), *Music*, Associate Professor—B.M., Bowling Green State University, 1979; M.M., Kent State University, 1987; Ph.D., 1991.
- Hartrum, Thomas C. (1995), *Engineering Management and Systems*, Adjunct Professor—B.S.E.E., The Ohio State University, 1969; M.S., 1969; Ph.D., 1973; M.B.A., Wright State University, 1979.
- Hartwell, Carolyn L. (1993), *Accounting*, Assistant Professor — B.A., College of Mt. St. Joseph, 1978; M.B.A., University of Cincinnati, 1984.
- Harwood, Philip J. (1966), *Communication*, Associate Professor—B.S., Butler University, 1960; M.S., 1961; Ph.D., Ohio University, 1972.
- Hary, Nicoletta Mattioli (1964), *Library*, Professor—Litt.D., Istituto Universitario Orientale, Naples, 1951; Diploma in Library Science, Vatican Library School, Rome, 1952; Ph.D., Indiana University, 1991.
- Hatch, Edward L. (1972), *Languages*, Lecturer—B.A., Haverford College, 1961; M.A., English, University of Michigan, 1964; M.A., German, 1968.
- Hatch, Elke (1985), *Languages*, Lecturer—B.A., University of Michigan, 1969; M.A., 1970; Ph.D., 1975.
- Hater, Robert J. (1981), *Religious Studies*, Professor—B.A., Athenaeum of Ohio, 1957; M.A., 1959; Ph.D., St. John's University, 1967.
- Hayat, Majeed M. (1996), *Electro-Optics*, Assistant Professor — B.S., University of the Pacific, 1985; M.S., University of Wisconsin-Madison, 1988; Ph.D., 1992.
- Hayes, Gregory D. (1992), *Director, Career Placement Center*, Administrative — B.S., Morgan State College, 1971; M.S., University of Dayton, 1972.
- Hecht, Norman L. (1974), *Materials Engineering*, Professor—B.S., Alfred University, 1960; M.S., 1968; Ph.D., 1972.
- Heffernan, Alfred J. (1988), *Criminal Justice Studies*, Lecturer—B.A., Hobart College, 1954; M.A., Central Michigan University, 1974.

## Faculty

- Heft, Rev. James L., S.M. (1978), *Religious Studies*, Professor, University Professor of Faith and Culture and Chancellor—B.A., B.S.Ed., University of Dayton, 1966; M.A., University of Toronto, 1971; Ph.D., 1977.
- Heitmann, John A. (1984), *History*, Professor—B.S., Davidson College, 1970; M.A., Clemson University, 1974; Ph.D., Johns Hopkins University, 1983.
- Henderson, Kathleen D. (1982), *Director: African-American Student Services*, Administrative — B.S., University of Dayton, 1986; M.S., 1993.
- Henninger, Francis J. (1965), *English*, Professor—B.A., St. John's University, 1956; A.M., University of Notre Dame, 1958; M.A., University of Pennsylvania, 1962; Ph.D., 1965.
- Herbenick, Raymond M. (1968), *Philosophy*, Professor—B.A., Duquesne University, 1964; M.A., DePaul University, 1965; M.B.A., University of Pittsburgh, 1968; Ph.D., Georgetown University, 1968.
- Higgins, Aparna W. (1984), *Mathematics*, Associate Professor—B.Sc., University of Bombay, 1978; M.S., University of Notre Dame, 1980; Ph.D., 1983.
- Hitchner, R. Bruce (1988), *History*, Professor—B.A., Pennsylvania State University, 1973; A.M., University of Chicago, 1976; Ph.D., University of Michigan, 1982.
- Hitt, Terry K. (1975), *Visual Arts*, Associate Professor—B.A., Otterbein College, 1959; M. Div., United Theological Seminary, 1963; M.F.A., University of Cincinnati, 1981.
- Hoffer, Jeffrey A. (1995), *Management Information Systems and Decision Sciences*, Professor — B.A., Miami University, 1969; M.S., Cornell University, 1972; Ph.D., 1975.
- Hofmann, Marie-Claude (1995), *Biology*, Assistant Professor — M.S., University of Lausanne, Switzerland, 1977; Ph.D., 1988.
- Hollow, Christine M. (1993), *Associate Director of Residential Programs*, Administrative — B.A., Michigan State University, 1987; M.A., 1989.
- Howarth, Cooley R. (1976), *Law*, Associate Professor—B.A., Michigan State University, 1971; J.D., University of Denver, 1976.
- Hu, Benjamin G. (1994), *Law Library*, Assistant Professor — B.A., East China Normal University, 1985; M.A., University of Akron, 1988; M.L.S., Kent State University, 1992.
- Hueth, Alan C. (1991), *Communication*, Assistant Professor—B.A., California State University, 1979; M.A., San Diego State University, 1984, Ph.D., University of Dayton, 1997.
- Huff, Rae E. (1991), *Assistant Dean, Arts and Sciences*, Administrative — B.A., Wright State University, 1976; M.A., 1983.
- Hufnagle, Mary Sue T. (1969), *Assistant Dean of Students: Discipline and Judiciaries*, Administrative—B.A., Nazareth College, 1960; M.A., Michigan State University, 1964.
- Hunn, Diana M. (1992), *Teacher Education*, Associate Professor — B.S., Miami University, 1972; M.Ed., 1973; Ph.D., Indiana University, 1986.
- Hunt, Thomas C. (1996), *Educational Administration*, Professor—B.A., Loras College, 1952; M.A., Catholic University of America, 1965; Ph.D., University of Wisconsin—Madison, 1971.

- Inglis, John A. (1993), *Philosophy*, Assistant Professor — B.A., University of St. Thomas, 1977; M. Div., University of Toronto, 1982; M.A., University of Houston, 1989; Ph.D., University of Kentucky, 1993.
- Ingram, Jefferson L. (1978), *Criminal Justice Studies*, Associate Professor—B.S.Ed., University of Dayton, 1972; M.A., 1977; J.D., 1978.
- Inscho, Frederick R. (1976), *Political Science*, Associate Professor—A.B., University of Detroit, 1968; M.A., State University of New York at Buffalo, 1972; Ph.D., 1976.
- Islam, Muhammad (1985), *Mathematics*, Associate Professor—B.S., University of Dhaka, Bangladesh, 1972; M.S., Carleton University, Ottawa, 1980; Ph.D., Southern Illinois University, 1985.
- Ismail, Amin R. (1981), *Engineering Technology*, Associate Professor—B.T., University of Dayton, 1978; M.C.S., 1981.
- Iwinski, Susan M. Endsley (1980), *Counselor*, Administrative — B.A., University of Toledo, 1968; M.A., University of Minnesota, 1970.
- Jain, Vinod K. (1979), *Mechanical and Aerospace Engineering*, Professor—B.S.M.E., University of Roorkee, India, 1964; M.S.M.E., 1970; Ph.D., Iowa State University of Science and Technology, 1980.
- Jenkins, Fred W. (1987), *Library*, Associate Professor — B.A., University of Cincinnati, 1979; A.M., University of Illinois, 1981; Ph.D., 1985; M.S., 1986.
- John, Reji (1993), *Materials Engineering*, Adjunct Professor—B.T., Indian Institute of Technology, 1982; Ph.D., Northwestern University, 1987.
- Johnson, David W. (1984), *Chemistry*, Associate Professor—B.S., Illinois Institute of Technology, 1979; Ph.D., 1983.
- Johnson, Glen E. (1993), *Mechanical and Aerospace Engineering*, Professor — B.S.M.E., Worcester Polytechnic Institute, 1973; M.S.M.E., Georgia Institute of Technology, 1974; Ph.D., Vanderbilt University, 1978. Reg. Prof. Engr.
- Johnson, Patricia A. (1979), *Philosophy*, Professor—B.A., Eckerd College, 1967; M.A., Columbia University, 1969; M.A., University of Toronto, 1974; Ph.D., 1979.
- Johnson, Sam (1985), *Assistant Dean, Arts and Sciences*, Administrative—B.A., Millikin University, 1966; M. Div., Union Theological Seminary, 1969.
- Jones, Robert B. (1992), *Music*, Assistant Professor — B.M.E., Appalachian State University, 1972; M.M., University of North Carolina, 1975; D.M.A., University of Miami, 1991.
- Joseph, Laurice (1997), *Teacher Education*, Assistant Professor — B.S. Ed., University of Dayton, 1985; M.A., Ohio State University, 1988; Ph.D., 1997.
- Juniewicz-Fogle, Debra (1997), *Communication*, Lecturer — B.A., University of Dayton, 1990; M.A., 1995.
- Karim, Mohammad A. (1986), *Electrical and Computer Engineering and Electro-Optics*, Professor—B.S., University of Dacca, Bangladesh, 1976; M.S., University of Alabama, 1978; M.S.E.E., 1979; Ph.D., 1982.
- Karns, Margaret P. (1976), *Political Science*, Professor—B.A., Denison University, 1965; M.A., University of Michigan, 1966; Ph.D., 1975.

## Faculty

- Kashani, A. Reza (1994), *Mechanical and Aerospace Engineering*, Associate Professor, — B.S.M.E., Sharif University, 1977; M.S.M.E., University of Wisconsin, 1979; M.S., 1988, Ph.D., University of Wisconsin, 1989.
- Katsuyama, Ronald M. (1973), *Psychology*, Associate Professor—B.S., University of California, 1966; Ph.D., Vanderbilt University, 1977.
- Kauflin, John E. (1966), *Mathematics*, Assistant Professor—B.S., University of Dayton, 1962; M.S., Michigan State University, 1964; Ph.D., Georgetown University, 1970.
- Kearns, Robert J. (1984), *Biology*, Associate Professor—B.S., Washington State University, 1968; M.S., 1975; Ph.D., 1978; M.T. (ASCP), 1971.
- Kee, Richard J. (1985), *Electrical and Computer Engineering*, Assistant Professor—B.S., University of Tampa, 1971; M.S.E.E., Air Force Institute of Technology, 1976; D.E., University of Dayton, 1989. Reg. Prof. Engr.
- Keil, R. Gerald, (1969), *Chemistry*, Professor—B.S., Villanova University, 1963; Ph.D., Temple University, 1967.
- Kelly, Michael L. (1981), *Head Football Coach*, Administrative—B.A., Manchester College, 1970; M.S., Ball State University, 1974.
- Kenney, Wade R. (1996), *Communication*, Assistant Professor — B.A., St. Mary's University, 1975; B.Ed., 1976; M.A., 1979; M.A., University of Pittsburgh, 1995; Ph.D. 1994.
- Kerns, Gerald E. (1967), *Political Science*, Professor—B.A., University of Wichita, 1961; Ph.D., Indiana University, 1969.
- Kettering, Karen L. (1995), *Visual Arts*, Assistant Professor — B.A., University of Wisconsin, Madison, 1988; M.A., Northwestern University, 1992.
- Kimble, Charles E. (1973), *Psychology*, Professor—B.A., Baylor University, 1966; M.A., 1969; Ph.D., University of Texas, 1972.
- Kimbrough, R. Alan (1969), *English*, Professor—B.A., Carthage College, 1965; A.M., Brown University, 1966; Ph.D., 1974.
- King, Wesley C., Jr. (1996), *Management and Marketing*, Associate Professor — B.B.A., Valdosta State College, 1975; J.D., University of Georgia, 1983; Ph.D., 1988.
- Kinnucan-Welsch, Kathryn (1997), *Teacher Education*, Assistant Professor — B.A., University of Illinois, Urbana, 1971; M.A., Western Michigan University, 1988, Ed.D., 1995.
- Kissell, Theodore L. (1992), *Director of Athletics*, Administrative — B.A., Elmhurst College, 1969; M.A., Northern Illinois, 1972.
- Kissock, John K. (1995), *Mechanical and Aerospace Engineering*, Assistant Professor — B.S., University of Colorado, 1982; M.S., Washington University, 1989; Ph.D., Texas A&M University, 1993.
- Knachel, Howard C. (1972), *Chemistry*, Professor—B.S., University of Dayton, 1963; M.S., Ohio State University, 1969; Ph.D., 1971.
- Koh, Seungug (1996), *Electrical and Computer Engineering*, Assistant Professor — B.S., Korea University, 1988; M.S., Rose-Hulman Institute of Technology, 1990; Ph.D., University of Cincinnati, 1994.



