



NORTHERN
OHIO NORTHERN UNIVERSITY



CATALOG 2005-06

Catalog 2005-06

Ohio Northern University is a private, United Methodist Church-related university in Ada, Ohio, including the Colleges of Arts and Sciences, Business Administration, Engineering, Pharmacy, and Law.

Ohio Northern University does not discriminate on the basis of race, religion, national or ethnic origin, gender, age, or disability.

While every effort is made to ensure the accuracy of the information available at the time copy is prepared for this Catalog, the University reserves the right to make changes at any time without prior notice.

The University's Internet electronic mail address:
info@onu.edu

Visitors Welcome

Visitors to the campus are welcome at any time. An appointment in advance is suggested to avoid waiting or disappointment when an interview is desired. University personnel are usually available at their offices between 8 a.m. and 4:30 p.m., Monday through Friday. See the University Calendar for holiday office closing dates. There is limited staffing in offices during some portions of holiday periods.

The University's telephone number:
(419) 772-2000

The University's administrative FAX number:
(419) 772-1932

The University's address:
Ohio Northern University
525 S. Main St.
Ada, Ohio 45810

The University's Internet web home page:
<http://www.onu.edu/>

Communications with the University

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Vice President for Academic Affairs Anne Lippert 772-2034

Vice President for University Advancement Dennis D. Hunt 772-2036

Vice President for Financial Affairs John W. Green 772-2022

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Dean, College of Engineering Barry J. Farbrother 772-2372

Dean, College of Law David C. Crago 772-2205

Dean, College of Pharmacy Bobby G. Bryant 772-2277

Dean of Students Adriane Thompson-Bradshaw 772-2433

Controller Stacey R. Neeley 772-2010

Registrar Richard G. Carpenter 772-2024

University Chaplain Vernon F. LaSala 772-2200

McIntosh Center Mark D. Light 772-2400

Director of Heterick Library Paul M. Logsdon 772-2182

Director of the Taggart Law Library Nancy A. Armstrong 772-2692

Director of Admissions (Law) Linda K. English 772-2211

Director of Alumni Affairs Ann E. Donnelly 772-2728

Director of Annual Giving Scott Wills 772-2041

Director of Athletics Thomas E. Simmons 772-2450

Director of Communication Skills Center Melanie Caw Woods 772-2186

Director of Engineering Cooperative Education Program Laurie Laird 772-2421

Director of Financial Aid Services Wendell Schick 772-2272

Director of Gift Planning Kenneth Block 772-2008

Director of Honors Program Patrick Croskery 772-2197

Director of Information Technology George E. Gulbis 772-3100

Director of Institutional Research Christy Cole 772-2529

Director of Public Information 772-2044

Director of Residential and Student Services Mark D. Light 772-2402

Director of Student Development DeAnna L. Kussmaul 772-2145

Director of Summer Session Roger H. Goldberg 772-2032 / Naomi Theye 772-2024

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University at a Glance

Accreditation and Affiliations

Ohio Northern University, or its appropriate college or department, holds membership in or is accredited by the following organizations:

UNIVERSITY

Accredited by

The Higher Learning Commission and a member of the North Central Association:
www.ncahigherlearningcommission.org;
(312) 263-0456

Membership in

The Ohio College Association
American Association for Higher Education
American Council on Education
Association of Independent Colleges and Universities of Ohio
The Association of Governing Boards of Universities and Colleges
Council of Independent Colleges
Council for Advancement and Support of Education
American Association of University Women
American Association of Collegiate Registrars and Admissions Officers
The National Association of Schools and Colleges of the United Methodist Church
Association of American Colleges and Universities
The College Board
Ohio Foundation of Independent Colleges
Ohio Athletic Conference
National Collegiate Athletic Association

GETTY COLLEGE OF ARTS AND SCIENCES

Accredited by

The American Chemical Society
The Commission on Accreditation of Allied Health Education Programs (CAAHEP)
National Accrediting Agency for Clinical Laboratory Science (NAACLS)
National Association of Industrial Technology
National Association of Schools of Music
Ohio Board of Nursing

Membership in

American Association for Higher Education
American Historical Association
American Institute of Biological Sciences
American Political Science Association
American Theatre Association
College Art Association
Council of Colleges of Arts and Sciences
Council on Undergraduate Research
Mathematical Association of America
Modern Language Association of America
National Association of Schools of Music
National Association for Sports & Physical Education
Public Relations Society of America
Speech Communication Association

T. J. SMULL COLLEGE OF ENGINEERING

The four programs—civil engineering, computer engineering, electrical engineering, and mechanical engineering are accredited by the Engineering

Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET)

Membership in

The American Society for Engineering Education
Association for Computing Machinery

Recognized by

The Ohio Board of Registration for Professional Engineers and Surveyors

RAABE COLLEGE OF PHARMACY

Accredited by

The Accreditation Council for Pharmacy Education

Approved by

The Ohio State Board of Pharmacy

Membership in

The American Association of Colleges of Pharmacy
Council of Ohio Colleges of Pharmacy

PETTIT COLLEGE OF LAW

Accredited by

The Association of American Law Schools
The American Bar Association, Section of Legal Education and Admissions to the Bar,
321 N. Clark St., 21st Floor
Chicago, IL 60610; (312) 988-6738

COLLEGE OF BUSINESS ADMINISTRATION

Accredited by

AACSB International - The Association to Advance Collegiate Schools of Business

HETERICK MEMORIAL LIBRARY

American Library Association
OHIONET, OCLC, Inc., OhioLink

CENTER FOR TEACHER EDUCATION

Accredited by

The National Council for Accreditation of Teacher Education (NCATE)
The Ohio Department of Education

Membership in

American Association of Colleges for Teacher Education
Ohio Association of Colleges for Teacher Education

Academic Year

Undergraduate Colleges - Three Quarters

Sept. 6 — Nov. 18
Nov. 28 — Feb. 24
March 6— May 19

Summer Sessions

May 30— Aug. 18

College of Law — Two Semesters

Aug. 22— Dec. 16
Jan. 9— May 12

Summer Session

May 30 — July 27

Admissions Programs

Rolling Admissions
Advanced Placement
Transfer Students
Special, Audit, and Transient Students

Student Population (Fall 2004)

Men	1668
Women	1720
Total	3388

Degrees

Bachelor of Arts
Bachelor of Fine Arts
Bachelor of Music
Bachelor of Science
Bachelor of Science in Clinical Laboratory
Science
Bachelor of Science in Nursing
Bachelor of Science in Business Administration
Bachelor of Science in Civil Engineering
Bachelor of Science in Computer Engineering
Bachelor of Science in Electrical Engineering
Bachelor of Science in Mechanical Engineering
Doctor of Pharmacy
Master of Education in Teaching
Juris Doctor

MAJORS

Getty College of Arts and Sciences

Art, with concentrations in
Graphic Design
Studio Arts
Athletic Training
Biochemistry
Biology
Chemistry
Clinical Laboratory Science
Communication Arts, with concentrations in
Broadcasting and Electronic Media
International Theatre Production
Musical Theatre
Professional and Organizational
Communication
Public Relations
Theatre
Creative Writing
Criminal Justice, with concentrations in
Administration of Justice
Behavioral Science
Education-Early Childhood
Education-Middle Childhood
Environmental Studies
Exercise Physiology
Forensic Biology
French
German
Health Education
History
International Studies

Journalism
Language Arts Education
Literature
Mathematics
Mathematics/Statistics
Medicinal Chemistry
Molecular Biology
Music
Music Composition
Music Education
Music Performance
Music with Elective Studies in Business
Nursing
Philosophy
Philosophy and Religion
Physical Education
Physics
Political Science
Professional Writing
Psychology
Religion
Social Studies
Sociology
Spanish
Sport Management
Technology
Technology Education
Youth Ministry

College of Business Administration

Accounting
International Business and Economics
Management
Marketing

T. J. Smull College of Engineering

Civil Engineering Computer Engineering
Computer Science Electrical Engineering
Mechanical Engineering

Raabe College of Pharmacy

Pharmacy

Preprofessional Curricula

Predentistry Prephysical Therapy
Prelaw Prephysician Assistant
Premedicine Preseminary
Preoccupational Therapy Preveterinary

SPECIAL PROGRAMS

Arts/Engineering
Arts-Business/Pharmacy
Athletic Coaching Certification
Computer Science Co-op Program
(Professional Practice)
Engineering Co-op Programs
(Professional Practice, Domestic and International)
Field Experience Programs
Honors Program
Mathematics Co-op Program (Professional Practice)
Pharmacy, Non-Traditional Doctor of
Pharmacy Degree Program
Post Baccalaureate Certificate in Clinical
Laboratory Science
Study Abroad
Teacher Licensure (Early Childhood,
Middle Childhood, Secondary)
Technology Co-op Program

University Calendar, 2005-06

Undergraduate Colleges

Fall Quarter 2005

August

- 15 Last day for payment of fees (Mon.)
- 22 Last day to complete requirements for admission or readmission (Mon.)

September

- 3 Residence halls open, new students, 9 a.m. (Sat.)
- 3-5 New student orientation (Sat.– Mon.)
- 5 Residence halls open, returning students. Late registration for new, re-entry, and continuing students (Mon.)
- 6 Classes begin, 8 a.m. (Tues.)
- 12 Last day to add a class or section (Mon.)
- 20 Beginning of “W” period for withdrawals (Tues.)

October

- 1 Family Day (Sat.)
- 10-21 Registration for winter quarter
- 15 Homecoming (Sat.)
- 24 Last day to withdraw (Mon.)
- 28 Last day to remove “I” (Incomplete) mark (Fri.)

November

- 11 Last day for payment of fees (Fri.)
- 11 Last day to complete requirements for admission or readmission (Fri.)
- 14-18 Final exams (Mon.-Fri.)

Winter Quarter 2005-06

November

- 27 Residence halls open, 9 a.m. (Sun.)
- 28 Late registration of new, re-entry and continuing students (Mon.)
- 28 Classes begin, 8 a.m. (Mon.)

December

- 2 Last day to add a course or section (Fri.)
- 12 Beginning of “W” period for withdrawals (Mon.)
- 17- Jan. 2 Holiday Recess

August - 2005

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January - 2006

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January

- 2 Residence halls open, 9 a.m. (Mon.)
- 3 Classes resume (Tues.)
- 16 Martin Luther King, Jr. Day (Mon.);
classes recess
- 17-27 Registration for spring quarter
- 31 Last day to withdraw (Tues.)

February

- 3 Last day to remove "I" (Incomplete)
mark (Fri.)
- 17 Last day for payment of fees (Fri.)
- 17 Last day to complete requirements for
admission or readmission (Fri.)
- 20-24 Final exams (Mon.-Fri.)

Spring Quarter 2006

March

- 5 Residence halls open, 9 a.m. (Sun.)
- 6 Late registration for new, re-entry, and
continuing students (Mon.)
- 6 Classes begin, 8 a.m. (Mon.)
- 10 Last day to add a class or section (Fri.)
- 20 Beginning of "W" period for withdrawals
(Mon.)

April

- 5 Founders Day (Wed.)
- 12-25 Registration for fall quarter
- 14-17 Easter Recess
- 25 Last day to withdraw (Tues.)
- 28 Last day to remove "I" (Incomplete) mark
(Fri.)

May

- 6 Honors Day (Sat.)
- 15-19 Final exams (Mon.-Fri.)
- 21 Commencement

June

- 3-4 Alumni Weekend

Summer Session 2006

First Session May 30 to June 23
(Sat. June 3)

Second Session June 26 to July 21
(Sat. July 15)

Third Session July 24 to August 18

Bear Tracks 101 (Advising & Scheduling) 2006
dates to be announced.

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General Information

Mission and Purpose Statement

Ohio Northern University, a United Methodist-related institution of higher learning, seeks to educate and graduate students accomplished in scholastic achievement, prepared for a useful life and meaningful career, and inspired with a desire to contribute to the good of humankind consistent with Judeo-Christian ideals.

Ohio Northern's purpose is to help students develop into self-reliant, mature men and women open to dealing with the contemporary world, actively involved in their learning, capable of clear and logical thinking and sensitive to the higher values of truth, beauty and goodness. In keeping with these goals, students will study diverse ideas and influences and develop technology skills appropriate to the needs of an ever changing world. The University's academic program includes mutually supportive liberal and professional education components and integrates practice with theory and provides students with opportunities for research, internships, co-op and international study and work.

Vision Statement

Ohio Northern University will be a leading, private, student-centered institution of increasing regional and national prominence. It will be

a diverse, dynamic and unique learning community offering rigorous professional programs in partnership with the arts and the sciences to prepare individuals for lifelong challenges in the 21st century.

The University's Commitments

Ohio Northern is a student-centered, service-oriented, values-based institution of higher learning committed to a rigorous pursuit of academic inquiry and achievement.

Student-Centered - Ohio Northern is proud to be a place where the learning, development and welfare of students is the first priority. It is committed to providing the support that will ensure that students are always the university's principal concern.

Service-Oriented - Ohio Northern University is committed to providing service and outreach to its community by offering helping, learning, consulting, and leadership opportunities to its constituents.

Values-Based - Ohio Northern University, as a United Methodist Church related institution, is committed to being a university where values matter and to providing an ecumenical and interfaith environment that nurtures the spiritual growth and development of its constituents.



The University's Values

Ohio Northern University values excellence, innovation, technology, diversity and its people.

Excellence - Ohio Northern University seeks to achieve the highest level of performance in all its endeavors and believes that a process for continuous improvement provides a mechanism to sustain excellence.

Innovation - Ohio Northern University, while a strong advocate of its current programs and activities, encourages the development of new initiatives and opportunities, the discovery of new sources of support and commitment, and the development of alternative delivery systems for educational services.

Technology - Ohio Northern University recognizes the importance of technology in contemporary education and instruction and seeks to maintain an advanced technological environment that meets the ever-changing needs of its constituents.

Diversity - Ohio Northern University's motto is *Ex diversitate vires*, ("out of diversity, strength") and it seeks to provide experiences and programs that prepare graduates to live in an inclusive world characterized by difference.

People - Ohio Northern University values the talents of its diverse human resources and strives to provide an environment in which they can thrive, grow and excel.

Organization of the University

Ohio Northern University is organized into five colleges: arts and sciences, engineering, pharmacy, law, and business administration, and offers the appropriate degrees on the undergraduate and first professional degree level.

The **Getty College of Arts and Sciences** is organized into fifteen departments. Each department has a chair who is directly responsible to the dean of the college. Within the fine arts there are three departments: art, music, and communication arts. Humanities programs are included within the departments of English, modern languages, history, political science and criminal justice, and philosophy and religion. Mathematics and natural sciences programs are offered by the four departments: biological and allied health sciences, chemistry and biochemistry, mathematics, and physics and astronomy. Social science programs are offered by the departments

of history, political science and criminal justice, and psychology and sociology. The Center for Teacher Education offers 14 teacher licensure programs approved by the state of Ohio and the National Council for the Accreditation of Teacher Education (NCATE). General health-related or sport sciences programs are offered by the department of human performance and sport sciences. The department of technological studies offers options in advanced manufacturing, construction operations, design analysis, and multimedia design and development. A technology education major with teacher licensure is also available.

Ohio Northern emphasizes a liberal education. Graduates in all departments of the Getty College of Arts and Sciences satisfy in full the requirements for the appropriate bachelor's degree. Students qualifying for teacher licensure in early childhood, middle childhood, or adolescent /young adult education must satisfy the appropriate arts and sciences college requirements. Students in the colleges of engineering, pharmacy, and business administration must satisfy certain arts and sciences course requirements and may elect further courses offered by the College of Arts and Sciences.

The **T. J. Smull College of Engineering** is organized into the departments of civil engineering, electrical & computer engineering and computer science, and mechanical engineering. The four engineering programs have a freshman core curriculum which affords time for undecided students to declare a major. An optional five-year co-op program is available to all students who maintain at least a 2.50 cumulative grade point average. All graduates of the College of Engineering satisfy in full the requirements for the degree of Bachelor of Science in Civil, Computer, Electrical, or Mechanical Engineering, or Bachelor of Science in computer science.

The **Raabe College of Pharmacy** is organized into the departments of pharmacy practice, and pharmaceutical and biomedical sciences. The basic program in pharmacy is the Doctor of Pharmacy (Pharm.D.) degree curriculum, a six-year program that leads to the Doctor of Pharmacy degree. The college also offers a non-traditional curriculum which leads to the Doctor of Pharmacy degree for holders of a B.S. Pharm. and licensed pharmacists.

The **College of Business Administration** offers the degree of Bachelor of Science in Business Administration with majors in accounting; international business and economics; management; and marketing.

The **Pettit College of Law** awards the Juris Doctor degree after successful completion of a three-year course of study. An earned baccalaureate degree from an accredited institution is required for admission into the College of Law.

Brief History of the University

In August 1871, near the end of President Ulysses S. Grant's first administration, Henry Solomon Lehr founded a school that was to become in time Ohio Northern University. Its first name was Northwestern Ohio Normal School until its incorporation in 1885 when the name was changed to Ohio Normal University. The same year the department of law was established. The year before, in 1884, the department of pharmacy was founded. The first catalog listed a course in surveying and by 1882 the department of engineering was formed.

Lehr initially designed his school to prepare teachers for public schools, which was a purpose of normal schools in the 19th century. Another 19th century cultural experience Lehr followed was the creation of student literary societies, which, according to a university historian, "happily wedded social and intellectual pursuits and neatly filled a gap in the architecture of the institution." In these societies students found "an outlet for oratorical and literary talents and a fitting haven for the urge to identify with like-minded fellows." In the early history of the University the "Franklins" and "Philomatheans" created the social activities as well as the political atmosphere of student life.

In August 1899, almost 28 years after its founding, the University was sold to the Central Ohio Conference of the Methodist Episcopal Church, and in 1901 Dr. Leroy Belt, a Methodist minister, was named its second president with Lehr remaining as vice president until his retirement the next year. In 1903 engineering students led by Thomas Smull agitated to have

"Normal" dropped from the University's name and the Board of Trustees reacted sympathetically, changing the name to Ohio Northern University, thereby retaining the ONU initials.

Dr. Belt was succeeded in 1905 by Dr. Albert Edwin Smith whose strong and willful leadership guided Northern's destiny for the next quarter century. Smith resembled William Jennings Bryan in physical appearance and even emulated in style and manner the populist senator and presidential candidate. Dr. Robert Williams was Northern's fourth president from the beginning of the depression in 1930 to the middle of World War II before he stepped aside for Dr. Robert McClure, who remained in office through the post-war boom years until 1949.

His successor was Dr. F. Bringle McIntosh who presided as Northern's sixth president for 16 years and oversaw the accreditation of several colleges as well as the development of the west campus, including residence halls and the center that bears his name. Dr. Samuel Lewis Meyer, Northern's seventh president and first layman to hold office since Henry Solomon Lehr, served from 1965 to 1977, during which seven buildings were added to campus.

The eighth president, Dr. Ray B. Loeschner, assumed office on August 1, 1977, and served until July 31, 1979. In December 1979, Dr. DeBow Freed became Northern's ninth president and served from 1979 to 1999, a time in which improvements were made to campus buildings, aesthetics and infrastructure as well as the construction of the Freed Center for the Performing Arts. On September 1, 1999, Dr. Kendall L. Baker became the University's tenth president.

The Campus and Facilities

Ohio Northern University is located in Ada, a town of about 5,000 residents situated in north-western Ohio. State Route 235 goes past the campus and intersects with State Route 309, two miles to the south, U.S. Route 30, four miles to the north, and Interstate 75, eight miles to the north.

The 285-acre campus fronts on South Main Street (State Route 235) and extends to the west.

Lehr Memorial Building (1915) contains the offices of the controller and the registrar on the first floor. The offices of the president, vice president for academic affairs, vice president for financial affairs, alumni office and institutional research are on the second floor. On the third floor is the office of the vice president for advancement.

Hill Memorial Building (1915) contains classrooms and offices for the department of history, political science and criminal justice, and the department of psychology and sociology. University Printing Services is located in the lower level.

Dukes Memorial Building (1901-02), Freeman Annex (1995) and Comet Addition (2003) contains offices and classrooms for the department of English, department of modern languages, and Center for Teacher Education. The office of the dean of the College of Arts and Sciences is also in Dukes Memorial.

The University's Audio Center is located on the second floor of Dukes Memorial. The language laboratory area, designated as the Schoonover Laboratory, includes the control room and individual listening booths.

James F. Dicke Hall (2003) is the state-of-the-art home for the College of Business Administration. In addition to high technology classrooms and break-out rooms, the building houses a Center for Cuban Business Studies and business resource center. The Atrium features a 160-foot long, two-story lobby with real-time stock ticker display. The "Forum" accommodates formal meetings and events with the latest in communications technology.

The **DeBow and Catherine Freed Center for the Performing Arts** (1991) consists of a performance center and an educational complex. The performance center features the 550-seat Eleanor Biggs Theatre/Concert Hall, the 120-seat Stambaugh Studio Theatre, and state-of-the-art production support facilities. The Albert and Harriet Smith Educational Complex is home to the department of communication arts and houses classrooms, faculty offices, a desktop publishing computer laboratory, and television and radio pro-

duction facilities, including WONB, the University's 3,000 watt FM radio station.

Presser Hall (1929) includes the 156-seat Snyder Recital Hall, a rehearsal room for band, choir, orchestra, and other ensembles, teaching studios, an electronic piano lab, an electronic synthesizer lab, classrooms, choral and instrumental music libraries, and faculty offices. A two-story addition (1998) increases the number of practice rooms and features an additional large hall, the Foley Rehearsal Hall, as well as additional faculty studio offices.

Taft Memorial Building (1929) houses the department of technological studies.

The **Tilton Hall of Law** (1973) contains classrooms, seminar rooms, the moot court, faculty offices, and administrative offices. The Jay P. Taggart Memorial Law Library and Eugene Hanson Annex are also located in this building. A renovation and addition (1998) updated the main entrance, added and remodeled courtrooms and classrooms, and added space for library materials and services, technical services, study area, and library and faculty offices.

The **Heterick Memorial Library** (1968), the main university library, provides individual study carrels, study rooms, special collections and a conference room. Space is provided for the Communication Skills Center on the second floor. A third floor was added and extensive remodeling was completed in 2000.

McIntosh Center (1959) provides a center for student activities, both social and extracurricular, for the university community and for public organizations. The student dining room plus the White Bear Inn provide meals and snacks for students and the general public. Renovations and improvements (1998) include a centralized mail room, informal lounge, renovated White Bear Inn restaurant, modernized bowling lanes, and game room. The university bookstore and offices of the vice president for student affairs are located in McIntosh Center.

Weber Hall (1956) contains the admissions office and the office of financial aid.

The Science Complex consists of three buildings. In the center is the **Meyer Hall of Science** (1970) where classrooms, laboratories, and offices for the departments of biological sciences, chemistry and biochemistry, physics and astronomy, and mathematics are located. To the west of the Meyer Hall of Science is the **Biggs Engineering Building** (1971) where

classrooms, laboratories, and offices for the departments of civil engineering, electrical & computer engineering and computer science, and mechanical engineering are located. The office of the dean of the College of Engineering is on the second floor. The computer center is also located in the engineering building. A two-story renovation and addition to the science and engineering buildings (1997) provides expanded facilities for instruction including a lecture hall, classrooms, laboratories, seminar rooms, service areas and offices. To the east of the Meyer Hall of Science is the **Robertson-Evans Pharmacy Building** (1966) where classrooms, laboratories, and offices for the department of pharmacy practice and the department of pharmaceutical and biomedical sciences are located. The office of the dean is located on the first floor. Pierstorf Addition (1995) includes a pharmacy museum, computer lab, and student lounge.

The **ONU Sports Center** was created in 1991 with the renovation of parts of the **King-Horn Convocation and Physical Education Center** (1974) and the addition of a field house complex and connecting addition. An addition and renovation was also completed in 1996. The Sports Center accommodates intercollegiate athletics, physical education and recreational activities, as well as commencements, special events, and assembly programs. King-Horn's main floor seats 3,200 for basketball and 5,000 for convocations. A six-lane swimming pool, wrestling room, gymnastics room, dance room, three handball courts, elevated jogging track, multipurpose lounge, and offices and classrooms for the department of human performance and sport sciences are among the facilities in King-Horn Center. The field house features a 200-meter indoor running track, cross courts for multipurpose use, two weight training rooms, a fitness laboratory, and modern sports medicine and training areas.

Ohio Northern University completed construction of an eight-lane, 400-meter outdoor track (1991). The track is encircled by mound-style seating with additional bleacher seating for 1,000.

ONU also constructed a 2.5-mile outdoor jogging/walking path around the perimeter of campus (1991). The path is eight feet wide and can also be used for biking.

Lehr-Kennedy House (1902), once the retirement home of Ohio Northern's first president, contains the offices of the director of student development.

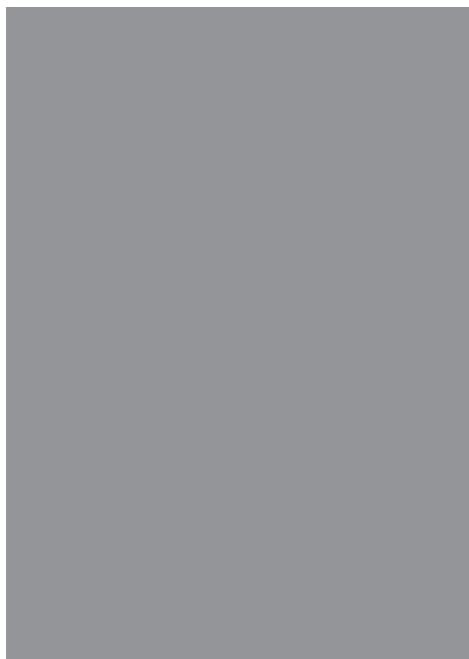
Wesley Center Complex (1971) is composed of the **English Chapel** with seating for 475 plus multi-use areas and a small prayer room for campus ministry, outreach and multi-faith worship, and the **Burgett Wing** (2002) housing the department of philosophy and religion.

Wilson Art Center and Elzay Gallery (1976) contains classrooms, studios, and offices for the department of art. The art gallery is connected to the classroom-studio building by a loggia and is used to display student and faculty exhibitions as well as the work of artists in invited shows. An addition (1995) includes a sculpture studio, ceramics studio, a lounge, and a graphic design studio.

The **Dicke House** (2000) is home for the University's President.

The **Deming-Combe** boulevard entrance to campus, located at Main Street and College Avenue, was completed in 1996.

The **Dial-Roberson Stadium** (2004) is an outdoor events stadium with training rooms and offices as well as modern facilities for ONU's football fans to enjoy the Polar Bears. The stadium returns ONU football to the campus for the first time since 1946.



Admission to the University

Ohio Northern University selects its student body from among those students possessing characteristics congruent with the institution's objectives, stated earlier. Generally, a student must be prepared to use the resources of the institution to achieve personal and educational goals.

A high school student applying for admission should have demonstrated academic aptitude in his/her high school program. Prior to matriculation, students must demonstrate completion of an accredited high school program or its equivalent. While specific admission requirements vary among the four undergraduate colleges within the university, all colleges require a minimum of four units of English, two mathematics units (algebra and geometry), and other units from among the natural sciences, social sciences, history, or language for a total of 16 units. Applications for admission should be accompanied by a \$30.00 application fee, scores from the American College Testing Program (ACT) or Scholastic Assessment Test (SAT), and an official transcript sent from the high school.

Application for admission to Ohio Northern University may be made at the end of the junior year or early in the senior year of high school. Early applications are encouraged particularly as some programs have capacities that can be reached early. The ACT or SAT should be taken no later than the February testing date of the senior year. Prospective students taking SAT should include the writing portion when sending scores to ONU. Students taking ACT are encouraged to take the writing option as well. Applications are processed when test scores, transcripts and the application materials have been received.

Advanced Placement (AP) The university grants credit for College Entrance Examination Board Advanced Placement Tests to those high school students achieving at least the minimum score established by the department in which credit is being sought. Test results should be sent to the university registrar. Final decision rests with the chairperson of the department.

College-Level Examination Program (CLEP) The university grants credit under the College-Level Examination Program of the College Entrance Examination Board for students to earn college credit by subject level examination prior to enrollment at ONU.

International Baccalaureate (IB) Ohio Northern University recognizes the International Baccalaureate (IB) Program and will grant transfer credit, up to a total of 45 quarter hours, for scores of 5 or above on individual IB Higher level examinations.

A combined maximum of 45 quarter hours of work can be accepted from IB, AP, CLEP and institutionally administered examinations.

Post Secondary Options Credit Students entering Ohio Northern University with college credit (option A or B) from the Ohio Post Secondary Options Program must have transcripts sent directly from the issuing institution to Ohio Northern. Credits to be transferred must be graded C (2.00) or higher. Ohio Northern is a participating university in the PSOP Program. Contact the Admissions Office for additional information.

Transfer Applicants Transfer students in good standing academically and socially from regionally accredited colleges and universities may be admitted with advance standing. Credits to be transferred must be graded C (2.00) or higher and must apply toward the student's intended course of study. Concealment of previous attendance at a college or university is cause for cancellation of admission and registration. Ohio Northern welcomes transfer students from junior colleges, community colleges, and other regionally accredited institutions to pursue majors in the undergraduate colleges. Transcripts from each post-secondary institution previously attended, sent directly from the issuing institution to Ohio Northern are required, as well as a final high school transcript.

Students who have completed the associate of arts or equivalent degree from a regionally accredited institution, who have an accumulative grade point average of at least 2.00, normally will be able to complete work toward graduation from the Getty College of Arts and Sciences with the bachelor of arts degree in two academic years, if courses in the first two years of work conform to the usual pattern in their chosen major field. The student will assume a normal quarterly course load of 15 to 19 academic quarter hours. If a student wishes to obtain teacher licensure, it is possible that one or more additional academic quarters of study will be required.

Re-Entry Students Any student who is not enrolled for one quarter or more (except summer session) must apply for readmission with the admissions office at least two weeks prior to the beginning of the quarter he or she wishes to return. Re-admission will be subject to approval of the dean of the college of application for re-entry, the vice president for student affairs, and the office of the controller. A student who has not been enrolled at ONU for one year or longer will, upon re-entry, be under the graduation requirements as specified in the catalog issued in the academic year of re-entry.