- Korte, John R. (1973), *Psychology*, Associate Professor—A.B., University of California, 1967; M.S., Purdue University, 1970; Ph.D., 1973.
- Kozar, Rev. Joseph F., S.M. (1985), *Religious Studies*, Assistant Professor—B.A., University of Dayton, 1969; M.A., 1973; M.Div., University of St. Michael's College, Toronto, 1976; Ph.D., 1989.
- Koziol, Andrea M. (1993), *Geology*, Assistant Professor — B.A., Boston University, 1983; Ph.D., University of Chicago, 1988.
- Kramer, Stuart C. (1997), *Engineering Management and Systems*, Adjunct Professor—B.S.E.E., Colorado State University, 1976; M.S., Air Force Institute of Technology, 1978; Ph.D., University of California at San Diego, 1984.
- Kreiss, Robert A. (1989), *Law*, Professor—B.A., Reed College, 1963; M.A., University of Oregon, 1965; Ph.D., 1968; J.D., Stanford University, 1977.
- Krieger, Michael T. (1983), *Library*, Professor—B.S., Central Michigan University, 1972; M.L.S., Western Michigan University, 1976.
- Krisher, Trudy B. (1985), *Assistant Director for Writing Support, Learning Assistance Center, Administrative* — B.A., College of William and Mary, 1968; M.Ed., Trenton State College, 1972.
- Krugh, Janis L. (1987), *Languages*, Assistant Professor—B.A., Ohio Northern University, 1974; M.A., University of Toledo, 1979; Ph.D., University of Pittsburgh, 1986.
- Kumar, Binod (1980), *Electro-Optics*, Associate Professor — B.S., Banaras Hindu University, 1967; M.S., Pennsylvania State University, 1973; Ph.D., 1976.
- Kunkel, Joseph C. (1964), *Philosophy*, Professor—A.B., Loyola University, Chicago, 1958; A.M., 1962; Ph.D., St. Bonaventure University, 1968.
- Kuntz, Kenneth J. (1969), *Psychology*, Associate Professor—B.A., Washington University, 1956; M.A., University of Cincinnati, 1963.
- Lackner, Rev. Joseph H., S.M. (1980), *Teacher Education*, Assistant Professor — B.A., University of Dayton, 1964; B.S. Ed., 1964; M.A., St. Louis University, 1971; Ph.D., 1977.
- Lain, Laurence B. (1976), *Communication*, Professor—B.S., Indiana State University, 1969; M.A.E., Ball State University, 1973; Ph.D., Ohio State University, 1984.
- Lang, Joseph E. (1981), *Computer Science*, Associate Professor—A.B., Thomas More College, 1964; M.S., University of Illinois, 1965; Ph.D., 1970; M.S., Wright State University, 1988.
- Lapitan, Antonio E. (1969), *Political Science*, Professor—A.B., University of the Philippines, 1954; M.A., Lehigh University, 1957; Ph.D., University of Oregon, 1968.
- Lasley, Thomas J., II (1983), *Teacher Education*, Professor, Joseph J. Panzer, S.M. Chair in Teacher Education—B.S., Ohio State University, 1969; M.A., 1972; Ph.D., 1978.
- Laubach, Lloyd L. (1980), *Health and Sport Science*, Associate Professor—B.S., Central State University, Edmond, Oklahoma, 1961; M.S., University of Oregon, 1962; Ph.D., Ohio State University, 1970.
- Lee, C. William (1982), *Chemical and Materials Engineering*, Professor—B.S., National Taiwan University, 1976; M.S., University of Akron, 1979; Ph.D., Ohio State University, 1982.

## Faculty

- Lee, David R. (1982), *Management and Marketing*, Associate Professor—B.S., U.S. Air Force Academy, 1962; M.S.I.E., Purdue University, 1966; Ph.D., 1972. Reg. Prof. Engr.
- Lestingi, Joseph (1992), *Mechanical and Aerospace Engineering*, Professor — B.C.E., Manhattan College, 1957; M.S., Virginia Polytechnic Institute, 1959; D.Eng. Yale University, 1966.
- Lewis, William F. (1980), *Management and Marketing*, Associate Professor—B.A., Spring Arbor College, 1967; M.B.A., Michigan State University, 1969; Ph.D., University of Cincinnati, 1976.
- L'Heureux, Conrad E. (1970), *Religious Studies*, Professor—B.A., St. Paul's College, 1962; M.A., Catholic University of America, 1966; Ph.D., Harvard University, 1972.
- L'Heureux, Richard A. (1997), *Engineering Management and Systems*, Adjunct Professor—B.A., University of Minnesota, 1978; M.S., Air Force Institute of Technology, 1988; Ph.D., Florida State University, 1994.
- Lightman, Allan J. (1988), *Electro-Optics*, Associate Professor—B.A.Sc., University of Toronto, 1963; M.A., 1965; Ph.D., Weizmann Institute of Science, Rehovot, 1971.
- Little, Ann Marie (1997), *History*, Assistant Professor — B.A., BrynMawr College, 1990; M.A., University of Pennsylvania, 1991; Ph.D., 1996.
- Little, Gordon R. (1988), *Electro-Optics*, Assistant Professor—B.S., Ohio State University, 1966; M.S., 1970; Ph.D., 1973.
- Liu, Shiqiang (1990), *Materials Engineering*, Assistant Professor—B.S., Beijing University of Science and Technology, 1967; M.S., 1980; Ph.D., University of Dayton, 1989.
- Lokai, Clement B. (1980), *Computer Science*, Adjunct Professor—B.S., University of Dayton, 1963; M.B.A., 1968.
- Loomis, John S. (1985), *Electro-Optics*, Professor—B.S., Case Institute of Technology, 1966; M.S., University of Illinois, 1968; M.S., University of Arizona, 1977; Ph.D., 1980.
- Losito, William F. (1994), *Teacher Education*, Professor — B.A., University of Dayton, 1964; Ph.D., Indiana University, 1973.
- Lu, Chris C. (1976), *Chemical and Materials Engineering*, Associate Professor—B.S., Chen-Kung University, 1960; M.S., University of Missouri, 1966; Ph.D., University of Texas, 1972.
- Luke, Brian A. (1992), *Philosophy*, Assistant Professor—B.S.E.E., Washington University, 1984; Ph.D., University of Pittsburgh, 1992.
- Lysaught, M. Therese (1995), *Religious Studies*, Assistant Professor — B.S., Hope College, 1985; M.A., University of Notre Dame, 1986; Ph.D., Duke University, 1992.
- McCloskey, John W. (1965), *Mathematics*, Professor—B.S., University of Dayton, 1960; M.S., Michigan State University, 1962; Ph.D., 1965.
- McCrate, Thomas A. (1992), *Civil and Environmental Engineering and Engineering Mechanics*, Adjunct Assistant Professor — B.S., University of Dayton, 1970; M.S., 1973.
- McGrath, Rev. John A., S.M. (1987), *Religious Studies*, Assistant Professor—B.A., University of Dayton, 1957; M.A., Ohio State University, 1962; S.T.L., University of Fribourg, 1966; Drs.Th., University of Nijmegen, 1968; Ph.D., University of St. Michael's College, Toronto, 1979.

- McGrew, Allen J. (1995), *Geology*, Assistant Professor — B.A., Earlham College, 1983; M.S., Stanford University, 1987; Ph.D., University of Wyoming, 1992.
- McQuinn, James (199 ), *Library*, Assistant Professor—B.A., Oakland University, 1985; M.L.S., University of Michigan, 1988.
- Macklin, F. Anthony (1962), *English*, Associate Professor—A.B., Villanova University, 1960; M.A., 1963.
- Magnuson, Phillip C. (1981), *Music*, Professor—B.A., Duke University, 1971; M.M., University of Massachusetts, 1974; D.M.A., University of Wisconsin, 1977.
- Majka, Linda C. (1981), *Sociology, Anthropology, and Social Work*, Associate Professor—B.A., College of William and Mary, 1969; M.A., University of California, 1973; Ph.D., 1978.
- Majka, Theo J. (1983), *Sociology, Anthropology, and Social Work*, Associate Professor—B.S., College of William and Mary, 1969; M.A., University of California, 1972; Ph.D., 1978.
- Marcinowski, M. Gary, S.M. (1993), *Visual Arts*, Assistant Professor—B.F.A., Boston University, 1980; M.F.A., Rhode Island School of Design, 1993.
- Marre, Kitayun E. (1966), *English*, Professor—B.A., University of Bombay, 1958; M.A., 1960; Ph.D., State University of New York at Buffalo, 1967.
- Marre, Louis A. (1965), *English*, Associate Professor—A.B., University of Notre Dame, 1961; M.A., 1963; Ph.D., 1972.
- Martin, Judith G., S.S.J. (1980), *Religious Studies*, Associate Professor—B.A., Medaille College, 1969; M.A., Union Theological Seminary, 1972; M.A., McMaster University, 1975; Ph.D., 1983.
- Martino, Joseph P. (1995), *Engineering Management and Systems*, Adjunct Professor—B.S., Miami University, 1953; M.S., Purdue University, 1955; Ph.D., The Ohio State University, 1961.
- Maruyama, Robert K., S.M. (1984), *Computer Science*, Lecturer—B.S., University of Notre Dame, 1961; M.S., 1968; M.S., University of Dayton, 1984.
- Mashburn, Joe D. (1981), *Mathematics*, Associate Professor—B.S., Southern Missionary College, 1976; M.A., University of California, 1978; Ph.D., 1981.
- Massucci, Rev. Joseph D. (1987), *School of Education, Administrative*—M.A., Catholic University of America, 1977; Ed.S., University of Dayton, 1988; Ph.D., 1993.
- Matczynski, Thomas J. (1987), *Educational Administration*, Professor—B.S., University of Dayton, 1964; M.S., 1968; Ph.D., Ohio University, 1971.
- Matlack, Jayne K. (1993), *Visual Arts*, Assistant Professor — B.S., University of Delaware, 1983; M.F.A., Tyler School of Art of Temple University, 1993.
- Means, Michael H. (1963), *English*, Associate Professor—B.A., University of Wisconsin-Whitewater, 1955; M.A., Ohio State University, 1957; Ph.D., University of Florida, 1963.
- Melko, James J. (1985), *Director, Learning Assistance Center, Administrative* — B.A., Miami University, 1980; B.S., 1980; M.Ed., 1981.
- Merenski, J. Paul (1976), *Management and Marketing*, Associate Professor—B.S., Wright State University, 1971; M.B.A., 1972; Ph.D., University of Cincinnati, 1982.

## Faculty

- Metzger, James (1970), *Management and Marketing*, Adjunct Professor—B.S., Butler University, 1950; M.B.A., Xavier University, 1966.
- Michaels, Dennis F. (1993), *Director, Management Development Center*, Administrative — B.S., Bowling Green State University, 1964; M.A., University of Toledo, 1969; M.Ed., Cleveland State University, 1974; Ph.D., The Ohio State University, 1978.
- Mickel, Karen A. (1991), *Coordinator for Developmental Mathematics, Learning Assistance Center*, Administrative — B.A., Wittenberg University, 1973; M.A., Bowling Green State University, 1974.
- Miller, Dan E. (1978), *Sociology, Anthropology, and Social Work*, Associate Professor—B.S., University of Iowa, 1970; M.A., 1972; Ph.D., 1979.
- Miner, George K. (1976), *Physics*, Professor—A.B., Thomas More College, 1958; M.S., University of Notre Dame, 1960; Ph.D., University of Cincinnati, 1965.
- Mohan, Nancy (1987), *Economics and Finance*, Associate Professor—B.S., Indiana University, 1975; M.B.A., Wright State University, 1977; Ph.D., University of Cincinnati, 1986.
- Monasterio, Xavier O. (1966), *Philosophy*, Professor—B.A., Instituto Oriente, Mexico, 1944; M.A., Ysleta College, 1951; Ph.D., Universite de Paris, 1964.
- Monge, Alvaro E. (1997), *Computer Science*, Assistant Professor — B.S., University of California, Riverside, 1991; M.S., University of California, San Diego, 1993; Ph.D., 1997.
- Moon, Donald L. (1974), *Electrical and Computer Engineering*, Professor—B.S.E.E., West Virginia Institute of Technology, 1963; M.S.E.E., University of Toledo, 1966; Ph.D., Ohio State University, 1974.
- Moore, Cecilia A. (1996), *Religious Studies*, Assistant Professor — A.B., Sweet Briar College, 1988; M.A., University of Virginia, 1991; Ph.D., 1996.
- Moore, Kerrie A., (1993), *Library*, Assistant Professor—B.A., University of Dayton, 1987; M.A., Wright State University, 1996.
- Morlan, Don B. (1977), *Communication*, Professor—B.S., Indiana State University, 1962; M.S., 1965; Ph.D., Purdue University, 1969.
- Morman, Paul J. (1990), *History*, Professor—B.A., University of Dayton, 1965; M.A., Bowling Green State University, 1966; Ph.D., Pennsylvania State University, 1973; M.S., State University of New York at Binghamton, 1984.
- Moroney, William F. (1990), *Psychology*, Associate Professor—B.A., Cathedral College, 1964; M.A., St. John's University, 1967; Ph.D., 1968.
- Morris, Jeffrey W. (1981), *Law*, Professor—B.A., Providence College, 1974; J.D., Washington and Lee University, 1977.
- Morris III, Willie L. (1993), *Music*, Assistant Professor — B.M.E., East Carolina University, 1982; M.A., Stephen F. Austin State University, 1984; D.M.A., University of Missouri at Kansas City Conservatory of Music, 1996.
- Morrow, Gary W. (1988), *Chemistry*, Associate Professor—B.A., Ohio State University, 1984; Ph.D., 1988.