Home Schooled Admissions Home schooled students seeking admission to Ohio Northern need to complete the current "Application for Admission" and submit their application fee. Students are encouraged to complete the personal statement section of the application and/or submit their own essay regarding their desire to attend ONU. A transcript/portfolio of high school work (9-12th grades) with courses completed (or in progress) and levels of achievement (i.e. grades including a cumulative GPA or another acceptable/standard measurement of academic success). The transcript must be signed by the instructor(s), dated, and meet the normal requirements as a college preparatory curriculum (as outlined in the University Catalog and Application Viewbook). In place of an accredited high school diploma or GED results, the home-schooled students will submit evidence of the annual approval of their program as required within their home state.

The results of a national standardized college admittance test, such as ACT or SAT, which are deemed satisfactory in determining the competency of the home school high school curriculum. Transcripts of any college-level or post-secondary courses taken. Granting of any credit is based on transfer credit requirements outlined in the university catalog. A listing of out of class activities including any extracurricular experiences, community and church involvement, travel, employment, and other interests/hobbies. Personal references and a personal interview are optional but strongly encouraged. An on-campus visit is recommended.

Once the applicant's file is complete (with above information), the Admissions Committee will review the student's promise for academic success in the program selected at the university. Admission decisions are made generally on a rolling basis and generally within 3-4 weeks of the file being completed for review. However, some programs can reach capacity early; check regarding these timelines.

Merit (academic) scholarships are available to home schoolers based on outstanding grades/performance and the appropriate ACT or SAT scores. Refer to the ONU Scholarship materials for detail. Special talent awards are also described in this material. Financial assistance, in general applies to home schooled students in the same fashion as others once admission requirements are met satisfactorily and admission is granted. Admitted students are encour-

aged to work with the Financial Aid Office as to the completion of forms and requirements for various programs.

Admission to the Pettit College of Law Prospective law students should request separate law college admissions materials. Applicants for the ONU College of Law must take the Law School Admissions Test (LSAT) and graduate from an accredited four-year college or university.

Ohio Northern undergraduates may be admitted to the College of Law under either the regular or automatic admissions programs.

Applicants from the undergraduate colleges will be admitted to the Pettit College of Law if they:

1. Maintain an undergraduate grade point average of at least 3.40;
2. Score in at least the 75th percentile of the LSAT or higher;
3. Pass character and fitness review by the Admissions Committee of the College of Law; and
4. Pursuant to ABA Admissions Standard 501, are deemed by the law school admissions committee to appear capable of satisfactorily completing its program and being admitted to the bar.

Students with questions about either the regular or automatic admission program are encouraged to consult the prelaw advisor in their respective departments or the College of Law admissions office.

Special, Audit, Transient, and Postgraduate Students Admission is available under certain conditions for special non-degree seeking students and for auditors. Transient students are admitted upon the approval of the home institution and certification of good standing. Individuals with previously earned bachelor or higher degrees who wish to pursue further undergraduate study are admitted as post-graduate students upon receipt of a transcript or certificate of graduation from the granting institution.

Application materials and other information will be forwarded promptly upon request. Write to: The Office of Admissions, Ohio Northern University, Ada, OH 45810.

Disabilities Policy

No qualified person shall, on the basis of disability, be denied admission to Ohio Northern University or be subjected to discrimination in recruitment or admission by Ohio Northern University; or be excluded from participation in or denied the benefits of any program or activity of Ohio Northern University. A qualified disabled person is a disabled person who meets the academic and technical (i.e., non-academic admissions criteria essential to participation in a program or activity) standards requisite to admission to Ohio Northern University or participation in its programs and activities.

Ohio Northern University does not make pre-admission inquiries as to whether an applicant for admission is disabled. However, Ohio Northern University may, in connection with its voluntary ef-

forts to overcome the effects of limited participation in the University's programs by disabled persons, invite applicants, on a voluntary basis, to indicate whether and to what extent they are disabled.

After admission, Ohio Northern University may make inquiries on a confidential basis as to disabilities that may require accommodation. Disabled students admitted to Ohio Northern University who require accommodation of a disability should request such accommodation in writing from the dean of the college to which the student was admitted. Requests for reasonable accommodation will be honored unless they impose an undue hardship on Ohio Northern University.

Access to Facilities. No individual shall be discriminated against on the basis of disability in the full and equal enjoyment of the goods, services, facilities privileges, advantages, or accommodations of any place of public accommodation owned or leased by Ohio Northern University.

Student Right-To-Know Act

In accordance with proposed guidelines for the Student Right-to-Know Act, Ohio Northern University had an overall graduation rate of 65.6 % for the entering first-time freshmen of 1996.

International Students

International students normally are admitted at the beginning of the fall quarter. Students residing in other countries should apply at least nine months before their intended date of enrollment. The application process should be completed by June 1 and include the application

itself and supporting documents such as certified secondary school records, records of examination, and proof of financial responsibility. Financial aid for international students is limited.

All classes at the university are conducted in English except those taught in the department of modern languages. Therefore, it is essential that all students be prepared to understand rapid, idiomatic English as spoken in lectures and group discussions, to read English with ease, and to express their thoughts clearly in spoken and written English. All students whose native language is not English must submit evidence of competence in the English language at a level which will provide the English language skills necessary for success at the university. Evidence of competence can be satisfied by a minimum score of 550 (213 computer) in the Test of English as a Foreign Language (TOEFL); or a minimum score of at least 75% on the Michigan Language Examination (MLAB); or satisfactory completion of ESL 112 offered by the ESL Language Centers, or at another regionally accredited educational institution which has been approved by the appropriate Ohio Northern college dean. International students are encouraged to submit scores from their ACT or SAT examinations, if available.

To comply with financial responsibility requirements, international students must purchase additional health insurance available through the university.

Students and faculty represent many countries of the world. International students participate in the World Student Organization, which sponsors an International Week in the spring of each year.

Ohio Northern University is authorized under federal law to enroll non-immigrant alien students. For further information, contact the office of student affairs.

Expenses

Students enrolled and attending classes between 4-1-00 and 3-31-06 except transient, postgraduate, and special students

	Arts & Sciences and Bus. Admin.	Engineering	Pharmacy
Tuition & General Fee Per Quarter:			
•Full-time student	\$8,945	\$9,560	\$10,060
•Part-time student (less than 12 hrs.) per hour	\$ 745	\$ 800	\$ 840
•Academic overload fee (per hour)	\$ 560	\$ 600	\$ 630
Technology Fee Per Quarter			
•Full-time Student	\$ 70	\$ 70	\$ 70
•Part-time Student (less than 12 hrs.)	\$ 20	\$ 20	\$ 20
Room			
•Residence hall per quarter, double or triple occupancy	\$1,120	\$1,120	\$1,120
•Residence hall per quarter, single occupancy if available	\$1,680	\$1,680	\$1,680
Board			
•Per quarter, 21 meals per week	\$1,120	\$1,120	\$1,120
•Per quarter, 15 meals per week	\$1,080	\$1,080	\$1,080
Total Per Quarter, Full-time student	\$11,215	\$11,830	\$12,330
Based on full tuition, technology fee, double occupancy room & 15-meal plan			
Total Per Academic Year, Full-time student	\$33,645	\$35,490	\$36,990
Based on full tuition, technology fee, double occupancy room & 15-meal plan			

Due Dates for Fee Payment 2005-06

Fall Quarter August 15, 2005
 Winter Quarter November 11, 2005
 Spring Quarter February 17, 2006

Doctor of Pharmacy Nontraditional Program 2005-06	Admitted students to the nontraditional doctor of pharmacy program must meet the following criteria:
Tuition: \$200 per credit hour	1. Hold a baccalaureate degree in pharmacy from an accredited U.S. college of pharmacy.
Technology Fee	2. Have a minimum of two years of practical experience as a pharmacist.
Per Quarter: \$20 (part-time)	3. Hold a current, valid pharmacist license.
	4. Have no disciplinary actions taken against the pharmacist's license.

Master of Education in Teaching (MET) 2005-06	A student pursuing the Master of Education in Teaching degree will be considered a full-time student when registered for at least ten quarter hours. A student registered for five quarter hours is considered a half-time student.
Tuition: \$200 per credit hour	
Technology Fee Per Quarter: \$20 (part-time)	

Bachelor of Science in Clinical Laboratory Science (BSCLS) 2005-06
West Central Ohio Clinical Laboratory Science Program
 (includes professional liability insurance, administrative costs)

Tuition: \$2000 per quarter, last 4 quarters
Lab Fees: \$325 per year
Technology Fee Per Quarter: \$70 (full-time)
\$20 (part-time)

Payment



The university makes available to parents and students a variety of plans which can be used to make fee payments. Following is a summary of the various plans from which you may choose.

Discount for Advance Payment Ohio Northern University offers a discount for advance payment of full tuition, room and board and technology fee if received in a single payment by June 15, 2005. For 2005-06, the discount will be 1.5% of the amount due; this approximates 4.0% interest based on the amount due from June 15 to each of the regular due dates. Financial aid is taken into consideration before the discount is calculated. Insurance, lab fees and course fees are not included in this calculation and will be due on a quarterly basis. Please contact the Controller's Office for additional information.

Monthly Payment Plan This plan allows the student to pay tuition, technology fee, room and board over a 10-month period starting May 15, 2005, and allows students to have each quarter's fees paid by the time the fees would regularly be due. The monthly payment will be individualized by allowing for any financial aid that has been accepted. Insurance, lab fees and course fees are not included in this calculation and will be due on a quarterly basis. Please contact the Controller's Office for additional information. An annual convenience fee of \$25 will apply.

Regular Billing Schedule For students selecting courses during the advance registration period, the fall quarter billing will be sent to the permanent address as on file with the registrar's

office. Winter and spring quarter billings will be sent to the student's billing or local address. Full payment of all charges due is required to complete registration. Failure to do so will result in the cancellation of the registration. Any arrangements for loans or financial aid should be made well in advance of each quarter so that all fees are paid by the date they are due.

For students registering at the beginning of the quarter, full payment is required as a part of the registration process.

VISA/MasterCard/Discover/American Express
Payment of fees may be made by VISA, MasterCard, Discover, or American Express for the three plans outlined above. A convenience fee may apply.

Due Dates for the Northern Commitment Option
June 1, 2005 – for returning students
December 31, 2005 – for incoming 06-07 freshmen

Conditions

Tuition and fees cover use of the library, laboratories, Health Center, Sports Center, and McIntosh Center; cultural activities; co-curricular programs; admission to athletic events and most other events on campus; the student newspaper, literary magazine, and yearbook if full-time during the three quarters of the academic year.

All university students, except married students and students living with parents or other close relatives, will be required to live in University housing which includes all residence halls, fraternity and sorority houses. When housing demands exceed capacity, the obligation for living in residence halls will be waived by using a priority system. (See Campus Student Life Section of this catalog.)

All residents in the residence halls are obligated to either a 15 or 21 meal contract for food service in the student dining hall located in McIntosh Center. Any application to waive this service must be made quarterly to the director of residence life.

All expenses associated with off-campus study, such as travel including field trips, clothes, and meals at unusual times, will be borne by the students. Box lunches may be obtained for meals which cannot be taken on campus for boarding contract students.

Other Charges

Auditing Fee, per quarter hour (when permitted)
\$10.00

Administrative/Activity Fee, per quarter hour
\$24.00.

Applicable only to ONU employees and eligible dependents, tuition exchange students, international exchange students, and others who receive remission of tuition.

Placement Examination No charge for administration of placement examinations required by a department or college for determining entry level in sequential courses. If credit is established by the examination, a credit fee, as indicated below, will be required.

Course Credit by Institutional Examination

Administration fee, per course \$25.00

Payable before the examination is administered. Applied to credit fee if credit is earned.

Credit fee Fees must be paid before credit is entered on student's permanent record in Registrar's Office. 50% of credit hour charges assessed part-time student.

All full-time, degree-seeking students will be permitted to take one course (up to 5 hrs.) by examination at no charge.

Academic Overload Fees Maximum hours which can be taken per quarter without overload charge:

Undergraduate 19 hours

For each credit hour over maximum 75% of credit hour charges assessed part-time students. *Exemption:* Activities courses not including physical education service courses, taken as electives.

Applied Music Lessons For Music Majors and Musical Theatre Majors

Extra fee *per quarter* \$50.00

For music minors and non-music majors For each quarter hour \$100.00

Bowling and Billiards

Bowling (scheduled class periods only)

\$20.00

Billiards (scheduled class periods only)

\$15.00

These fees are non-refundable. Charges for individual make-up sessions will be an additional expense to the student payable at the time of securing a bowling lane or billiards table.

Late Registration Fee The late registration fee is assessed if course registration is not completed at the established time each quarter or if re-registration is required. \$50.00

Interest Charges On Unpaid Balance If fees are not paid in full when due a \$10.00 charge is assessed. If fees are then not paid by the first day of class, a charge of 1 1/2% of the unpaid balance will be made. Thereafter, interest at 1 1/2% per month (18% annual rate) will be charged on any unpaid account balance at the end of each month.

Application Fee, non-refundable, payable with application for admission \$30.00

Advance Deposit Upon receiving an offer of admission to Ohio Northern, an advance deposit is required within 30 days from all students. The amount of deposit is \$200.

If a student applying for admission for fall quarter is unable to attend and if the University has received written notice by May 1st, 100% will be refunded; after May 1st, no refund.

For all other quarters, 50% of the advance deposit is refunded if written notice is received 30 days prior to the start of the quarter.

All international students will be required to make a deposit with the University for funds in an amount not less than one quarter's tuition, fees, room and board for the college in which the student will be enrolled.

Clinical Laboratory Science Students

Fourth year Only

Microscope rental rates: approximately \$245.00 per school year (price includes delivery and pick-up charges)

\$200.00 refundable security deposit

\$50.00 theft insurance

All lease agreements made through and fees paid to Dayton Microscope and Supply, Inc. before the first day of class in June. Additional information on the leasing is available through the WCOCLS Program Office in the Department of Biological and Allied Health Sciences.

Transcript Fee

- There is no charge for ONU transcripts, with the limitation of three free transcripts issued per day.
- Transcripts are processed within two working days, depending upon the time within a term, after receipt of the request. Transcripts are sent via regular U.S. mail.
- For special handling: more than three in one day or priority processing, there is a charge of \$20 per transcript.

Placement Service Up to 10 mailings of credentials without charge. Each mailing above 10:
\$ 3.00

Lost/stolen/damaged ID Card Fee \$25.00

Returned Check Fee \$25.00

Residence Halls

Improper check-out \$25.00
Room key/Lock replacement \$58.60

Motor Vehicles

On-Campus Parking Permit

•Full Year \$45.00
•Per Quarter \$30.00

Schedule of Fines

Improper parking \$10.00
Driving or parking on grass \$25.00
Driving on sidewalks \$25.00
Reckless operation of a motor vehicle \$30.00
Parking without parking permit
— first offense \$45.00
Registration decal improperly displayed \$ 2.00
Stop sign \$10.00
Parking in fire lanes \$30.00
Falsification of information \$25.00
Parking longer than posted time \$10.00
Parking in restricted area \$20.00
Parking in handicapped space \$30.00

(This may not be appealed.)

If fines are not paid or an appeal filed in three working days, a late fee of \$1.00 per day is added up to a maximum of \$25.00.

Motor vehicle regulations are designed to protect the safety and welfare of the campus community and promote good order. Violations are issued by Security Officers. Cited violators may appeal to an Appeals Committee within three working days of the violation.

Other Deposits

Uniform Maintenance Fee \$25.00
Instrument Deposit (refundable to student account) \$10.00
Sports Center Lock Deposit (\$1.50 refundable) \$ 5.00
Chemistry Fee \$ 12.00

Library Fines

Non-return of an item from Heterick Library or Taggart Law Library (other than reserve materials) after past due for one week is \$2.00; after two weeks, \$3.00; and after three weeks, \$5.00. If the item is not returned, the replacement cost plus a processing charge is assessed. Taggart Law Library assesses a fine of \$.25 per hour for overdue reserve materials. Borrowing privileges are suspended when a student has accrued fines of \$20 or more but are restored once the item is returned and the fine is paid.

If a charge is placed on your tuition account, it must also be refunded to your tuition account.

Summer Session 2006

College Fees, per credit hour

- Colleges of Arts & Sciences and Business Administration \$506
- College of Engineering \$576
- College of Pharmacy \$598

Note: Engineering co-op program students will be charged tuition fees according to their current tuition track.

Apartment Rental

Double \$105 per week

Dining Hall Board

21 meals per week, \$140 per week

Withdrawal within the first week of each

4- week term 50 % refund.

Withdrawal after the first week of each

4- week term no refund.

Refund of room and board on a pro rata basis.

Charges for Damages to University Property

Students will be billed for any damages to university equipment or property. The charges include the estimated cost of replacement parts or materials, labor for repair or replacements, and overhead expenses associated with the clean-up, repair, or replacement.

Payment of University Accounts

Students should pay all financial obligations to the university promptly. Registration for a succeeding quarter and issuance of a diploma or transcript is dependent upon the student paying all financial obligations to the university.

Student Identification Cards

The first student ID card issued to registered students without charge. Replacement fees will be charged for lost, stolen, or damaged ID cards. The ID card allows free admission to athletic events, reduced admission to theatre productions, and the artist series. This card is also required for library checkout, meal contract registration, and resale of textbooks at the university bookstore. ID cards are also required for some labs and entrance to residence halls.

Refunds

Tuition and General Fee If a student withdraws from the university, or is suspended for disciplinary reasons, refunds of tuition will be made on the basis shown below. Withdrawal date is the date the withdrawal slip is processed through the office of the registrar, **NOT** the date the student may cease going to class.

Students attending Ohio Northern University are entitled to a pro-rata refund calculation through the 60% point of the quarter. Tuition, room and board charges will be included in the designated refund percentage. Financial aid adjustments will be calculated based upon mandated Federal refund calculations.

100% — On or before the first day of class each quarter.

97% — After the first day of classes, up to to 40% and including the end of the first 60% of the quarter. The refund percentage decreases as the amount of the quarter completed increases.

0% — After the first 60% of the quarter.

Also, keep in mind, students who drop from full-time to less than full-time during the first 60% of the quarter will have adjustments made to their financial aid and tuition.

Financial Aid

Students who withdraw during a term will be subject to adjustments in their financial assistance. The adjustment of financial aid depends

on the policies of the organization from which the aid came. If the particular agency or foundation has no policy for adjustment due to withdrawal, the adjustment will be made on the basis of Ohio Northern University's refund policy.

The adjustments in charges for a student withdrawal may result in an outstanding balance on the student's account which will be due and payable at the time of withdrawal.

Adjustments in loans from prior quarters are generally not made; however, students may wish to pay off any loans when they withdraw.

Federal Perkins Loan and Health Professions Student Loan borrowers will be expected to provide the exit interview information as requested through University Accounting Service, our billing agency, at www.uasexit.com.

Earnings from campus employment for the time worked up to the date of withdrawal will be paid to the student on the next scheduled date of pay.

All adjustments in financial assistance will be made by the director of financial aid.

Review and Appeal

Review and appeal boards, composed of students, faculty, and administrators, are available for review of certain charges. For example, motor vehicle violation charges can be appealed in writing through the university security office to the Traffic Violation Appeals Committee. Appeals for other charges must be filed with the dean of student services.

THE UNIVERSITY RESERVES THE RIGHT TO MAKE NECESSARY ADJUSTMENTS IN ANY CHARGE TO STUDENTS AFTER DUE NOTICE.

Scholarships and Financial Aid

Each student's education at Ohio Northern University is partially subsidized by the university's endowment, by the annual giving of alumni, by the United Methodist Church, and by other interested persons and organizations.

Prospective students should confer with their high school counselors for information about financial assistance available from local civic groups, fraternal orders, churches, business organizations, and the loan plans of their states.

Ohio Northern offers scholarships to encourage superior students to select this university. Students with limited financial resources are also assisted by the university with grants-in-aid and with loan and work opportunities.

The university participates in the Federal Perkins Loan Program, the Federal College Work-Study Program, which provides part-time jobs on campus for students, and the Federal Supplemental Education Opportunity Grant Program. The Health Professions Program provides loans on a limited basis for students in the College of Pharmacy.

The parents of each applicant for student aid should complete the Free Application for Federal Student Aid (FAFSA). This form is available from most high school counselors and from the Ohio Northern office of financial aid. Parents and/or students are encouraged to submit the form to the Federal Student Aid Programs as early as possible. The option is also available to all students to file the FAFSA on the internet. The address is: www.fafsa.ed.gov. Filing in this manner will shorten the time needed for the results to be returned to the student and Ohio Northern.

Each student desiring a scholarship, a grant-in-aid, a loan, a student employment opportunity, or a combination of the four areas is urged to apply early. Application forms are processed as soon as they are received. Applications for Federal Stafford Loans, Federal PLUS Loans and private loans are due by May 1 in the office of financial aid for fall quarter processing. Write to the financial aid office for further information.

Please note: All financial assistance programs are awarded assuming full-time enrollment and a nine-month academic school year. Funds provided are divided into the terms of attendance in either thirds for quarters or halves for semesters. If a student attends for less than

a full nine months, his/her aid is reduced accordingly. (Example - a \$6,000 scholarship will provide \$2,000 per quarter, but the student must be in attendance for three quarters to receive the full amount.)

Additionally, if a student attends four quarters in the same academic year only three terms of assistance are available. Funds from the agencies generally are provided on an annual basis and divided by three terms (two terms for law). Example-a 6,000 annual award of \$2,000 per quarter cannot become an \$8,000 award because the annual amount budgeted for the award is \$6,000. Therefore, in most cases, the summer term is unfunded.

Satisfactory Progress Standards for Financial Aid

Students attending Ohio Northern University are required to complete their academic programs in a total time frame equal to no more than 150% of the normal time that it takes to complete their degree. Further information relative to the satisfactory progress standards and exceptions or appeals are referred to in the Financial Aid booklet provided with the student's award notice.

Gift Aid

Federal Pell Grant The FAFSA should be filed for this federal grant (the maximum award is \$4050 for 2005-06). Based upon the FAFSA information, students will receive a Federal Pell Grant response consisting of several forms. The ONU Award Notice will indicate the specific eligibility.

Federal Supplemental Education Opportunity Grant (SEOG) The FAFSA should be filed for this federal grant which requires a high need and Federal Pell eligibility to qualify; the grant amount is determined by the aid office.

The Ohio Instructional Grant (OIG) This state aid is for Ohio residents whose families' adjusted gross income is generally less than \$39,000. The Ohio Board of Regents will respond to the family. Students should file no later than mid-September for timely consideration; the maximum award for 2005-06 will be \$5466. The maximum quarters of eligibility is 15.

Pennsylvania residents should ask their high school guidance counselors about a grant from their state. Pennsylvania will send eligible students' approvals for an award directly to ONU.

ONU Grant The Ohio Northern University Aid Application must be filed for this university grant award based on need. The amount is determined by the aid office and generally ranges from \$1000-\$9000 per year.

An **ONU Methodist Crusade** application can be obtained from ONU's aid office for members of an Ohio United Methodist Church. Students must show a need on the FAFSA to qualify for this \$400-\$600 per year grant which applies to the first two years at ONU.

Ohio Northern University Scholarships

Scholarships provided by Ohio Northern University recognize outstanding achievement by high school students. Financial need is not a requirement. To compete for the scholarships, students must generally rank in the upper 10% of their high school class, have a high composite ACT score or a high combined SAT score, high GPA and strong participation in extra-curricular activities.

The Deans Scholarship, Presidential Merit Scholarship, Trustee, Trustee Merit, Academic Honor Scholarship, and Honor Scholarship are renewable each year provided the student maintains a 3.0 GPA after the first year of study and a 3.3 GPA at the end of the second year through graduation or the fourth year for Pharm D. students, as well as other standards of satisfactory academic progress.

The Presidential Scholarship is renewable each year under the same conditions, except the student must maintain a 3.3 GPA at the end of the first year and a 3.5 GPA thereafter.

The Distinguished Achievement Award, Meritorious Service Award and Achievement Awards are renewable each year provided a 3.0 GPA is maintained through graduation or the fourth year for Pharm D. students.

Students enrolled in the College of Pharmacy are renewed with the same requirements listed above through the end of their P-4 year.

A prospective student must apply for the scholarship by completing an application for admission. Students are automatically considered for scholarships (if minimally qualified) upon initial review of the application for admission.

Returning students who have not been awarded a scholarship upon enrollment must have a minimum of 3.5 accumulative GPA at the end of Spring term to be considered for a scholarship.

Returning students above a 3.5 who already have an institutional scholarship will be considered for more scholarship aid if funds are available. Students will be notified of this automatically.

ONU Equity Award Students are eligible for these awards on the basis of exceptional financial need. All other federal and state grants, student employment, and student subsidized loans must be used before an equity award can be provided. The Free Application for Federal Student Aid and the ONU Aid Application must be filed to assist in determining financial need.

To retain the award after the first year, the student must continue to show exceptional need as described above and must show continuing academic progress. The ONU Equity Award cannot exceed financial need.

The **Ohio Choice Grant** is available for Ohio residents who attend ONU full time after July 1, 1984, in a bachelor's degree program. For 2005-06, students will receive \$900 from the state of Ohio automatically. There is no formal application for the Choice Grant as enrollment will be verified by the aid office and the state will send funds to ONU directly. Renewal of this award is based upon maintaining satisfactory academic progress and the state providing funds. The maximum quarters of eligibility is 15.

A **United Methodist Ministerial Deduction** application (from ONU's aid office) should be submitted for students who are unmarried, legal dependents of United Methodist Ordained Elders in full connection, in good standing, and under full-time appointment by the Annual Conference. Eligible students must be seeking their first baccalaureate degree. A tuition reduction is available to those students who qualify. The reduction applies for four academic years and does not apply for summer school. This award also applies to children of retired or deceased United Methodist ministers with the same credentials.

An **ONU Sibling Grant** application (from ONU's aid office) should be submitted for a student who is the second (or third, etc.) unmarried, legally dependent child of the family attending ONU at the same time. This \$500 per year grant will apply as long as there is at least one other sibling who does not receive this grant attending at the same time. (Not applicable to children of Methodist ministers.)

ONU Matching Grant for Churches A student would receive a University Matching Grant when a church gives between \$500 and \$2000 per year. The match would be on a dollar-for-dollar basis up to, but not exceeding, established financial need.

Northern Commitment Option Incoming students who have been admitted, pay two deposits to the University, and furnish requested financial documents by December 1, are eligible to participate in the NCO program. The second deposit of \$500 to \$2500 will be “double matched” by the University on the student award notice. Persons in the NCO program may still participate in the Scholarship Recognition Day for which they qualify. These funds are renewable for each year through graduation or through the fourth year for Pharm. D. students, assuming the prepayment is made by July 1 of each year.

Student Loans

The first three loans all feature federal interest subsidy and loan principal deferment. The government pays the interest on the loan until the student no longer attends college at least half time. Loan repayment and interest accrual does not generally begin until the grace period elapses. These loans can also be deferred again for graduate school.

Federal Perkins Loan A FAFSA must be on file showing a need for this 5% loan. The controller will send a promissory note along with a billing statement. ONU is the lender for this federal program and the grace period for new borrowers is nine months.

Health Professions Loan The FAFSA must be on file, with financial need being established as a dependent student, to be eligible for this 5% federal student loan. The loan is for the health-related field (pharmacy) and ONU is the lender. The grace period is 12 months.

Federal Subsidized Stafford Loan applications are available from the ONU financial aid office. This federal program allows freshmen to borrow up to \$2625 per year, sophomores, up to \$3500 per year, and juniors and seniors, up to \$5500 per year. Graduate students may borrow up to \$8500 per year. The aid office will determine eligibility; the student should maintain a 2.00 accumulative average and progress in terms of class level. The interest rate is variable with a cap of 8.25%. The grace period is six months.

Federal Unsubsidized Stafford Loans (dependent students) are available to students who were either limited or determined to be ineligible for the Federal Subsidized Stafford Loan. The amounts per grade level are the same as for the Federal Subsidized Stafford Loan; however, the student is responsible for interest charges while in school. Interest may be paid by the student or deferred and capitalized.

Federal Unsubsidized Stafford Loans (independent students) The terms for this loan are the same as for dependent students. The amounts are up to \$4000 for freshmen and sophomores; \$5000 for juniors, seniors and fifth-year students. Graduate students can use up to \$10,000 per year.

Federal PLUS (parental loans) Under the Higher Education Amendments of 1986, local lenders (banks, savings and loans) may make educational loans to the parents of an enrolled student. Parents need to check with the financial aid office or their local lender to obtain the application. These loans have a variable interest rate with a maximum of 9% adjusted annually. The amount can be up to the cost of education minus financial aid per year. Repayment usually begins 30 days after the last disbursement. Family income is not a criterion in obtaining parental loans. A good credit history is required.

ONU Premier Signature Loan is a resource for credit-worthy students to help with their educational costs. The maximum amount the borrower is eligible to receive is the cost of education minus all other financial aid. The interest rate varies and is based on credit and could be as low as Prime -.5% for borrowers with good credit. The origination fee ranges from 0% to 6% and with a borrower and/or co-signor with good credit it will probably be 0%. Repayment of principal and interest begins after graduation or when the enrollment status drops below half-time. Repayment terms are up to 25 years based on the loan balance. There is no penalty for prepayment. In cases where a co-signor is used, there is a co-borrower release option after 24 regularly scheduled payments of principal and interest are made.

Campus Employment

The **Student Employment Program** allows students to work on campus to offset educational expenses. Jobs are primarily awarded on the basis of financial need, although skills and experience may be a consideration. Employment applications are generally mailed to eligible students during the summer. A 15-hour week is the suggested work limitation and paychecks are issued directly to students once a month.

Campus Student Life

Policies

Policies relating to student life are available in the Student Handbook. Students are expected to conform to those requirements.

Housing

As a residential campus, all university students are expected to reside in University housing, which includes all residence halls, University apartments, and Greek housing both on and off campus. The Office of Residence Life must approve all exceptions to the University Housing policy.

When space permits, the following criteria are used for students who request to be released from the University Housing policy, thus waiving the residence hall requirement: 1) 135 quarter credit hours (senior status); 2) 9 quarters in University housing; 3) 23 years of age; 4) commuting from the home of a parent, grandparent, or sibling, within a 30 mile radius of campus; 5) an earned undergraduate degree; 6) served in the armed forces and qualified for veterans' benefits; and 7) married students.

Once a housing commitment has been made, residents are not permitted to move from the residence halls to fraternity or sorority houses or to off-campus housing at any time during the academic year.

Private housing is available in Ada for those who qualify and are approved by the University.

Because of the need for maximum security during break periods, access to halls is not permitted. All residence halls are closed between terms with the exception of apartment housing.