- Mosher, Arthur D. (1994), *Languages*, Associate Professor — B.A., Wheaton College, 1971; M.A., Syracuse University, 1975; Ph.D., University of Massachusetts, 1979.
- Mosser, Kurt (1992), *Philosophy*, Assistant Professor—B.A., Southern Methodist University, 1979; M.A., University of Chicago, 1982; Ph.D., 1990.
- Mott, Robert L. (1966), *Engineering Technology*, Professor—B.M.E., General Motors Institute, 1963; M.S.M.E., Purdue University, 1965. Reg. Prof. Engr.
- Moulin, Eugene K. (1968), *Counselor Education and Human Services*, Professor—B.A., Mount Union College, 1956; M.E., Kent State University, 1959; Ph.D., University of Toledo, 1968.
- Mueller, Steven D. (1976), *Counseling and Health Services*, Administrative—B.A., University of Dayton, 1974; M.A., 1976; Ed.D., University of Cincinnati, 1987.
- Mullins, Monalisa M. (1989), *Philosophy*, Lecturer—B.A., St. Leo College, 1985; M.A., University of Dayton, 1987.
- Muñoz, Chris (1992), *Associate Provost for Enrollment Management*, Administrative — B.A., California State University, 1970; M.S., University of Oregon, 1979.
- Murphy, Jeffrey L. (1995), *Visual Arts*, Assistant Professor — B.F.A., The Ohio State University, 1989; M.F.A., University of Florida, 1995.
- Murray, Andrew P. (1996), *Mechanical and Aerospace Engineering*, Assistant Professor — B.S., Rose-Human Institute of Technology, 1989; M.S., University of California, Irvine, 1993; Ph.D., 1996.
- Mushenheim, Cecilia A. (1991), *Marian Library*, Assistant Professor— B.A., St. Mary's University, 1965; M.A., 1972.
- Mushenheim, Harold G. (1965), *Mathematics*, Associate Professor—B.S., University of Dayton, 1955; M.A., University of Cincinnati, 1960; Ph.D., 1963.
- Myers, Kevin J. (1986), *Chemical and Materials Engineering*, Professor— B.Cm.E., University of Dayton, 1981; D.Sc., Washington University, 1986.
- Myszka, David H. (1989), *Engineering Technology*, Professor—B.S.M.E., State University of New York at Buffalo, 1985; M.S.M.E., 1989; M.B.A., University of Dayton, 1996. Reg. Prof. Engr.
- Neff, Jerry L. (1990), *Mathematics-Teacher Education*, Lecturer—B.S., Otterbein College, 1953; M.A., Miami University, 1955; Ph.D., 1973.
- Nelson, Peter B. (1979), *Political Science*, Assistant Professor—B.S., Florida State University, 1969; B.S., Florida International University, 1973; M.S.M., 1975; Ph.D., University of Mississippi, 1982.
- Nguyen, Phuong, (1996), *Visual Arts*, Lecturer — B.F.A., Stephen F. Austin State University, 1992; M.F.A., University of Wisconsin-Madison, 1995.
- Niles, Fred (1985), *Visual Arts*, Associate Professor—B.S., Edinboro State College, 1964; M.A., University of Northern Colorado, 1974; M.F.A., Syracuse University, 1987.
- O'Boyle, Rosemary T. (1980), *Assistant Vice President for Student Development*, Administrative—B.A., St. Bonaventure University, 1972; M.S. in Ed., 1978.
- O'Hare, J. Michael (1966), *Physics*, Professor—B.S., Loras College, 1960; M.S., Purdue University, 1962; Ph.D., State University of New York at Buffalo, 1966.

## Faculty

- Oldenski, Thomas, S.M. (1994), *Educational Administration*, Assistant Professor — B.A., University of Dayton, 1972; M.Ed., Boston College 1975; M.A., Western Michigan University, 1978; Ed.S., University of Dayton, 1984; Ph.D., Miami University, 1994.
- O'Leary, Kimberly E. (1993), *Law*, Associate Professor—B.A., Oberlin College, 1979; J.D. Northeastern University School of Law, 1982.
- O'Meara, Maureen F. (1986), *Languages*, Associate Professor—B.A., Trinity College, 1971; Ph.D., Cornell University, 1976.
- Ostdiek, Francis R., (1993), *Mechanical & Aerospace Engineering*, Adjunct Associate Professor—B.S., Univ. of Nebraska, 1957; M.S., 1959; Ph.D., Ohio State Univ., 1975.
- Oumlil, A. Ben (1983), *Management and Marketing*, Associate Professor—B.S., Southwest Missouri State University, 1976; M.B.A., 1977; Ph.D., University of Arkansas, 1983.
- Pair, Donald L. (1991), *Geology*, Associate Professor—B.S., St. Lawrence University, 1983; M.Sc., University of Waterloo, 1986; Ph.D., Syracuse University, 1991.
- Palermo, Patrick F. (1971), *History*, Professor—B.A., Fordham College, 1966; M.A., State University of New York at Stony Brook, 1967; Ph.D., 1974.
- Palmert, Julia Ann (1975), *Health and Sport Science*, Assistant Professor—B.S., University of Dayton, 1952; M.S., Ohio State University, 1953. R.D., L.D.
- Pan, Yi (1991), *Computer Science*, Associate Professor—B.E., Tsinghua University, 1982; M.E., 1984; M.S., University of Pittsburgh, 1988; Ph.D., 1991.
- Pasala, Krishna Murthy (1985), *Electrical and Computer Engineering*, Professor—B.E., Andhra University, 1970; Ph.D., Indian Institute of Science, 1974.
- Patrouch, Joseph F. (1964), *English*, Professor—A.B., University of Cincinnati, 1958; M.A., 1960; Ph.D., University of Wisconsin, 1965.
- Payne, Michael A. (1977), *Philosophy*, Associate Professor—B.A., Xavier University, 1966; M.A., Boston College, 1970; Ph. D., University of Georgia, 1972.
- Pedrotti, Leno M. (1987), *Physics*, Associate Professor—B.A., Wright State University, 1981; Ph.D., University of New Mexico, 1986.
- Peñas-Bermejo, Francisco J. (1991), *Languages*, Associate Professor—B.A., Universidad Complutense, 1984; M.A., University of Georgia, 1986, Ph.D., 1991.
- Penno, Robert P. (1987), *Electrical and Computer Engineering*, Assistant Professor—B.S.M.E., Rose Hulman Institute of Technology, 1971; M.S.E.E., 1984; Ph.D., University of Dayton, 1987.
- Perna, Richard P. (1982), *Law*, Professor—B.A., Villanova University, 1971; J.D., 1975.
- Pestello, Fred P. (1984), *Sociology, Anthropology, and Social Work*, Associate Professor—B.A., John Carroll University, 1974; M.A., University of Akron, 1981; Ph.D., University of Akron-Kent State University, 1985.
- Pestello, H. Frances Geyer (1985), *Sociology, Anthropology, and Social Work*, Associate Professor—B.A., College of Wooster, 1973; M.A., University of Akron, 1977; Ph.D., University of Akron-Kent State University, 1983.
- Petrykowski, John C. (1985), *Mechanical and Aerospace Engineering*, Associate Professor—B.S., University of Wisconsin, 1975; M.S., University of Illinois, 1978; Ph.D., 1981.

- Phillips, Norman S. (1974), *Civil and Environmental Engineering and Engineering Mechanics*, Professor—B.A.E., Ohio State University, 1955; M.S.E., University of Dayton, 1968; M.S.Ed., 1983. Reg. Prof. Engr.
- Pici, Joseph R. (1965), *English*, Professor—B.S., University of Dayton, 1962; M.A., 1964.
- Place, A. William (1994), *Educational Administration*, Associate Professor — B.S., University of Dayton, 1976; M.S., 1980; Ph.D., The Ohio State University, 1988.
- Ploeger, Bernard J., S.M. (1985), *Senior Vice President for Administration*, Administrative—B.S., University of Dayton, 1971; M.S., Ohio State University, 1973; Ph.D., 1975.
- Pohl, Edward A. (1997), *Engineering Management and Systems*, Adjunct Professor—B.S., Boston University, 1984; M.S., University of Dayton, 1988; M.S., Air Force Institute of Technology, 1988; M.S., University of Arizona, 1993; Ph.D., 1995.
- Polzella, Donald J. (1972), *Psychology*, Professor—B.A., University of Rochester, 1967; M.A., Bucknell University, 1969; Ph.D., University of Michigan, 1974.
- Powers, Peter E. (1997), *Physics*, Assistant Professor — B.S., Massachusetts Institute of Technology, 1988; M.S., Cornell University, 1990; Ph.D., 1994.
- Prasad, Jayesh (1990), *Management Information Systems and Decision Sciences*, Associate Professor—B.Tech., Indian Institute of Technology, Kharagpur, 1982; P.G.D.M., Indian Institute of Management, Calcutta, 1984; Ph.D., University of Pittsburgh, 1994.
- Putka, Rev. John S., S.M. (1991), *Political Science*, Lecturer—B.S., University of Dayton, 1960; S.T.B., University of Fribourg, 1967; M.A., St. Louis University, 1969; Ph.D., University of Cincinnati, 1979.
- Quinn, John F. (1970), *Philosophy*, Associate Professor—B.A., Gonzaga University, 1965; M.A., 1966; Ph.L., Mount St. Michael's College, 1966; M.A., University of Washington, 1968; J.D., University of Dayton, 1982.
- Raisch, C. Daniel (1991), *Teacher Education, Chair and Educational Administration*, Associate Professor—B.S., Wilmington College, 1961; M.A., Wittenberg University, 1966; Ph.D., Miami University, 1973.
- Randall, Vernellia R. (1990), *Law*, Professor—A.A., Amarillo College, 1968; B.S., University of Texas, 1972; M.S., University of Washington, 1978; J.D., Lewis and Clark Northwestern School of Law, 1987.
- Rapp, John E. (1972), *Economics and Finance*, Professor—B.A., University of Missouri, 1959; M.A., 1960; Ph.D., 1964.
- Reeb, Roger N. (1993), *Psychology*, Assistant Professor—B.A., Westminster College, 1984; M.S., Virginia Commonwealth University, 1987; Ph.D. Virginia Commonwealth University, 1993.
- Reising, John M. (1995), *Engineering Management and Systems*, Adjunct Professor—B.S., Xavier University, 1964; M.A., Southern Illinois University, 1967; Ph.D., 1969.
- Reynolds, Patrick A., (1996), *Music*, Assistant Professor — B.M., University of Michigan, 1981; M.M., 1983; D.M.A., University of Cincinnati, 1997.
- Rice, Bernard J. (1960), *Mathematics*, Professor—B.S., St. Louis University, 1955; M.S., Ohio State University, 1961.

## Faculty

- Richards, William M. (1970), *Philosophy*, Associate Professor—B.A., LeMoyne College, 1966; Ph.D., Georgetown University, 1970.
- Richey-Suttles, Stephen (1996), *Counseling Center, Administrative*—B.; M.A., University of Missouri-Kansas City, 1984; M.S., University of Kentucky, 1991; Ph.D., 1995.
- Ridder, Todd, S.M. (1996), *Music*, Lecturer—B.M., University of Dayton, 1969; M.M., University of Cincinnati, 1974; M.P.S., Loyola University of Chicago, 1990; Ph.D., Catholic University of America, 1993.
- Ritz, Lyn (1996), *Music*, Assistant Professor—B.M., State University of New York at Potsdam, 1974; M.M.Ed., Pennsylvania State University, 1976; D.M.A., University of Kentucky, 1991.
- Roberts, William P. (1980), *Religious Studies*, Professor—B.A., Fordham University, 1955; M.A., 1957; Ph.L., Loyola Seminary, 1956; S.T.L., Weston School of Theology, 1963; Ph.D., Marquette University, 1968.
- Robinson, James D. (1982), *Communication*, Professor—B.A., University of the Pacific, 1978; M.A., West Virginia University, 1979; Ph.D., Purdue University, 1982.
- Robinson, James N. (1997), *Engineering Management and Systems*, Adjunct Professor — B.S., United States Air Force Academy, 1969; M.S., Air Force Institute of Technology, 1976; Ph.D., University of Texas at Austin, 1987.
- Robinson, Jayne B. (1994), *Biology*, Assistant Professor — B.S., Bowling Green State University, 1978; M.S., The Ohio State University, 1984; Ph.D., 1991.
- Roecker, Carolyn E. (1995), *Psychology*, Assistant Professor — B.S., University of Illinois, 1984; M.S., Illinois State University, 1990; Ph.D., University of Iowa, 1994.
- Roehm, Harper A. (1992) *Accounting*, Professor — B.A., DePaw University, 1957; M.B.A., Indiana University, 1963; D.B.A., Florida State University, 1972.
- Rogers, Dana B. (1982), *Electrical and Computer Engineering*, Professor—B.S.E.E., Arizona State University, 1962; M.S.E.E., Air Force Institute of Technology, 1969; Ph.D., University of Dayton, 1978.
- Rogus, Joseph F. (1981), *Educational Administration*, Kuntz Professor—B.S., University of Dayton, 1960; M.Ed., Miami University, 1962; Ph.D., Ohio University, 1968.
- Romaguera, Enrique (1969), *Languages*, Associate Professor—B.A., University of Dayton, 1965; M.A., Ohio University, 1966.
- Rooney, Victor M. (1966), *Engineering Technology*, Professor—B.E.E., University of Dayton, 1965; M.S.E.E., Ohio State University, 1970. Reg. Prof. Engr.
- Rosenzweig, Kenneth Y. (1981), *Accounting*, Associate Professor—B.A., University of Texas, 1965; M.B.A., University of Houston, 1968; Ph.D., Michigan State University, 1977; C.P.A., Ohio, 1980; C.M.A., 1980; C.I.A., 1982.
- Roten, Rev. Johann G., S.M. (1987), *International Marian Research Institute*, Administrative—B.Ed., Ecole Normales des Instituteurs, Sion, 1963; B.A., College of St. Michel, Fribourg, 1962; S.T.L., University of Fribourg, 1969; Lic.Phil., 1972; S.T.D., Pontifical Theological Faculty Marianum in Rome, 1987.
- Rowe, John J. (1977), *Biology*, Professor—B.S., Colorado State University, 1968; M.S., Arizona State University, 1971; Ph.D., University of Kansas Medical Center, 1975.