The Office of Residence Life will attempt to house all students in traditional double or triple occupancy rooms. However, whenever housing demand exceeds capacity, other living arrangements may be utilized. These temporary arrangements may include the tripling of double occupancy rooms and/or the conversion of floor lounges.

Room assignment priority is granted to new undergraduate students who are registered for classes and is based upon the date of their admissions deposit. Requests for particular roommates should be submitted simultaneously by both parties. There is no guarantee that all re-



quests are or can be honored. Preferences for room assignments are filled on the basis of when a person's deposit was made to the Office of Admissions.

The room selection process for returning students begins in spring term. New students will receive room assignments in the mail after the summer orientations have been completed. They also will be available on-line.

The university has a total of 10 residence halls. The university also has "apartment" style housing available. Priority for these apartments is granted based on credit hour status. There are two and four bedroom units and each has its own kitchen and living room. The university may alter these arrangements to accommodate housing needs. One apartment complex is reserved for non-traditional and married students. Another is primarily for law students.

All residence hall rooms are furnished with window treatments, beds, mattresses, desks, book shelves, clothes closets, ONU cable television hookup, and computer connection capability. Coin operated washers and dryers, recreation equipment and cleaning materials are available.

Policies governing residence hall living are outlined in the Student Handbook. This is available on-line.

University Food Service

All students living in university residence halls eat their meals in the McIntosh Center dining hall. Other students may purchase meals in the dining room either singly or by the quarter or semester. Most students living in fraternity houses eat in their respective houses. The White Bear Inn restaurant is in McIntosh Center and is open to everyone. The University Dining Service operates these facilities and hosts all banquets held in McIntosh Center. The dining services are designed to provide variety, quality, and a pleasurable dining experience for all who participate.

Student Health Service

The Medical Director and/or a nurse practitioner hold regular office hours Monday through Friday in the Student Health Service building. A registered nurse is on duty or on call 24 hours a day during the regular academic year. During summer quarter a registered nurse is on duty two hours a day and on call for the remaining hours of the day. The university is not responsible for providing health care during vacation periods.

The university recommends that all students make full use of the Health Service. However, it is not required and a student may go to a doctor of his or her own choice at his or her own expense. All medical records are confidential, and only at the student's written request will the university physician supply information to another doctor.

All students entering the university are required to submit a complete medical history, including a current immunization record.

Students who suffer from allergies may receive their allergy injections at the health service if they supply the serum and specific directions from their doctor or allergist.

Student Health Insurance – All students who attend Ohio Northern University are required to have health insurance coverage. The university has made available a student medical plan that provides health care benefits at a low cost to you. Coverage is in effect from August 2005 – August 2006. Keep in mind, enrollment IS AUTOMATIC for all students unless a waiver is completed, signed and returned to the Controller's Office by the due date. After the due date, the charge will remain and will become the responsibility of the student.

Counseling

The university Counseling Center provides students with professional help for personal, educational, and career concerns. The office's staff is available for personal counseling and to help students clarify their educational and career plans.

Students with personal concerns of any kind can receive help from the staff in order to better understand and resolve their difficulties. Some commonly presented concerns include loneliness, depression, homesickness, substance abuse, feelings of inadequacy, anxiety, roommate conflicts, relationship problems, loss, and stress situations. The staff makes every effort to create an atmosphere where personal concerns of any type can be examined and discussed freely and confidentially.

Students experiencing educational difficulties, such as not performing up to their potential, can receive help from the counseling staff in order to clarify and resolve their concerns. Students who are unsure about their educational and career goals can obtain help in examining their interests, values and abilities to identify appropriate and satisfying directions.

Student Development

Portions of the functional areas of student affairs operate under the auspices of the Office of Student Development. The components of this office are Undergraduate Career Services and Student Leadership Development.

Undergraduate Career Services

The Office of Career Services helps students as they prepare to make the transition from college to graduate/professional school or the world of work. Although not an employment agency, the office serves as a liaison between students, alumni, and potential employers by making job referrals, distributing vacancy notices, and conducting an on-campus recruiting program. Other services and programs include a Job and Graduate School Search Techniques course, career fairs, individual consultation and coaching, workshops, seminars, classroom presentations, credential service, and an extensive resource library that includes information on graduate schools, scholarships/fellowships/internships, and potential employers. Current periodicals, geographical and occupational directories, summer job and internship information, and promotional and educational video-

tapes are also available in the library. By utilizing the services of this office, students will gain a better understanding of the job market and the methods used to conduct a successful job search. A separate career services office is maintained by the College of Law.

Student Leadership Development

The Office of Student Leadership Development implements activities and services for all students.

Leadership development training workshops are held throughout the year to further strengthen the leadership skills of students elected or appointed as campus organizational leaders. Further, these trainings prepare emerging student leaders for future roles on campus. Events are planned and developed by the Leaders' Council, a committee composed of student campus leaders.

Annually, the Office of Student Leadership Development and Omicron Delta Kappa, a national leadership honorary, co-sponsor the President's Leadership Dessert. This formally recognizes the leadership accomplishments of undergraduate students. The DeBow Freed Awards for Outstanding Leadership as a Student are announced at this event.

Other services and programs include steering and facilitating the (academic) Leadership Studies Option, available to junior and senior status students, and maintaining a Leadership Library of resources and training materials.

Religious Life Program

As a church-related university, Ohio Northern recognizes the importance of religious belief and faith in the life and education of its students. Opportunities are available for students and faculty to examine, develop, and practice their religious convictions in formal and informal settings. The non-academic emphasis is the concern of the Office of the University Chaplain and Students United in Faith (StUF), composed of students and faculty.

In the midst of west campus is Wesley Center, which houses English Chapel, the department of philosophy and religion, the office of the university chaplain, the Chapel of Prayer and the Multifaith room. Lounges, conference, classrooms and work areas are provided for students who desire to practice their private devotional life and to share in the various religious groups that comprise Students United in Faith (StUF). The chaplain is available to students seeking spiritual and personal counsel, and friendly conversation.

The religious life program attempts to reveal the contemporary validity of religious faith for successful living. The spirit of the activities is ecumenical and interfaith. An emphasis is placed on spiritual nurture and the ethics that develop in a maturing faith. Opportunities are available through more than two dozen student groups to reach out and put faith into spiritual and social practice. Each student is free to choose the extent of his or her participation.

Chapel is held each Wednesday at 11 a.m. Attendance is voluntary and is encouraged by scheduling it during an open hour.

Sunday morning worship services are occasionally held on campus. Congregations in the village of Ada and in surrounding communities always welcome students. In Ada, courtesy van service is provided to the First United Methodist Church, the First Presbyterian Church, St. Mark Lutheran Church, Our Lady of Lourdes Roman Catholic Church, the Church of Christ Disciples, the First Baptist Church, the Southern Baptist Church, and the Grace Gospel Church. Temple Beth Israel-Shaare Zedek is located in Lima. A mosque is in Toledo.

Special Events

Throughout the year, the university and various student committees bring to the campus a variety of cultural and entertaining programs. The Cultural Affairs and Special Events Committee administers the Artist Series, which sponsors performances by professional performing artists as well as a series of foreign movies. The department of music presents a faculty recital series; quarterly band, choral and ensemble concerts; and student recitals. The College of Law sponsors a lecture series.

Theatre productions, athletic events, concerts, Greek events plus club and organization activities provide a wide range of special events.

Alcoholic Beverages

Ohio Northern University affirms its historic belief that alcoholic beverages are not beneficial to its academic environment. The sale, serving, or possession of alcoholic beverages by Ohio Northern University students is forbidden at any university function or in any public area of university property; otherwise, the university supports and adheres to Ohio law. All new student halls are designated as alcohol-free areas.

Visitation Policy

Guest hours for members of the opposite gender, in various living units of the university, including fraternities and sororities, may be arranged through administrative action with due regard for the rights of all students and for the high standards characteristic of this university.

Student Organizations

GENERAL STUDENT ORGANIZATIONS

The **Student Senate** is a self-governing board setting policy in many areas of student life and advancing ideals of character and service in the university community. The president and vice president of Student Senate are special trustees on the university board of trustees.

The **Student Planning Committee** plans and implements weekend social, cultural, and recreational programs primarily in McIntosh Center for the university community.

RELIGIOUS ORGANIZATIONS

The wide variety of religious organizations provides opportunities for worship, fellowship, outreach, and service both on and off campus.

Worship

Chapel Choir
Chapel Band
Video Gospel
Worship Design Team
Northern Christian Fellowship

Fellowship and Service

Christian Legal Society
Christian Pharmacy Fellowship International
Cardozo Jewish Law Student Association
Faculty Christian Fellowship
Fellowship of Christian Athletes
Kappa Phi

Muslim Student Association
Pre-seminarians
Sigma Theta Epsilon

Outreach

Bible study groups
Gospel Choir
Mime Troupe
Northern Chimes
Puppets Personified
Son's Rays
"This Day" Radio Broadcast
Unlimited Sharing
Wesley Players

Service

Ada Food Pantry
Ada Friends
Allen County Humane Society
Habitat for Humanity
Volunteer Opportunities

Leadership and Learning

Chapel Staff
Philosophy and Religion Club
Religious Affairs Committee
Students United in Faith

SOCIAL ORGANIZATIONS

Ohio Northern University has seven social fraternities, five national professional fraternities, four women's national social sororities, and three national professional sororities. The Interfraternity Council is the governing body for social fraternities, and the Panhellenic Council is the governing body for social sororities.

The seven men's national social fraternities with the dates of their establishment at Ohio Northern are: Delta Sigma Phi, (1920); Phi Delta Chi (also professional), (1955); Phi Kappa Theta, (1925); Phi Mu Delta, (1926); Sigma Phi Epsilon, (1905); Sigma Pi, (1912); and Theta Chi, (1964).

The four women's national social sororities with the dates of their establishment at Ohio Northern are: Alpha Xi Delta, (1959); Delta Zeta, (1959); Zeta Tau Alpha, (1959); and Kappa Alpha Theta (1994).

The nine national professional fraternities with the dates of establishment at Ohio Northern are: Delta Theta Phi (Law), (1910); Phi Alpha Delta (Law), (1960); Phi Delta Phi (Law), (1986); Phi Delta Chi (Pharmacy), (1955); Alpha Zeta Omega (Pharmacy), (1955); Kappa Epsilon (Pharmacy Fraternity for Women), (1957); Kappa Beta Pi (Women's National Law Sorority), (1966); Mu Phi Epsilon (Music), (1989); Phi Sigma Rho (Engineering/Computer Science Women), (2002).

HONORARY SOCIETIES

Alpha Epsilon Rho, national honor society for students in radio, television, cable and film studies. Recognizes and honors both academic achievement and audio and video production creativity.

Alpha Kappa Delta, the International Sociology Honor Society, founded in 1920, is a “non-secret, democratic, international society of scholars dedicated to the ideal of *Anthropon Katamanthanein Diakonesian*” or “To investigate humanity for the purpose of service.”

Alpha Lambda Delta, national scholastic society for freshman students who have an accumulative average of 3.5 or above.

Alpha Mu Alpha, national honorary to promote the advancement of excellence in the field of marketing and to recognize and reward scholastic attainment in marketing subjects.

Alpha Phi Sigma, an honor society which recognizes and promotes high scholarship among students actively engaged in collegiate preparation for professional services, keeps abreast of advances in scientific research, and elevates ethical standards of the criminal justice professions. Majors, minors, or equivalent in criminal justice who have completed one-third of the units required for graduation and who have a cumulative GPA of 3.0 or better are eligible for membership.

Beta Beta Beta, a national honorary society for students of the biological sciences affiliated with the American Association for the Advancement of Science, seeks to encourage scholarly attainment in this field of learning by reserving its membership for those who achieve superior academic records and indicate special aptitude for the subject of biology.

Beta Gamma Sigma, the national scholastic honor society in the field of business administration recognized by AACSB International—The Association to Advance Collegiate Schools of Business. To be eligible for membership, a student at the junior level must rank in the upper seven percent of that class and a senior must rank in the upper ten percent of that class.

Delta Omicron, international music fraternity for music majors, founded in 1909 to create and foster fellowship through music, to develop character and leadership, and to encourage excellence in scholarship and performance.

Delta Phi Alpha, the National German Honors Society, seeks to recognize excellence in the study of German and to provide an incentive for higher

scholarship. The Society aims to promote the study of the German language, literature and civilization and endeavors to emphasize those aspects of German life and culture which are of universal value.

Epsilon Pi Tau, an international honorary for professions in technology dedicated to the advancement of understanding, appreciation, and awareness of technology as both an enduring and influential human endeavor and an integral element of culture. Juniors and seniors majoring in the department of technology with accumulative grade point averages in the upper 25 percent may be selected to membership.

Kappa Delta Pi, honorary society in education, encouraging high professional, intellectual and personal growth, and recognizing outstanding contributions to education; juniors and seniors.

Kappa Kappa Psi, national honorary band fraternity for male student members of the university band program.

Kappa Mu Epsilon, national mathematics honor society, recognizing scholastic achievement of undergraduate students in mathematics.

Kappa Pi, national honorary in art, eligibility to membership based primarily on achievement in the field of art.

Lambda Pi Eta, a communications studies honorary designed to recognize, foster, and reward outstanding scholastic achievement.

Mortar Board, national honor society for students, selected during their junior year for outstanding scholarship, service, and leadership.

Omicron Delta Epsilon, an international honorary society in economics, recognizing scholastic attainment in economics and honoring outstanding achievements in economics; for upperclass men and women.

Omicron Delta Kappa, all-campus national honorary society for all-around campus leaders, founded in 1914.

Order of Omega, a national Greek leadership honorary.

Phi Alpha Theta, a national honorary society in recognition of superior achievement in the study of history.

Phi Beta Delta, national honor society for international scholars, founded in 1986, is dedicated to recognizing scholarly achievement of international students, U.S. students who have studied abroad, and faculty and staff who are involved in international activities.

Phi Epsilon Kappa, national professional fraternity for students pursuing careers in health, physical education, recreation or safety, recognizing outstanding scholarship, service and achievement of upper class students.

Phi Eta Sigma, national honorary scholastic fraternity for freshman students who have attained an accumulative grade point average of 3.5 or above during either the first quarter or first two quarters with no grade below "B".

Phi Kappa Phi, a national scholastic honorary society for junior and senior students in all academic fields. Seniors in the top eighth of the class may be elected to a number not exceeding one tenth of the class. Students in the highest five percent of the class may be elected in the final term of the junior year.

Phi Lambda Sigma, national pharmacy leadership society; undergraduate students of pharmacy who have demonstrated dedication, service, and leadership in the advancement of pharmacy.

Phi Sigma Tau, the national philosophy honorary awarding distinction to students of high scholastic achievement and seeking to popularize interest in philosophy among the general collegiate public.

Pi Delta Phi, national honorary society in French, recognizing outstanding scholarship in French language and literature and promoting knowledge of France and its culture; juniors and seniors.

Pi Kappa Delta, an honorary which stimulates progress in and furthers the interests of intercollegiate speech and debate in an effort to provide functional leadership training for life. Candidates must have participated in at least eight rounds of debate or six rounds of speech competition.

Pi Sigma Alpha, national political science honorary, honoring student achievement and encouraging interest in politics and political science.

Psi Chi, the national honor society in psychology, founded in 1929 for the purpose of encouraging, stimulating, and maintaining excellence in scholarship and advancing the science of psychology. Membership in the society is selective and based on high academic performance.

Rho Chi Society, national pharmacy honor society; undergraduate students of pharmacy who are in the upper 20 percent of their class, who have attained a scholastic average of at least "B", and who have completed 70 percent of the scholastic work applicable towards the Pharm.D. or B.S. in Pharmacy degree, including at least 68 hours completed after enrollment in the College of Pharmacy.

Sigma Delta Pi, national honorary society in Spanish for upperclassmen who rank high academically.

Sigma Pi Sigma, the national physics honor society founded in 1921, honors outstanding scholarship in physics, encourages interest in physics among students at all levels, and promotes an attitude of service of its members to students, colleagues and the public.

Sigma Tau Delta National English Honorary endeavors to advance the study of the chief literary masterpieces, encourage worthwhile reading, promote the mastery of written expression, and foster a spirit of fellowship among students specializing in the English language and literature.

Tau Beta Pi, national engineering honorary association. Members at the junior rank must be within the upper 12.5 percent of their class when initiated into the association while the senior student may be within the upper 20 percent of his/her class when initiated.

Tau Beta Sigma, national honorary band fraternity for female student members of the university band program.

Theta Alpha Kappa, the national honorary for students of Religious Studies and/or Theology. Founded in 1976, it recognizes students of high attainment in these fields who also have achieved outstanding grades across the curriculum.

Theta Alpha Phi, a national honorary theatre fraternity, which recognizes superior achievement and high personal standards of character and leadership as demonstrated in sustained active participation in the Ohio Northern theatre programs; for students of sophomore or higher rank.

Upsilon Pi Epsilon, international honorary society for computer science, encouraging and recognizing outstanding talent and high scholarship in the field.

DEPARTMENTAL AND PROFESSIONAL ORGANIZATIONS

Special organizations, many of them chapters of national organizations, are active in all of the colleges of the University. Members of these groups meet regularly to discuss matters of interest in their respective areas:

University: Amnesty International; Bear Ambassadors; Black Student Union; Cheerleaders; College Democrats; College Republicans; Latino Student Union; Muslim Student Association; Prelaw Club; Ski Club; Student Planning Committee; Student Senate; The President's Club; World Student Organization; **Getty College of Arts and Sciences:** Arts and Sciences Student Advisory Board; American Mathematical Society; ONU Chapter of the Student Affiliates of the

American Chemical Society; Biology Club (Outdoors Club); Health and Physical Education Majors/Minors Club; History and Political Science Club; Technology Club/Society of Manufacturing Engineers; Model United Nations; Mathematical Association of America; Music Educators National Conference Student Chapter; National Broadcasting Society; Professional Association of Women in Science; Society of Physics Students; Student National Education Association ONU (affiliated with the Ohio Education Association and the National Education Association); Psi Sigma; Sports Medicine Club; **Smull College of Engineering:** The American Society of Civil Engineers (ASCE); The American Society of Mechanical Engineers (ASME); American Institute of Aeronautics & Astronautics (AIAA); Association for Computing Machinery (ACM); The Institute of Electrical and Electronics Engineers (IEEE); Joint Engineering Council (JEC); The Society of Automotive Engineers (SAE); The Society of Women Engineers (SWE); **Raabe College of Pharmacy:** Academy of Students of Pharmacy; Ohio Pharmacists Association; A.W.A.R.E.; Christian Pharmacists Fellowship International (CPF); Drug Abuse Awareness Team; Pharmacy Student Council; Student National Pharmaceutical Association; Student Society of Health System Pharmacists; **College of Business Administration:** American Marketing Association; Dean's Advisory Council; Institute of Management Accountants; Student Investment Group; International Business Club; Phi Beta Lambda; Professional Business Students; Students in Free Enterprise; **Pettit College of Law:** American Constitution Society; Black Law Students Association (BLSA); Cardozo Jewish Law Student Association; Christian Legal Society; Criminal Law Society; Environmental Law Society; Federalist Society; Icelandic Exchange Program; International Law Society; Lambda Law Students' Association; Legal Association of Women; Moot Court; Phi Alpha Delta; Sports Law Society; Street Law; Student Bar Association (SBA); Volunteer Income Tax Assistance (VITA); Willis Society Law Honorary; William Howard Taft American Inn of Court.

Musical Activities

The department of music sponsors a wide variety of music performing activities for all students. Non-music majors are especially welcome to participate and they constitute a large percentage of the personnel. Academic credit may be earned for participation in musical groups.

University Bands The Marching Band performs for football games and festivals. The Symphonic Band and Wind Ensemble offer students an opportunity to play the finest band literature at concerts, other activities, and on tour. The Pep Band performs for home basketball games.

Symphony Orchestra Qualified university students are eligible to perform with the Symphony Orchestra in their full season of concert activities.

Choral Groups Seven vocal organizations offer students a wide variety of singing experiences. The University Singers, Opera Workshop, and the Northernaires are select ensembles which offer students a wide variety of performing experiences. The University/Community Chorus, Men's Chorus, Women's Chorus and Chapel Choir are open to all students and perform year-round at concerts, Chapel services and many other campus and off-campus functions.

Ensembles A variety of smaller instrumental and vocal groups available to all students include the Jazz Ensembles, the Brass Ensemble, the Percussion Ensemble, the Woodwind Ensemble, the String Ensemble, the New Music Ensemble and the Chapel Band.

Recitals The faculty and music student recitals are presented by artist performers for the benefit of student and community audiences.

Communication Arts Activities

Radio/Television

Ohio Northern University is home to WONB, 94.9 FM, a 3,000 watt radio station. Managed by the Department of Communication Arts and operated by a student staff, WONB-FM provides continuous music, news, sports, and public affairs programming to a potential audience of 100,000 over a twelve-county area.

The Performing Arts Center houses a modern video production facility including a studio, master control room, editing suite, full remote video production unit and Ohio Northern's cable system. ONU Cable TV provides over 34 educational and entertainment channels of programming as well as local origination facilities for the display of campus events.

Public Relations Student Society of America

The Ohio Northern University chapter of the Public Relations Student Society of America is a professional organization that provides networking, workshops, public relations campaign exposure, internships, community and university service projects, and awards and recognition to students. The ONU chapter is sponsored by the Central Ohio chapter of the Public Relations Society of America in Columbus.

Theatre

The Department of Communication Arts provides many theatrical activities and experiences from its DeBow and Catherine Freed

Center for the Performing Arts, which contains a 550-seat mainstage theatre and a 120-seat studio theatre. All interested university students may audition for mainstage, touring, or studio productions, or they may wish to become involved in technical work.

Student Publications

The Northern, the yearbook, contains a record of student activities for the year. Each student who has been enrolled full-time for the three academic quarters receives a copy of the book as a part of the university activity program.

The Northern Review is a weekly newspaper published throughout the regular year by the students of the university. Positions on the staff of the newspaper are open to all students.

The Student Handbook, a copy of which is posted on the ONU web site, is a compilation of rules and information pertaining to student life on campus.

Fraternity Rush Handbook, published annually by the Interfraternity Council.

Sorority Rush Handbook, published annually by the Panhellenic Council.

Delirium is the student-produced web magazine of the English Department's Professional Writing program.

Polaris is a creative magazine published quarterly by and for Ohio Northern students.

The Ohio Northern University Law Review is a professional legal periodical. Published quarterly, it is subscribed to by the practicing bar, bench, government officials, and legal scholars throughout the U.S. as well as six different countries. In addition to student comments, the Review publishes articles by noted authors from within the legal community.

Athletics

The purpose of the program of intercollegiate athletics at Ohio Northern is to provide the following important educational experiences:

1. To support and broaden modern education.
2. To expose and educate students in legitimate methods of good sportsmanship, in the meaning of wholesome competition, and in the will to win.
3. To serve as a laboratory for the professional approach of those interested in health, physical education, coaching, athletic training, exercise physiology, and sport management as a career.
4. To supply wholesome recreation for the participants and other students.
5. To provide a focus for the interest of students, faculty, administration, and alumni. The intercollegiate athletics program at Ohio Northern is overseen by the Committee on Athletics of the University faculty.

Intercollegiate Competition for Men. Ohio Northern participates in intercollegiate football, basketball, baseball, tennis, golf, wrestling, swimming and diving, cross country, indoor and outdoor track, and soccer. It is a member of the Ohio Athletic Conference and the NCAA Division III.

Intercollegiate Competition for Women. Women at Ohio Northern compete in volleyball, basketball, swimming and diving, tennis, indoor and outdoor track, cross-country, soccer, golf and softball (fast pitch). Ohio Northern belongs to the NCAA Division III and Ohio Athletic Conference and follows their rules and regulations.

Intramural Competition. Ohio Northern's intramural program is open to all students and encourages participation in physical activities for recreational purposes. The program consists of touch football (men and women), volleyball (men, women and coed), basketball (men and women), softball (men and coed), ultimate frisbee and indoor/outdoor soccer (coed).

Club Sports. Ohio Northern's club sports program is open to all students who meet membership requirements. Club sports encourage students to be actively involved in creating their own recreational and competitive sport experiences. Current club sports include men and women's water polo, men and women's rugby, ultimate Frisbee and men's volleyball. All club sports have a faculty advisor, and students wishing to form a sport's club can do so under the guidance and help of ONU's student senate and the Assistant Director of Athletics for club sports.

The Educational Program of the University

Academic Calendar

The Ohio Northern calendar divides the academic year (nine months) into three quarters of approximately equal length, designated as fall, winter, and spring for the undergraduate colleges. A summer session of approximately 12 weeks is divided into terms of four weeks. Fall quarter ends before Thanksgiving; winter quarter begins the Monday after Thanksgiving and includes a Christmas vacation of about two weeks; spring quarter ends by Memorial Day. The College of Law is on a semester calendar.

University Organization

Ohio Northern University is composed of five colleges.

The Getty College of Arts and Sciences is organized into fifteen departments each providing one or more majors as a basis for degree programs leading to the Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, Bachelor of Science, Bachelor of Science in Clinical Laboratory Science, or Bachelor of Science in Nursing degrees.

The T.J. Smull College of Engineering has three departments which offer degree programs with accredited curricula in civil, computer, electrical, and mechanical engineering. The department of electrical & computer engineering and computer science also offers a Bachelor of Science degree in computer science.

The Raabe College of Pharmacy offers the Doctor of Pharmacy (Pharm. D.) degree as a six year program for high school graduates and as a non-traditional degree program for holders of a B.S. Pharm. who are licensed pharmacists.

The Pettit College of Law awards the Juris Doctor degree after successful completion of a three-year course of study. An earned baccalaureate degree from an accredited institution is required for admission into the College of Law.

The College of Business Administration curricula require a four-year course of study leading to the degree of Bachelor of Science in Business Administration with majors offered in accounting; international business and economics; management; and marketing.

The International Study Opportunity

The international dimension of the university's educational program seeks to develop in students an interest, understanding, and appreciation of other peoples and a cultivation of a spirit of world citizenship within the university community. International experiences are encouraged through various academic and nonacademic opportunities. On-campus academic and cocurricular programs bring together the experience and expertise of faculty and students alike in a variety of activities which broaden the international perspective of those who participate. Off-campus opportunities include study abroad (short-term and long-term courses), occasional work experiences abroad, and other types of student travel exchanges. Recent programs abroad include summer study tours to Europe, Japan, Korea, and Latin America, a co-op experience abroad in engineering, summer internships abroad in business and a summer EuroBusiness tour, Cuban Business tour, theatre performances abroad, and individually designed summer abroad experiences for modern language students. The engineering co-op program provides opportunity for actual work experiences in an industrial engineering company abroad. Student teaching abroad is available through the Antwerp International School in Antwerp, Belgium plus other sites in Europe and Australia.

The university is a member of the Institute for International Education, the NAFSA Association of International Educators, the Indiana Consortium for International Programs (ICIP), Council on International Educational Exchange, the University Studies Abroad Consortium (USAC), the International Studies Abroad (ISA) consortium, and the World Affairs Council of Greater Cincinnati. The university has cooperative exchange agreements with Queen Margaret College, Edinburgh, Scotland; Glasgow Caledonian University, Glasgow, Scotland; University of Wales Lampeter in Lampeter, Wales; the University of Ulster, Northern Ireland; the University of Science and Technology, Lille, France; Robert Schuman University, Strasbourg, France; the University of Aarhus, Aarhus, Denmark; the University of Joensuu in Joensuu, Finland; Helsinki School of Economics in Mikkeli, Finland; Arnhem Business School in the Netherlands; Brandenburg Technical University,

Cottbus, Germany; University of Iceland, Reykjavik, Iceland; University of Debrecen, Debrecen, Hungary; Universidad Latina de Costa Rica, San Pedro, Costa Rica; Instituto Tecnológico y de Estudios Superiores de Monterrey, Campus Queretaro in Queretaro, Mexico; Universidad Antonio de Nebrija, Madrid, Spain; and the Plekhanov Economic Academy, Moscow, Russia. Additional study abroad opportunities are provided through the university's affiliation with AustraLearn: North American Center for Australian Universities.

The university also has program agreements with Studio Art Centers International, Florence, Italy and Burren College of Art in Ireland. The university has a friendship pact and an exchange agreement with Dankook University in Seoul, Korea.

The Byron L. Hawbecker Travel Fellowship is available for students in the College of Arts and Sciences pursuing study abroad.

Washington Center Program

Ohio Northern University is affiliated with the Washington Center in Washington, D.C. The Washington Center arranges a variety of student internships with federal agencies, legislative offices, and private organizations on behalf of students from the four undergraduate colleges. A limited number of Washington Center scholarships are available for students. More information is available from the undergraduate deans or the academic affairs office.

Academic Programs Between Colleges

Majors and Minors Between Colleges

A student may complete double or multiple majors and minors by satisfactorily completing the required major and major related (cognate) or minor requirements of the two departments plus college requirements of his or her college of registration only. Students pursuing a degree in the college of engineering or the college of pharmacy will be registered in those colleges as their primary degree programs but may pursue majors or minors only in other colleges. Exceptions to this general policy are that the dual degree program of electrical engineering and computer science is permitted, and all engineering majors except for computer engineering can pursue a computer science minor.

Dual Degree Programs

Students may elect to earn an additional distinct degree from the university. The student must complete a minimum of 45 quarter hours beyond the total credit hour requirements for the degree with the lesser number of hours required. Students not meeting this requirement for more than one degree must choose which degree they wish to receive. This choice may not subsequently be changed.

A student following a dual degree program pursues both degrees simultaneously, with permission of the college of registration, and under the supervision of an advisor from each of the colleges involved. For students pursuing a degree in either the College of Engineering or the College of Pharmacy, the college of primary registration must be one of these two colleges and the tuition charged will be the Pharmacy or Engineering College rate as appropriate.

Students in the College of Engineering are not permitted to have a dual major in computer engineering and computer science.

The dual degrees Pharm.D. and J.D. program or Pharm.D./B.S. (biology) are available. Please obtain program information from either the Office of Pharmacy Student Services, the Office of the Associate Dean, College of Law, or Department of Biological and Allied Health Sciences.

A student completing a dual degree program must meet all of the requirements established for each degree. Certification of completion of these requirements is made by the college granting a degree.

The university does not guarantee that program additions (e.g., dual degrees, double majors, minors and options) can be completed within the normal time to complete one degree and/or without encumbering additional overload hour fees.

Prelaw Program

Ohio Northern University has developed a unique prelaw program which offers an excellent opportunity for superior students preparing for a career in law. The program is open to all students enrolled in any academic department of the Colleges of Arts and Sciences, Business Administration, Engineering, or Pharmacy.