- Rowley, James B. (1989), *Teacher Education*, Associate Professor—B.S., University of Dayton, 1969; M.S., Miami University, 1974; Ph.D., Ohio State University, 1989.
- Rueth, Thomas W. (1987), *Counselor Education and Human Services*, Associate Professor—B.S., University of Dayton, 1963; M.A., 1969; Ph.D., Loyola University of Chicago, 1973.
- Ruggiero, John G. (1995), *Economics and Finance*, Assistant Professor — B.A., State University of New York at Cortland, 1988; M.A., Syracuse University, 1992; Ph.D., 1995.
- Ruff, Lawrence A. (1960), *English*, Associate Professor—B.S., University of Dayton, 1958; M.A., Catholic University of America, 1959; Ph.D., Ohio State University, 1968.
- Russo, Charles J., (1996), *Educational Administration*, Professor — B.A., St. John's University, 1972; M. Div., Seminary of the Immaculate Conception, 1978; J.D., St. John's University School of Law, 1983; Ed.D., St. John's University Graduate School of Education and Human Services, 1989.
- Sack, Laurence A. (1986), *Civil and Environmental Engineering and Engineering Mechanics*, Adjunct Assistant Professor—B.S.C.E., University of Dayton, 1981.
- Safferman, Steven I. (1994), *Civil and Environmental Engineering and Engineering Mechanics*, Assistant Professor—B.S., University of Cincinnati, 1987; M.S., 1988; Ph.D., 1994.
- St. John, Edward P., (1996), *Educational Administration*, Professor — B.S., University of California, 1973; M.Ed., University of California, 1974; Ed.D., Harvard University, 1978.
- Saintignon, Paula L. (1983), *Mathematics*, Lecturer—B.S., Bowling Green State University, 1978; M.S., University of Dayton, 1982.
- Saliba, Joseph E. (1980), *Civil and Environmental Engineering and Engineering Mechanics*, Professor—B.S., University of Dayton, 1979; M.S., 1980; Ph.D., 1983. Reg. Prof. Engr.
- Saliba, Tony E. (1986), *Chemical and Materials Engineering*, Professor— B.Cm.E., University of Dayton, 1981; M.S., 1982; Ph.D., 1986.
- Sanders, Terrance J., Capt. (1996), *Military Science*, Assistant Professor — B.A., Jacksonville State University, 1985; B.S., Eastern New Mexico University, 1990.
- Sandhu, Sarwan S. (1980), *Chemical and Materials Engineering*, Professor—B.Sc., Panjab University, 1961; B.Sc.Ch.E., 1966; M.Sc.E., University of New Brunswick, 1970; D.I.C., Imperial College, University of London, 1973; Ph.D., University of London, 1973.
- Sandness, Marilyn I. (1974), *Music*, Associate Professor—B.Mus., Eastman School of Music, 1958; M.Mus., New England Conservatory of Music, 1960. Reg. Music Therapist. Music Therapist, Board Certified.
- Sandy, Michael Reginald (1987), *Geology*, Associate Professor—B.Sc., Queen Mary College, University of London, 1980; Ph.D., 1984.
- Santamarina, Juan C. (1997), *History*, Lecturer — B.A., University of Wisconsin, Madison, 1989; Ph.D., Rutgers University, 1995.
- Saphire, Richard B. (1976), *Law*, Professor—B.A., Ohio State University, 1967; J.D., Salmon P. Chase College of Law, 1971; LL.M., Harvard University, 1975.

## Faculty

- Sargent, Gordon A. (1985), *Mechanical and Aerospace Engineering*, Professor—B.Sc., Imperial College of Science and Technology, University of London, 1960; Ph.D., 1964.
- Sauer, David A. (1991), *Economics and Finance*, Associate Professor—B.B.A., Pacific Lutheran University, 1981; M.B.A., University of Oregon, 1983; Ph.D., University of Michigan, 1991.
- Saxton, Stanley L. (1977), *Sociology, Anthropology, and Social Work*, Professor—B.S., University of Wisconsin, 1964; M.A., University of Iowa, 1969; Ph.D., 1973.
- Scarpino, Frank A. (1987), *Electrical and Computer Engineering*, Associate Professor—B.S.E.E., University of Cincinnati, 1963; M.S.E.E., 1970; Ph.D., University of Dayton, 1987.
- Schaller, Molly A. (1989), *Coordinator of Critical Issues, Administrative* — B.A., The Ohio State University, 1987; M.S., Miami University, 1989.
- Schauer, John J. (1968), *Mechanical and Aerospace Engineering*, Professor—B.M.E., University of Dayton, 1958; M.S., Carnegie Institute of Technology, 1959; Ph.D., Stanford University, 1964.
- Schenk, Joseph A. (1980), *Management and Marketing*, Associate Professor—B.B.A., University of Kentucky, 1970; M.B.A., Kent State University, 1972; D.B.A., 1976.
- Schleppi, Carroll M. (1984), *Engineering Technology*, Associate Professor—B.S., Chestnut Hill College, 1963; M.S., Ohio State University, 1965.
- Schleppi, John R. (1963), *Health and Sport Science*, Professor—B.S., Ohio State University, 1961; M.A., 1963; Ph.D., 1972.
- Schoen, Rev. Thomas A., S.M. (1959), *Computer Science*, Associate Professor—B.S., University of Dayton, 1954; M.A., University of Cincinnati, 1959; M. Div., University of St. Michael's College, 1987.
- Schuerman, William C. (1985), *Vice President for Student Development and Dean of Students, Administrative*—B.A., University of Cincinnati, 1969; M.A., Michigan State University, 1971; Ph.D., American University, 1980.
- Schweikart, Larry E. (1985), *History*, Professor—B.A., Arizona State University, 1972; B.A.Ed., M.A., 1980; Ph.D., University of California, Santa Barbara, 1984.
- Searcy, E. Dale (1976), *Law*, Professor—B.S., General Motors Institute, 1959; J.D., Indiana University, 1963; LL.M., New York University, 1966.
- Seery, Mary Ellen (1997), *Teacher Education*, Assistant Professor — B.A., College of Mt. St. Joseph, 1962; M.Ed., Xavier University, 1977; Ed.D., University of Cincinnati, 1996.
- Seielstad, Andrea M., (1996), *Law*, Assistant Professor — A.B., Princeton University, 1988; J.D., University of Michigan Law School, 1991.
- Sekely, William S. (1976), *Management and Marketing*, Associate Professor—B.S., Allegheny College, 1966; M.B.A., Case Western Reserve University, 1970; D.B.A., Kent State University, 1975.
- Servais, Ronald A. (1974), *Chemical and Materials Engineering*, Professor—B.S. in A.E., Parks College, St. Louis University, 1963; M.S., 1966; D.Sc., Washington University, 1969. Reg. Prof. Engr.
- Shaughnessy, Gerald J. (1967), *Mathematics*, Associate Professor—B.S., University of Dayton, 1963; M.S., Florida State University, 1964.

- Shaw, Carol M. (1968), *Chemical Technology*, Professor—B.S., Ohio University, 1963; M.S. in Ed., University of Dayton, 1968; M.S., 1973.
- Shaw, George B. (1967), *Civil and Environmental Engineering and Engineering Mechanics*, Associate Professor—B.C.E., University of Dayton, 1967; M.S.C.E., 1971. Reg. Prof. Engr. and Surveyor. Diplomate AAEE.
- Shaw, Lori E. (1988), *Law*, Lecturer—B.S., University of Dayton, 1983; J.D., University of Dayton, 1987.
- Shereen, Faiza W. (1988), *English*, Associate Professor—B.A., University of Alexandria, 1967; M.A., University of Dayton, 1975; Ph.D., University of Cincinnati, 1988.
- Shine, Andrew J. (1985), *Mechanical and Aerospace Engineering*, Adjunct Professor—B.M.E., Rensselaer Polytechnic Institute, 1946; M.M.E., 1947; Ph.D., Ohio State University, 1957. Reg. Prof. Engr.
- Siciliano, Carol J. (1964), *Health and Sport Science*, Associate Professor—B.S.Ed., Bowling Green State University, 1959; M.A.Ed., Western Reserve University, 1962.
- Simon, Marvin D. (1987), *Engineering Technology*, Professor—B.S.M.E., University of Cincinnati, 1956; M.B.A., University of Dayton, 1978.
- Simons, Linda K. (1975), *Library*, Professor—B.S., University of Illinois, 1969; M.S., 1972; M.B.A., University of Dayton, 1983.
- Simpson III, Wendell P. (1995), *Engineering Management and Systems*, Adjunct Professor—B.S., United States Air Force Academy, 1980; M.S., Air Force Institute of Technology, 1984; Ph.D., Indiana University, 1991.
- Singer, Sanford S. (1972), *Chemistry*, Professor—B.S., Brooklyn College, 1962; M.S., University of Michigan, 1964; Ph.D., 1967.
- Sinha, Atish P. (1991), *Management Information Systems and Decision Sciences*, Associate Professor—B.S., University of Calcutta, 1980; B.Tech., 1984; M.Tech., 1986, Ph.D., University of Pittsburgh, 1992.
- Skill, Thomas D. (1984), *Communication*, Professor—B.A., State University of New York at Buffalo, 1978; M.A., 1980; Ph.D., 1984.
- Smith, Barbara A. (1989), *Computer Science*, Associate Professor—B.A., St. Louis University, 1976; M.S., University of Missouri, 1980; Ph.D., 1988.
- Smith, David B. (1992), *Accounting*, Professor, —B.A., Carleton College, 1970; M.B.A., University of Pennsylvania, 1973; Ph.D., University of Illinois, 1979.
- Snide, James A. (1974), *Chemical and Materials Engineering*, Professor—B.S., Ohio University, 1959; M.S., Air Force Institute of Technology, 1965; Ph.D., Ohio State University, 1975.
- Snyder, Linda June (1989), *Music*, Professor—B.M., Miami University, 1970; M.M., University of Illinois, 1972; D.M.A., 1982.
- Sparks, John R. (1995), *Management and Marketing*, Assistant Professor —B.B.A., West Texas State University, 1988; Ph.D., Texas Tech University, 1995.
- Stander, Joseph W., S.M. (1960), *Mathematics*, Professor—B.S., University of Dayton, 1949; M.S., Catholic University of America, 1957; Ph.D., 1959.

## Faculty

- Stavenshagen, Jeffrey B., (1996), *Biology*, Assistant Professor — B.S., Carnegie-Mellon University, 1984; Ph.D., Columbia University, 1989.
- Steiner, Thomas L. (1993), *Economics and Finance*, Assistant Professor — B.A., University of St. Thomas, 1985; M.A., University of Arizona, 1989.
- Steinlage, Ralph C. (1966), *Mathematics*, Professor—B.S., University of Dayton, 1962; M.S., Ohio State University, 1963; Ph.D., 1966.
- Stilwell, C. Dean (1990), *Management and Marketing*, Associate Professor—B.S., Virginia Polytechnic Institute and State University, 1977; M.B.A., 1979, Ph.D., Georgia Institute of Technology, 1993.
- Strain, Margaret M. (1995), *English*, Assistant Professor — B.A., Bellarmine College, 1977; M.A., University of Louisville, 1986; Ph.D., 1995.
- Strange, Jerry D. (1958), *Engineering Technology*, Professor—B.S., Otterbein College, 1958; M.S., Xavier University, 1964.
- Street, P. Eric (1992), *Music*, Professor — B.Mus., Cornell College, 1975; M.Mus., Indiana University, 1977; D.Mus., 1985.
- Stull, Paul A. (1974), *Biology*, Clinical Associate Professor—D.V.M., Ohio State University, 1966.
- Sudzina, Mary R. (1988), *Teacher Education*, Associate Professor—B.S., Virginia Commonwealth University, 1970; M.A., Villanova University, 1974; Ph.D., Temple University, 1987.
- Sullivan, Larry D. (1997), *Counselor Education and Human Services*, Assistant Professor — B.A., California State University, Sonoma, 1974; M.A., Dominican School of Philosophy and Theology, 1978; M.A., Duquesne University; 1980; Ph.D., Kent State University, 1995.
- Sultan, Allen (1978), *Law*, Professor—A.B., Syracuse University, 1952; J.D., Columbia University, 1958; A.M., University of Chicago, 1961; LL.M., New York University, 1965.
- Summers, Donna C. S. (1984), *Engineering Technology*, Professor—B.S.M.E., University of Cincinnati, 1982; M.S.I.E., Purdue University, 1984; Ph.D., University of Cincinnati, 1991.
- Sweeney, Patrick J. (1978), *Engineering Management and Systems*, Professor—B.S., University of Notre Dame, 1957; M.S., University of Missouri, 1967; Ph.D., University of Dayton, 1977. Reg. Prof. Engr.
- Takahashi, Fumiaki (1988), *Mechanical and Aerospace Engineering*, Associate Professor—B.S., Keio University, 1973; M.S., 1975; Ph.D., 1980.
- Talbert-Johnson, Carolyn (1991), *Teacher Education*, Associate Professor — B.A., Ohio Dominican College, 1976; M.A., Ohio State University, 1978; Ph.D., 1991.
- Talbott, Lou E. (1988), *Director, Student Activities*, Administrative — B.S., Wright State University, 1976; M.S., 1984.
- Taylor, Amie L. (1981), *Counselor Education and Human Services*, Associate Professor—B.S., Central State University, 1957; M.Ed., Miami University, 1970; M.S.Ed., University of Dayton, 1985; Ph.D., Miami University, 1985.
- Taylor, Annette M. (1988), *Communication*, Assistant Professor—B.A., Michigan State University, 1974; M.A., 1988; Ph.D., Bowling Green State University, 1996.

- Taylor, Bruce M. (1967), *History*, Associate Professor—B.A., Dartmouth College, 1957; M.A., Columbia University, 1962; Ph.D., Fordham University, 1973.
- Taylor, David L. (1971), *Biology*, Clinical Associate Professor—B.A., Wittenberg University, 1963; M.S., West Virginia University, 1965; Ph.D., 1968.
- Taylor, Philip H. (1988), *Electro-Optics*, Assistant Professor—B.S., State University College at Oneonta, 1980; Ph.D., Pennsylvania State University, 1984.
- Taylor, Sandra K. (1978), *Sociology, Anthropology, and Social Work*, Assistant Professor—B.A., Ohio University, 1970; M.S.W., Ohio State University, 1978.
- Thebert-Peeler, Deborah (1995), *Engineering Management and Systems*, Adjunct Professor—B.S., Purdue University, 1977; M.S., University of Cincinnati, 1979; J.D., Salmon P. Chase College of Law, 1983; Ph.D., University of Dayton, 1992. Reg. Prof. Engr.
- Thewes, Richard, Captain, (1996), *Military Science*, Assistant Professor — B.S., Xavier University, 1988.
- Thiele, Gary A. (1979), *Electrical and Computer Engineering*, Tait Professor—B.S.E.E., Purdue University, 1960; M.Sc., Ohio State University, 1964; Ph.D., 1968. Reg. Prof. Engr.; Fellow IEEE, 1982.
- Thimmes, Pamela L., O.S.F. (1985), *Religious Studies*, Assistant Professor—B.S.Ed., Ohio University, 1970; M.A., Canisius College, 1979; M.A., Vanderbilt University, 1986; Ph.D., 1990.
- Thompson, Teresa L. (1985), *Communication*, Professor—B.A., University of Wisconsin, 1975; M.A., Purdue University, 1976; Ph.D., Temple University, 1980.
- Thompson, Rev. Thomas A., S.M. (1987), *Marian Library*, Administrative—B.A., University of Dayton, 1958; M.A., University of Pittsburgh, 1963; S.T.L., University of Fribourg, 1968; Ph.D., University of Pittsburgh, 1977.
- Tibbetts, Paul E., Jr. (1969), *Philosophy*, Professor—B.A., Clark University, 1964; M.A., Boston University, 1965; Ph.D., Purdue University, 1973; Ph.D., University of Illinois, 1985.
- Tiller, Kathleen (1983), *Library*, Associate Professor—B.S., University of Wisconsin, 1971; B.A., University of Wisconsin-Milwaukee, 1981; M.L.S., 1983; M.A., University of Dayton, 1990.
- Tilley, Terrence W. (1994), *Religious Studies*, Professor — A.B., University of San Francisco, 1970; Ph.D., Graduate Theological Union, Berkeley, 1976.
- Tillman, Beverly A. (1990), *Teacher Education*, Associate Professor—B.S., Miami University, 1974; M.A., University of Michigan, 1975; Ph.D., Ohio State University, 1992.
- Titlebaum, Peter J., (1996), *Health and Sport Science*, Assistant Professor — B.S., State University of New York at Brockport, 1982; M.S., Ohio State University, 1985; Ph.D., Temple University, 1993.
- Torres, Alfonso R. (1997), *Engineering Management and Systems*, Adjunct Professor—B.S., University of Dayton, 1967; M.S., 1971; M.S., 1982; Ph.D., 1986.
- Trick, Kimberly A. (1994), *Engineering Technology*, Assistant Professor — B. Ch. Eng., University of Dayton, 1984; M.S., 1988; Ph.D., 1994.
- Troiani, Anna Marie R. (1994), *Assistant Director, Residential Programs*, Administrative — B.A., Wheeling Jesuit College, 1991; M.S. Ed., University of Dayton, 1994.

## Faculty

- Trollinger, William Vance, (1996), *History*, Associate Professor — B.A., Bethel College, 1977; M.A., University of Wisconsin-Madison, 1980; Ph.D., University of Wisconsin-Madison, 1984.
- Tsonis, Panagiotis A. (1989), *Biology*, Professor—B.S., Patras University, 1977; M.S., Nagoya University, 1980; Ph.D., 1983.
- Tsui, Susan L. (1965), *Library*, Professor—B.A., National Taiwan University, 1961; M.S.L.S., University of Illinois, 1964.
- Turner, Dennis J. (1974), *Law*, Professor—B.A., Georgetown University, 1967; J.D., 1970.
- Tuss, Alex J., S.M. (1991), *English*, Assistant Professor—B.S., University of Dayton, 1971; M.A., 1977; Ph.D., Fordham University, 1991.
- Ullett, Jill S. (1994), *Materials Engineering*, Adjunct Professor — B.S., University of Dayton, 1979; M.S., 1987; Ph.D., 1992.
- Ulrich, Lawrence P. (1964), *Philosophy*, Professor—B.A., Catholic University of America, 1961; M.A., 1962; M.Ed., Xavier University, 1964; Ph.D., University of Toronto, 1972; M.S., University of Dayton, 1985.
- Untener, Joseph A. (1987), *Engineering Technology*, Professor—B.M.E., General Motors Institute, 1984; M.S., Purdue University, 1985. Reg. Prof. Engr.
- Vanderburgh, Paul M. (1995), *Health and Sport Science*, Assistant Professor — B.S., U.S. Military Academy, 1982; M.A., University of Georgia, 1988; Ed. M., Columbia University, 1991; Ed.D., 1992.
- Vesper, Mary Jo (1982), *Biology*, Professor—B.A., Thomas More College, 1973; M.S., Ohio State University, 1975; Ph.D., 1978.
- Vlahos, George E. (1978), *Management Information Systems and Decision Sciences*, Professor—B.S., University of Illinois, 1964; M.S., Southern Illinois University, 1967; Ph.D., University of Northern Colorado, 1974.
- Vocke, William (1995), *History*, Lecturer—B.A., Ohio State University, 1960; M.Ed., Xavier University, 1965; Ph.D., University of Cincinnati, 1970.
- Vorherr, Philip H. (1980), *Accounting*, Associate Professor—B.B.A., University of Cincinnati, 1964; M.B.A., 1965; Ph.D., 1975.
- Voydanoff, Patricia G. (1981), *Center for the Study of Family Development*, Adjunct Professor—B.A., Ohio Wesleyan University, 1960; M.A., Wayne State University, 1963; Ph.D., 1974.
- Walker, Mary Ann (1970), *Library*, Associate Professor—B.S. in Ed., Kent State University, 1966; M.L.S., 1968; M.B.A., University of Dayton, 1981.
- Wallace, Samuel P. (1982), *Communication*, Associate Professor—B.A., Ohio State University, 1975; M.A., 1979; Ph.D., 1985.
- Watras, Joseph L. (1979), *Teacher Education*, Professor—B.A., Boston University, 1965; M.Ed., University of Hawaii, 1969; Ph.D., Ohio State University, 1972.
- Watson, Blake A. (1992), *Law*, Associate Professor — B.A., Vanderbilt University, 1978; J.D., Duke University, 1981.
- Watters, Kathleen B. (1989), *Communication*, Associate Professor—B.S., University of Minnesota, 1976; M.A., 1979; Ph.D., 1988.
- Weatherly, Michael (1968), *Communication*, Assistant Professor—B.A., Stephen F. Austin State College, 1958; M.A., Bowling Green State University, 1961; Ph.D., Ohio State University, 1972.
- Weaver, Roberta (1969), *Teacher Education*, Associate Professor—B.Sc., Ohio State University, 1960; M.Sc. Ed., University of Cincinnati, 1966; Ed.D., 1982.

- Webb, Kathleen M. (1993), *Library*, Assistant Professor — B.S., Pennsylvania State University, 1982; M.L.S., University of California, Los Angeles, 1991.
- Weiler, John E. (1967), *Economics and Finance*, Professor—B.A., University of Cincinnati, 1960; M.A., 1961; Ph.D., 1973.
- Wells, Charles E. (1984), *Management Information Systems and Decision Sciences*, Professor—A.B., Harvard University, 1976; M.B.A., Miami University, 1977; Ph.D., University of Cincinnati, 1982.
- Wendeln, Donald E. (1965), *Engineering Technology*, Adjunct Professor—B.M.E., University of Dayton, 1950.
- Wernersbach, Geraldine S. (1979), *Law Library*, Assistant Professor—B. Mus., Duquesne University, 1949; M.A.L.S., Kent State University, 1959.
- Westerkamp, John J. (1986), *Electrical and Computer Engineering*, Associate Professor—B.E.E., University of Dayton, 1980; M.S.E.E., Purdue University, 1981; Ph.D., 1985.
- Whitaker, Joel A. (1993), *Visual Arts*, Assistant Professor — B.F.A., University of Montevallo, 1985; M.F.A., Florida State University, 1988.
- Whitaker, Leslie A. (1990), *Psychology*, Associate Professor—B.S., Northeastern State College, 1965; M.A.T., University of Montana, 1971; M.S., Pennsylvania State University, 1973; Ph.D., 1975.
- Whitney, James M. (1989), *Civil and Environmental Engineering and Engineering Mechanics*, Professor—B.A., Illinois College, 1959; B.S.T.E., Georgia Institute of Technology, 1959; M.S.T.E., 1961; M.S., Ohio State University, 1964; Ph.D., 1968.
- Whyte, Ann Marie (1993), *Economics and Finance*, Assistant Professor — A.A., Palm Beach Junior College, 1983; B.B.A., Florida Atlantic University, 1985; M.B.A., 1987; Ph.D., 1991.
- Wieland, Sara G. (1988), *English, Coordinator of Composition*, Administrative — A.B., Indiana University, 1961; M.A., University of Dayton, 1985.
- Wilbers, Timothy A. (1983), *Visual Arts*, Associate Professor—B. Art Ed., Ohio State University, 1972; M.A., 1974; M.F.A., Southern Illinois University, 1981.
- Wilhoit, Stephen W. (1988), *English*, Associate Professor—B.A., University of Kentucky, 1980; M.A., University of Louisville, 1983; Ph.D., Indiana University, 1988.
- Wilkinson, Sean (1973), *Visual Arts*, Professor—B.A., Antioch College, 1970; M.F.A., Rhode Island School of Design, 1972.
- Williams, P. Kelly (1973), *Biology*, Professor—B.A., University of Texas, 1966; M.S., University of Minnesota, 1969; Ph.D., Indiana University, 1973.
- Williamson, Tommy L. (1981), *Electrical and Computer Engineering*, Associate Professor—B.S.E.E., Ohio University, 1962; M.S.E.E., Ohio State University, 1965; Ph.D., 1975.
- Winger, Bernard J. (1966), *Economics and Finance*, Professor—B.S., Xavier University, 1959; M.A., University of Cincinnati, 1960; C.P.A., Ohio, 1965.
- Wohl, Laurence B. (1983), *Law*, Professor—B.S., University of California, 1969; J.D., 1972.
- Wolff, Robert L. (1958), *Engineering Technology*, Professor—B.S., University of Dayton, 1959; M.B.A., Xavier University, 1967.
- Wright, David J. (1996), *Biology*, Lecturer—B.Sc., University of Sheffield, England; Ph.D., University of Iowa, 1989.

## Faculty

- Wright, Shirley Jane (1993), *Biology*, Assistant Professor—B.S., Loyola University of Chicago, 1981; M.S., 1983; Ph.D., University of Iowa, 1981.
- Yaney, Perry P. (1963), *Physics*, Professor—B.S.E.E., University of Cincinnati, 1954; M.S., 1957; Ph.D., 1963.
- Yates, Rebecca M. J. (1980), *Management and Marketing*, Associate Professor—B.B.A., University of Cincinnati, 1973; M.B.A., 1975; Ph.D., 1980.
- Yocum Mize, Sandra (1992), *Religious Studies*, Assistant Professor—B.A., University of Oklahoma, 1976; Ph.D., Marquette University, 1987.
- Yoder, Donald D. (1989), *Communication*, Associate Professor—B.S., Iowa State University, 1973; M.A., University of Nebraska-Lincoln, 1975; Ph.D., Ohio State University, 1982.
- Young, Saul (1983), *Management Information Systems and Decision Sciences*, Associate Professor—B.A., University of Texas, 1962; M.S., University of Wisconsin, 1969; Ph.D., Stanford University, 1975.
- Youngkin, Betty R. (1991), *English*, Assistant Professor — B.A., High Point College, 1965; M.A., Northwestern University, 1969; Ph.D., Texas A & M University, 1989.
- Yungblut, Laura H. (1989), *History*, Assistant Professor — B.A., Western Carolina University, 1983; M.A., University of Cincinnati, 1985; Ph.D., 1993.
- Zabinski, Jeffrey S. (1993), *Materials Engineering*, Adjunct Professor — A.A. Pre-Engineering, Pensacola Junior College, 1979; B.S.ChE, University of Florida, 1982; Ph.D., Auburn University, 1990.
- Zahner, Mary A. (1971), *Visual Arts*, Associate Professor—B.F.A., Ohio University, 1960; M.A., 1969; Ph.D., Ohio State University, 1987.
- Zamierowski, Edward E., S.M. (1974), *Strategies for Responsible Development*, Administrative—B.Sc.E., University of Dayton, 1955; M.Sc., Ohio State University, 1960; Ph.D., University of Nairobi, 1973.
- Zoghi, Manoochehr (1986), *Civil and Environmental Engineering and Engineering Mechanics*, Associate Professor—B.S., University of Louisville, 1979; M.E., 1981; Ph.D., University of Cincinnati, 1988.
- Zukowski, Angela Ann, M.H.S.H. (1979), *Religious Studies*, Associate Professor—B.A., University of Dayton, 1974; M.A., 1978; D.Min., United Theological Seminary, 1988.