Students in the prelaw program select a major and complete the necessary requirements as do other students. The University Prelaw Advising Committee, with representatives from each of the undergraduate colleges, the law college, and undergraduate career services, advises students to include in their studies specific courses that encourage and develop (1) comprehension and expression in words, (2) critical understanding of the human institutions and values with

which the law deals, and (3) critical and analytical thinking. The committee also supervises a prelaw orientation course, a Law School Admissions Test (LSAT) preparatory workshop, and a mentoring program involving prelaw students with local attorneys. Members of the committee advise students on related matters such as applying for admission to law schools.

Students in the prelaw program will gain admittance to the Ohio Northern University College of Law if they (1) maintain an undergraduate grade point average of at least 3.40/4.00; (2) score in at least the 75th percentile on the LSAT; (3) pass the character and fitness review by the Admissions Committee of the College of Law, and (4) pursuant to ABA Admissions Standard 501, are deemed by the law school Admissions Committee to appear capable of satisfactorily completing its program and being admitted to the bar. To take advantage of an automatic admission, a student must enroll in the College of Law in the fall semester immediately following the date that the student receives an undergraduate degree from Ohio Northern.

Additional information is available through the offices of the deans.

Library

Heterick Memorial Library (1968) provides information resources and services to support course offerings and foster independent study. An open stack arrangement allows easy access to nearly all of the material in the collections. The centrally located facility is named for Dr. Robert Hynton Heterick and Frances Felker Heterick.

In addition to books and periodicals, the library provides microforms, state and federal documents, sound recordings, videotapes, slides, and computer software. Facilities include individual study carrels, study rooms, a conference room, microform reading and printing devices, copy services, and audiovisual equipment. Numerous power and network connections are available.

Computer services include a cluster of 32 computers, all of which are connected to the campus local area network. Some 300 wired power and network connections are scattered throughout the building for laptop users. Wireless network access is also available. The library also maintains POLAR, the university's on-line catalog, as well as offering over 140 computerized services, more than 7200 electronic journals, and a growing number of electronic books over the campus network.

Local collections are supplemented by efficient interlibrary loan services, including OhioLINK, a statewide resource-sharing network.

Librarians are available to help students and faculty identify appropriate sources of information and to use the catalog and other bibliographic materials. Instructional lectures are offered to classes and groups upon request.

Information Technology

The university is among the leaders in offering creative and efficient application of information technology in support of teaching, learning, administrative and student services. Information technologies are integrated into all aspects of university life; enhanced classroom, laboratory, research and living experiences, recreation and communications.

The university provides a heterogeneous environment of computer equipment integrated by local area networks. The campus network is attached to the Internet and Internet2 through a high-speed fiber-optic connection. The campus network is available in every academic building and residence hall room. In addition, wireless networks are installed in many academic buildings. Computer labs are available to students in most academic areas.

Access to the digital campus is via Luminis, a web platform that aggregates and integrates services like e-mail, student records, academic calendar, faculty and student chat sessions, and course information.

The College of Arts and Sciences provides access to many computer laboratories featuring a variety of makes and models. For example, the department of communication arts, located in the Freed Center, provides a laboratory of 16 Apple iMac computers in support of instruction in communications. Popular word processing and page layout programs are available. The art department has ten Apple computers in support of instruction in graphic design. The English department has desktop computers in Dukes building for classroom and laboratory use and additional Dell laptops in a mobile unit for wireless classroom use. All machines are connected to the Internet and use the Windows XP operating system along with publishing and word processing applications for use in and out of class. The Meyer Hall of Science houses multiple PC laboratories featuring Pentium 4 computers to support instruction in the sciences and mathematics. A mixed cluster of Macintosh Intel and Sun computers are used in chemistry/biochemistry. Nine Apple iMac computers are used in a computer laboratory for mathematics education. The Social Sciences Division has an instructional laboratory with Pentium computers in Hill 114. A variety of software is available including: Sniffy the Virtual Rat, Arcview GIS, SPSS version 9, and SYSTAT. The department of technological studies has four computer laboratories located in Taft Memorial. The Micro-computer Applications Lab is used for a variety of courses including CAC applications, information processing, multi-media design, and basic computer applications with spreadsheets, databases, word-processing, etc. The Virtual Simulation Lab is used for advanced CAD applications, digital manufacturing applications and analysis using primarily Delmia and CATIA software. The third lab in Taft 202 contains applications associated primarily with the graphic communications industry including desktop

publishing, OCR and image scanning, digital photography manipulation and editing, and laser engraving. The Automation Laboratory in Taft 107 contains computers that are interfaced with Programmable Logic Controllers, CNC turning and milling centers, robots, and other advanced manufacturing control devices. The Center for Teacher Education has 15 Dell computers and 8 Apple Power Macintosh computers in Dukes 301. The center also has one digital camera, 2 color scanners, and 3 camcorders. Pre-service teachers learn to integrate all of these technologies into their teaching.

The College of Engineering, located in the Biggs Engineering Building and the Science Annex, provides several PC laboratories equipped with over 100 Dell and Gateway Pentium personal computers. Many popular Windows applications and numerous professional quality engineering software applications are available. The building is wireless compatible, enabling wireless internet connectivity under the 802.11b standard. Dell Inspiron 8200 wireless laptop computers are available for classroom use. Twelve Sun Blade 1000 workstations support instruction in computational fluid dynamics and finite element analysis. A laboratory of Apple Macintosh computers support computer applications and design, control systems, heat transfer, and fluid mechanics.

All engineering laboratories are equipped with PC workstations running applications appropriate to the area of study. The college operates a scanning electron microscope which is used mainly in the materials courses but is also used by the physics and astronomy department.

The College of Pharmacy and the Drug Information Center, located in the Robertson-Evans Pharmacy Building, provide modern laboratories with networked computers and software dedicated to health care data base searching.

The College of Law, located in the Tilton Hall of Law, provides a full laboratory of Pentium computers for student use. Access is provided by password to LEXIS/NEXIS and Westlaw, and a variety of other law and law-related internet subscription services are available to all users. The school has a classroom and seminar room with network and power outlets and three other classrooms with power to every seat to accommodate notebook computers. All library carrels and tables have network and power outlets. In addition, wireless connectivity is available throughout the entire law college building.

The College of Business Administration is located in James F. Dicke Hall. This beautiful new facility contains classrooms, faculty offices, and administrative offices all equipped with the latest instructional technology. In addition to more than 200 network connections, the building offers 100 percent wireless coverage on the 802.11g standard. The building is linked to the campus fiber optic backbone via gigabit Ethernet. All computers are in-

stalled with the most current versions of Microsoft Windows XP and Office.

The Business Resource Center offers students, faculty, and business owners/managers the latest business research software and databases. Additionally, it gives visitors access to popular software including Turbo Tax, Photoshop Elements, FrontPage, PrintShop Pro Publisher, Visio Professional, and Encarta Reference Library.

Classrooms are equipped with state-of-the-art instructional technology. Students have available for their use a computer classroom, a computer lab, computer workstations and kiosks. In addition, the college provides course-related access to real-time financial information, including stock quotes, through Reuters BridgeStation service.

Students have access to a range of support services including high-speed network laser printing, document scanning, CD-ROM creation capability, desktop publishing, and videoconferencing capability. In addition students have access to a digital video camera and several digital still cameras.

The College of Business Administration is a Microsoft Authorized Testing Center. The Microsoft Office certification program is designed to assess proficiency and improve skills. Certification testing is available for Microsoft Access, Excel, Outlook, PowerPoint and Word. The college is also licensed to test for and award the IC³ Internet and Computing Core Certification.

The Heterick Memorial Library and the Taggart Law Library employ computer technology to better serve the university community. Both libraries are members of OhioLINK, a resource sharing consortium of Ohio academic libraries which allows patrons to locate and borrow materials from other member libraries electronically.

Distance learning and web-based learning instruction is provided using WebCT, a program that facilitates the creation of sophisticated world wide web educational environments.

Communication Skills Center

Clear expression of ideas, both oral and written, is a standard Ohio Northern endorses for its students. To help meet and maintain that standard, the university provides the services of its Communication Skills Center. It is designed to strengthen the student's work in basic writing and oral communication courses and to reinforce those communication skills throughout the student's entire academic career.

Individual assistance is provided to help students master writing skills and develop skills in organizing and delivering oral presentations. Mock interviews are available for students entering the job market. In addition, the Communication Skills Center offers ref-

erence materials, programmed learning guides, computer software, cassette programs, written and oral communication models, and videotaping facilities. The Communication Skills Center, located conveniently on the second floor of Heterick Memorial Library, is staffed by professional assistants and student speech and communication tutors.

Honors Program

Mission Statement The Ohio Northern University Honors Program, consistent with the University's Mission Statement, has been established to stimulate highly qualified students who are capable of meeting academic challenges and who choose to do so. Students are encouraged to develop their full intellectual potential within a continuing community of scholarly excellence that offers exciting and enhanced varieties of academic experiences.

Objectives Honors Program experiences are designed to nurture students' curiosity, their written and oral communication skills, and their leadership capabilities as well as to provide an opportunity for students to be more actively involved in their education.

Admission Upon acceptance at Ohio Northern, students with an ACT composite of 29 or higher (or equivalent SAT score) may apply to enter the Honors Program. Enrolled students who complete their first two academic quarters with a gpa of 3.50 or higher also may apply if space is available. Completion of the requirements of the Honors Program are the same regardless of time of entry.

An application to the Honors Program will include an essay that supports acceptance into the Program. Acceptance into the Honors Program is expected to be highly competitive.

Program Requirements The Honors Program consists of a First-Year Honors Seminar and three additional Honors Seminars (16 credit hours total); two "contract" courses at the 300-level or above (each course at least 3 credits); and a final Honors Project approved by the department/college of the student's major. The Honors Seminars and Honors Project courses may be used to replace General Education, major, or other requirements, as determined by department/college faculties.

To remain active in the Honors Program, students must have a cumulative gpa of 3.00 or better at the end of their third quarter and a cumulative gpa of 3.20 or better at the end of their sixth quarter at ONU. A student whose cumulative gpa is below 3.30 at the end of a ninth quarter of enrollment will not be permitted to complete the Honors Program.

Students in the Honors Program are required to attend at least three Honors Project public presentations each academic year.

Program Specifics Honors Seminars have an enrollment limit of 15. Students not in the Honors Program may enroll in an Honors Seminar on a space available basis upon approval of the instructor. However, only Honors Program students may enroll in the First-Year Honors Seminars. A First-Year Honors Seminar is a requirement and may not be repeated.

Honors Seminars and final Honors Projects are graded on the A-F scale.

As stated above, to satisfy the program requirements, two existing courses at the 300-level or higher must be completed with contracts. Contracts do not provide more credit hours for a course, but rather agreement on the part of the student to complete work in greater depth. Contract proposals are initiated by the student with guidance from the instructor, and a copy of the final contract is placed on file for review by the Honors Program Committee no later than the second week of the term of enrollment. One contract course requirement can be fulfilled in conjunction with study abroad, with the prior approval of the Honors Program Committee. The course instructor certifies completion of the contract at the time of reporting final grades.

The Honors Project is a major research, performance, or creative endeavor, guided by a full-time faculty member. The project must be approved by the department/college by the end of the term prior to the term of project completion. Each student must give an announced, public presentation of the completed Honors Project.

Note: Not all Honors Seminars are offered each year.

Program Recognition Recognition as an Honors Program graduate requires satisfactory completion of the program requirements stated above. At Commencement, the Honors student will be recognized as an ONU Honors Program graduate. Diplomas and transcripts will identify completion of the Honors Program.

Program Administration An Honors Program Committee with membership to include faculty from each of the undergraduate colleges and students in the Honors Program provides oversight to the Honors Program.

Subject - ONU Honors Program (HONR)

100 - HONORS SEMINAR: DISCIPLINE OF REASON

4.00 Credits

The nature and value of rationality as encountered through discussion of 1) the western, Socratic ideal of rationality, 2) what constitutes good reasoning in various modes of inquiry, and 3) skeptical and relativistic charges that the ideal of rationality is unavoidably undermined by such factors as history, gender, and race. (Will satisfy ENGL 110 writing requirement.)

201 - HONORS SEMINAR: DISEASE AND SOCIETY*4.00 Credits*

Investigation and examination of the impact infectious disease has had on significant historical events and cultures from the middle ages to the present. The course will integrate basic scientific principles of disease and social trends to understand why disease continues to emerge. Prerequisite: HONR 100.

202 - HONORS SEMINAR: ASIAN MUSIC*4.00 Credits*

An introduction to ethnomusicology and the cross cultural study of music and culture. Various aspects of culture and music in Turkey, Indonesia and Japan. Prerequisite: HONR 100.

203 - HONORS SEMINAR: SENSATIONALISM AND THE MEDIA*4.00 Credits*

The nature of sensationalism and how it functions in the media to attract audiences. An historical perspective on the media's role as it has played, shaped or sensationalized the news, and why it continues to do so. Prerequisite: HONR 100.

204 - HONORS SEMINAR: CONVERSATION ANALYSIS AND LITERATURE*4.00 Credits*

Basic presuppositions and general observations of conversation analysis, including analysis of naturally occurring conversation. The application of conversation analysis to literary texts. Prerequisite: HONR 100.

206 - HONORS SEMINAR: ENCOUNTERING THE OTHER*4.00 Credits*

The diversity of religious and cultural expressions throughout the world, with primary focus on the phenomenon of "difference," "otherness," and its personal and social ramifications. Prerequisite: HONR 100.

208 - HONORS SEMINAR: ASIAN STUDIES*4.00 Credits*

Exploration of the Asian world. Topics will vary, depending upon current events in Asia and faculty interests, including but not limited to: culture, environment, economics, health care issues, music, religion and literature. Prerequisite: HONR 100.

209 - HONORS SEMINAR: INTRODUCTION TO THE STUDY OF HUMAN LANGUAGE*4.00 Credits*

The practices of the field of linguistics, with topics such as the lexicon, semantics, phonetics, phonology, morphology, syntax, regional and social language variation, historical linguistics with a more detailed inquiry into related topics. The broader questions will be dealt in depth in paper topics of each student's choosing and on a number of days set aside for discussion. Prerequisite: HONR 100.

210 - HONORS SEMINAR: THEORIES OF HUMAN NATURE*4.00 Credits*

Philosophical inquiry into rival theories of human nature with reference to religion, psychology and science. Consideration of the various philosophical problems, such as, the role of reason, free-will and determinism, the relationship between the individual and the universe or God (as well as society), moral psychology, and gender differences. Prerequisite: HONR 100.

211 - HONORS SEMINAR: BIOLOGY AND ETHICS-THE SCIENCE BEHIND THE DEBATES*4.00 Credits*

The biological processes that have initiated ethical debates. A complete understanding of the science of bioethical issues is often excluded from many public discussions. The scientific background of natural selection, development, gene expression, biogeochemical cycling and genetics to better understand the public debates on global warming, use of genetically engineered organisms, abortion, stem cell research, biodiversity preservation, recycling, human behaviors, gene therapy, embryo and sex selection, animal use in research, and nontraditional medicine. Prerequisite: HONR 100.

213 - HONORS SEMINAR: ART APPRECIATION*4.00 Credits*

Analysis of the visual arts through selected architectural sites, both organized and "outsider" temples, from the past and present. Prerequisite: HONR 100

214 - HONORS SEMINAR: CORPORATE CITIZENSHIP

4.00 Credits

Contemporary assessment of corporate citizenship. Topics will vary depending on current events and faculty interests; including but not limited to: business and politics; environmental degradation; globalization; corporate governance; employment.

Prerequisite: HONR 100.

217 - HONORS SEMINAR: ETHICS AND PROFESSIONS

4.00 Credits

Major ethical theories and their application to professions and topics that arise in the professional setting. The role of institutions in ethical theory, the nature of professions, and responsibilities to clients and the public.

Prerequisite: HONR 100.

218 - HONORS SEMINAR: ANIMATRONICS

4.00 Credits

Mechanized and automated puppetry. Topics include engineering and artistic design, costuming, mechanisms, materials and manufacturing processes, programmable controllers, sensors, programming, and the future of animatronics in human life. Theory and hands-on experience content will be balanced.

Prerequisite: HONR 100.

219 - HONORS SEMINAR: APPELLATE ADVOCACY

4.00 Credits

An examination of the appellate process in American courts; development of and enhancement of critical thinking and oral advocacy skills. Prerequisite: HONR 100.

220 - HONORS SEMINAR: MINDS AND COMPUTERS

4.00 Credits

Critical inquiry into the possibilities and limitations of artificial intelligence with emphasis on the mathematical aspects of the subject. Questions that may be considered include: Can computers have minds? Are computers living beings? Are computers persons? Are human beings machines? What are the limitations of ideal computers? What light do mathematical insights shed on the current debate over AI?

Prerequisite: HONR 100.

221 - HONORS SEMINAR: HISTORY OF THE ART OF MUSIC

4.00 Credits

The history, nature, form, styles and media of music, of all types and periods. Knowledge of music fundamentals, recognition of the music of representative composers and periods through classroom and laboratory listening. Concert attendance is required. Emphasis is placed on the social factors influencing the development of significant musical styles. The impact of the enlightenment on classical period composers is one of the topics to be explored. Includes a strong research component. Prerequisite: HONR 100.

222 HONORS SEMINAR: THE HEART OF MATHEMATICS

4.00 Credits

Important and deep mathematical ideas. Prime Numbers, Infinity, the Fourth Dimension, Rubber Sheet Geometry, Fractals and Uncertainty. Emphasis on concepts and personally relevant applications. Minimal computation and mathematical notation.

Prerequisite: HONR 100.

223 - HONORS SEMINAR: THE BIG IDEAS IN PHYSICS

4.00 Credits

The most important ideas and concepts from physics and their impact on the modern world through the development of physics from Aristotle to the standard model. Prerequisite: HONR 100.

224 - HONORS SEMINAR: PROPHETS IN THE ANCIENT NEAR EAST

4.00 Credits

The nature of prophecy and the role of prophets in the ancient Near East and the application of this understanding to the prophetic literature of the Old Testament. Prerequisite: HONR 100.

227 - HONORS SEMINAR: SUB-SAHARAN WEST AFRICAN CULTURES AS PORTRAYED IN FILM

4.00 Credits

Analysis and critique of approximately 10 films produced by local directors in francophone West African nations. Research of background information. Discussion and writing.

Prerequisite: HONR 100.

231 - HONORS HUMANITIES WRITING SEMINAR

4.00 Credits

Writing intensive exploration of topics in the humanities. Topics include but are not limited to: Language of Vision and the Environmental Imagination: From Lewis and Clark to the Matrix, Reading and Writing Culture, and Peace, Protest, and Pen. Prerequisite: HONR 100.

240 - HONORS GREAT WORKS SEMINAR

4.00 Credits

Reading and writing about significant works of literature. Topics include but are not limited to: Pushing the Boundaries-Exploration and Pioneering in the New World, From Ohio to the Orient, The American Novel, Medieval Roots-Tolkien's Lord of the Rings and Film Adaptation. Prerequisites: HONR 100 and either ENGL 111 or HONR 231.

301 - HONORS SEMINAR: THE WITCH HUNT, 1450-1700

4.00 Credits

Examination and analysis of the witch hunt craze of early modern Europe and North America. Begins with the mid-fifteenth century publication of witch hunting manuals and concludes with the witch trials in New England in the late seventeenth century. The role of magic in late medieval Europe, the clerical response to magical practices, the application of inquisitorial practices to witch hunting, the impact of religious warfare on witch hunting, and the impact of witch hunts on everyday life in Europe and North America. Requires extensive reading, writing, and reporting. Will include videos. Prerequisites: HONR 100 and HIST 110.

399 - HONORS PROJECT RESEARCH

1.00 to 4.00 Credits

Research in preparation for the Honors Project. May be repeated for credit up to a total of 6 hours. Graded S/U. Prerequisite: HONR 100.

400 - HONORS PROJECT

1.00 to 4.00 Credits

Final version of the Honors Project and oral presentation. Prerequisite: HONR 100.

410 - HONORS STUDY ABROAD - HPC

.00 Credits

Work done under supervision of ONU faculty during study abroad for Contract Course credit. Graded S/U. Prerequisite: HONR 100.

ROTC

(Reserve Officer Training Corps)

Air Force ROTC

The Air Force Reserve Officers Training Corps (AFROTC) program, offered by the Department of Aerospace Studies on the Bowling Green State University campuses, provides college-level education to prepare interested men and women for commissioning as second lieutenants in the United States Air Force. The program emphasizes the development of each student's sense of personal integrity, honor, individual responsibility and potential as a leader and manager.

The AFROTC program consists of a **General Military Course (GMC)** offered to freshmen and sophomores; and a **Professional Officer Course (POC)** offered to selected juniors and seniors. Admission to the GMC is open to most U.S. citizens, male and female, over the age of 14. The student must be regularly enrolled in the university and registered for a minimum of 12 academic hours. The student spends two hours per week in AFROTC courses. A uniform and AFROTC textbooks are provided without cost while the student is enrolled in the GMC. Enrollment of foreign students is governed by Air Force regulations.

Admission to the POC is on a competitive basis for those students who successfully complete the GMC. Requirements for selection to the POC include successful completion of the Air Force Officer's Qualifying Test (general knowledge and aptitude), completion of a four-week summer field training camp, and an Air Force medical examination. The student must be of high moral character and demonstrate outstanding leadership potential. The student spends four hours per week in AFROTC. While enrolled in the POC, students receive up to \$400 per academic month (tax-free), and free AFROTC uniforms. Enrollment of foreign students is governed by Air Force regulations.

A **two-year program** is available to students who have two years remaining to complete either an undergraduate or graduate degree. In addition to meeting physical requirements for selection, the student must attend a five-week summer field training camp prior to admission to the two-year program. Students should apply in November or December of their sophomore year.

Students enrolled in Aerospace Studies may substitute these courses for courses as prescribed by the individual colleges. AFROTC leadership training activities (leadership laboratory) are a part of each course and offer opportunities for practical leadership training and experience in a supervised environment. Selected students are eligible for two- or three-year Air Force ROTC scholarships. Scholarships may provide up to full college tuition, required fees, textbooks, and pay the recipient \$250 per academic month (tax free).

The student who successfully completes the AFROTC program and graduates from the University is commissioned as a second lieutenant in the active duty U.S. Air Force. Commitment incurred is normally four years; however, students designated for pilot or navigator training will serve a longer time, based on the current Air Force requirements.

For additional information, contact AFROTC, Bowling Green State University, 419/372-2176. DET620@bgnet.bgsu.edu

Army ROTC

Army ROTC at ONU provides an opportunity for men and women to participate in practical management and leadership activities designed to enhance the student's other academic pursuits. Upon successful completion of the Army ROTC program, graduates may be commissioned as second lieutenants in the Active Army, the Army Reserve, or the National Guard. All ROTC courses are fully accredited. The program is offered at Bowling Green State University.

Army ROTC has two programs leading to a commission.

The Four-Year Program

The traditional four-year program is divided into two parts. In the first two years, the student will take the Basic Course covering subjects such as military history, traditions and organizations, and national defense. There will be a heavy emphasis on leadership development.

There is no commitment for the first two years for those who do not have a ROTC scholarship. Upon successful completion of the Basic Course, each student will be eligible to compete for entrance into the Advanced Course.

During the Advanced Course, the curriculum will consist of instruction and practice in management, tactics, ethics, professionalism, and continued leadership development.

During the four years uniforms and essential materials will be furnished at no cost. Also, if selected for the Advanced Course, each student will receive a monthly allowance.

The Two-Year Program

If students miss the first two years of ROTC, they may still qualify for a commission through the Two-Year Program.

In this program, the student first attends the ROTC Basic Camp, Camp Challenge, for five weeks between the sophomore and junior years of college. Upon successful completion of Camp Challenge, each student will be eligible for the Advanced Course. Students interested in the two-year program should contact the Department of Military Science, Bowling Green State University, phone 419/372-2476. <http://www.bgsu.edu/departments/mils/> or e-mail to: army.rotc@mailserver.bgsu.edu

All ONU students, even those who have had no previous connection with ROTC, may compete for ROTC scholarships which include tuition, fees, books and supplies. Scholarship students also receive a monthly allowance.

Students who are not U.S. citizens must obtain permission from the military science department prior to enrolling in any ROTC course.

English as Second Language (ESL) Program

Ohio Northern has affiliated with the English Language and Multicultural Institute (ELMI) in Dayton, Ohio to provide ESL instruction for international students who are academically qualified for admission to ONU, but who have not attained a satisfactory level of English proficiency as evidenced by the TOEFL or other standard measure. For further information, please contact the ONU office of admissions.

Registration Procedure

Registration is completed in person during the periods assigned and published by the University registrar. During each term, registration is conducted for the following term. All continuing students are expected to register within the designated period. The student is responsible for the completion of prerequisites for courses for which enrolled and for securing the approvals needed as indicated in the University Catalog. The student is expected to complete registration in the prescribed manner and to complete payment fees by the required date to validate his/her registration. Failure to do so can result in the cancellation of the registration, the assessment of the late registration fee, and removal of name from class lists for the term. Delinquent payment of charges will not enable reinstatement in the term for which charges have not been paid. Reregistration of a student whose registration was cancelled because of failure to satisfy fee payment requirements will be permitted only during the late registration period for the term.

Each student is assigned an advisor to assist in curriculum and registration matters. The advisor's signature is required for registration and substantial changes in schedules. Undergraduate students requesting more than 19 hours must have the dean's signature. Law students with less than 12 hours or more than 18 must have appropriate prior approval.

Outstanding financial obligations to the University must be paid or satisfactory arrangements made prior to the completion of registration for a subsequent term.

New students may register for fall quarter at any one of the four summer orientations. New students or re-entry students may also register for fall quarter the day before classes begin.

The office of the registrar will permit another person to register or to change the schedule for a student only under extraordinary circumstances upon recommendation of the student's college dean.

A student may not attend more than one class session unless officially registered for the class in the office of the registrar.

Auditors

A student who wishes to attend a class but who does not wish to receive a grade or credit for the course can register as an auditor during the first week of the term. An auditor does not participate in class evaluations. Studio courses, activities courses, and laboratory courses cannot be audited. In lecture/laboratory courses only the lecture can be audited.

Change in Course or Withdrawal

The student is responsible for the courses and sections for which he or she is officially enrolled.

Late registration, addition of courses, change of sections, change from credit to audit or audit to credit will be permitted during the first week of a quarter or equivalent in the summer term or first two weeks of a semester.

Change in Academic Program

To change a major, minor, concentration, or option the student must have a "Declaration of Major" completed indicating the change(s) and signed by the chair of the department where the new major, minor, concentration, or option is housed.

Dropping Courses from Schedule or Withdrawal from the University

Courses dropped within the first two weeks in the quarter or the first three weeks of a semester will not appear on official reports; courses officially dropped after the second week of the quarter or the third week of the semester will be marked as "W" (official withdrawal).

Courses may be dropped after the end of the seventh week of a quarter or the ninth week of a semester to the beginning of final examination week with approval of the dean of the college of registration but will be approved only for reason of unusual circumstances beyond the control of the student. The instructor of the course will be notified promptly of withdrawals approved after the end of the seventh week of a quarter or ninth week of a semester and the beginning of finals. The instructor may make inquiry of the dean of

the college of registration concerning the circumstances and will be provided the rationale with sensitivity for the student's right to privacy.

Courses may be dropped or complete withdrawal processed after the beginning of the final examinations or thereafter with approval of the instructor of the course, the dean of the college offering the course, and the dean of the college of the student's registration. In the event that there is disagreement with the withdrawal by any of these persons, and the disagreement cannot be resolved, the vice president for academic affairs will provide a decision and inform all parties directly involved. The vice president for academic affairs will report to the Committee on Academic Affairs all withdrawals after the beginning of the final examination week which were not approved by the dean of the college of the student's registration, dean of the college offering the course, and the instructor of the course.

For courses scheduled for terms of less than a quarter in length, equivalent periods for registration changes will be established by the university registrar.

Changes of schedule (add-drop) and complete withdrawals are official on the date received in the office of the registrar. Courses or sections dropped or added without proper approvals will result in no credit for the course added and an "F" for the course dropped.

A student who wishes to withdraw from all courses for which the student is registered for a quarter or semester may do so by initiating an official withdrawal with the student's advisor and submitting the withdrawal form to the following offices for signature — dean of the college of registration (if the dean's signature is obtained without the advisor's signature, it is assumed that the signature of the advisor is waived), office of residence life if the student is residing in a University residence hall, and the controller's office. After obtaining the proper signatures, the student must process the form with the office of the registrar to be official. Discontinuance of attendance **does not** constitute an official withdrawal. Failure to officially withdraw will result in failure (F or U) for each course scheduled.

Transfer Between Undergraduate Colleges in the University

A student enrolled in one undergraduate college in the University may request transfer to another undergraduate college by initiating a change of college form. The signature of the dean of the college in which the student is currently enrolled must be obtained as well as the approval of the dean of the college to which the student is transferring. The student must provide the dean of the college to which the student is transferring copies of all documents relating to academic actions at ONU (suspension, probation, dismissal).

In considering internal college transfers, the University recognizes the need for the student to have the freedom to find the best area of study within total University offerings.

Dismissal

The Ohio Northern student is expected to possess qualities of good citizenship and maintain certain levels of scholarship. A student may be suspended or dismissed for violation of University rules or for continued low scholarship.

Academic Standing

At the end of each quarter/semester or summer session the academic standing of each student (except transient and special high school students) enrolled in the University is determined according to the standards established by the college in which the student is enrolled. Specific college regulations on academic probation are detailed in the sections of this catalog on each college.

Academic Probation describes the academic standing of a student who falls below the minimum standard cumulative grade point average, but is eligible to continue.

Continued Academic Probation denotes the academic standing of a student who was on probation or continued probation the previous term enrolled, who does not qualify for good standing, and who is eligible to continue in the University.

Academic Suspension is an action which makes the student ineligible to continue in the University for a specified period of time, ordinarily three quarters. A second academic suspension results in academic dismissal.

Academic Dismissal is an action which makes the student ineligible to continue in the University. Normally, students dismissed are not readmitted.

The academic record of an undergraduate student on academic probation or continued academic probation whose grade point average for the quarter is below the minimum standard established for his or her college is reviewed by the appropriate committee in the college, at which time the student may be permitted to continue in the University or may be suspended or dismissed for academic reasons. The student has the right to appeal in writing to his or her college an academic suspension or dismissal.

Veterans or Eligible Dependents

Any student receiving Veterans Educational Benefits under Title 38 USC may remain on aca-

demically on probation for no more than two consecutive quarters unless the veteran is making progress toward the required grade point average and is allowed to remain in school by the decision of the appropriate academic committee for his or her college.

Grades and Quality Points

The value of credit courses is expressed in quarter hours except in the College of Law, which uses the semester system. One hour of credit generally requires one class hour of classroom work a week per term. One hour of credit in laboratory, studio, field or similar experience can require two or more hours per week per term.

Ohio Northern, except the College of Law, uses the four point system in calculating grade point average. Grade meanings and their equivalent point values are: A-Excellent, 4 points; B-Good, 3 points; C-Average, 2 points; D-Passing, 1 point; F-Failure, 0 points.

In the College of Law a plus and minus letter grade system is used: (A+: 4.33; A: 4.00; A-: 3.67; B+: 3.33; B: 3.00; B-: 2.67; C+: 2.33; C: 2.00; C-: 1.67; D+: 1.33; D: 1.00; D-: 0.67; F: 0.00). In certain clinical courses, the grade of S or U will be given.

The following grades or marks are not computed in calculating grade point averages: I-Incomplete; W-Official Withdrawal; S-Satisfactory, equivalent to "C" or better; U- Unsatisfactory (no credit earned towards graduation). Marks of I are given only with the dean's approval for documented reasons generally beyond the student's control.

Marks of "I" not removed within eight weeks of the beginning of the next regular quarter or 12 weeks of the next regular semester in which the student is enrolled will be recorded as "F" or "U". Extensions of incompletes can be approved by the dean of the college of registration for a specific period on the recommendation of the course instructor. In any event, after one year has elapsed from the end of the quarter/semester for which the mark of "I" is assigned, the mark of "I" cannot be removed and remains on the permanent record.

The cumulative grade point average is derived by dividing the total number of graded hours for which the student has officially registered into the total number of quality points earned and truncating the resulting number after the second decimal place. The quarter/semester point average is determined in the same way. A cumulative grade point average of 2.00 is the minimum for graduation. In the undergraduate colleges, except as specifically noted by the College of Pharmacy, if a student repeats a course, except those that may be repeated for credit, only the last grade earned is used in calculating the grade point average and applied toward graduation requirements. However, the original grade remains on the student's official academic record and transcript. Only the course work taken at Ohio Northern University is used in calculation of grade point average.

The student is responsible for knowing the total maximum credit allowed in courses which may be repeated for credit. Each hour earned beyond the maxi-

mum allowed in such courses and counted toward graduation will increase the total hours required for graduation by a like amount.

A student who attains a 3.50 or better average on 12 or more graded hours (A,B,C,D,F) for a quarter/semester is placed on the Dean's list. Special, transient, or postgraduate students are not eligible for the recognition.

Entry of a grade (A, B, C, D, F, S or U) or the mark of "I" on the permanent record of a student is upon authorization of the instructor in the course, except for an "F" or "U" recorded by the Registrar for a lapsed "I".

At the end of each spring quarter all undergraduate degree seeking students are ranked numerically based on their cumulative average within their spring quarter class by college. Such information may be obtained from the office of the college dean.

Grade Reports

At the end of each quarter/semester student grades are available on the Internet. The student may complete a request on the Internet to have a paper copy of their grades sent to the address of choice or a temporary request for a specific quarter/semester.

Under the Privacy Act of 1974 as amended, the educational records of students enrolled in postsecondary institutions cannot be released without the student's written authorization.

Final Examinations

It is the University policy that a final examination must be given in all courses of instruction. Recognizing that in some courses final examinations are either impractical or unnecessary, exceptions to this policy can be made with the approval of the department chairman and the dean of the college in which the course is offered. Independent study, student teaching, individual lessons, physical education activities courses, performance groups, class piano are excepted from this requirement.

The normal examination period for each section will be based on regular meeting time and days of the class. Some departmental multiple section examinations are scheduled.

All students are expected to be present for final examinations. Absences from final examinations, with the reasons for the absences, must be reported immediately to the instructor or Director of Residence Life, if the student is unable to contact the instructor individually. Absences other than for reasons of illness or other unavoidable circumstances will result in the final examination grade being calculated as a failure in determining the final course grade.

A student with an "A" in the course may be excused from the final examination by the instructor.

Student Review of Examinations

A student has the right to review and discuss with the instructor any examination and/or evaluation instrument within a reasonable period of time following the student's request for review.

Class Attendance

The policy of the University is that all students are expected to attend all classes, including examinations. It is realized, of course, that not all students will or can possibly attend all classes. Absences from class fall into three main categories: a) absences because of other class activities; b) absences because of official University functions and activities; and c) absences because of personal reasons.

The policy is that, irrespective of reasons for absence, the responsibility is upon the student to contact his/her faculty member (preferably before the absence) so that mutual agreement may be reached concerning work to be completed, and how course grade will be determined in light of absences.

Student Academic Conduct

Ohio Northern University students have an obligation to maintain the highest standards of ethical conduct. The University expects its students to conduct themselves in a dignified and honorable manner as mature members of the academic community and assumes that individually and collectively they will discourage acts of academic dishonesty. The University also expects cooperation among administrators, faculty, staff and students in preventing acts of academic dishonesty, in detecting such acts, reporting them, and identifying those who commit them, and in providing appropriate punishment for offenders.

The principal purpose of maintaining minimum standards of academic conduct is to ensure fairness, honesty, and integrity in the evaluation of student performance. Instructors should be confident that their evaluation methods will not be willfully invalidated by students intending or attempting to misrepresent the skill, achievement, or ability either of themselves or of others. Students, on the other hand, should be confident that a fair comparison of their work with that of other students has not been subverted by unethical conduct.

A complete copy of the Code of Student Academic Conduct may be found in the Student Handbook.

Grade Appeals Procedure

A student has the right to appeal a final course grade which the student feels is unfairly or erroneously assigned. The student should first discuss the grade with the faculty member who assigned the grade as soon as possible after the beginning of the next regular quarter. If the student is still convinced

that the grade is an unfair evaluation of the student's performance in the course, the student may appeal the grade. The appeal must be made in writing within 30 days of the beginning of the next regularly scheduled quarter (a) to the department chairperson or dean where no departments exist, and then, if necessary, (b) to the dean of the college in which the course is offered. If the matter is still not resolved to the student's satisfaction, the student may appeal the decision to the Grade Appeals Committee.

The faculty member has the sole responsibility to determine the final grade for the course. The department chairperson, dean or the Grade Appeals Committee may only make recommendations to the faculty member.

The complete policy statement on the Grade Appeals Procedure can be found in the Student Handbook.

This policy does not apply in the College of Law.

The University Course Numbering System

Each course is identified by a two, three or four letter subject code and a three-digit course number. This information is used on all official records and grade reports.

When numbers appear in parentheses following the course title in this catalog, the first number indicates the average number of hours per week of lecture/recitation and the second number, the average hours in laboratory per week.

Eligibility for Extracurricular Activities

Ohio Northern is a member of the Ohio Athletic Conference and follows the Constitution and By-laws of the OAC in determining the eligibility of students to participate in all extracurricular activities of the university unless the student is restricted from doing so by action of the dean of his/her college for academic reasons or by the vice president for student affairs for disciplinary reasons.

General Academic Regulations

Mid-term examinations are held at the discretion of the faculty member. In the College of Arts and Sciences such examinations must be during the fifth or sixth week of the quarter and must be announced by the first day of the quarter.

Each student is required to carry at least 12 credit hours per quarter to establish one quarter of full-time residence work. A student enrolled for less than 12 hours is classified as a part-time student.

Any required course in which a grade of "F" is earned should be taken again in the first quarter in which the course is given after the failure occurs.

Transient Credit and Status

University policy requires that students obtain prior approval by their academic dean for course work attempted at another institution and request that an official transcript of such course work promptly be sent directly from the issuing institution to the office of the registrar following completion of the course work.

Credits may be transferred only for courses graded C (2.00) or higher and must apply toward a degree in the course of study the student pursues.

Students who wish to pursue course work at another institution during a summer term or concurrently while enrolled in the university must consult with their advisor and submit a transient request to the academic dean. In order for the dean to evaluate the request, a catalog description of course(s) must accompany the request. Upon approval by the dean, the student and the Office of the Registrar will receive a copy of the completed form to verify approval. Failure to obtain prior approval can result in non-acceptance of credits by transfer to Ohio Northern University.

Students wishing to pursue courses at another institution during a regular term must consult with their advisor and obtain approval by the academic dean for transient status by the end of the last term enrolled. Such status may not be for a period of more than one academic year. Students who do not pursue a previously approved program or who do not return for the term listed on the transient application will be expected to seek readmission as a transfer student.

Transient status requests must be accompanied by a list of approved courses and name and address of the institution to be attended. This list must include course equivalencies and credits to be awarded.

Students permitted to complete their last requirements for graduation off-campus must apply for a terminal transient status. If the terminal transient status is approved, students must contact the Office of the Registrar concerning graduation. It is understood that terminal transient status is granted only when justified by extraordinary circumstances.

Students who are not enrolled at Ohio Northern University for one or more regular terms are expected to apply for readmission by the application deadline date. Those who have been enrolled at another institution without a prior approved leave during a regular term will be considered for admission as transfer students.

These procedures will apply to all colleges in the University.

Credit by Special Institutional or Required Placement Examination

Examinations are employed both to provide assistance in placing students at the appropriate level in certain areas of study and to provide an opportunity for students to obtain credit for previously learned skills.

In certain subject areas, students are required to take a placement examination. There is no charge to take that examination or for placement. The student who is seeking a degree at ONU can use the test results of those examinations to obtain credit. In that case, the student is required to pay an administrative or credit fee. For the first course (up to five credits), only an administrative fee is charged; there is no credit fee. For the second and all subsequent courses, there is a credit fee charged (the administrative fee is included in the credit charge).

In certain subject areas, a full-time undergraduate student who is seeking a degree at ONU can request a Special Examination for Credit. There is an administrative fee charged which must be paid before the examination can be taken regardless of the outcome of the examination. The student may wish to use the test results of those examinations to obtain credit. In that case, the student may be required to pay an additional credit fee. For the first course (up to five credits), there is no credit fee. For the second and all subsequent courses, there is a credit fee charged (the administrative fee is included in the credit charge).

The examination is evaluated as either "S" (satisfactory) or "U" (unsatisfactory). Only satisfactory evaluations are recorded on the student record. Results of examinations do not affect the student's cumulative grade point average. Satisfactory examination results will be recorded as either "PL" or "XM." "PL" indicates the examination satisfies the appropriate graduation and/or prerequisite requirements of the course(s) with no hours earned towards graduation. "XM" indicates that credit hours are earned for the specified course(s).

Permission for a special examination requires formal application using a form obtained from the registrar's office. The application must be approved by (1) the student's academic advisor; (2) the academic dean of the student's college of registration, and (3) the chair of the department in which the course is offered. Such examination shall not be approved for courses which the student has previously audited, completed or failed at this or another institution nor for courses which are prerequisite to any course for which the student has earned credit nor for courses for which the student has previously attempted credit by examination unsuccessfully.

After all required approvals have been obtained, in the order required on the form, and appropriate fees paid, an examiner is assigned by the department chair. The student shall arrange for the examination with the examiner. The examination must be approved, given, evaluated, and the results reported to the registrar's office prior to the end of the "W" period of the quarter in which the examination is administered.

Payment of an "administration fee" is required in the controller's office prior to taking a special examination. The "credit hour fee" is 50% of the tuition charge per credit hour as charged to part-time students as listed in the university catalog at the time of the payment of the fee. The "administration fee" is applied toward the "credit hour fee." One course, maximum of five hours, is not assessed the "credit hour fee."

Credit earned by examination after having achieved senior (SR) or P5 status is not applicable toward graduation. A maximum total of forty-five (45) hours of credit earned by special examination, externally administered or ONU special examination, can be recorded and applied toward a baccalaureate degree.

Post-baccalaureate students in the Doctor of Pharmacy program who plan to seek credit by examination for one or more rotations because of professional experience must complete the examination(s) prior to their initial enrollment in PHPR 650/800 - Advanced Practice Rotations.

Student Responsibility

Faculty members, academic advisors and deans are available to help students understand and meet academic requirements for a degree, but students themselves are responsible for meeting them. Degrees are not conferred until all requirements are fulfilled. Thus it is essential that students be familiar with requirements and confer frequently with their advisors.

Participation in Student Outcomes Assessment

Ohio Northern regularly conducts campus-based studies of student attitudes, student achievement, student satisfaction, and personal, professional and career development. These studies are grouped under the heading of student outcomes assessment and are conducted by the Office of Institutional Research and/or individual colleges. Participation in outcomes assessment activities is expected of all students. While every student is not selected for participation in every activity, it is likely that an individual student will be involved in one or more assessment activities

during the college years. It is only through cooperative participation in the assessment process that Ohio Northern University can improve its programs and better serve its students.

Awarding of Degrees

A student receives the appropriate degree after applying for graduation and completing the required curriculum as outlined in the five colleges of the university.

In order to qualify for graduation, an undergraduate student is required to submit a formal application for graduation to the registrar's office. Applications for graduation should be submitted two quarters in advance of the anticipated term of graduation but must be submitted **before** the completion of the advance registration period for the quarter of planned graduation.

Any transfer work needed to complete requirements for graduation at the end of either fall, winter, or spring quarters must be received by the office of the registrar by the Friday of final examinations week of the appropriate quarter. For graduation at the end of the summer session, records of transfer work must be received by the office of the registrar by the Friday of the last week of classes in the summer term.

A student is required to have a minimum of a 2.00 cumulative average in addition to meeting other requirements before qualifying for the appropriate degree.

Commencement is held once a year at the conclusion of spring quarter or semester in separate ceremonies. Spring quarter/semester graduates must participate in commencement. All participants must have completed all graduation requirements and wear the traditional cap and gown. Summer, fall, and winter graduates are invited to participate in the spring commencement and must notify the registrar's office at least one month in advance of their plan to participate in the commencement. The university confers degrees at the end of the quarter or semester after completion by the student of all graduation requirements.

In order to be eligible for a degree from Ohio Northern University, the student must register for and successfully complete a minimum of 45 quarter hours or 30 semester hours of course work on the Ohio Northern University campus. The last 45 quarter hours or 30 semester hours for the degree must also be completed on the campus.

To receive a degree a student must meet all other qualifications which the faculty of a college may determine and receive the approval of the university faculty for the awarding of the degree. Substitutions in college requirements for graduation may be approved by the college faculty.

Majors, minors, concentrations and options for which the student has applied and for which he or she is eligible are awarded at the time of awarding of the degree.

Graduation with Honors

The university recognizes and confers at graduation and records on the diploma two classes of senior honors: with distinction awarded to undergraduate and first professional degree students with a cumulative grade point average of at least 3.30; and with high distinction awarded to students with a cumulative point average of at least 3.60. A student must complete at least 45 hours of graded courses at Ohio Northern to qualify for senior honors.

Transcripts of Academic Record

In order to protect the privacy of the student, the university issues official transcripts of academic record only on written request of the student or by "Request a Printed Official Transcript" using the ONU web portal. Transcript requests should be sent to the office of the registrar. Two to five working days should be allowed for processing transcript requests. Special handling will be granted upon request with prepayment of the appropriate fee. Ohio Northern University has published regulations designed to protect the privacy of students by the university. Copies of the university policy may be obtained from the offices of the university registrar and the dean of student services or on the Web at www.onu.edu/registrar/ferpa.htm.

Graduate Placement

The university assists in placing its graduates in appropriate positions. Seniors and alumni may register with the director of career services. There is no charge for this service.

Seniors planning to continue their education are advised to research their potential graduate programs to ascertain the graduate entrance examination required. ONU offers registration materials on the GRE, GMAT, LSAT, PPST, NTE and the MCAT. Several of these exams are also administered on campus.

Summer Session

The summer session includes courses for regular college students, academically talented high school students who have completed their junior year, and adults who may wish to study for professional advancement or cultural enjoyment. In addition to regular course offerings, several specialized workshops are also scheduled during the summer.

The Summer Session Bulletin may be obtained by writing to the director of summer session.



THE GETTY COLLEGE OF Arts and Sciences

Robert A. Manzer,
Dean

Accredited by

The American Chemical Society
The Commission on Accreditation of Allied
Health Education Programs (CAAHEP)
National Association of Schools of Music
National Association of Industrial Technology
National Accrediting Agency for Clinical Laboratory
Science (NAACLS)
Ohio Board of Nursing

Membership in

American Association for Higher Education
American Historical Association
American Institute of Biological Sciences
American Political Science Association
American Theatre Association
College Art Association
Council of Colleges of Arts and Sciences
Council on Undergraduate Research
Mathematical Association of America
Modern Language Association of America
National Association of Industrial Technology
National Association for Sports & Physical Education
Public Relations Society of America
Speech Communication Association

Departments

Art; Biological and Allied Health Sciences;
Chemistry and Biochemistry; Communication
Arts; Education; English; History, Political
Science and Criminal Justice; Human Performance
and Sport Sciences; Mathematics; Modern
Languages; Music; Philosophy and Religion;
Physics and Astronomy; Psychology and Sociology;
Technological Studies.

Endowed Chairs

**The Eleanor H. and Robert W. Biggs
Chair in Chemistry** was established in 1992. The
2004-05 recipient is Dr. Jeffrey Gray.

**The Eleanor H. and Robert W. Biggs
Chair in the Arts** was established in 1992. The
2004-05 recipient is Dr. Edwin Williams.

**The Eleanor H. and Robert W. Biggs Chair
in Sciences** was established in 1992. The 2004-
05 recipient is Dr. Rema Suniga.

**The Wilfred E. Binkley Chair of History
and Political Science**, inaugurated in 1971,
has been made possible by a grant from the
Scaife Foundation of Pittsburgh. The 2004-05
recipient is Dr. John Lomax.

**The Irene Casteel Chair in Education,
Professional and Social Sciences**, was es-
tablished in 1992 and funded by a bequest from
Irene Casteel in 1998. The 2004-05 recipient is
Dr. Keith Durkin.

**The Mary Reichelderfer Chair in Math-
ematical Sciences** was established in 1983
with funds from the estate of Mary K. Werkman.
Dr. Mihai Caragiu is the 2004-05 recipient.

**The Sara A. Ridenour Chair of Human-
ities** was established in 1983 from funds pro-
vided by her daughter. The recipient for
2004-05 is Dr. Thomas Finn.

**The Kernan Robson Chair of Govern-
ment**, inaugurated in 1972, has been made
possible by a trust established by the late
Kernan Robson. The 2004-05 recipient is Dr.
JoAnn Scott.

Mission Statement

The Getty College of Arts and Sciences is a
community of students and faculty committed to aca-
demic, moral, and spiritual development. The rich
diversity of studies available in the college chal-
lenges community members to develop personal
goals and to discover means of achieving them.

The educational program of the college pro-
vides a coherent framework that equips each stu-
dent to flourish in a world of rapidly changing
conditions. Academic growth will be demonstrated
through achieving special proficiency in the student's
major field or fields of study. Specific cognitive goals
include knowledge of the origins and content of con-
temporary culture, effective communication based
on logical thinking, competence in quantitative rea-
soning, a rational approach to the physical and bio-
logical world, and sensitivity to artistic expression.
This foundation for lifelong learning is designed to
equip students to function as free persons in a free
society and to support personal commitment to ethi-
cal and religious ideals that are vital for humanity.

The effectiveness of student learning is demon-
strated through an assessment plan which mea-
sures progress in the specific cognitive goals.

Admission Standards

Candidates seeking admission to the College of Arts and Sciences are required to meet the general requirements for admission to the University. The College of Arts and Sciences accepts high school graduates and non-graduates who have 16 acceptable units. Twelve of these units are as follows: 4 units in English; 2 units in mathematics; 6 units in history, social studies, languages or natural sciences, or any combination thereof. Candidates are encouraged to take a foreign language while in high school. Acceptable scores on the American College Test or the College Entrance Examination Board tests are expected of all candidates.

The First Year Experience

The College of Arts and Sciences has established a “First Year Experience” program which particularly meets the needs of new students at Ohio Northern University. This First Year Experience program includes the Freshman Seminar course, department orientation courses, and pre-professional orientation courses. Although the specific selection of courses within this group is a function of the student's interests, major field, and career aspirations, each student will meet the general goals of the overall program through a set of common experiences. The general goals of the First Year Experience program are as follows:

1. It is designed to help new students make the transition from high school to college life. In particular, it attempts to integrate new students into the Ohio Northern University campus community.
2. It helps acquaint new students with the facilities, operations, and procedures of the University. Specific attention is given to those matters that directly impact the student's major program and/or career path.
3. It encourages new students to take full advantage of the many opportunities for growth available to them at Ohio Northern University, including participation in cultural, social, and intellectual activities designed to provide for their adjustment to the campus and to enrich their college experience.

The Senior Capstone Experience

Students graduating from the College of Arts and Sciences participate in a “Senior Capstone Experience” which allows them to integrate many concepts from their major course of study into a final project or activity. The exact nature of the capstone experience is dependent upon the specific departmental major, and the requirement may be fulfilled by a variety of senior-level events such as seminars, research projects/papers, recitals, exhibitions, or practicums.

Degree Requirements

An approved Honors Seminar may fulfill a requirement listed below for any degree offered by the College of Arts and Sciences. For specific information, see the office of the dean.

General Education

The College of Arts and Sciences offers a variety of majors under the framework of six different degrees: BA, BS, BSCLS, BFA, BSN and BM. The overall aim of the general education requirements is to widen student understanding and to elevate the level of learning. What is common to all six degrees is an emphasis on written English, experience in oral communication, understanding of the origins of Western Civilization, appreciation of the human condition from the perspective of religion, social science, and the fine arts, exposure to a non-Western perspective, understanding of insights provided by the mathematical and natural sciences, and attention to physical well-being through physical education requirements. The specific details are provided where each degree is described in the catalog.

Bachelor of Arts

The following are the prescribed general education courses required of all students enrolled in a Bachelor of Arts degree program. This degree is available to students in most of the majors within the College of Arts and Sciences (see “Completing a Major” on page 52). Specific requirements for the Bachelor of Music are listed under the department of music.

Basic Requirements

- First Year Experience—Orientation or Freshman Seminar
- English 110 and 111
- English 204 (Great Works)
- Public Speaking 211 or Interpersonal Communication 225

Western Civilization 110 and 111

Philosophy—one four-credit course (see department listing for appropriate courses)

Religion—one four-credit course (see department listing for appropriate courses)

Foreign language—first-year competency (three courses in one modern spoken language).

This requirement may be waived for students whose native language is other than English.

Distributional Requirements

a. Fine Arts

two courses (or equivalent totaling eight credit hours) not applicable to the major/concentration in at least two disciplines: art, music, theatre. One of these must be a classroom course, but six hours of a single, continuing activity course from the following list may fulfill the second four hour course requirement. The maximum number of activity hours allowed to count toward graduation, whether fulfilling the fine arts requirement or free elective credit, is twelve.

AMUS 079	Men's Chorus
AMUS 080	Chorus
AMUS 081	Chapel Choir
AMUS 083	University Singers
AMUS 084	Wind Ensemble
AMUS 086	Pep Band
AMUS 087	Symphonic Band
AMUS 088	Jazz Ensemble
AMUS 089	Opera Workshop
AMUS 090	Marching Band
AMUS 091	Chapel Band
AMUS 092	Woodwind Ensemble
AMUS 093	Women's Chorus
AMUS 094	Brass Ensemble
AMUS 095	Percussion Ensemble
AMUS 096	Orchestra
AMUS 097	Northernaires
AMUS 098	String Ensemble
AMUS 099	New Music Ensemble
COMM 204	Dance Practicum
COMM 261	Performance Practicum
COMM 276	Production Practicum
COMM 277	Shop Practicum
COMM 283	Stage Management Practicum
COMM 378	Design Practicum
COMM 387	Directing Practicum

b. Humanities

one course (4 credits) not in discipline of primary major: foreign language, history, literature or creative writing, philosophy, religion.

c. Social Sciences

two courses (8 credits) not in discipline of primary major selected from economics, geography, political science, psychology, sociology.

d. Mathematics/Natural Sciences

three courses (12 credits) which include: one in biological science, one in physical science, and one course in the mathematics department.

Students seeking teacher licensure must take at least one computer literacy course and one mathematics course.

Graduation Requirements

Although there is no college computer literacy requirement, each student will experience the use of the computer or substantial exposure to or study of the uses and implications of computer technology as determined by the specific program major.

The following are specific requirements in the student's total educational program:

- at least four credits which involve substantial exposure to or study of a non-Western people, society, or culture;
- at least three 1-hour physical education activity courses with 6 hours maximum counted toward the degree, except for physical education majors (see course distribution requirement under Physical Education Service Courses on page 52);
- participation in the college assessment program;
- completion of all major requirements, including the senior capstone experience, as stipulated by the appropriate program faculty.

Bachelor of Science

The following are the prescribed general education courses required of all students enrolled in a Bachelor of Science degree program. This degree is available to students in many of the majors within the College of Arts and Sciences (see "Completing a Major" on page 52). Specific requirements for the B.S. in Clinical Laboratory Science and B.S. in Nursing are listed under the Department of Biological and Allied Health Sciences.

Basic Requirements

First Year Experience—Orientation or Freshman Seminar

English 110 and 111

English 204 (Great Works)

Public Speaking 211 or Interpersonal Communication 225

Western Civilization 110 and 111

Philosophy—one four-credit course (see department listing for appropriate courses)

Religion—one four-credit course (see department listing for appropriate courses)

Mathematics/Statistics—three courses (12 credits) at the level of College Algebra (MATH 120) or above

Distributional Requirements

Science component—four courses (16 credits outside the primary major program of study) from the biological or physical sciences.

Two courses (8 credits) in social sciences selected from economics, geography, political science, psychology, sociology.

One course (4 credits) in fine arts - A total of 6 approved activity hours will meet this requirement. (See list and policy under B.A. degree.)

Graduation Requirements

Although there is no college computer literacy re-

quirement, each student will experience the use of the computer or substantial exposure to or study of the uses and implications of computer technology as determined by the specific program major.

The following are specific requirements in the student's total educational program:

- a. at least four credits which involve substantial exposure to or study of a non-Western people, society, or culture;
- b. at least three 1-hour physical education activity courses with 6 hours maximum counted toward the degree, except for physical education majors (see course distribution requirement under Physical Education Service Courses on page 52);
- c. participation in the college assessment program;
- d. completion of all major requirements, including the senior capstone experience, as stipulated by the appropriate program faculty.

Bachelor of Fine Arts

The following are the prescribed general education courses required of all students enrolled in a Bachelor of Fine Arts degree program. This degree is available to students majoring in art or communication arts and is applicable to concentrations in graphic design, studio arts, international theatre production and musical theatre. All teacher licensure students seeking the Bachelor of Fine Arts degree must take at least one four-hour computer literacy course and one four-hour mathematics course.

Basic Requirements

- First Year Experience—Orientation or Freshman Seminar
 English 110 and 111
 English 204 (Great Works)
 Public Speaking 211 or Interpersonal Communication 225
 Western Civilization 110 and 111
 Philosophy—one four-credit course (see department listing for appropriate courses)
 Religion—one four-credit course (see department listing for appropriate courses)
 Foreign Language—competency in the first two courses in one modern, spoken language

Distributional Requirements

- a. Fine Arts
 two courses (or equivalent totaling eight credit hours) not applicable to the major/concentration in at least two disciplines: art, music, theatre. A total of six approved activity hours will satisfy the requirement for one of the two courses. (See list and policy under B.A. degree.)
- b. Social Sciences
 one course (4 credits) selected from economics, geography, political science, psychology, sociology
- c. Mathematics/Natural Sciences
 two courses (8 credits) in two areas selected from biological science, physical science, mathematics/statistics

Graduation Requirements

Although there is no college computer literacy requirement, each student will experience the use of the computer or substantial exposure to or study of the uses and implications of computer technology as determined by the specific program major.

The following are specific requirements in the student's total educational program:

- a. at least four credits which involve substantial exposure to or study of a non-Western people, society, or culture;
- b. at least three 1-hour physical education activity courses with 6 hours maximum counted toward the degree, except for physical education majors (see course distribution requirement under Physical Education Service Courses);
- c. participation in the college assessment program;
- d. completion of all major requirements, including the senior capstone experience, as stipulated by the appropriate program faculty.

Graduation Requirements: Non-Western Culture Courses

The following courses will meet the general education graduation requirement in non-Western culture study. Some courses may have prerequisites.

COMM 291	World Theatre History
COMM 370	Dance History
ENGL 219	Non-Western Literature
ENGL 262	African Literature
ENGL 430	Readings in English Language Literature
ENGL 432	Studies in Comparative Literature
FREN 329	Civilisation Francaise: Les Cultures Francophones
FREN 418	Francophone Literature of the Twentieth Century
GEOG 226	World Regional Geography
HIST 415	Russian History To 1815
HIST 471	History of the Ottoman Empire
HSPS 222	Contemporary Asia
HSPS 223	Contemporary Africa
HSPS 224	Contemporary Middle East
HSPS 225	Contemporary Latin America
MUSC 200	Non-Western Music
PLSC 107	International Studies and World Problems
PLSC 336	Developing Political Systems
RELG 231	Religious Experience
RELG 241	Islam and Christianity
RELG 243	The Bible and the Third World
RELG 264	Buddhism
SOC 250	Cultural Anthropology
SPAN 351	Hispanic Cultural Perspectives
SPAN 354	Latin American Civilization
SPAN 357	Latin American Art, Music, and Dance

Additional courses fulfilling this requirement may be approved and will be so announced.

Physical Education Service Courses (All Degrees)

Students will be required to take three physical education courses with one course from the fitness area, one course from the lifetime activities area, and one course from the wellness area. See the department of human performance and sport sciences for definition of the areas. A student is not restricted to the required three credit hours of physical education. A student can receive, in addition to the three required physical education credits, three additional physical education credits that may be applied toward graduation by participation in intercollegiate athletics or by taking other courses within the physical education service program. A maximum of six physical education hours may be counted toward graduation.

In order to receive physical education credit for participation in intercollegiate athletics, a student/athlete must complete the entire season in good standing. An unsatisfactory grade will be assigned if a student/athlete: a) quits the team, b) is dismissed from the team, or c) participates in less than 50 percent of the season. Participation in intercollegiate athletics constitutes one hour of physical education credit per sport to a maximum of three sports. Only one credit of intercollegiate participation in each sport may be counted toward graduation.