## RESEARCH STAFF

- Abfalter, Garry H. (1988), *Research Engineer*—B.M.E., University of Detroit, 1968; M.S., Oklahoma State University, 1972.
- Agarwala, Mukesh K. (1996), *Associate Research Scientist*—B.S., Indian Institute of Technology, 1988; M.M.E., University of Alabama, 1990; Ph.D., University of Texas, 1994.
- Alexander, Jr., Max D. (1996), *Assistant Research Polymer Physicist* — B.S., Wright State University, 1993; M.S., 1995; M.S., 1996.
- Anderson, David P. (1983), *Research Materials Scientist*—B.A., University of Connecticut, 1973; M.S., University of Massachusetts, 1977; Ph.D., 1981.
- Andrews, Robert J. (1969), *Senior Research Engineer*—B.S.M.E., University of Dayton, 1973; M.S., 1986.
- Ashbaugh, Noel E. (1982), *Senior Research Engineer*—B.S., Purdue University, 1962; M.S., 1963; Ph.D., University of California, 1971.
- Askins, Donald R. (1964), *Research Engineer*—B.S., University of Dayton, 1963; M.S., 1974.
- Aulds, James M. (1975), *Research Engineer*—B.T., University of Dayton, 1975.
- Ballal, Dilip R. (1983), *Senior Research Engineer*—B.S., Maulana Azad College of Technology, 1967; M.S., Cranfield Institute of Technology, 1968; Ph.D., 1972.
- Bapu, Puthamkuzhiyil T. (1978), *Senior Research Analyst*—M.A., University of Madras, 1959; M.S., University of Cincinnati, 1974; Ph.D., 1975.
- Becker, Roger J. (1977), *Senior Research Physicist*—B.A., Lake Forest College, 1967; M.S., Massachusetts Institute of Technology, 1972; Ph.D., Thomas Jefferson University, 1976.
- Beitel, Frank E. (1978), *Research Programmer-Analyst*—B.S., University of Dayton, 1974; M.S., Wright State University, 1984.
- Benner, Charles L. (1963), *Associate Research Chemist*—B.S., Findlay College, 1963.
- Berens, Alan P. (1969), *Senior Research Statistician*—B.S., University of Dayton, 1955; M.S., Purdue University, 1957; Ph.D., 1963.
- Bergeron, David W. (1993), *Associate Research Engineer*—B.S., Texas A&M, 1987.
- Bertke, Robert S. (1964), *Research Engineer*—B.M.E., University of Dayton, 1963; M.S.E., 1968.
- Bertke, Robert V. (1970), *Professional Technologist*.
- Bhatt, Jay C. (1996), *Associate Research Chemist*—B.S., University of Oklahoma, 1984; M.S., 1986; Ph.D., 1991.
- Binns, Kenneth E. (1992), *P-T Research Engineering*—B.S., University of Dayton, 1957.
- Blanchard, Robert E. (1977), *Research Engineer*—B.S., Rensselaer Polytechnic Institute, 1975; M.S., Rochester Institute of Technology, 1977.

- Blosser, Jami J. (1996), *Assistant Research Environmental Specialist* — B.S., Wright State University, 1996.
- Boehmer, Robert P. (1962), *Associate Director for Contracts & Information Systems*—B.S., University of Dayton, 1962; M.S., 1972.
- Bouchard, Michael P. (1981), *Research Engineer*—B.S., University of Dayton, 1981.
- Bowman, Daniel R. (1985), *Research Engineer*—B.S., University of Dayton, 1985; M.S., 1988.
- Braisted, William R. (1988), *Associate Research Engineer*—B.S., University of Dayton, 1988; M.S., 1991.
- Brar, Nahhatter S. (1986), *Research Physicist*—B.S., University of the Punjab, 1962; M.S., 1965; M.S., Trent University, 1971; Ph.D., University of Western Ontario, 1979.
- Brockman, Robert A. (1976), *Senior Research Engineer*—B.S., Carnegie-Mellon University, 1973; M.S.M.E., University of Dayton, 1974; Ph.D., 1979.
- Buchanan, Dennis J. (1991), *Assistant Research Engineer*—B.S., University of Wisconsin, 1989; M.S., University of Wisconsin, 1991.
- Burkett, Jerald L. (1958), *Research Chemist*—B.A., University of Dayton, 1977.
- Cameron, Joyce A. (1996), *Assistant Research Technical Analyst*— B.A., Pomona College, 1963; M.A., Indiana University, 1965; Ph.D., University of Oregon, 1983.
- Cerbus, Clifford A. (1984), *Associate Research Mathematician*—B.S., Xavier University, 1982; M.S., University of Dayton, 1984.
- Cervay, Russell R. (1970), *Research Engineer*—B.M.E., University of Dayton, 1967; M.S., 1977.
- Chao, Kenneth K. (1990), *Associate Research Engineer*—B.S., City College of New York, 1985; M.S., Pennsylvania State University, 1987; Ph.D., 1990.
- Chartoff, Richard P. (1978), *Senior Research Engineer*—B.S., Case Institute of Technology, 1961; M.S.E., Princeton University, 1962; M.A., 1965; Ph.D., 1966.
- Chen, Grace J. (1978), *Research Chemist*—B.S., Chung Yuan College, 1964; M.S., Howard University, 1969.
- Chen, Loomis S. (1977), *Research Chemist*—B.S., Chung Yuan College, 1964; M.S., Clarkson College, 1971; Ph.D., 1973.
- Chuck, Leon (1989), *Part-Time Associate Research Scientist*—B.S., University of Maryland, 1978; M.S., 1984.
- Cinnamon, Karen E. (1995), *Assistant Research Computer Programmer*—B.S., University of Washington, 1994.
- Click, William E. (1965), *Professional Technologist*.
- Collins, George T. (1965), *Research Engineer*—B.S.E.E., University of Dayton, 1966.
- Craft, Michael D. (1996), *Associate Research Electrical Engineer* — B.S.E.E., University of Cincinnati, 1992.
- Crasto, Allan S. (1988), *Senior Research Materials Scientist*—B.S., University of Bombay, 1974, 1977; M.S., Washington State University, 1983; Ph.D., 1986.

- Cross, Clarence W., Jr. (1981), *Associate Research Programmer*—B.S., University of Dayton, 1980.
- Cunningham, Paul H. (1993), *Research Manager*—B.S., Middle Tennessee State University, 1967; M.S., University of Southern California, 1972.
- Dang, Thuy Dinh (1987), *Associate Research Chemist*—B.S., Wright State University, 1983; M.S., 1986.
- Danielson, Jack W. (1996), *P-T Business Manager*—B.S., Penn State University, 1961; M.B.A., University of Southern California, 1969.
- Dante, James F. (1995), *Associate Research Materials Engineer*—B.S., John Hopkins University, 1990; M.S., University of Virginia, 1993.
- Davis, Kenneth A. (1980), *Senior Research Chemist*—B.A., Southern Illinois University, 1955; M.S., Pennsylvania State University, 1962; Ph.D., Technische Hochschule, Munich, 1969.
- Dellinger, H. Barrett (1982), *Senior Research Chemist*—B.S., University of North Carolina, 1971; Ph.D., Florida State University, 1975.
- Dempsey, David V. (1963), *Part-Time Professional Technologist*—A.S., University of Dayton, 1963.
- Detrio, John A. (1966), *Senior Research Physicist*—B.S., Spring Hill College, 1959; M.S., University of Alabama, 1961.
- Detroit, Mark J. (1991), *Research Human Factors Engineer*—B.S., Embry-Riddle Aeronautical University, 1984; M.S., University of Dayton, 1988.
- Dieterle, Gordon L. (1992), *Associate Research Mechanical Engineer*—B.S., Wright State University, 1979; M.S., University of Dayton, 1989.
- Dotrong, Minhhoa (1988), *Associate Research Chemist* — B.S., Technical University of Braunschweig, 1974; M.S., 1977.
- Drake, Michael L. (1973), *Research Engineer*—B.S., University of Cincinnati, 1972; M.S., 1973.
- Dreesbach, Donald A. (1993), *Research Engineer*—B.S., United States Military Academy, West Point, 1961; M.S., Arizona State University, 1973.
- Dusz, Thomas A. (1968), *Professional Technologist*.
- Eapen, Kalathil C. (1978), *Senior Research Chemist*—B.S., St. John's College, 1956; M.S., 1958; Ph.D., Loyola College, Madras, 1963.
- Emmer, Deems S. (1995), *Research Engineer* — B.S., Ohio State University, 1974; M.S., 1976; Ph.D., 1989.
- Esterline, Ronald L. (1975), *Professional Technologist*—A.S., Clark Technical College, 1970.
- Fielman, John W. (1962), *Research Mathematician*—B.S., University of Cincinnati, 1958.
- Fiscus, Ira B. (1964), *Research Engineer*—B.M.E., University of Dayton, 1963.
- Flanagan, Michael J. (1993), *Associate Research Engineer*—B.S.A.A.E., Ohio State University, 1981; M.S.A.A.E., Massachusetts Institute of Technology, 1982; Ph.D., Ohio State University, 1991.

- Flannery, David L. (1984), *Part-Time Senior Research Engineer*—B.S., General Motors Institute, 1964; M.S., Massachusetts Institute of Technology, 1964; Ph.D., 1968.
- Fox, Jeffrey A. (1974), *Research Engineer*—B.S., Wright State University, 1979; M.S., Wright State University, 1989.
- Frank, Geoffrey J. (1988), *Associate Research Engineer*—B.S., University of Dayton, 1987; M.S., Stanford University, 1988.
- Frock, Brian G. (1985), *Research Engineer*—B.A., Wilmington College, 1965; M.S., University of Dayton, 1968; M.S., 1981.
- Fuchs, Steven P. (1991), *Associate Research Engineer*—B.S., University of Dayton, 1989.
- Fultz, George W. (1965), *Assistant Research Materials Engineer*.
- Gallagher, Joseph P. (1978), *Senior Research Engineer*—B.S.C.E., Drexel College, 1964; M.S., University of Illinois, 1965; Ph.D., 1968.
- Gayman, Aaron J. (1995), *Assistant Research Technical Analyst*—B.A., Ambassador College, 1994.
- Gentner, Frank C. (1992), *Research Human Factors Analyst*—B.S., University of Florida, 1966; M.S., University of Florida, 1967.
- Gerdeman, Dennis A. (1962), *Senior Research Engineer*—B.M.E., University of Dayton, 1962; M.S.E., 1970.
- Glasgow, Gerald D. (1993), *Senior Polymer Research Scientist*—B.A., College of Wooster, 1958; Ph.D., University of Cincinnati, 1963.
- Goodman, Richard C. (1976), *Professional Technologist*.
- Graham, John L. (1980), *Research Engineer*—B.S., University of Dayton, 1980.
- Grant, Dale W. (1973), *Professional Metallography Technologist*—B.A., University of Dayton, 1984.
- Grant, John T. (1978), *Senior Research Engineer*—B.S., University of New South Wales, 1964; Ph.D., 1968.
- Graves, George A., Jr. (1965), *Senior Research Ceramist*—B.S., Alfred University, 1960; M.S., University of Dayton, 1973.
- Grazulis, Larry (1979), *Associate Research Engineer*—B.E.E., University of Dayton, 1984.
- Greason, Paul R. (1971), *Professional Technologist*.
- Grinstead, Becky R. (1993), *Assistant Research Chemist*—B.S., Wright State University, 1992.
- Grove, David J. (1979), *Associate Research Programmer-Analyst*—B.S., Miami University, 1977; M.S., University of Dayton, 1979.
- Gunderson, Stephen L. (1976), *Associate Research Materials Scientist*—B.S., University of Dayton, 1988.
- Gustafson, Steven C. (1976), *Senior Research Scientist*—B.S., University of Minnesota, 1967; M.A., Duke University, 1969; Ph.D., 1974..

- Hanchak, Stephen J. (1963), *Professional Technologist*—A.M.E., University of Dayton, 1963.
- Hart, Dale L. (1979), *Research Materials Engineer*—B.S., University of Dayton, 1977.
- Hartman, George A., III (1981), *Research Engineer*—B.S., University of Wisconsin, 1979; M.S., 1981.
- Hecht, Norman L. (1963), *Senior Research Scientist*—B.S.Cer.E., Alfred University, 1960; M.S., 1968; Ph.D., 1972.
- Hegde, Shrikrishna M. (1986), *Research Physicist*—B.S., Karnatak University, 1970; M.S., University of Cincinnati, 1974; Ph.D., 1978.
- Held, Thomas W. (1981), *Research Engineer*—B.S., Michigan State University, 1977; M.S., University of Cincinnati, 1979; M.S., 1980.
- Herron, Allison (1996), *Assistant Computer Design Artist* — B.A., University of Dayton, 1996.
- Heneghan, Shawn P. (1987), *Research Scientist*—B.S., San Diego State University, 1977; Ph.D., University of Southern California, 1982.
- Hill, Charles S. (1992), *Assistant Research Engineer*—B.S., University of Cincinnati, 1992.
- Hill, Susan I. (1995), *Part-Time Associate Research Engineer*—B.S., University of Dayton, 1979; M.S., Case Western Reserve University, 1982.
- Hoffman, Ronald (1993), *Research Physicist*—B.S., Southern Illinois University, 1973; M.S., 1975.
- Holthaus, Dennis F. (1979), *Facilities Specialist*.
- Hopkins, Alan K. (1991), *Part-Time Senior Research Metallurgist*—B.S., Ohio State University, 1956; M.S., Air Force Institute Technology, 1970; Ph.D., Ohio State University, 1972.
- Hopkins, David M. (1978), *Professional Technologist*.
- Hovey, Peter W. (1996), *Research Statistician* — B.S., University of Dayton, 1975; M.S., University of Kentucky, 1980; Ph.D., 1980.
- Howell, Lawrence D., Jr. (1989), *Associate Director for Business Development & Strategic Planning*—B.S., U.S. Air Force Academy, 1969; M.S., Ohio State University, 1976; Ph.D., 1980.
- Huelsman, Marc A. (1992), *Associate Research Engineer*—B.S., University of Dayton, 1992.
- Huff, Lloyd (1974), *Associate Director for Technology Commercialization*—B.S.E.E., Purdue University, 1962; M.S.E.E., 1964; Ph.D., University of Southern California, 1969.
- Hunter, Joseph T. (1993), *Assistant Research Engineer*—B.S., Wright State University, 1993.
- Hutson, Alisha L. (1995), *Assistant Research Engineer* — B.S., Wright State University, 1995.