Completing a Major

The degree candidate is required to complete in a logical sequence a major of not less than 44 quarter hours. Students may be listed as majoring in general studies during their freshman and sophomore years, but they must select a distinct major with an appropriate degree by the start of their junior year of study. Students who have a particular interest in science may be listed as majoring in general science to insure an appropriate course selection in preparation for an eventual major in one of the basic or professional science programs. General science students should select a distinct major with an appropriate degree by the start of their sophomore year.

Candidates for the degree of Bachelor of Arts who expect to teach in the public school are required to satisfy professional education requirements and will have a member of the Center for Teacher Education for a professional advisor. In some majors, areas of concentration requiring at least 21 quarter hours are provided allowing the student to focus on a specific area within a major.

Students pursuing a dual major program in two departments within the College of Arts and Sciences are required to meet each department's

requirements for the major in that discipline.

The following major fields are offered for the bachelor's degree in the College of Arts and Sciences:

Major, Concentration	Degree
Art	BA, BFA
Graphic Design	BFA
Studio Arts	BFA
Athletic Training	BA, BS
Biochemistry	BS
Biology	BA, BS
Chemistry	BA, BS
Clinical Laboratory Science	BSCLS
Communication Arts	BA
Broadcasting and Electronic Media	BA
International Theatre Production	BFA
Musical Theatre	BFA
Professional and Organizational Communication	BA
Public Relations	BA
Theatre	BA
Creative Writing	BA
Criminal Justice	BA
Administration of Justice	BA
Behavioral Science	BA
Education-Early Childhood	BA
Education-Middle Childhood	BA
Environmental Studies	BS
Exercise Physiology	BA, BS
Forensic Biology	BS
French	BA
German	BA
Health Education	BA, BS
History	BA
International Studies	BA
Journalism	BA
Language Arts Education	BA
Literature	BA
Mathematics	BA, BS
Mathematics/Statistics	BA, BS
Medicinal Chemistry	BS
Molecular Biology	BS
Music	BA
Music Composition	BM
Music Education	BM
Music Performance	BM
Music with Elective Studies	
In Business	BM
Nursing	BSN
Philosophy	BA
Philosophy and Religion	BA
Physical Education	BA, BS
Physics	BA, BS
Political Science	BA
Professional Writing	BA
Psychology	BA
Religion	BA
Social Studies	BA

Sociology	BA
Spanish	BA
Sport Management	BA, BS
Technology	BA, BS
Technology Education	BA, BS
Youth Ministry	BA

MRKT 351	Principles of Marketing	
FINC 362	Managerial Finance	
Three additional 300/400 level business courses approved by the department of the student's major.		
		12 hrs
		28 hrs

The Bachelor of Music, Bachelor of Science in Clinical Laboratory Science and Bachelor of Science in Nursing Degree Programs

A candidate for the Bachelor of Music degree may major in music composition, music education, music with elective studies in business or music performance (see p. 158). A candidate for the Bachelor of Science in Clinical Laboratory Science degree must complete the clinical year as well as other prescribed requirements (see p. 70). A candidate for the Bachelor of Science in Nursing degree must complete the Service Learning component as well as the Clinical Capstone (see p. 67).

Minors A formal program of academic minors is available in several of the subject matter areas. Consult the chair of the department in question for specific procedural instructions. Minors require a minimum of 28 quarter hours of approved courses, including some work above the 200 level. Minors are for students who wish to pursue organized study in a discipline without completing a major.

Options A specific program of academic options is available in conjunction with several of the majors in the college. Included are options in advanced manufacturing, criminal justice, construction operations, design analysis, forensic science, leadership studies, and multimedia design and development. The courses involved are listed under the department of the primary major. Business-related options are also available to all students in the College of Arts and Sciences. They are as follows:

Accounting Option

ACCT 211	Principles of Accounting 1	4 hrs
ACCT 212	Principles of Accounting 2	4 hrs
One of the following sequences:		
ACCT 301/302	Intermediate Accounting 1 & 2	8 hrs
ACCT 314/315	Intermediate Managerial Accounting 1 & 2	8 hrs
Three additional 300/400 level business courses approved by the department of the student's major, at least two of which are accounting courses.		
		12 hrs
		28 hrs

Business Option

ACCT 211	Principles of Accounting 1	4 hrs
ACCT 212	Principles of Accounting 2	4 hrs
ABUS 312	Business Law 1	4 hrs
One of the following courses:		
MGMT 333	Management and Organizational Behavior	4 hrs

Economics Option

IBEC 202	Prin. of Microeconomics	4 hrs
IBEC 203	Prin. of Macroeconomics	4 hrs
IBEC 383	Intermed. Microecon. Theory	4 hrs
IBEC 384	Intermed. Macroecon. Theory	4 hrs
Three additional 300/400 level business courses approved by the department of the student's major, at least two of which are economics courses		
		12 hrs
		28 hrs

An option requires a minimum of 28 quarter hours in coursework related to a specified department or discipline, but its original conception and continued integrity as a dynamic program may come from a source external to that department or discipline. Students should consult the chair of their major department for specific procedural instructions on all options.

Dual Degree Programs

Information concerning dual degree programs involving the College of Arts and Sciences appears on page 33 of this catalog. Students may receive further details in the office of the dean of the college.

Teacher Education

Ohio Northern University is vitally concerned with preparing effective teachers. The Center for Teacher Education is nationally accredited by the National Council for Accreditation of Teacher Education (NCATE). Programs are offered within the degree requirements in almost every department. In addition, a Master of Education in Teaching (M.E.T.) is offered through a graduate education program. This program provides teachers the opportunity to add an Endorsement in Reading to their current certification or licensure. The degree program must be completed in five years from the date of completion of the first class. (The M.E.T. program is not admitting new degree-seeking students for the 2005-06 academic year.)

Undergraduate students preparing to teach are expected to make formal application for admission into the teacher education program during the quarter in which they will complete 90 quarter hours of course work, if they have completed all prerequisites for admission. To be accepted, the student must have an overall cumulative grade point average of at least 2.50 with no grade less than "C" in specific professional education and basic requirement courses.

The Center establishes policies for admission into the program of teacher education and considers all applications for admission to the program.

Students with degrees from other accredited universities may pursue teacher licensure by completing the required professional education courses and content area courses required for their licensure area and passing appropriate state licensure exams and regulations.

Preprofessional Programs

Medical Sciences Programs A Medical Sciences Advisory Committee oversees the advising of students in the areas of the medical sciences (premedicine, predentistry, preveterinary medicine, etc.). The general objectives of the committee are to counsel students preparing for a career in the medical sciences, to serve as a source of information concerning preprofessional education in the medical sciences, and to serve as a source of recommendations to professional schools in the medical sciences.

A representative of the committee meets with all new premedical students at summer orientations. Committee members serve as academic advisors and are available to provide guidance and information to help students pursue their professional goals during their undergraduate careers.

The first year program usually includes biology, chemistry, English, and mathematics. After the first year, with the exceptions of organic chemistry and physics, the program is a function of the student's choice of departmental major and the specific requirements of the professional program being pursued. For further information, contact Chair, Medical Sciences Advisory Committee.

Prephysical Therapy The curriculum prepares students for entry into post-baccalaureate Master's Degree programs in physical therapy. Required courses include one year of biology, one year of general chemistry, one year of physics and one year of mathematics courses at the level of pre-calculus and above. Courses in psychology are required in addition to various recommended electives considered necessary for application to graduate programs.

Preoccupational Therapy The curriculum prepares students for entry into post-baccalaureate Master's programs in occupational therapy. The program requires coursework in the following areas: biological sciences (biology, physiology, and human anatomy each with a laboratory component), behavioral sciences, written/verbal communication, physics, chemistry, biostatistics, medical terminology, and computer literacy.

Pre-Physician and Preoccupational curricula also include completion of a one quarter internship in a therapy clinical setting. Because ad-

mission requirements, prerequisites, and program components differ from school to school, details of either curriculum may vary dependent on the chosen graduate program. For further information, contact Prephysical Therapy/Preoccupational Therapy Coordinator, Department of Biological and Allied Health Sciences.

Pre-Physician Assistant The pre-physician assistant program will prepare the student for entry into most master level physician assistant programs. The basic program, offered by the department of biological sciences, includes one year of biology, one year of general chemistry, and one year of mathematics emphasizing biostatistics. Course requirements in biochemistry and organic chemistry will vary according to individual program requirements. Additional courses taken in the biological and allied health sciences department include: physiology, human anatomy, developmental anatomy, basic emergency response, genetics, microbiology, immunology, as well as other biology courses and cognates required to fulfill the requirements for a Bachelor of Science degree in Biology. The curriculum also includes courses in nutrition, philosophy, and psychology. For further information, contact Pre-Physician Assistant Coordinator, Department of Biological and Allied Health Sciences.

Preseminary A faculty member in the department of philosophy and religion serves as advisor to the preseminary student in planning a preprofessional program. The recommendations of the American Association of Theological Schools are followed in counseling the student. A major in the department of philosophy and religion or in another appropriate department may be selected.

Prelaw Students in the prelaw program select a major and complete the necessary requirements as do other students. The program is open to all students enrolled in any academic department of the Colleges of Arts and Sciences, Engineering, Pharmacy, or Business Administration. For additional information, see page 33.

General Regulations

1. A student usually may not register for more than 19 hours of academic work unless he/she achieved a grade point average of 3.00 or better in the preceding quarter, in which case the dean may grant permission for extra hours. See page 18 for overload charges beyond 19 credit hours. A normal program consists of 12 to 19 scheduled hours including physical education.
2. All new students in the College of Arts and Sciences are required to take freshman orientation or freshman seminar in the fall quarter.
3. A student indicates a choice of major field by filling out a declaration of major form available in the office of the department chair or dean.
4. No course for which a student has received a "D" is generally acceptable toward a major, minor, option, or area of concentration. A de-

partment chair may allow one "D" toward the academic program at his/her discretion.

5. Juniors and seniors are expected to schedule a majority of their courses from the "300" and "400" group.

6. With the permission of the instructor and the department chair, any course prerequisite may be waived.

7. Except where noted, credit hours earned in repeated courses may be counted only one time among the total hours required for graduation.

8. Writing 1 should be completed by all freshmen during their first quarter on campus. Both courses in writing should be completed by the end of the freshman year.

9. In all degree programs, a given course may not count for both basic and distributional requirements.

S/U Grade Option

Students in the College of Arts and Sciences are given the opportunity to register for one course per quarter on a S/U (Satisfactory/Unsatisfactory) options basis, with the following stipulations:

1. The student must have sophomore, junior, senior or postgrad standing.

2. The requested course cannot count toward fulfillment of major, minor, concentration, or option requirements.

3. The requested course cannot be a 100-level general education course.

4. The requested course cannot be a cognate.

5. The grade of "S" is to be equated with A, B, C.

6. The grade of "U" is equated with D or F.

7. Students cannot change their minds about the grading system after the second week of class.

Classification of Students

For purpose of classification the minimum requirement for sophomore standing is 45 quarter hours of academic work; for junior standing, 90 quarter hours; for senior standing, 135 quarter hours.

Academic Standing

A grade point average of 2.00 is required for graduation. If a student's cumulative grade point average falls below 2.00, the student is placed on academic probation. The student can return to good academic standing by raising his/her cumulative grade point average to 2.00 or above.

If the cumulative grade point average of a freshman falls below 1.60, that student cannot participate in competitive activities of individuals, teams, or other groups officially designated as representing the University. A sophomore must maintain at least a 1.80 cumulative grade

point average to participate in the aforementioned activities. Juniors and seniors who are on academic probation are not eligible to participate in these activities.

Any student on probation whose quarter grade point average for the following quarter is below a 2.00 will have his/her record reviewed by the Committee on Academic Qualifications of the college and may be recommended to the dean for academic actions which may include suspension or dismissal. Students on probation are expected to comply with all special requirements established by the dean's office. Failure to do so may result in administrative cancellation of the student's registration. Any student with a term gpa of 1.00 or lower may be placed on probation or suspended. A complete list of CAQ Academic Action Guidelines is available for review in the dean's office of the College of Arts and Sciences.

If action is taken to suspend a student, the suspension will be for a definite period of time, after which the student may apply for readmission. If readmission is granted, the Committee on Academic Qualifications may establish certain conditions of academic performance for the student to remain enrolled in the College of Arts and Sciences. Continued poor performance by a readmitted student will lead to dismissal.

If action is taken to dismiss a student, it is to be regarded as a terminal action and the student is not eligible to apply for readmission to the College of Arts and Sciences at any time thereafter.

Graduation

To graduate with a Bachelor of Arts, a Bachelor of Fine Arts or a Bachelor of Science degree, a student is required to complete a minimum of 182 quarter hours which includes the appropriate general education courses, complete an approved major, and have a cumulative point average of at least 2.00.

The minimum residency requirement for all students is the last three quarters and the completion of at least 45 quarter hours with at least 90 quality points elected mostly from 300- and 400-level courses.

To graduate with a Bachelor of Science in Clinical Laboratory Science, a student must successfully complete one-year of clinical training at an approved program subsequent to completing prescribed preclinical requisite coursework.

To graduate with a Bachelor of Science in Nursing, a student must successfully complete one year of Spanish, obtain a minimum of a C grade in ALL nursing courses, and successfully complete ALL clinical rotations to meet eligibility requirements for a Professional Nursing Program (ORC Rule 4723-5-13).

To graduate with a Bachelor of Music degree in music education, performance, composition, or music with elective studies in business, the student is required to complete a minimum of 182 quarter hours which includes the appropriate general education courses, complete an approved major, and have a cumulative point average of 2.00. The music education major must also complete all course work and observation hours required by the state of Ohio for teacher licensure.

To graduate with a Master of Education in Teaching degree, a student must complete a minimum of 45 quarter hours, have a cumulative point average of at least 3.00, and successfully complete the research practicum.

COLLEGE OF ARTS AND SCIENCES COURSES

Subject - General Arts and Sciences (AASG)

001 - MEDICAL SCIENCES ORIENTATION

1.00 Credit

Provides familiarity with general requirements and admissions standards for entry into colleges of medicine, dentistry, veterinary medicine, etc. Open to students interested in preparing for a career in these areas. CREDIT EARNED DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY. Graded S/U.

002 - PRELAW ORIENTATION

1.00 Credit

Provides familiarity with general requirements and admissions standards for entry into law school and with opportunities in the legal profession. CREDIT EARNED DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY. Graded S/U.

003 - GENERAL SCIENCE ORIENTATION

1.00 Credit

Examination of science-based majors and/or programs available at Ohio Northern University. Information to assist in making career choices. CREDIT EARNED DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY. Graded S/U.

005 - BASIC READING SKILLS

2.00 Credits

Designed to increase reading proficiency by focusing on comprehension, vocabulary, reading speed, and study skills. CREDIT EARNED DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY. Prerequisite: Reading ACT score of 18 or below.

010 - STUDY SKILLS

1.00 Credit

To increase study efficiency by emphasizing improvement in motivation, concentration and memory. Attention is also given to selected study skills including time-management, listening, note taking, reading comprehension and testing. CREDIT EARNED DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY. Open to freshmen and sophomores only.

011 - COLLEGE READING SKILLS

2.00 Credits

To increase reading efficiency of college textbooks by emphasizing improvement in reading comprehension, reading speed and vocabulary. In addition to the weekly class meeting, this course includes two weekly reading labs. CREDIT EARNED DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY.

012 - STRESS MANAGEMENT AND EFFECTIVE LIVING

1.00 Credit

To provide an opportunity to learn and adopt stress management skills that will enable leading more productive and satisfying lives. CREDIT EARNED DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY.

100 - FRESHMAN SEMINAR

1.00 Credit

Acclimating to academic, personal, social and cultural opportunities at the university. To encourage positive life-long learning skills. To help cope successfully with the demands of the first year of college through the use of challenges and opportunities in and out of the classroom. Graded S/U.

121 - CAREER EXPLORATION THROUGH PERSONAL ANALYSIS

1.00 Credit

Principles, methods and practice in career development with emphasis on self analysis, career information, exploration of careers and career opportunities. In addition to the weekly class meeting, there is one weekly individualized career development lab. For freshmen and sophomores who are uncertain about their college major or their career plans.

190 - SPECIAL TOPICS

1.00 to 4.00 Credits

Can be repeated as the topic varies. May be graded S/U as appropriate to the topic.

200 - TRANSFER STUDENT SEMINAR

1.00 Credit

Orientation to the academic, professional, personal, cultural and social opportunities available at ONU while simultaneously providing support and encouragement. Activities are designed to provide acquaintance with ONU services, to promote academic success, and to develop a sense of community with faculty, staff, and other transfer students. Graded S/U.

290 - SPECIAL TOPICS

1.00 to 4.00 Credits

Can be repeated as the topic varies. May be graded S/U as appropriate to the topic.

297 - INDEPENDENT STUDY

1.00 to 4.00 Credits

Can be repeated as the topic varies.

300 - JOB AND GRADUATE SCHOOL SEARCH STRATEGIES

1.00 Credit

An experiential environment facilitating learning skills that enable development and implementation of personalized and successful career search strategies to facilitate the transition from college to career. Open to juniors/P-4's and seniors/P-5's.

390 - SPECIAL TOPICS

1.00 to 4.00 Credits

Can be repeated as the topic varies. May be graded S/U as appropriate to the topic.

DEPARTMENT OF AERO-SPACE STUDIES

Subject - Aerospace Studies (AERO)

A TOTAL OF SIX CREDITS EARNED IN AIR FORCE ROTC MAY COUNT TOWARD THE 182 QUARTER HOURS NEEDED FOR GRADUATION IN THE COLLEGE OF ARTS AND SCIENCES

111 - AIR FORCE ORGANIZATION 1

3.00 Credits

Focuses on AF (Air Force) dress and appearance, military customs and courtesies. AF officer career opportunities and benefits awarded AF personnel are also addressed. A survey of Air Force heritage, AF organization and structure, and war and aerospace power is also taught. Leadership laboratory activities.

112 - AIR FORCE ORGANIZATION 2

3.00 Credits

Concentrates on furthering understanding of being an AF officer. This semester covers Air Force core values, communication skills, both written and oral, and team building. Also taught is an introduction to leading and managing the total force. Leadership laboratory activities.

211 - AIR FORCE HISTORY 1

3.00 Credits

Development of air power from the first lighter-than-air vehicles through to the establishment of the Department of the Air Force as an independent military force. Various concepts of employment of air power and factors which have prompted research and technological change. Examples of impact of air power on strategic thought. Leadership laboratory activities.

212 - AIR FORCE HISTORY 2

3.00 Credits

Development of air power since the establishment of the independent Air Force to the present. Various concepts of employment of air power and factors which have prompted research and technological change. Examples of impact of air power on strategic thought. Leadership laboratory activities.

311 - AIR FORCE MANAGEMENT 1

5.00 Credits

Integrated management course emphasizing individual as leader in the Air Force. Human behavior, individual and in groups, historical development of management thought, discussion of classical leadership theory, oral and written communication, military writing, and briefing formats. Leadership laboratory activities. Prerequisite: Departmental approval.

312 - AIR FORCE MANAGEMENT 2

5.00 Credits

Continuation of 311. Air Force leadership, planning, organizing, coordinating, directing and controlling functions of management with emphasis on Air Force application, concept of command and staff, junior officer as administrative leader, Air Force personnel system, management of change, managerial strategy in changing environment. Leadership laboratory activities. Prerequisite: Departmental approval.

390 - SPECIAL TOPICS IN AEROSPACE STUDIES

1.00 to 6.00 Credits

Topics include, but are not limited to the study of the profession of arms, leadership principles and styles, leadership assessment program, and participation in leadership labs and field training exercises. Credit may be granted for Air Force ROTC Summer Field Training and the Professional Development Program. No military obligation. Departmental permission required. Can be repeated as the topic varies.

411 - AMERICAN NATIONAL SECURITY 1

5.00 Credits

Role of the president, Congress and National Security Council in national security policy making; American defense strategy; alliances, regional security; arms control. Leadership Laboratory activities. Prerequisite: Departmental approval.

412 - AMERICAN NATIONAL SECURITY 2

5.00 Credits

Air Force officer as part of national security forces; military law; laws of armed conflict; the military; profession; transition to military life; relations with civilian community. Leadership Laboratory activities. Prerequisite: Departmental approval.

DEPARTMENT OF ARMY ROTC

Subject - Army ROTC (ARMY)

A TOTAL OF SIX CREDITS EARNED IN ARMY ROTC MAY COUNT TOWARD THE 182 QUARTER HOURS NEEDED FOR GRADUATION IN THE COLLEGE OF ARTS AND SCIENCES

100 - LIFETIME LEADERSHIP SKILLS

3.00 Credits

Skills needed to be successful in wide range of environments to include academic, corporate and military. Subjects include but not limited to time management, memory comprehension, effective and efficient reading and effective note taking. Extensive leadership studies of both corporate and military settings focuses on interpersonal skills, professional ethics and officership. No military obligation or prerequisites. Freshmen only.

101 - ROTC AND THE NATIONAL DEFENSE ORGANIZATION

3.00 Credits

Background, programs, benefits and objectives of Army ROTC. Organization and functions of national defense establishment with emphasis on the role of the U.S. Army. Extensive discussion of the role and the responsibility of the military officer. Presentation of detailed information concerning career opportunities as an Army officer. No military obligation or prerequisite.

201 - ADVANCED LEADERSHIP

3.00 Credits

Discussion and application of knowledge and skills needed in basic human survival situations in wilderness environments. Topics include land navigation, first aid, map reading, adverse weather conditions, finding shelter, water and food. No military obligation. Freshmen and sophomores only. Prerequisite: ARMY 101 or permission of instructor.

202 - MILITARY TACTICS

3.00 Credits

Army tactics, principles of engagement and usage of military maps. Simulation exercises and war games will be utilized in class highlighting military tactics. No military obligation. Freshmen and sophomores only. Prerequisite: ARMY 201 or permission of instructor.

301 - PROFESSIONALISM/LEADERSHIP

4.00 Credits

Professionalism and leadership required of the U.S. Army officer; application of leadership principles and styles through case studies and role-playing exercises with emphasis on military situations. Participation in leadership labs, physical training

program and field training exercises required. Prerequisite: Department permission and completion of one of the following: ROTC basic course at BGSU; ROTC Basic Camp at Fort Knox, KY; prior Active Duty service; Army Reserve/ANG basic training.

302 - SMALL UNIT OPERATIONS

5.00 Credits

Organization and employment of basic military teams. Squad and platoon level tactical operations. Progressive leadership development through application of tactical principles. Participation in leadership labs, physical training program and field training exercises required. Prerequisite: ARMY 301.

390 - ARMY ROTC SPECIAL TOPICS IN MILITARY SCIENCE

1.00 to 6.00 Credits

Topics include but are not limited to: Study of selected military subjects; the profession of arms, leadership principles and styles, leadership assessment program, and participation in leadership labs and field training exercises. Credit may be granted for completion of Army ROTC Basic Camp at Ft. Knox, Kentucky. No Military obligation. Departmental permission required. Can be repeated as the topic varies.

401 - UNIT MANAGEMENT AND OFFICER DEVELOPMENT

4.00 Credits

Concepts and fundamentals of Army unit administration, supply and material readiness. Professional officership techniques and military ethics. Management at the small unit level. Organizing, planning and participating in field training exercises, participation in physical training and leadership labs. Prerequisite: Department permission and completion of one of the following: ROTC basic course at BGSU; ROTC Basic Camp at Fort Knox, KY; prior active duty service; Army Reserve/ANG basic training.

402 - UNIT MANAGEMENT, MILITARY WRITING AND CORRESPONDENCE

5.00 Credits

Organization and concepts of the U.S. Army judicial system including court martial, nonjudicial and nonpunitive actions. Development of military writing techniques, preparation of staff papers and staff actions. Discussions of various administrative details pertinent to newly commissioned lieutenants. Participation in field training exercises, physical training and leadership labs. Prerequisite: ARMY 401.

470 - STUDIES IN MILITARY SCIENCE

1.00 to 3.00 Credits

Offered on demand. Detailed study of selected military subjects. Offered on lecture basis in seminar or independent study depending on students' needs and nature of material. May be repeated to six hours. Prerequisite: Consent of instructor. Formerly ARMY 471.

DEPARTMENT OF ART

Associate Professor Greavu; Assistant Professors Eddings, Mancuso, Rowe (*Chair*); Visiting Instructor Rieth

Mission Statement

The department of art integrates traditional and progressive approaches to the making of art and design. Our goal is to develop artists and designers as creative, productive and intellectually curious individuals capable of historical insight, critical thinking and technical proficiency in their area of emphasis.

The artist should be educated comprehensively through a program combining professional training and broad study in the liberal arts. It is on this premise that the student majoring in art: (1) receives as broad an understanding of art as possible; (2) becomes acquainted with historical and cultural knowledge of the past and present; (3) develops a working proficiency through mastery of the tools and skills of his/her profession; (4) develops personal modes of expression in the media of the visual arts; and (5) acquires an awareness of other academic disciplines.

Portfolio Admission Requirement

All prospective art majors must have a portfolio showing ability in drawing and design in any media. The portfolio will be requested during the admission process. Portfolios should consist of at least 10-15 slides or original two-dimensional works. Students may bring three-dimensional work to an interview, but will not be accepted via mail. Portfolios are evaluated by the department chair and other art faculty. For transfer students and other students changing a major to art, please contact the department at 419-772-2160.

Departmental Requirements

Art majors with sophomore standing must participate in Sophomore Review during winter quarter. This is an opportunity for the art faculty to assess each students' artistic progress over the past four quarters.

All art majors are required to enter work in the annual student juried exhibition held each spring in the Elzay Gallery. Art majors with a junior standing are responsible for the organization and preparation of this show.

All students graduating from the College of Arts and Sciences participate in a senior capstone experience which allows them to integrate many concepts and theories from their major course of study into a final project or activity. For graduating art majors, a portfolio and a public exhibition on campus is required. The capstone is fulfilled under Art 489: Senior Thesis. In addition to the portfolio and exhibition, each student is required to write an artist statement along with other material explaining the work, and present a slide lecture to the public during the department's "Brown Bag" senior lecture series.

Department Activities and Memberships

The art department is an active member of Kappa Pi International Art Honorary Fraternity. Art majors are eligible by maintaining a minimum 3.0 gpa in the art department and a minimum 2.5 gpa overall. The department holds additional memberships in the following professional organizations: AIGA (American Institute of Graphic Arts), UCDA (University and College Designers Association), NCECA (National Council on Education of Ceramic Arts), CAA (College Art Association), NASAD (National Association of Schools of Art and Design), OAEA (Ohio Art Education Association), and the Mid-American Print Council.

Minors and Options

A minor or option outside of the department is encouraged but not required for majors. The following minors/options are most beneficial to the art major, regardless of the concentration:

Museum Studies/Public History Minor-see requirements under the Department of History, Political Science, and Criminal Justice.

Virtual Simulation or Multimedia Design

Option see requirements under the Department of Technological Studies.

Public Relations Minor- see requirements under the Department of Communications Arts.

Business Option, Business Administration

Minor or Marketing Minor- see requirements under College of Arts and Sciences or the College of Business Administration.

Art Education

ONU's teacher education program provides general education, subject area concentration, and professional educational experiences that will enable the student to enter the profession of teaching with competency. Admission and requirements are listed under the Center for Teacher Education.

Bachelor of Arts degree with a major in art (77 hours)

I. Core Requirements: (65 hours)

ART 100	Art
ART 150	Studio Foundations 1
ART 160	Studio Foundations 2
ART 170	Drawing Workshop
ART 210	Figure Drawing
ART 222	Graphic Design 1
ART 250	Painting 1
ART 251	Painting 2
ART 255	Ceramics 1
ART 265	Sculpture 1
ART 310	Art History 1
ART 320	Art History 2
ART 330	Art History 3
ART 360	Sculpture 2
ART 489	Senior Thesis (1 hour)

Choose two:

ART 375	Printmaking- Intaglio
ART 377	Printmaking- Relief
ART 379	Printmaking- Silkscreen
ART 385	Printmaking- Lithography

II. Art Electives (12 hours) Choose three courses:

ART 221	Jewelry
ART 223	Graphic Design 2
ART 340	Graphic Design 3
ART 341	Graphic Design 4
ART 350	Ceramics 2
ART 355	Watercolor
ART 365	Sculpture 3
ART 390	Special Topics in Art
ART 410	Advanced Ceramics
ART 415	Advanced Printmaking
ART 420	Advanced Painting
ART 494	Seminar in Art

Art Minor (32 hours)

I. Minor Requirements

ART 100	Art
ART 150	Studio Foundations 1
ART 160	Studio Foundations 2
ART 170	Drawing Workshop

Choose one course:

ART 255	Ceramics 1
ART 265	Sculpture 1

II. Minor Electives (12 hours) Choose three courses:

ART 210	Figure Drawing
ART 221	Jewelry
ART 222	Graphic Design 1
ART 223	Graphic Design 2
ART 250	Painting 1
ART 251	Painting 2
ART 255	Ceramics 1
ART 265	Sculpture 1
ART 310	Art History 1
ART 320	Art History 2
ART 330	Art History 3
ART 340	Graphic Design 3
ART 350	Ceramics 2
ART 360	Sculpture 2
ART 375	Printmaking- Intaglio
ART 385	Printmaking- Lithography

Bachelor of Fine Arts degree (101-108 hours)

I. Core Requirements (69 hours):

ART 100	Art
ART 150	Studio Foundations 1
ART 160	Studio Foundations 2
ART 170	Drawing Workshop
ART 210	Figure Drawing
ART 222	Graphic Design 1
ART 250	Painting 1
ART 251	Painting 2
ART 255	Ceramics 1
ART 265	Sculpture 1
ART 310	Art History 1
ART 320	Art History 2
ART 330	Art History 3
ART 350	Ceramics 2
ART 360	Sculpture 2
ART 489	Senior Thesis (1 hour)

Choose two:

ART 375	Printmaking- Intaglio
ART 377	Printmaking- Relief
ART 379	Printmaking- Silkscreen
ART 385	Printmaking- Lithography

II. Concentration Requirements

Studio Arts (minimum of 32 hours)
(An area of emphasis must be selected from the following: ceramics, drawing, painting, printmaking, or sculpture. A minimum of 24 hours in area of emphasis is required plus 8 hours of electives.)