- Iarve, Endel V. (1995), *Research Engineer*—B.S., Latvian State University, 1978; M.S., 1983; Ph.D., Leningrad University, 1989.
- John, Peter J. (1988), *Associate Research Physicist*—B.S., University of Dayton, 1982; M.S., University of Illinois, 1984; Ph.D., 1988.
- John, Reji (1987), *Associate Research Engineer*—B.S., India Institute of Technology, 1982; Ph.D., Northwestern University, 1988.
- Johnson, Paul E. (1973), *Research Engineer*—B.S.M.E., Tri-State College, 1972; M.S., University of Dayton, 1973.
- Kancler, David E. (1993), *Assistant Research Psychologist*—B.A., Ohio State University, 1990; M.A., University of Dayton, 1993.
- Karpur, Prasanna (1989), *Research Engineer*—B.S., University of Mysore, 1974; B.S., 1980; M.S., University of Alberta, 1983; Ph.D., Drexel University, 1987.
- Kasten, Linda S. (1996), *Assistant Research Chemist*—B.S., Wright State University, 1984.
- Kauffman, Robert E. (1979), *Research Chemist*—B.S., Bowling Green University, 1976; M.S., Ohio State University, 1978.
- Keller, Michael A. (1980), *Research Chemist*—B.S., Wright State University, 1975; M.S., University of Notre Dame, 1977.
- Khobaib, Mohammad (1984), *Research Engineer*—B.S., Regional Institute of Technology, 1965; M.T., Indian Institute of Technology, 1969; Ph.D., University of Connecticut, 1974.
- Kim, Ran Y. (1974), *Senior Research Engineer*—B.S., Seoul National University, 1957; M.S., 1960; Ph.D., Pennsylvania State University, 1971.
- Klauer, Ken M. (1995), *Assistant Research Technical Analyst*—B.A., University of Dayton, 1990.
- Klosterman, Donald A. (1994), *Associate Research Assistant*—B.S., University of Dayton, 1989; M.S., 1991.
- Kuhbander, Ronald J. (1964), *Associate Research Materials Engineer*.
- Kuhl, G. Edward (1993), *Senior Research Physicist*—B.S., Thomas More College, 1963; M.S., Wright State University, 1972; Ph.D., University of Cincinnati, 1968.
- Kumar, Binod (1980), *Sr. Research Engineer*—B.S., Rajendra College, 1962; B.Sc., Banaras Hindu University, 1967; M.S., Pennsylvania State University, 1973; Ph.D., 1976.
- Landis, Gerald R. (1988), *Assistant Research Engineer*.
- Landis, Jeffrey A. (1988), *Associate Research Psychologist*—B.S., University of Dayton, 1980; M.S., 1991.
- Lawless, Garth W. (1967), *Research Chemist*—B.S., University of Dayton, 1957; M.S., 1970.
- Leese, Robert E. (1963), *Professional Technologist*.
- Lewis, Arthur B. (1988), *Research Physicist*—B.A., University of Mississippi, 1954; M.S., Air Force Institute of Technology, 1975.

- Liang, Jim C. (1988), *Associate Research Chemist*—B.S., National Taiwan Cheng Kung University, 1968; M.S., Cleveland State University, 1971; Ph.D., Texas Tech University, 1980.
- Lightman, Allan J. (1978), *Senior Research Physicist*—B.A.Sc., University of Toronto, 1963; M.A., 1965; Ph.D., Weizman Institute of Science, 1971.
- Little, Gordon R. (1985), *Part-Time Research Physicist*—B.S., Ohio State University, 1966; M.S., 1970; Ph.D., 1973.
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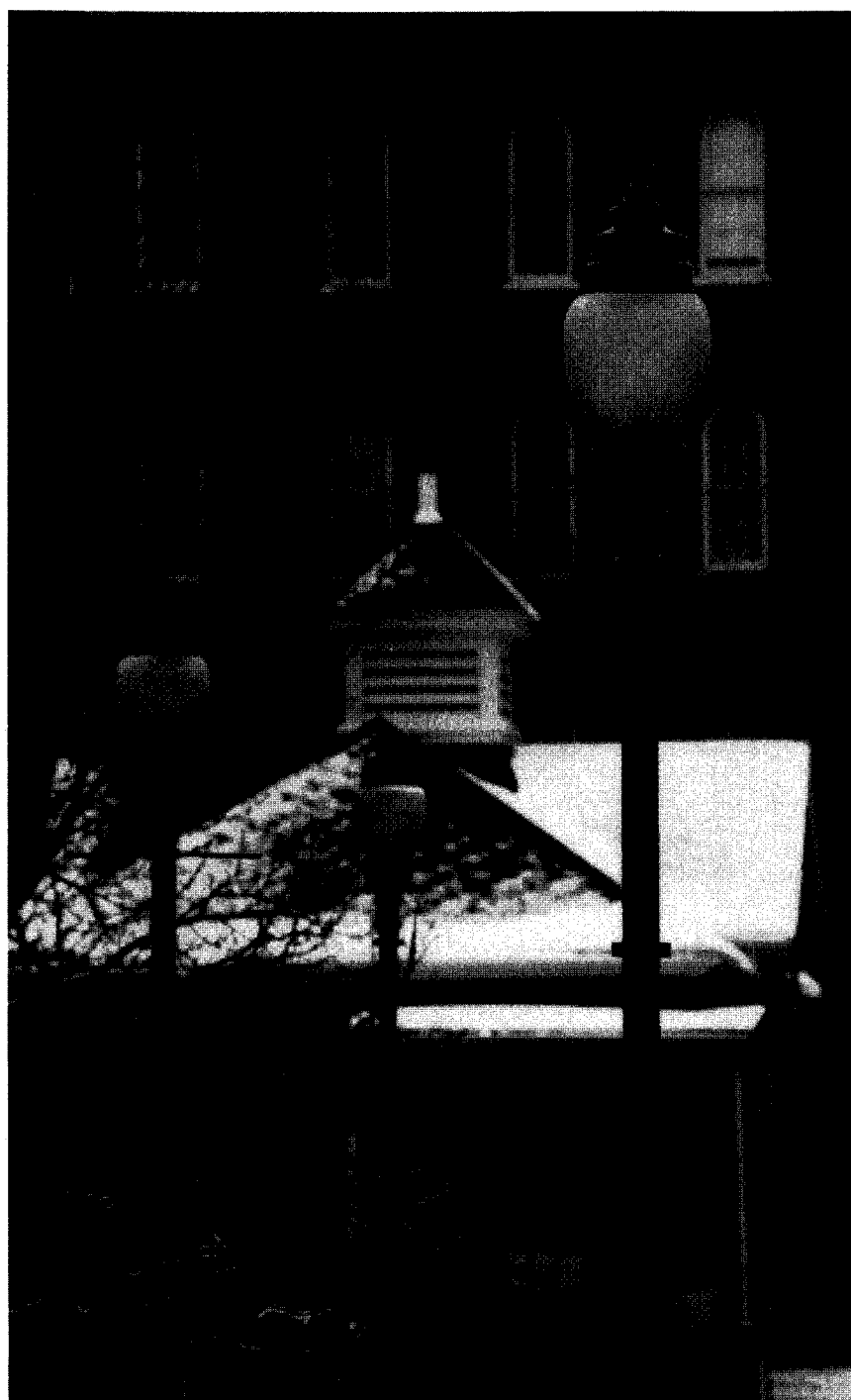


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## INDEX

- AA/EEO, 391
- Academic Affairs, 404
- Academic Calendar, 2, 4, 21
- Academic Programs, 406
- Academic Regulations, 49
- Academic Senate, 403
- Academic Standing, 63
- Academic Structure, 16
- Accounting, 262
- Accreditation, University, 19
- ACT (American College Test), 33, 49, 255
- Administration, 404, 407
- Administrative Computing and  
Telecommunication Services, 21, 392
- Admission, Application for, 31
- Admission, Considerations for, 31
- Adolescent to Young Adult Education, 325
- Adult Learners, 20, 392
- Advanced Placement, 34
- Advanced Standing, 34
- Advancement, University, 408
- Advisory Bodies, 403
- Aerospace Engineering, 336
- Affirmative Action, 391
- Air Force ROTC, 20, 391
- Alcohol Awareness, 26
- Alumni Placement, 29
- Ambulance Service, 27
- American Studies, 83
- Anthropology, 85
- AP (Advanced Placement), 34
- Application for Admission, 31
- Application for Scholarships, 43, 44
- Archival Management, 139
- Archives, 18
- Army ROTC, 20, 43, 47, 172, 398
- Art; see Visual Arts
- Art and Music Scholarships, 44
- Art Education, 241, 247
- Art History, 242, 249
- Arts and Sciences, College of, 16, 75
- Arts Study Requirement, 51, 53
- Associate degree holders, 118, 340
- At-Risk Students, Programs for, 34
- Athletic Scholarships, 43
- Athletic Training Certification, 296, 307
- Athletics, 28, 409
- Attendance Policy, 64
- Audit, 37, 61
- Augsburg, Exchange Program, 399
- Awards, 66, 73
- Ballet, 234, 235
- Basic Skills Requirements, 49
- Biblical Studies; see Religious Studies
- Biochemistry, 97
- Bio-Engineering Preparation, 340
- Biology, 87
- Board of Trustees, 403
- Board plans, 40
- Breadth Requirements, Arts and Sciences,  
81
- Business Administration, School of, 16,  
17, 255
- Calendar, Academic, 2, 4, 21
- Calendar Year, Academic, 21
- Campus, Map of, inside back cover
- Campus Ministry, 28, 407
- Cancellation and Refunds, 39
- Career Placement Center, 29, 392
- Center for International Programs, 153, 391
- Center for the Study of Family Development,  
131, 392
- Certification, Athletic Training, 296, 307
- Certification, Church Music, 179
- Certification, Teacher, 103, 123, 139, 156, 179,  
232, 236, 288, 296, 326
- CEU (Continuing Education Units), 392
- Chaplains, 28, 407
- Chemical Engineering, 345
- Chemical Processing, 340
- Chemistry, 96
- Church Music, 179
- Civil Engineering, 348
- Classical Languages, 156, 165
- Classics, 102
- CLEP (College Level Examination  
Program), 35, 38
- Coaches, Athletic, 409
- College Entrance Examination, 31, 34
- College-Level Examination Program, 35, 38
- College of Arts and Sciences, 75
- Combined Bachelor's-Master's, 87, 343
- Commencement, 64
- Communication, 103
- Communication Management, 103
- Communication Skills, 81
- Community Relations concentration, 227
- Commuter Student Services, 29
- Computer Engineering, 354
- Computer Facilities and Services, 392
- Computer Imaging, 238
- Computer Information Systems, 110
- Computer Science, 110
- Computer Science, Physics-, 201
- Continuing Education, University, 21,  
392, 404

## Index

- Cooperative Education, 47, 261, 335, 392
- CORE, 393
- Counseling Center, 25
- Credit Cards, 41
- Criminal Justice Studies, 116
- Critical Issues Education, 25
- Cum Laude, 64
- Cumulative Grade-Point Average, 62
- Curriculum Materials Center, 18
- Deans Emeriti, 410
- Dean's List, 63
- Decision Sciences, 266
- Deferred Payment Plan, 41
- Degree Requirements, General, 49
- Degree Requirements, Specific; see appropriate School or College
- Degrees granted, 16
- Departmental Chairpersons, 405
- Departments, Academic, 405
- Developmental Skills, 26, 50, 394
- Dietetics, 318
- Dining facilities, 23
- Directories, 403
- Disabilities, Office for Students with, 30
- Dismissal, Academic, 63
- Distinguished Service Professors, 413
- Distinguished Teaching Professor, 414
- Distribution Tables, Arts and Sciences, 80, 81
- Diverse Student Populations, 26
- Domains of Knowledge, 50
- Dormitories, 23, 40
- Driver Education, 296
- Drug Awareness, 25
- Dynamic Analysis of Mechanical Systems, 336
- Early Childhood Education, 321
- Economics, 122, 268
- Education, Health and Sport Science, 296
- Education, School of, 16, 17, 293, 294
- Education, Teacher, 321
- Educational Leadership Council, 403
- Educational Placement Services, 293
- Educational Services, Office of, 397
- E11A, 232, 328
- E11B, 289
- Elderhostel, 392
- Electrical & Computer Engineering, 353
- Electronic Engineering Technology, 371
- Electronic Media Concentration, 103
- EM Credit, 62
- Emergency Ambulance Service, 27
- Emergency assistance, 27
- Emergency loans, 46
- Emeriti, Professors, 410
- Employment, Student, 29, 46
- Endorsements and Validations, 328
- Energy Conversion, 340
- Engineering, Chemical, 345
- Engineering, Civil, 348
- Engineering, Electrical & Computer, 353
- Engineering, Mechanical, 360
- Engineering Mechanics, 336, 367
- Engineering Minors, 340
- Engineering, School of, 16, 17, 339
- Engineering Service Courses, 366
- Engineering Technology, 369
- Engineering Technology Service Courses, 389
- English, 123
- English Language and Multicultural Institute, 391
- English Requirement, 49, 123
- Entrance Unit Recommendations, 32
- Environmental Biology, 88
- Environmental Geology, 134
- Examinations; see Tests
- Exercise Science and Fitness Management, 300
- Exercise Science and Pre-Physical Therapy, 301
- Expenses, 42
- Experimental and Interdisciplinary Studies, 395
- Faculty Directory, 414
- Family Development, 131, 392
- Fees, 37, 38
- Fees, Visual Arts, 38, 242
- Fees, Laboratory, 38
- Fees, Music, 38, 188
- Fees, Photography, 38, 247
- FERPA, 66
- Finance, 272
- Finance Charge, 38
- Financial Aid Policy, 42
- Financial Aid, Application for, 42, 43, 44
- Financial Information, 37
- Fine Arts, 237, 243
- Fitness Management, 300
- Flyer Express, 26
- Food and Nutrition, 308
- Food Service, 23
- Foreign language requirement, 33, 76, 78
- Foreign languages; see Languages
- Foreign students; see International students
- Foreign Study, 391
- French, 157
- GED (General Education Development) Certificate, 31