ART 210	Figure Drawing
ART 221	Jewelry
ART 355	Watercolor
ART 365	Sculpture 3
ART 410	Advanced Ceramics
ART 415	Advanced Printmaking
ART 420	Advanced Painting
ART 490	Special Topics in Art
ART 494	Seminar in Art
ART 497	Independent Study in Art

Graphic Design (39 hours)

ART 223	Graphic Design 2
TECH 240	Introduction to Communication Technology
ART 340	Graphic Design 3
ART 341	Graphic Design 4
TECH 341	Digital Photography
ART 440	Graphic Design 5
ART 471	Internship (16 hours)

Subject - Art (ART)

000 - ORIENTATION

1.00 Credit

Familiarization with the department, requirements for majors, planning program of courses, university catalog, and library. Required of all majors in the department. Graded S/U.

100 - ART

4.00 Credits

Analysis of the visual arts through selected works from the past and present. Illustrated lecture.

150 - STUDIO FOUNDATIONS 1

4.00 Credits

Methods of drawing with an emphasis on the elements and principles of design and linear perspective.

160 - STUDIO FOUNDATIONS 2

4.00 Credits

Drawing 3-dimensional forms in space, color theory, introduction to the elements and principles of 3-D design. Prerequisite: ART 150.

170 - DRAWING WORKSHOP

4.00 Credits

Complex problems, thematic development, figure drawing, special papers and methods. May repeat to 8 credits. Prerequisite: ART 160.

190 - SPECIAL TOPICS IN ART

1.00 to 4.00 Credits

210 - FIGURE DRAWING

4.00 Credits

Drawing and anatomical study of the human figure. May repeat for a total of 12 hours.

Prerequisite: ART 170 or permission of the instructor.

221 - JEWELRY

4.00 Credits

Use of a variety of materials in the making of jewelry. Emphasis on design and the development of technical skills. May repeat to 8 credits.

222 - GRAPHIC DESIGN 1: INTRODUCTORY VISUAL COMMUNICATION

4.00 Credits

The basic methods, processes, language, visual principles and theory of working in two-dimensional communication design. Emphasis on problem analysis, creative concept development, analytical and technical skills. Note: Course does not include computer training.

223 - GRAPHIC DESIGN 2: TYPOGRAPHY

4.00 Credits

Examines typographic changes brought about through cultural, political and sociological influences; language theories; and technological development. Integrates lessons from the past with contemporary theory and technology. Lectures based on four language components: letter and word, sentence and meaning, language and structure, text and textuality. Prerequisite: ART 222.

250 - PAINTING 1

4.00 Credits

Techniques and modes of painting in oil.

Emphasis on color mixing and painting from direct observation.

251 - PAINTING 2

4.00 Credits

Techniques and modes of painting in oil. May repeat for a total of 12 hours. Prerequisite: ART 250.

255 - CERAMICS 1

4.00 Credits

Methods and techniques of forming clay products with emphasis on hand construction. Introduction to work on the potters wheel. Decorating, glazing and firing of ceramic ware.

265 - SCULPTURE 1

4.00 Credits

The design and rendering of sculptural form in a variety of media and techniques. Emphasis on organizational problems of form and space.

290 – SPECIAL TOPICS IN ART

1.00 to 4.00 Credits

310 - ART HISTORY 1

4.00 Credits

Prehistoric to 14th century art, European and Near Eastern forms, developments and styles.

Prerequisite: Junior status or permission of instructor.

320 - ART HISTORY 2

4.00 Credits

European painting, sculpture and architecture from the 15th through the first half of the 19th century.

Prerequisite: ART 310.

330 - ART HISTORY 3

4.00 Credits

The formation and development of major artistic movements in Europe and the United States from 1860 to the present. Prerequisite: ART 320.

340 - GRAPHIC DESIGN 3: NARRATIVE

4.00 Credits

An exploration of the nature and practice of visual communication as a story-telling and framing activity in print media. Emphasis is on research, concept development and technical skills.

Prerequisite: ART 223.

341 - GRAPHIC DESIGN 4: IDENTITY

4.00 Credits

Investigation of comprehensive applied problems in visual communication addressing identity programs and consumer-oriented design.

Emphasis on branding and system design. Prerequisite: ART 340.

350 - CERAMICS 2

4.00 Credits

Methods and techniques of forming, decorating, glazing and firing clay bodies. Emphasis on wheel throwing. May repeat for a total of 8 hours.

Prerequisite: ART 255.

355 - WATERCOLOR

4.00 Credits

Techniques and modes of painting in aqueous media. May repeat for a total of 8 hours.

Prerequisite: ART 170.

360 - SCULPTURE 2

4.00 Credits

The design and construction of more complex sculptures in a variety of media and techniques. May repeat to total of 8 hours. Prerequisite: ART 265.

365 - SCULPTURE 3

4.00 Credits

Use of metals, oxyacetylene welding of steel, lost wax casting of bronze. May repeat for a total of 12 hours. Prerequisite: ART 360 or permission of instructor.

375 - PRINTMAKING - INTAGLIO

4.00 Credits

Methods and techniques of intaglio process. Includes drypoint, aquatint, mezzotint, hard and soft grounds, spit bite and sugar lifts.

Prerequisite: ART 170 or permission of the instructor.

377 - PRINTMAKING - RELIEF

4.00 Credits

Methods and techniques of relief process. Includes woodcut, linoleum cut and reduction methods with color. Prerequisite: ART 170 or permission of instructor. Corequisite: Junior or senior standing.

379 - PRINTMAKING - SILKSCREEN

4.00 Credits

Methods and techniques of the silkscreening process. Includes stencils and photo-emulsion techniques. Prerequisite: ART 170 or permission of instructor. Corequisite: Junior or senior standing.

385 - PRINTMAKING - LITHOGRAPHY

4.00 Credits

Methods and techniques of lithography. Both plate and stone lithographic processes. Prerequisite: ART 170 or permission of instructor.

390 – SPECIAL TOPICS IN ART

1.00 to 4.00 Credits

410 - ADVANCED CERAMICS

4.00 Credits

Directed study. May repeat to total credit of 12 hours. Prerequisite: 8 hours of ART 350.

415 - ADVANCED PRINTMAKING

4.00 Credits

Directed study. May repeat to total credit of 12 hours. Prerequisite: 8 hours of ART 375 and/or 385.

420 - ADVANCED PAINTING

4.00 Credits

Directed study. May repeat to total credit of 12 hours. Prerequisite: ART 251.

440 - GRAPHIC DESIGN 5: PERSUASIVE DESIGN

4.00 Credits

Examination of form and content that shape persuasive communication, including the commercial, political and social contexts of design artifacts. Students study persuasive strategies, critical techniques and ethical issues in shaping design. Assignments emphasize extensive research, design theory and history, professional presentation skills, and cultivation and demonstration of relationships between form, function, content, context and meaning. Prerequisite: ART 341.

471 - INTERNSHIP

8.00 to 16.00 Credits

Supervised field experience in an approved commercial art studio, design agency, design department, museum, gallery or arts organization. Application must be made through the advisor no later than one full quarter in advance of enrollment. A visual presentation to the art department after completion of internship is required. Prerequisites: Junior or senior rank; ART 160 and 223; and permission of the department.

489 - SENIOR THESIS

1.00 Credit

Required of all art majors. Preparation for and evaluation of the comprehensive examination and exhibit. Arrangements must be made one quarter in advance with the advisor and the department chairman.

490 – SPECIAL TOPICS IN ART

1.00 to 4.00 Credits

494 – SEMINAR IN ART

1.00 to 4.00 Credits

497 – INDEPENDENT STUDY IN ART

1.00 to 4.00 Credits

DEPARTMENT OF BIOLOGICAL AND ALLIED HEALTH SCIENCES

Professors Anderson, Hoagstrom, Keiser (*Chair*), Young; Associate Professors Aulthouse, DeLuca, Kaskel, Suniga, Verb, Woodley; Assistant Professors Keas, Moncayo, Torres; Visiting Assistant Professors Adams, Davies; Visiting Instructors Stricker, Wearly; Clinical Assistant Professor Calvo; Director of Laboratories MaGaw; Laboratory Technician Brachok; Adjunct Faculty Carmichael, Connour, Decanio, Fought, Francis, Ogg, Sherrick, Sreenan, Wiss

Mission Statement

The department provides a dynamic educational environment in which students learn, investigate, and apply knowledge in their chosen discipline within the biological and allied health sciences preparing them to become ethical and competent professionals.

Students majoring in the department will be exposed to a wide range of academic disciplines within biology and environmental studies, including current instrumentation and research techniques and written and oral scientific communication methods. Biology 121 is a principles course with a major emphasis on the study of the cell, genetics, evolution, and ecology. It provides generalizations by which advanced courses in biology can be related to one another and is therefore a prerequisite to all other courses in the curriculum. Students desiring further knowledge of general biology may take Biology 122 which surveys the animal kingdom, and Biology 123 which explores general botany and the fungi. These courses also provide a firm foundation for advanced work in biology and the related applied sciences.

Vision Statement

The department is committed to the continuous integration of academic excellence with professional and personal development of students. Accordingly, the faculty will foster and empower student achievement through scholarship and participation in the classroom and experiential activities using innovative approaches, which will prepare them to become accomplished professionals.

The department offers both the **Bachelor of Science** and **Bachelor of Arts** degrees. Majors in the department include biology, molecular biology, forensic biology, environmental studies, clinical laboratory science and nursing. Opportunities exist to specialize in **premedical sciences** (including pre-dentistry, pre-medicine, pre-occupational therapy, pre-optometry, pre-physical therapy, pre-physician

assistant and pre-veterinary medicine), environmental testing, field biology, and biology teacher licensure. In addition, many students find it desirable and a career advantage to have a second major or minor during their undergraduate program.

Special Requirements for all majors except nursing include:

1. AASG 300 – Job & Graduate School Search Strategies
2. Minimum **2.00** cumulative GPA in all biology courses.
3. All courses in **core** requirements must have a “C” grade or better for satisfactory completion of requirements.
4. Minimum of 47 biology hours is required for both the B.S. and B.A. degree.

CO-OP program in the Biological & Allied Health Sciences

Professional experience in a biologically or environmentally-related occupation with a governmental, consulting or industrial entity. Opportunities to interact with professional scientists in a employer-employee context. The ‘normal’ academic program of students choosing the CO-OP program will be five years rather than the four-year degree. CO-OP program students will spend a total of four ten week terms of employee/intern activity with the CO-OP agency. These CO-OP activities will be interspersed with regular academic terms on campus enrolled as full-time student. Junior status and approval of the department chair is required for participation in the CO-OP program.

Major in Biology

Core Requirements:

BIOL 121	General Biology
BIOL 122	Intro. to Zoology
BIOL 123	General Botany
BIOL 195	Orientation

“Capstone Experience”

Choose one course or sequence:

BIOL 494	Biology Senior Seminar
BIOL 295, 395, 495	Research Sequence

Molecular/Cellular Course

Choose one course:

BIOL 210	Introductory Genetics
BIOL 217	Intro. to Molecular Biology
BIOL 351	Cell Biology

Physiology/Anatomy Course

Choose one course:

BIOL 231	Anatomy and Physiology
BIOL 301	Developmental Anatomy
BIOL 302	Human Anatomy
BIOL 308	Plant Anatomy
BIOL 310	Plant Physiology

BIOL 331 Physiology 1
(All must include a laboratory component)

Field Biology/Ecology Course

Choose one course:

BIOL 213	Natural History
BIOL 251	Principles of Ecology
BIOL 271	Intro. to Marine Biology

Systematics/Evolution Course

Choose one course:

BIOL 204	Systematic Plant Survey
BIOL 223	Invertebrate Zoology
OR	

Choose two courses:

BIOL 363	Ornithology
BIOL 364	Herpetology
BIOL 368	Ichthyology
BIOL 490	Mammalogy

The biology elective hours are chosen from among the following courses excluding those which have been taken as required core courses above:

BIOL 201	Environment and Man
BIOL 204	Systematic Plant Survey
BIOL 210	Introductory Genetics
BIOL 213	Natural History
BIOL 217	Intro. to Molecular Biology
BIOL 223	Invertebrate Zoology
BIOL 231-32	Anatomy & Physiology 1,2
BIOL 251	Principles of Ecology
BIOL 263	Biogeography
BIOL 271	Intro. to Marine Biology
BIOL 290	Special Topics in Biology
BIOL 301	Developmental Anatomy
BIOL 302	Human Anatomy
BIOL 303	Histology
BIOL 305	Environmental Toxicology
BIOL 308	Vascular Plant Anatomy
BIOL 310	Plant Physiology
BIOL 311	Microbiology
BIOL 315	Medical Terminology
BIOL 321	Intro. to Immunology
BIOL 331-32-33	Physiology 1,2,3
BIOL 334-35-36	Physiology Labs 1,2,3
BIOL 343	Histological Techniques
BIOL 351	Cell Biology
BIOL 354	Bioinformatics
BIOL 357	Forensic Serology
BIOL 360	North American Mammals
BIOL 361	Entomology
BIOL 362	Parasitology
BIOL 363	Ornithology
BIOL 364	Herpetology
BIOL 366	Radiation Biology
BIOL 368	Ichthyology
BIOL 371	Advanced Marine Biology
BIOL 372	Topics in Marine Biology
BIOL 383	Animal Behavior (Ethology)
*BIOL 397	Self Directed Studies in the Biological Sciences
BIOL 423	Topics in Ecology and Biogeography
BIOL 451	Advanced Topics in Cell Biology
*BIOL 481	Internship Program

BIOL 490 Special Topics in Biological Sciences
 *BIOL 497 Independent Study in Biology

*Individually or collectively may count for only 7 hours of the 16 biology elective hours.-

Credit cannot be granted for both 231 and 331 or 232 and 332.

A minimum of 47 biology hours is required for both the B.S. and B.A. degree.

Departmental advisors will assist students in selecting relevant electives.

B.S. Degree - Required Cognates (minimum 32 hrs.)

One year in chemistry
 One year in mathematics
 One course in computer science (cannot be a web design course)

PLUS one additional science course (geology, physics, astronomy or chemistry). Specific science courses taught in the College of Engineering are acceptable cognates. Kinesiology (HPES 223) offered by the department of human performance and sport sciences may count with permission of the biological and allied health sciences faculty.

B.S. Degree - Additional Science Requirements

Any additional courses in Biology, Chemistry, Mathematics, Physics, or GEOL 280 (20 hours)**

**These hours may also be satisfied by taking courses in the College of Engineering and Pharmacy but all are subject to approval of the biological and allied health sciences faculty.

B.A. Degree - Required Cognates (24 hrs.)

One year in chemistry
 Two courses in mathematics
 One course in computer science (cannot be a web design course), physics, or an additional mathematics course.

Major in Environmental Studies

Students studying in this area are pursuing careers with industrial firms, consulting firms and governmental agencies.

Core Requirements:

BIOL 121 General Biology
 BIOL 122 Intro. to Zoology
 BIOL 123 General Botany
 BIOL 195 Orientation
 BIOL 201 Environment and Man
 BIOL 213 Natural History
 BIOL 223 Invertebrate Zoology
 BIOL 240 OSHA-40-Hour Safety Training
 BIOL 251 Principles of Ecology

BIOL 305 Environmental Toxicology
 BIOL 311 Microbiology
 BIOL 482 Internship

PLUS Any two of the following:

BIOL 361 Entomology
 BIOL 363 Ornithology
 BIOL 364 Herpetology
 BIOL 366 Radiation Biology
 BIOL 368 Ichthyology
 BIOL 490 Mammalogy
 BIOL 490 Plant Taxonomy

Additional biology electives may also be added with approval (see list of electives under Major in Biology).

Required Cognates:

GEOL 280 Geology
 PLSC 306 Environmental Law
 PHIL 310 Environmental Ethics
 CE 203 Surveying
 CE 321 Environmental Science
 CE 323 Solid and Hazardous Waste Management
 CE 371 Urban Planning
 MGMT 333 Management and Organizational Behavior
 GEOG 248 Intro. to GIS

One year of chemistry including
 CHEM 115 Environmental Chemistry
 PHYS 100 Physics

OR

PHYS 211 General Physics: Mechanics of Solids and Fluids

PLUS STAT 156 Biostatistics 1

PLUS Five courses in the social sciences, business or public relations (must be advisor approved). **These courses cannot be used: IBEC, SOC 105 or PSYC 100 to fulfill the requirement.**

Additional courses in chemistry are also recommended for those pursuing graduate studies. The department will make every effort to tailor the program to meet individual goals and needs of the student.

Major in Forensic Biology

Core Requirements:

BIOL 121 General Biology
 BIOL 122 Intro. to Zoology
 BIOL 123 General Botany
 BIOL 219 Forensic Biology 1
 BIOL 229 Forensic Biology 2
 BIOL 239 Forensic Biology 3
 BIOL 249 Forensic Biology 4
 BIOL 217 Molecular Biology
 BIOL 210 Intro. Genetics
 BIOL 329 Physical Methods
 BIOL 319 Microscopy

BIOL 311	Microbiology
BIOL 357	Forensic Serology
BIOL 351	Cell Biology

Required Cognates:

CHEM 171-172-173	Intro. Chemistry
CHEM 251-252-253	Organic Chemistry
CHEM 414, 415	Biochemistry Lab 1, 2
PHIL 238	Ethics
MATH 154	Calculus for Life Sciences
STAT 156	Biostatistics 1
STAT 256	Biostatistics 2
PHYSICS 211-212-213	General Physics 1, 2, 3
PHYSICS 234-235-236	Physics Laboratory 1, 2, 3
PHBS 341, 342	Biochemistry 1, 2
PLSC 121	Intro. Criminal Justice
PLSC 251	Criminology
PLSC 351	Const. Law

PLUS 20 hrs from this group

BIOL 248	Crime Scene Invest.
BIOL 259	Computer Forensics
BIOL 302	Human Anatomy
BIOL 354	Bioinformatics
GEOG 248	Geographic Information Systems
GEO 280	Geology
PLSC 476	Mock Trial
PLSC 342	Judicial Process & Crim. Law

Major in Molecular Biology

Provides the necessary training for students to pursue careers in the biotechnology industry and research in cell and molecular biology and provides excellent preparation for graduate and medical school. **All core and cognate requirements must have a grade of C or better.**

Core Requirements:

BIOL 121	General Biology
BIOL 122	Intro. to Zoology
BIOL 123	General Botany
BIOL 195	Orientation
BIOL 210	Introductory Genetics
BIOL 217	Intro. to Molecular Biology
BIOL 311	Microbiology
BIOL 351	Cell Biology
BIOL 451	Adv. Topics in Cell Biology
CHEM 251-52-53	Organic Chemistry 1, 2, 3
CHEM 311	Chem. Of Biological Molecules
CHEM 312	Chemistry of Metabolism
CHEM 414-15-16	Biochemistry Laboratory 1, 2, 3

PLUS one of the Research Sequences below:

BIOL 295, 395, 495
CHEM 481, 482, 483

Required Cognates:

CHEM 171-72-73	Introductory Chemistry 1, 2, 3
One year of mathematics (<u>preferable sequence</u>)	
MATH 163-64-65	Calculus 1, 2, 3

PLUS One course in computer science (cannot be a web design course)

PLUS

PHYS 211	General Physics: Mechanics of Solids and Fluids
PHYS 212	General Physics: Sound, Heat, and Light
PHYS 213	General Physics: Electricity and Magnetism
(all with labs)	
OR	
PHYS 231	Physics: Mechanics of Solids and Fluids
PHYS 232	Physics: Heat, Sound, and Light
PHYS 233	Physics: Electricity and Magnetism
(all with labs)	

Life Science Licensure with a Major in Biology

The life science licensure program in biology is nationally accredited by the National Council for Accreditation of Teacher Education (NCATE).

Biology Requirements:

BIOL 121	General Biology
BIOL 122	Intro. to Zoology
BIOL 123	General Botany
BIOL 204	Systematic Plant Survey
BIOL 210	Introductory Genetics
BIOL 223	Invertebrate Zoology
BIOL 251	Principles of Ecology
BIOL 311	Microbiology
BIOL 351	Cell Biology

PLUS one of the following:

BIOL 231	Anatomy and Physiology 1
BIOL 301	Developmental Anatomy
BIOL 302	Human Anatomy
BIOL 331, 334	Physiology 1 and Physiology Lab 1

PLUS the Biology Research Sequence
BIOL 295, 395, 495

And a **minimum of 5 quarter hours of biology electives not included above.** (See list of electives under Major in Biology.)

Science Cognates: (Minimum 24 qtr. hrs.)

CHEM 171-72-73	Introductory Chemistry 1, 2, 3
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PLUS one of the following:
 PHYS 100 Physics
 PHYS 211 General Physics: Mechanics
 (with lab) of Solids and Fluids
 PHYS 231 Physics: Mechanics of
 (with lab) Solids and Fluids

PLUS one of the following:
 PHYS 252 Earth Science and
 Planetary Astronomy
 GEOL 280 Geology

Additional electives in biology, chemistry, physics and/or earth science must be selected to complete a total of 75 quarter hours of science.

Math Cognates:

Three courses in mathematics which must include at least one of the following:
 MATH 122 College Trigonometry
 MATH 154 Calculus for Life Sciences 1
 MATH 157 Calculus 1 with Pre-Calculus 1
 MATH 163 Calculus 1

PLUS one course in computer science (cannot be a web design course)

The life science licensure student must also complete the education component of the program, including required field experiences and student teaching.

B.S. in Nursing Nursing Program

The B.S. in Nursing Program provides educational opportunities to a diverse population of qualified students seeking to acquire the knowledge and skills required for the practice of nursing as a Registered Nurse. The nursing faculty strives to create a learning environment that accommodates individual needs, fosters personal growth, enhances quantitative reasoning and critical thinking, and promotes meaningful humanitarian contributions to society.

Nursing faculty utilize teaching/learning strategies reflective of the rapid and emerging changes in health care technology and health care delivery models. A diverse array of health care settings is offered to the student, with emphasis on practical clinical experiences.

Mission Statement

The Nursing program is committed to educating students for excellence in academic achievement, able to work within diverse and changing roles as professional nurses, and as committed citizens of the world. Students must attain a grade of "C" or better in nursing core courses.

General Education: (87 hrs)	Hours
First year Experience (NURS 195)	1

English 110, 111, 204	12
Chemistry 135	4
Chemistry 136	4
Biology 110	4
Biology 253	4
Communication 225	4
Fine Arts xxx	4
History 110 or 111	4
Language	
(Spanish Literacy – 140, 141, 142)	12
Philosophy 238 or 240	4
Religion 1xx	4
Psychology 100	4
Sociology 105	4
Non-Western Culture (NURS 323)	4
Mathematics 120	4
Biostatistics 156	4
Computer Literacy (NURS 395)	3
Physical Education	
(Fitness, Life Skills, Wellness)	3
Participation in College	
Assessment Program	N/A

Nursing Major Requirements (79 hrs) Hours

NURS 131 Intro. to Nursing Health Practices	1
NURS 141 Foundations of the Discipline and Science	2
NURS 211 Fundamentals of Nursing Practice	4
NURS 221 Pathophysiology	4
NURS 241 Physical Assessment	4
NURS 251 Pharmacology	4
NURS 295 Service Learning	1
NURS 300 Foundations of Mental Health Nursing	5
NURS 310 Fundamentals of Medical/Surgical NSG I	5
NURS 320 Medical/Surgical II	5
NURS 330 Medical/Surgical III	5
NURS 340 Nursing Care of the Child & Family	5
NURS 390 Nursing Elective	4
OR	
NURS 490 Nursing Elective	4
NURS 410 Community Health Nursing	5
NURS 420 Obstetrical Nursing	5
NURS 430 Older Adult Nursing	5
NURS 395 Nursing Research Process & Informatics	3
NURS 470 Leadership & Mgmt. in Nursing Care	4
NURS 498 Trans. to Prof. Prac.: Clin. Cap.	8

Required Cognates (28 hrs) Hours

BIOL 110 Biological Concepts for Life Sciences	4
BIOL 231 Anatomy & Physiology 1	4
BIOL 232 Anatomy & Physiology 2	4
BIOL 215 Microbiology	3
BIOL 312 Microbiology Lab	1

CHEM 135 Chemistry I, Con. & App. Health Technologies	4
CHEM 136 Chemistry II, Con. & App. Health Technologies	4
PSYC 215 Developmental Psychology	4

**BSN Business Option Requirements (28 hrs)
Hours**

ABUS 312 Business Law 1	4
ACCT 211 Accounting 1	4
ACCT 212 Accounting 2	4
MGMT 333 Mgmt & Org. Behavior	4
MGMT 363 Human Resource Mgmt	4
FINC 362 Managerial Finance	4
IBEC 202 Principles of Microeconomics	4

NOTICE OF PROGRAM APPROVAL STATUS

Pending approval from the Ohio Board of Nursing, the Nursing program will be offered in the Fall 2005.

Biological and Allied Health Sciences Minors

Majors in biology adding a minor to their major must see the department chair for permission. If granted, the student with a major in Biology may add an Environmental Studies, a Biomedical Sciences, a Field Biology, or Public Health minor and must meet the requirements of the major and minor **plus twelve (12) additional quarter hours** in biology.

Environmental Studies majors may add a biology, public health or biomedical sciences minor with permission of the department chair, and completion of the requirements of their major and minor. Environmental Studies majors may add a field biology minor with permission of the department chair and completion of all the requirements of the major and minor **plus twelve (12) additional quarter hours** in biology.

Molecular Biology majors may add a minor in environmental studies, biomedical sciences, field biology or a public health minor with permission of the department chair, and by completion of all required courses for the major and minor **plus twelve (12) additional quarter hours** in biology.

Non-majors may take two minors by taking all required courses for each of the minors **plus twelve (12) additional quarters hours of biology**.

Students pursuing a degree in Clinical Laboratory Science (BSCLS) may add a biology, environmental studies, field biology or public health minor with permission of the department chair and by completion of all the requirements in their program and the minor.

Minor in Biology (Minimum 30 hrs. of Biology)

Core Requirements (28 qtr. hrs.)
BIOL 121 General Biology

BIOL 122	Intro. to Zoology
BIOL 123	General Botany

Molecular/Cellular Course

Choose one course:

BIOL 210	Introductory Genetics
BIOL 217	Intro. to Molecular Biology
BIOL 351	Cell Biology

Physiology/Anatomy Course

Choose one course:

BIOL 231	Anatomy and Physiology
BIOL 301	Developmental Anatomy
BIOL 302	Human Anatomy
BIOL 308	Vascular Plant Anatomy
BIOL 310	Plant Physiology
BIOL 331	Physiology 1

(All must include a laboratory component)

Field Biology/Ecology Course

Choose one course:

BIOL 213	Natural History
BIOL 251	Principles of Ecology
BIOL 271	Intro. to Marine Biology

Systematics/Evolution Course

Choose one course:

BIOL 204	Systematic Plant Survey
BIOL 223	Invertebrate Zoology

OR

Choose two courses:

BIOL 363	Ornithology
BIOL 364	Herpetology
BIOL 368	Ichthyology
BIOL 490	Mammalogy

Additional Biology hours (at least 2 hours) can be selected from biology electives not selected from the above. (See list of electives under Major in Biology.)

Required Cognates (12 hrs.) (B.S. degree seeking students). Any combination of chemistry, physics, or GEOL 280.

Minor in Biomedical Sciences

(Minimum of 30 hrs. of Biology)

Core Requirements

BIOL 121	General Biology
BIOL 122	Intro. to Zoology
BIOL 124	Intro. to Human Anatomy and Histology

PLUS

BIOL 231-32	Anatomy and Physiology 1, 2
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OR

BIOL 331-32-33	Physiology 1, 2, 3, (all with labs)
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PLUS

BIOL 301	Developmental Anatomy
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OR

BIOL 302	Human Anatomy
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PLUS

Additional Biology hours (at least 2 hours) must be selected from the following electives not selected from the above:

BIOL 210	Introductory Genetics
BIOL 301	Developmental Anatomy
BIOL 302	Human Anatomy
BIOL 303	Histology
BIOL 311	Microbiology
BIOL 321	Intro. to Immunology
BIOL 351	Cell Biology
BIOL 362	Parasitology

Required Cognates (12 hrs.) (B.S. degree seeking students). Any combination of chemistry or physics.

Minor in Environmental Studies

(Minimum 30 hrs. of Biology)

Core Requirements (30 qtr. hrs.)

BIOL 121	General Biology
BIOL 122	Intro. to Zoology
BIOL 123	General Botany
BIOL 201	Environment and Man
BIOL 251	Principles of Ecology
BIOL 305	Environmental Toxicology
BIOL 311	Microbiology
PLSC 306	Environmental Law

Required Cognates (12 hrs.) (B.S. degree seeking students). Any combination of chemistry, physics, or GEOL 280

Minor in Field Biology (Minimum 30 hrs. of Biology)

Core Requirements (24 hrs.)

BIOL 121	General Biology
BIOL 122	Intro. to Zoology
BIOL 123	General Botany

PLUS

BIOL 213	Natural History
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OR

BIOL 251	Principles of Ecology
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PLUS any two of the following (not included above):

BIOL 213	Natural History
BIOL 251	Principles of Ecology
BIOL 271	Intro. to Marine Biology
BIOL 361	Entomology
BIOL 363	Ornithology
BIOL 364	Herpetology
BIOL 368	Ichthyology
BIOL 490	Mammalogy
BIOL 490	Plant Taxonomy

Additional Biology hours (at least 6 hours) must be selected from the following electives not selected from the above:

BIOL 204	Systematic Plant Survey
BIOL 213	Natural History

BIOL 223	Invertebrate Zoology
BIOL 251	Principles of Ecology
BIOL 263	Biogeography
BIOL 271	Intro. to Marine Biology
BIOL 360	North American Mammals
BIOL 361	Entomology
BIOL 363	Ornithology
BIOL 364	Herpetology
BIOL 368	Ichthyology
BIOL 383	Animal Behavior (Ethology)
BIOL 490	Mammalogy
BIOL 490	Plant Taxonomy

Required Cognates (12 hrs.) (B.S. degree seeking students). Any combination of chemistry, physics, or GEOL 280.

Minor in Public Health (Minimum 30 hrs.)

To prepare students for careers in health education, disease prevention and control and health promotion by acquainting them with major public health issues.

Core Requirements (18 hrs.)

BIOL 201	Environment and Man
BIOL 3xx	Epidemiology
BIOL 313	Medical Microbiology
PHPR 251	Preventive Medicine
STAT 156	Biostatistics 1

Multi-disciplinary list of core courses (choose a minimum of 12 hrs.)