## Index

- General Education Requirements, 49, 50  
General Studies, 132, 394  
Geology, 133  
German, 160  
Germany, Summer Study in, 399  
GI Bill, 47  
Governing and Advisory Bodies, 403  
Grades and grade-point averages, 60, 62  
Grading options, 60, 257, 342  
Graduate and Alumni Placement, 29, 295  
Graduate Guidance Center, 394  
Graduate programs; see Graduate issues  
of Bulletin  
Graduation; see Commencement  
Grants, 44, 45, 47  
Handbook, Student, 27  
Handicapped, inside front cover  
Health and Sport Science, 298, 311  
Health Education, 305  
Health Information Specialist, 306  
Health Center, Student, 25  
High school credits, 31, 255  
High School Scholars, 35  
High School Teaching Fields, 325, 326  
Historical Administration and  
Preservation, 139  
Historical Study Requirement, 51, 54  
History, 139  
History of the University, 12  
Home Study, 394  
Honors, Academic, 63  
Honors courses; see department listings  
Honors Program, University, 400  
Housing Office, 23  
Human Relations concentration, 227  
Human Resources, 391  
Humanities Base, 51  
Humanities Studies, 147  
ID/Campus One Card, 27  
Illustration, 238  
IMRI, 14, 396  
Industrial and Systems Engineering, 340,  
367  
Industrial Engineering Technology, 376  
Institute for Pastoral Initiatives, 395  
Institutional Membership, 19  
Insurance, Student, 25  
Integrated Science, 150  
Intercollegiate Athletics, 28, 409  
Interdepartmental Summer Study Abroad  
Program (ISSAP), 156, 391, 399  
Interdisciplinary majors, 76  
Interdisciplinary Studies, 21, 148, 275, 367,  
395  
International Affairs, 139, 203  
International Business, 258  
International Development Studies, 152  
International Educational Programs,  
Office of, 391  
International Marian Research Institute,  
14, 396  
International Services, Office of, 21, 391  
International Students, 31, 33, 391  
International Studies, 153  
Internship, 82, 261  
Intervention Specialist, 326  
Intramural Sports, 28  
ISSAP, 156, 399, 400  
Italian, 162  
Journalism, 103  
Journalism, Political, 103, 203  
Junior GI Bill, 47  
Kennedy, John F., Memorial Union, 24  
Laboratory fees, 38  
Language requirement, 33, 76  
Languages, 156  
Latin, 162  
Law, School of, 16, 18  
Learning Assistance Center, 26  
Liberal Studies Curriculum, 79, 80  
Libraries, 18, 406  
Library, Marian, 14, 18, 396, 406  
Loans, Student, 42, 45, 46  
Logic; see Philosophy  
LSAT, 208, 398  
Magna Cum Laude, 64  
Management, 276  
Management Information Systems, 281  
Management, Sport, 303, 304  
Manufacturing Engineering Technology, 380  
Map of campus, inside back cover  
Marburg, Summer Study in, 399  
Marian Library, 14, 18, 396, 406  
Marian Research Institute, 14, 396  
Marianists, 11  
Marketing, 285  
Materials Engineering, 340  
Mathematical Skills, 50  
Mathematics, 166  
Mathematics, Developmental, 26, 50, 394  
MBA preparation, 260  
Meal Tickets, 23, 40  
Mechanical Engineering, 360  
Mechanical Engineering Technology, 384  
Mechanics, Engineering, 336, 367  
Mechanics of Engineering Systems, 340  
Membership, Institutional, 19  
Mexico, Summer Study Abroad in, 400  
Middle Childhood (EMS), 323  
Military Science, 172



## Index

- Minicourses, 397
- Ministry, Campus, 28, 407
- Mission, 11
- Model United Nations, 155, 391
- Music, 175
- Music, Church, 179
- Music Composition, 176
- Music Education, 178, 328
- Music Performance, 177
- Music scholarships, 44
- Music Therapy, 177
- National Guard Tuition Grant, 47
- New Student Orientation, 27
- Nondiscriminatory Policy, inside front cover
- Nutrition, Food and, 308, 310
- OhioLINK, 18
- Ohio National Guard tuition grant, 47
- Ohio Safety Officers Grant, 47
- Ohio War Orphans, 47
- Ohio residents, Grants for, 44, 45
- Online Computer Library Center, 18
- Oral Communication, 50
- Orientation, New Student, 27
- Parking, 27
- Part-time Students, 21, 37, 39, 392
- Payment Plans, 41
- Pell Grants, 44
- Performance, Music, 177
- Philosophy, 190
- Philosophy and Religious Studies
  - Requirement, 52, 55
- Photo Credits, 463
- Photography, 240, 247
- Photography Fees, 38, 247
- Physical Activities Center, 28
- Physical and Life Sciences Requirement,
  - 51, 57
- Physical Education, 298, 299, 300
- Physical Science, 202
- Physics, 196
- Physics—Computer Science, 201
- Placement Service, 29, 295
- Placement Tests, 34, 49
- Police, Campus, 27
- Political Journalism, 203
- Political Science, 203
- Post-Secondary Enrollment Options, 35
- Practice Teaching; see Student Teaching
- Predentistry Studies, 210
- Prelaw, 208, 398
- Prelaw for HST majors, 139
- Prelaw for POL majors, 203
- Premedicine Studies, 210
- Pre-Payment Plan, 41
- Pre-physical Therapy, 301
- Preservation, Historical, 139
- President, 404
- Privacy rights, 65
- Private Alternative Loans, 41, 42
- Probation policy, 63
- Professor, Distinguished Teaching, 414
- Professors, Distinguished Service, 413
- Professors Emeriti, 410
- Project Ahead, 47
- Provost, 16, 21, 404
- Psychological Services, 25
- Psychology, 212
- Public Administration, 203
- Public Relations, 103
- Public Safety, 27
- Purposes, Statement of, 15
- Quebec, Summer Study in, 400
- Reading and Writing Skills, 49
- Reading, Developmental, 26, 394
- Reading Teacher, 325
- Records, Student, 65
- Recreational Sports, 28
- Refunds, 39
- Registrar Emeritus, 413
- Rehabilitation, Vocational, 47
- Religious Services, 28
- Religious Studies, 51, 55, 218
- Reports, Grade, 60, 62
- Research, 406
- Research Institute, 21, 398, 446
- Research Staff, 446
- Residence Facilities, 40
- Residence Requirement (Academic), 49
- Residential Programs and Services,
  - Office of, 23
- Retailing, 284
- Retraining (post-graduate), 295
- Returning students, 43, 256
- Room and Board, 40
- ROTC (Reserve Officers Training Corps), 21,
  - 43, 47, 172, 391, 398
- ROTC Scholarships, 44
- Russian, 163
- SAT (Scholastic Aptitude Test), 31, 33, 50, 255
- Scholars, High School, 35
- Scholars, University, 401
- Scholarships, 43, 44
- School of Business Administration, 17, 255
- School of Education, 16, 17, 293
- School of Engineering, 16, 17, 339
- School of Law, 16, 18
- Segovia, Summer Study Abroad, 400
- Semester hour unit; see Credits

## Index

- Senate, Academic, 403  
Service Courses, 366, 388  
Senior Fellows, 46, 392  
Skills, Basic, 49, 293  
Skills, Developmental, 26, 50, 394  
Social Sciences Requirement, 51, 59  
Social Work, 225  
Society of Mary, 12  
Sociology, 227  
Southwestern Ohio Council for Higher Education, 20  
Spain, Summer Study in, 400  
Spanish, 164  
Special Education, 328  
Special Admits, Program, 34  
Special students, 39  
Sports, 28, 409  
Sport Management, 303, 304  
Statement of Purposes, 15  
Strategies for Responsible Development, 398  
Structures (Engineering), 340  
Student Activities, Office of, 24  
Student Development, 408  
Student Handbook, 28  
Student I.D., 27  
Student Life and Services, 23  
Student Life Council, 403  
Student Records, 65  
Student Teaching, 295  
Study Abroad, 391, 399  
Study at Home, 394  
Summa Cum Laude, 64  
Summer sessions, 3, 4, 21, 34  
Summer study abroad, 399  
Teacher Licensure, 103, 123, 139, 156, 179, 232, 236, 289, 296, 324  
Teacher Education, 321  
Teacher placement, 295  
Technology, Engineering, 369  
Tests, 31, 33, 34, 49, 50, 113, 116, 293, 294  
Theatre, 104, 233  
Thematic Clusters, 52  
Theology; see Religious Studies  
Therapy, Music, 177  
Thermal Engineering, 340  
3/4-time students, 38, 39  
TOEFL, 31, 33  
Training needs of organizations, 392  
Transcripts, 38, 66  
Transfer credit (K), 61  
Transfer students, 33, 116, 118, 255, 340  
Transient status, 49  
Trustees, Board of, 403  
Tuition, 37, 38  
Tuition Reduction, 46  
Tutorial Services, 26  
Union, John F. Kennedy Memorial, 24  
University Advancement, 408  
University Honors Program, 400  
University Interdisciplinary Studies, 21, 148, 275, 366, 395  
University Requirements, 49  
University Scholars Program, 401  
Urban Affairs, 203  
Veterans, 33, 47  
Visual Arts, 236, 250  
Visual Communication Design, 238, 245  
Vocational Rehabilitation, 47  
Water Resources Engineering, 340  
Withdrawal, 39, 60, 61  
Women's Studies, 252  
Work-Study, 46  
Write Place, 26  
Writing Certificate, 123  
Writing, Developmental, 26, 50, 394  
Writing Skills, 49

## PHOTO CREDITS

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# UNIVERSITY OF DAYTON GRADUATE AND UNDERGRADUATE ACADEMIC CODES

ACC	Accounting	GEN	General Studies
AEE	Aerospace Engineering	GEO	Geology
AMS	American Studies	GER	German
ANT	Anthropology		
ASI	Interdisciplinary Studies	HOA	Art History
ART	Fine Arts	HSS	Health and Sport Science
		HST	History
BAI	Business Interdisciplinary Studies	IDE	Interior Design
BCM	Biochemistry	IET	Industrial Engineering Technology
BIO	Biology	IND	International Development Studies
		INS	International Studies
CHA	Chemistry	ITA	Italian
CHM	Chemistry		
CIE	Civil Engineering	LAT	Latin
CIS	Computer Information Systems	LAW	Law
CJS	Criminal Justice Studies	LNG	Languages
CLA	Classics		
CME	Chemical Engineering	MAT	Materials Engineering
CMM	Communication	MBA	Graduate Business Administration
CPE	Computer Engineering	MCH	Church Music
CPS	Computer Science	MCT	Mechanical Engineering Technology
		MED	Premedicine
DEN	Predentistry	MEE	Mechanical Engineering
DEV	Developmental Skills	MFG	Manufacturing Engineering Technology
DSC	Decision Sciences	MGT	Management
		MIL	Military Science
ECA	Economics	MIS	Management Information Systems
ECC	Community Counseling	MKT	Marketing
ECO	Economics	MPA	Public Administration
EDE	Elementary Education	MTH	Mathematics
EDH	Health Education	MSP	Applied Mathematics
EDL	Educational Leadership	MUC	Music Composition
EDP	Physical Education	MUE	Music Education
EDS	Secondary Education	MUP	Music Performance
EDT	Teacher Education	MUS	Music
EEH	Elementary and Ed. of Students with Exceptionalities	MUT	Music Therapy
EEK	Elementary Education and Kindergarten	PCS	Physics—Computer Science
EES	Exercise Science and Fitness Management	PHL	Philosophy
EET	Electronic Engineering Technology	PHO	Photography
EGM	Engineering Mechanics	PHY	Physics
EGR	Engineering	PLW	Prelaw
EHA	Food and Nutrition — Dietetics	POL	Political Science
EHD	Education of Learners w/Exceptionalities	PSC	Physical Science
EHN	Food and Nutrition — Nutrition	PSY	Psychology
EHS	Health Information Specialist	PTY	Photography
EHZ	Food and Nutrition		
EKP	Kindergarten-Primary Education	REL	Religious Studies
ELE	Electrical Engineering	RUS	Russian
ENG	English		
ENI	Engineering Interdisciplinary	SCI	Integrated Science
EOP	Electro-Optics	SET	Engineering Tech. Service Courses
EPT	Pre-Physical Therapy	SOC	Sociology
ESM	Sport Management	SPN	Spanish
EVB	Environmental Biology	STA	Fine Arts
EVE	Environmental Engineering	SWK	Social Work
EVG	Environmental Geology		
		THR	Theatre
FDV	Family Development	UDI	University Interdisciplinary
FIN	Finance	VAR	Visual Arts
FRN	French	VCD	Visual Communication Design
		WST	Women's Studies