BIOL 210	Genetics
BIOL 251	Principles of Ecology
BIOL 305	Environmental Toxicology
BIOL 315	Medical Terminology
BIOL 354	Bioinformatics
BIOL 362	Parasitology
GEOG 226	World Regional Geography
GEOG 248	Introduction to GIS
GEOL 280	Geology
HPSS 110	Intro to Exercise, Nutrition & Health
HPSS 111	Personal Health Problems
HPSS 119	School & Community Health
HPSS 201	AIDS and Other Sexually Trans. Diseases
HPSS 303	Org. and Admin of Health, Phys Ed
HSPS 223	Contemporary Africa
PHBS 350	Nutrition
PHIL 310	Environmental Ethics
PHIL 320	Social Justice
PLSC 107	International Studies & World Problems
PLSC 306	Environmental Law
PLSC 336	Developing Political Systems
PLSC 366	Public Administration and Policy Analysis

PLSC 391	Sp. Top-Crim. Just. & Public Health
SOC 105	Sociology
SOC 250	Cultural Anthropology
SOC 260	Social Problems
STAT 256	Biostatistics 2

Cognate Requirements (12 hrs.)(B.S. degree seeking students). Any combination of geology, chemistry, or physics.

DUAL DEGREES PROGRAM

The pharmacy/biology dual degrees program is a six-year curriculum that provides for educational, practice and research experiences in both pharmacy and biology. The Doctor of Pharmacy degree and the biology degree are awarded upon completion of the program of study. A more detailed description about this program is available from the Department of Biological & Allied Health Sciences and in the College of Pharmacy. **This program is available for Pharmacy (Pharm. D) students.**

The Ohio Northern University Metzger Nature Center, a 70-acre property in Tuscarawas County, Ohio, serves as a biology field station. The facility is located near Ragersville, and includes a century-old farm house and a new academic residence center. Laboratories, computer labs, room and board facilities are part of the complex. The hills, valleys, woods, fields, stream, and pond provide an excellent opportunity for teaching, study, and research.

The department also maintains a 300 acre Wetland Restoration Project bordering the Scioto River and Scioto Marsh 12 miles from the campus.

The Department of Biological & Allied Health Sciences has an **Internship Program** with working relationships with a number of organizations and institutions. The ten-week senior year internship provides an off-campus practical experience in areas of the biological sciences. Examples include toxic waste management, environmental consulting, zoo animal care and management, wildlife and fisheries management, laboratory research, cardiopulmonary technology, state and federal forensic laboratories, hospital and technical health programs. Before embarking on an internship, students must complete at least three years of course work in biology and related areas. The internship must be approved by the faculty of the department prior to registration.

Internships are sixteen (16) credit hours. Only **seven (7)** of the sixteen (16) hours can be used as biology electives. The remaining nine (9) credit hours can be counted as general electives.

Business Option

A business option with a management emphasis is available for any student majoring in biology or environmental studies or for students in the clinical laboratory science program. **See Business Options under Arts and Sciences description.**

Criminal Justice (Forensic) Option

The Criminal Justice (Forensic Science) Option in the department of biological and allied health sciences deals with various aspects of the scientific side of crime scenes and investigations. The list of courses for the Biology and Molecular Biology majors as indicated in the University Catalog provides the student with the minimal and required course work to fulfill the guidelines set forth by the FBI to become a DNA analyst in both forensic and Combined DNA Index System (CODIS) laboratories.

PLSC 121	Intro to Criminal Justice
PLSC 122	Police in America
PLSC 211	Forensic Science 1
PLSC 212	Forensic Science 2
PLSC 351	Constitutional Law and Civil Liberties
PLSC 355	Minorities and Women in Criminal Justice
SOC 261	Criminology

CLINICAL LABORATORY SCIENCE PROGRAM

The department of biological and allied health sciences offers a Bachelor of Science degree in Clinical Laboratory Science (BSCLS) designed for students who seek a baccalaureate degree and professional certification in clinical laboratory science (CLS). In addition, the department offers a post baccalaureate certificate in Clinical Laboratory Science (CLS) designed for academically qualified individuals who wish to pursue a career in clinical laboratory sciences. Those wishing to pursue the certificate must possess a baccalaureate or advanced degree from an accredited college or university and have completed requisite coursework in biology, chemistry, mathematics and computer science. Graduates and those who complete the certificate may pursue career opportunities in various laboratory settings including clinical, industrial and public health or choose to continue their education in graduate or professional school (e.g., medical, dental, etc.).

The B.S. in Clinical Laboratory Science

The BSCLS degree coursework at ONU centers on student learning and professional development using community-partnered curriculum. Students are expected to complete all degree requirements including (a) a minimum of

56 quarter hours of approved general education coursework, (b) a minimum of 49 quarter hours of biology requisites, (c) a minimum of 31 quarter hours of chemistry cognates, (d) participation in the college assessment program, and (e) a minimum of 62 quarter hours of clinical laboratory science core coursework. Students are encouraged to include recommended science electives as time and scheduling permit. The last year of study requires that students apply for admission to and complete a clinical training program. Students admitted to ONU's resident training program continue their didactic coursework in the Department of Biological and Allied Health Sciences and complete clinical training at area clinical affiliates including Lima Memorial Hospital, Lima, Ohio. Full-time students can complete the degree in 13 quarters (four years).

Students who successfully complete all degree requirements are awarded a B.S. in Clinical Laboratory Science and are eligible to seek professional certification from the American Society for Clinical Pathology (ASCP) and/or the National Certification Agency for Laboratory Personnel (NCA).

General Education	Hours
English 110, 111, and 204	12
Philosophy 238 or 240	4
Communication 211 or 225	4
History 110 or 111	4
Religion XXX	4
Psychology 100	4
Fine Arts XXX	4
Non-Western Culture XXX	4
Mathematics XXX (120 or above)	4
Statistics XXX	4
Computer Science (TECH 139 or ABUS 201)	4
Physical Education (Fitness, Life Skills, Wellness)	3
AASG 300 Job & Graduate School Search Strategies	1
Participation in College Assessment Program	N/A

Biology Core (49 hrs)	Hours
BIOL 121 General Biology	4
BIOL 122 Intro. to Zoology	4
BIOL 124 Intro. to Human Anatomy and Histology	4
BIOL 195 Orientation	1
BIOL 210 Introductory Genetics	4
BIOL 217 Intro. to Molecular Biology	4
BIOL 301 Developmental Anatomy or BIOL 302 Human Anatomy	4
BIOL 303 Histology or BIOL 343 Hist Tech	4
BIOL 311 Microbiology	4
BIOL 331, 332, 333 Physiology 1, 2, 3	9
BIOL 351 Cell Biology	4
BIOL Research Sequence (295, 395, 495)	3

Chemistry Cognates (31 hrs.)	
CHEM 171-173 Introductory Chemistry 1,2,3	15
CHEM 251-253 Organic Chemistry 1, 2, 3	12
PHBS 341 Biochemistry 1	4

Recommended Electives	
BIOL 302 Human Anatomy	4
BIOL 315 Medical Terminology	2
BIOL 321 Immunology	4
BIOL 334-336 Physiology Labs	3
BIOL 351 Cell Biology	4
BIOL 354 Bioinformatics	4
BIOL 357 Forensic Serology/DNA Analysis	4
BIOL 362 Parasitology	4
PHYS 120 Physics	
w/ Health Science Applications	4
PHYS 211-213 General Physics	9
PHYS 234-236 Physics Lab	3

Clinical Laboratory Science Core	Hours
CLS 460 Foundations of Clinical Laboratory Science	3
CLS 461 Professional Practice and Development	3
CLS 462 Biological Fluids	3
CLS 463 Clinical Immunology	3
CLS 464 Hematology and Hemostasis	5
CLS 465 Blood Banking and Transfusion Science	5
CLS 466 Clinical Chemistry	4
CLS 467 Clinical Microbiology	5
CLS 468 Clinical Laboratory Practicum Orientation	2
CLS 469 Clinical Hematology Practicum	6
CLS 470 Blood Bank Practicum	6
CLS 471 Clinical Chemistry Practicum	6
CLS 472 Clinical Microbiology Practicum	6
CLS 473 Immunology & Infectious Diseases Practicum	3
CLS 474 Case Studies in Clinical Laboratory Science	1
CLS 490 Special Topics in Clinical Laboratory Science	1-3

Special Requirements

- Minimum 2.00 cumulative GPA in all biology core and chemistry cognates.
- All CLS courses must have a "C" grade or better for satisfactory completion of requirements.
- Students admitted to the WCOCLS program are required to lease an appropriate clinical-grade microscope for the duration of the clinical year. Leasing arrangements are made through and applicable fees paid to Dayton Microscope and Supply, Inc. prior to the beginning of classes in June. Additional information on microscope leasing is available from WCOCLS Program office.
- Essential Functions** are nonacademic standards that all WCOCLS Program students

must be able to master and execute to successfully participate in and complete the program without compromising the safety and well being of students, instructors, patients and the public. The WCOCLS program essential functions require that a student:

1. Identify and differentiate physical features, including color, shape and size of microscopically viewed materials.
2. Identify, discriminate and characterize the physical attributes (e.g., color, odor, consistency) of biological samples, reagents and end points of chemical reactions.
3. Read numbers, letters and symbols displayed in print whether transmitted through non-electronic or other technological media.
4. Identify and respond to warning signals.
5. Demonstrate dexterity to perform analyses in accordance with established laboratory protocols and to manipulate laboratory utensils, tools, equipment and instrumentation, including computer touch-screens, keyboards and handheld calculators.
6. Engage in a sustained physical activity that may require sitting, standing or walking for extended periods of time.
7. Practice laboratory safety and respond to emergent situations in accordance with established guidelines to minimize harm and danger to self and others.
8. Exercise range of motion and reach to work in laboratory facilities, to assist patients who may be seated, prone or standing and to manipulate sample containers, lab utensils, tools, equipment and instrumentation without threatening harm or violating safety protocols.
9. Use available modes of transportation to travel between the university campus and off-campus training sites.
10. Collect specimens in a safe, timely and professional manner without compromising sample integrity or causing the patient undue pain and suffering.
11. Ask appropriate scientific questions and demonstrate ability to evaluate and draw conclusions.
12. Organize and communicate results obtained by observation and experimentation in oral and written form under conditions of stress or calm and within given time constraints.
13. Identify and employ strategies that minimize miscommunication.
14. Adhere to established policies to safeguard confidentiality of information communicated by non-electronic and electronic means.
15. Perform multiple tasks with focused attention on safety, accuracy and quality.
16. Communicate tactfully, respectfully and regardless of the intended audience's race, color, creed, religion, sex, age, handicap,

veteran status or national origin.

17. At all times in all circumstances, maintain a professional demeanor and perform every task assignment with focused attention on safety, accuracy and quality.
18. Speak, act and perform assigned tasks in an ethical manner.
19. Recognize and work within the limits of personal abilities, ask for help when required and actively participate in opportunities to improve.
20. Engage in actions that support team workmanship and minimize conflict.
21. Work collaboratively and independently, demonstrating knowledge and mastery of skills when speaking, writing or taking examinations.

The Post Baccalaureate Certificate in Clinical Laboratory Science

The ONU post baccalaureate certificate in CLS focuses on educating academically qualified individuals in the clinical laboratory sciences using community-partnered curriculum. Specifically, students must complete a minimum of 62 quarter hours of clinical laboratory science core coursework including a supervised applied clinical experience. Those wishing to pursue the certificate must possess a baccalaureate degree from an accredited college or university and have completed requisite coursework in biology, chemistry, mathematics and computer science. Courses cannot be survey or remedial ones and must have been completed within seven years prior to beginning coursework at ONU. Upon satisfactory completion of the prescribed course of study, students receive a certificate in CLS and are eligible to seek professional certification from the American Society for Clinical Pathology (ASCP) and/or National Certification Agency for Laboratory Personnel (NCA).

Post Baccalaureate Certificate Courses Hours

CLS 460 Foundations of Clinical Laboratory Science	3
CLS 461 Professional Practice and Development	3
CLS 462 Biological Fluids	3
CLS 463 Clinical Immunology	3
CLS 464 Hematology and Hemostasis	5
CLS 465 Blood Banking and Transfusion Science	5
CLS 466 Clinical Chemistry	4
CLS 467 Clinical Microbiology	5
CLS 468 Clinical Laboratory Practicum Orientation	2
CLS 469 Clinical Hematology Practicum	6
CLS 470 Blood Bank Practicum	6
CLS 471 Clinical Chemistry Practicum	6
CLS 472 Clinical Microbiology Practicum	6
CLS 473 Immunology & Infectious Diseases Practicum	3
CLS 474 Case Studies in Clinical Laboratory Science	1

CLS 490 Special Topics in Clinical Laboratory Science	1-3
Total	62-64

Special Requirements

- Minimum 2.00 cumulative GPA in all requisite coursework in biology, chemistry, mathematics and computer science.
- All CLS courses must have a "C" grade or better for satisfactory completion of requirements.
- Students admitted to the WCOCLS program are required to lease an appropriate clinical-grade microscope for the duration of the clinical year. Leasing arrangements are made through and applicable fees paid to Dayton Microscope and Supply, Inc. prior to the beginning of classes in June. Additional information on microscope leasing is available from WCOCLS Program office.
- Essential Functions** are nonacademic standards that all WCOCLS Program students must be able to master and execute to successfully participate in and complete the program without compromising the safety and well being of students, instructors, patients and the public. The WCOCLS program essential functions requirement for post baccalaureate certificate students is identical to that for the BSCLS students. See the listing under B.S. Clinical Laboratory Science degree "Special Requirements."

West Central Ohio Clinical Laboratory Science Program

The West Central Ohio Clinical Laboratory Science Program is Ohio Northern University's resident four-quarter capstone experience for those pursuing the BSCLS degree or the post baccalaureate certificate. During the first two quarters, students admitted to the program complete didactic coursework in clinical laboratory science theory and practice, hematology, clinical chemistry, clinical microbiology, clinical immunology, immunohematology, biological fluids, professional practice and development. The students complete their last two quarters of clinical coursework at Lima Memorial Hospital's Clinical Laboratory and/or clinical affiliates.

Mission Statement

The mission of the West Central Ohio Clinical Laboratory Science Program is to educate students in the clinical laboratory sciences, preparing them to practice as ethical and competent professionals, and enabling them to meet whatever job-related challenges arise now and in the future.

Overview of the Program Admission Requirements

The West Central Ohio Clinical Laboratory Science Program has an enrollment capacity of 8 students per

year. The start date for the program is June. Prospective students may submit applications at any time but not later than March 1 of the year for which an applicant seeks program admission. Applicants completing prerequisite coursework at the time of application may be considered for admission but, if selected (provisional admit), will be required to submit documentation (transcript or original grade report) of successful completion of the course(s) prior to the first day of class. Applicants selected for admission for a given year are notified by the Program Director by April 1 of that year. Admission to the program is competitive based on enrollment capacity and admission standards. Requirements for BSCLS students include:

- Submission of a completed application for admission (only completed applications are considered)
- Satisfaction of all applicable university and college admission requirements
- Satisfaction of all applicable degree requirements excluding CLS coursework
- Completion of all prerequisite coursework with a minimum of a "C" in each course
- A cumulative GPA of 2.80 (scale 4.00) with a science (biology, chemistry, physics, math) GPA of 3.00
- Demonstrated comprehension and commitment to CLS professionalism

Consideration for admission of non-degree seeking (Post Baccalaureate Certificate) applicants is limited to those who meet the following minimum requirements:

- Possess a baccalaureate degree from an accredited college or university.
- Completed 24-quarter hours (or equivalent semester hours) of biology coursework that must include a microbiology course with laboratory, immunology, human anatomy and physiology, genetics, and molecular biology.
- Completed 24-quarter hours (or equivalent semester hours) of chemistry including biochemistry and organic chemistry.
- Completed 8-quarter hours (or equivalent semester hours) of college-level math including one course in statistics.
- Completed 4-quarter hours (or equivalent semester hours) of computer science (no web-design).
- Cumulative GPA of 2.80 (4.00 scale) with a science (biology, chemistry, physics and math) GPA of 3.00.
- Submitted a completed application for admission (only completed applications are considered).
- Satisfaction of applicable university and college requirements for admission as a non-degree seeking student.
- Demonstrated comprehension of and commitment to CLS professionalism.

Application packets are available from the WCOCLS Program Office, Meyer Hall 166.

Notice of Program Accreditation Status

Ohio Northern University's West Central Ohio Clinical Laboratory Science Program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 8410 W Bryn Mawr Ave., Suite 670, Chicago, IL 60631.

For additional information, contact the WCOCLS Program Director at (419) 772-3084 or visit the program's website <http://www.onu.edu>.

Subject - Biological Sciences (BIOL)

103 - LIFE AND EARTH SCIENCE FOR EARLY & MIDDLE CHILDHOOD MAJORS

4.00 Credits

Consideration of the life sciences, including the following topics: cell biology, genetics, animal anatomy and physiology (primarily human), plant anatomy and physiology, evolution and ecology. Aspects of earth science as they affect and have affected life on earth including: weather, climate, glaciers, extraterrestrial impacts and continental drift. The roles of energy, material and information are emphasized. Some science teaching methods are included. For early childhood and middle childhood majors only. A Nature Center use fee is charged. DOES NOT SATISFY ANY REQUIREMENTS FOR THE MAJOR IN BIOLOGY, MOLECULAR BIOLOGY OR CLINICAL LABORATORY SCIENCE. Prerequisite: CHEM 102.

110 - PRINCIPLES AND CONCEPTS OF HUMAN BIOLOGY

4.00 Credits

The general principles that explain how organisms function. Key biochemical and cellular concepts and principles that lead to an understanding of the basis of genetic concepts and the anatomy and physiology of human organ systems. Prerequisite: Enrollment is restricted to Nursing majors.

121 - GENERAL BIOLOGY

4.00 Credits

Biological principles of plant and animal life with emphasis on cell biology, genetics and major concepts in evolution and ecology. Laboratory material is made available and discussed when appropriate.

122 - INTRODUCTION TO ZOOLOGY

4.00 Credits

The classification of major animal groups, and structure of animals from a comparative systems viewpoint. Prerequisite BIOL 121.

123 - GENERAL BOTANY

4.00 Credits

Microbes, fungi and plants emphasizing classifications and evolutionary relationships. The life histories, anatomy and physiology of photosynthetic protist, fungi and plants. Prerequisite: BIOL 121.

124 - INTRODUCTION TO HUMAN ANATOMY AND HISTOLOGY

4.00 Credits

The anatomy and histology of the human body system. Laboratory includes skeletal material, histology, radiographs, and cat dissection. Corequisite: BIOL 126. Prerequisite: BIOL 122. THIS COURSE DOES NOT SATISFY ANY REQUIREMENTS FOR THE MAJOR IN BIOLOGY AND MOLECULAR BIOLOGY.

195 - ORIENTATION (1+0)

1.00 Credit

Presentations and discussions relating to adjustment and requirements of academic life within the University, College and the Department of Biological and Allied Health Sciences. Graded S/U.

196 - ALLIED MEDICAL SCIENCES ORIENTATION

1.00 Credit

For students intending to pursue pre-professional programs including physical therapy, occupational therapy, physicians assistant, chiropractic, etc. Professionals from surrounding medical centers and graduate programs are involved. CREDIT EARNED DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY MAJOR OFFERED AT THE UNIVERSITY. Graded S/U.

201 - ENVIRONMENT AND MAN

4.00 Credits

The interaction of man and his surroundings with an emphasis on the problems arising from increasing human population, pollution, and resource use. (Formerly BIOL 125).

204 - SYSTEMATIC PLANT SURVEY (2+4)

4.00 Credits

Plant and algal relationships concentrating on phylogeny and classification. The morphology, development and life cycles of selected taxa will be examined. A Nature Center use fee is charged. Offered alternate years. Prerequisite: BIOL 123.

210 - INTRODUCTORY GENETICS

4.00 Credits

Mendelian, molecular and population genetics. Bacteriophages, bacteria, *Drosophila*, corn and humans will be studied for their historical and technological significance. Molecular information transfer and the regulation of gene expression will be analyzed in some depth. The laboratory focuses on an experimental analysis of fundamental genetic principles. Prerequisites: BIOL 121, 122 and 123; one year of chemistry.

213 - NATURAL HISTORY (1+6)

4.00 Credits

The recognition, identification, and understanding of local biotic communities and their inhabitants. Field study is emphasized. A Nature Center use fee and lab fee are charged. Prerequisite: BIOL 122 or permission of the instructor. BIOL 123 is RECOMMENDED.

215 - MICROBIOLOGY FOR ALLIED HEALTH SCIENCES

3.00 Credits

The basic characteristics of microorganisms related to human infectious disease. Microbiology concepts are introduced to understand microbial pathogenesis and the host response to pathogens with a systems approach to analysis of infectious diseases. Emphasis on the control of microorganisms in health care. Enrollment is restricted to nursing majors. Prerequisites: BIOL 231 and 232.

217 - INTRODUCTION TO MOLECULAR BIOLOGY (3+3)

4.00 Credits

The basic molecular processes of DNA, RNA, and protein synthesis. The regulation mechanisms used by viruses will be analyzed. The laboratory will emphasize gel electrophoresis techniques. Previous experience in organic chemistry is recommended. A lab fee is charged. Prerequisites: BIOL 122 and 123.

219 - FORENSIC BIOLOGY 1

4.00 Credits

The history, structure and function of the modern forensic laboratories. Prerequisite: High school biology, chemistry or physics.

223 - INVERTEBRATE ZOOLOGY (3+3)

4.00 Credits

Invertebrate relationships including morphology, physiology, life cycles and taxonomy. A lab fee is charged. Prerequisite: BIOL 122.

229 - FORENSIC BIOLOGY 2

4.00 Credits

The basics of forensic toxicology, arson and explosion investigation, fingerprint and latent print evidence, firearms, tool marks and other impressions along with document and voice print examination are discussed. Prerequisite: BIOL 219.

231 - ANATOMY AND PHYSIOLOGY 1 (3+3)

4.00 Credits

Basic principles of human structure and function. Cell physiology, histology, skin, connective tissue, neural, muscular and endocrine physiology and anatomy. Prerequisite: BIOL 110 or 122; BIOL 124 recommended.

232 - ANATOMY AND PHYSIOLOGY 2 (3+3)

4.00 Credits

Continuation of 231. The blood, digestive, reproductive, cardiovascular, and respiratory systems. Prerequisite: BIOL 231.

238 - EMERGENCY MEDICAL TECHNICIAN TRAINING

1.00 Credit

Ohio Department of Public Safety certified training program. At completion of the course requirements, students may sit for the National Registry of Emergency Medical Technicians examination. Upon successful completion of the examination, the student is a nationally qualified EMT-Basic. The one hour credit will not meet any science requirement. Open to all students only with permission of the instructor.

239 - FORENSIC BIOLOGY 3

4.00 Credits

Practice of impressions in soft soils and snow will be analyzed. Safe collection, handling and preservation of forensic evidence emphasized. Prerequisite: BIOL 229.

240 - OSHA 40-HOUR SAFETY TRAINING

3.00 Credits

Response operations for the remediation incidents involving hazardous materials. Uncontrolled (remediation) site functions, methods of operation and safety in cleaning up hazardous substances dumped, spilled or investigations at abandoned hazardous waste sites are emphasized. Provided by arrangement with the University of Findlay at Findlay. DOES NOT COUNT AS A BIOLOGY COURSE.

241 - BASIC EMERGENCY RESPONSE

2.00 Credits

The basic defensive and offensive mitigation techniques available to responders. Application of skills to mock emergency responses. Basic site safety; recognition, identification and notification procedures; use of survey instrumentation; risk assessment and mitigation of chemical hazards in emergency response scenarios. Prerequisite: BIOL 240. Graded S/U. THIS COURSE DOES NOT SATISFY ANY REQUIREMENTS FOR THE MAJOR IN BIOLOGY, MOLECULAR BIOLOGY OR CLINICAL LABORATORY SCIENCE.

242 - GENERAL INDUSTRY SAFETY AND HEALTH COMPLIANCE

2.00 Credits

Methods of finding, interpreting and implementing governmental regulations pertaining to employee safety. Prerequisite: PLSC 306. Graded S/U. THIS COURSE DOES NOT SATISFY ANY REQUIREMENTS FOR THE MAJOR IN BIOLOGY, MOLECULAR BIOLOGY OR CLINICAL LABORATORY SCIENCE.

243 - HAZARDOUS WASTE GENERATOR TRAINING

2.00 Credits

Hazardous waste management procedures and the implementation of contingency plans in dealing with hazardous materials. Prerequisite: BIOL 240. Graded S/U. THIS COURSE DOES NOT SATISFY ANY REQUIREMENTS FOR THE MAJOR IN BIOLOGY, MOLECULAR BIOLOGY OR CLINICAL LABORATORY SCIENCE.

245 - OSHA SAFETY TRAINING REFRESHER

1.00 Credit

Designed to comply with requirements regarding annual follow-up training for hazardous waste site workers who have previously completed BIOL 240 (OSHA Safety Training). Taught at the University of Findlay. May be repeated 3 times for credit. Prerequisite: BIOL 240. Graded S/U. DOES NOT COUNT AS A BIOLOGY COURSE. DOES NOT SATISFY ANY REQUIREMENTS FOR THE MAJOR IN BIOLOGY, MOLECULAR BIOLOGY OR CLINICAL LABORATORY SCIENCE.

246 - HAZARDOUS MATERIALS TRANSPORTATION

2.00 Credits

Basic hazardous materials transportation regulations and their applications in daily operations involving the four major transportation models (air, water, rail, highways). Hazardous materials package selection, marketing, labeling, etc. for shipment of materials. Graded S/U. DOES NOT SATISFY ANY REQUIREMENTS FOR THE MAJOR IN BIOLOGY, MOLECULAR BIOLOGY OR CLINICAL LABORATORY SCIENCE.

249 - FORENSIC BIOLOGY 4

4.00 Credits

Overview of the field of forensic botany, anthropology, pathology and odontology. Also various methods used by forensic anthropologists to identify human skeletons and skeletal remains. Prerequisite: BIOL 239.

251 - PRINCIPLES OF ECOLOGY

4.00 Credits

Consideration of the interaction of organisms with their environment at the levels of the individual, population, community and ecosystem. The laboratory consists of collection of data in the field, and analysis and interpretation of that data. A Nature Center use fee is charged. Prerequisites: BIOL 122, 123 or permission of the instructor.

253 - NUTRITION FOR HEALTH CARE PROVIDERS

4.00 Credits

Theory and practical principles of nutrition for healthy and ill children and adults. Concepts of basic nutrition, weight loss, nutritional influences on diabetes, high blood pressure and other dietary-influenced conditions. Prerequisites: BIOL 231 and 232. Enrollment is restricted to Nursing majors.

259 - FORENSIC CRIME SCENE INVESTIGATION

3.00 Credits

The techniques of crime scene investigation will emphasize search techniques. Laboratory exercises demonstrate how to properly recognize, collect and package evidence. Prerequisite: BIOL 229.

263 - BIOGEOGRAPHY

5.00 Credits

Current and historic distribution of plants and animals. Consideration of continental drift, glaciation, meteorology, climatology, ecology and evolutionary history and their effect on the distribution of living things. A weekend trip is required. A Nature Center use fee is charged. Prerequisites: BIOL 122 and 123. Offered alternate years.

269 - COMPUTER FORENSICS

3.00 Credits

The definitions of computer terminology and history of computer crime; hacking will be discussed. Investigations and capabilities inclusive of pre-search and on-scene activities, data analysis and file recovery will be discussed. Prerequisite: BIOL 229.

271 - INTRODUCTION TO MARINE BIOLOGY

4.00 Credits

Overview of the various marine organisms and their habitats. Emphasis placed on southeastern and Gulf coastal and offshore environments. A two-week field trip to a selected marine environment is required. University defensive driving certification required. Additional fee is charged. Permission of instructor required. Prerequisite: BIOL 122. BIOL 223 strongly RECOMMENDED.

290 - SPECIAL TOPICS IN BIOLOGICAL SCIENCES

1.00 to 4.00 Credits

Grading system at the discretion of the instructor. May be repeated for credit as the topic varies.

295 - BIOLOGICAL LITERATURE RESEARCH

1.00 Credit

Selection of a research project for the senior thesis, planning the approach to the project and submission of a formal research proposal for Department approval. The research proposal will require reading and critical analysis of portions of classical and current journal articles. Attendance at all departmental and thesis seminars required. Professional organization membership required.

301 - DEVELOPMENTAL ANATOMY (3+3)

4.00 Credits

A broad range of developmental topics are covered. These include aspects of developmental biology, comparative embryology, and human organ development. Prerequisite: BIOL 122 or equivalent.

302 - HUMAN ANATOMY (2+4)

4.00 Credits

The gross anatomy of the human body and body systems. Laboratories include x-rays, MRI's, skeletal material, and cadaver dissection. Prerequisite: BIOL 122 or its equivalent.

303 - HISTOLOGY (3+3)

4.00 Credits

Microscopic analysis of cells, tissues, and the organ systems of the human body. A lab fee is charged. Prerequisite: BIOL 122 or its equivalent.

305 - ENVIRONMENTAL TOXICOLOGY

3.00 Credits

Consideration of effects of both man-made and natural toxic agents on living systems. Material will emphasize aspects of physiologic toxicity in both plant and animal systems. An understanding of basic chemical, physical and biologic principles will be required. Prerequisites: BIOL 121 and two courses in Chemistry.

308 - VASCULAR PLANT ANATOMY (3+3)

4.00 Credits

Anatomy, morphology and cellular ultrastructure examined. Structures from all major plant organs will be examined in an evolutionary, ecological, and physiological context. Prerequisite: BIOL 123. Offered alternate years.

310 - PLANT PHYSIOLOGY (3+3)

4.00 Credits

Plant functions, including water relations, photosynthesis, metabolism and hormonal regulation of growth, development and stimulus response with emphasis on cellular structure/function relationships. Prerequisite: BIOL 123. Offered alternate years.

311 - MICROBIOLOGY

4.00 Credits

Emphasis on the various groups of bacteria and viruses. Fungi, algae and protozoa receive only brief consideration. Taxa will be discussed in reference to medical, environmental and basic research importance. Laboratory techniques for culturing, identifying and manipulating microbes will be practiced. A Nature Center use fee is charged. Prerequisites: BIOL 122 and 123.

312 - MICROBIOLOGY LABORATORY

1.00 Credit

Microbiological techniques for culturing, identifying and manipulating microbes. Experimental design and data analysis will be emphasized. A Nature Center use fee is charged. NO CREDIT FOR BIOL 311 STUDENTS. Prerequisites: BIOL 122, 123 or 124; or BIOL 110.

313 - INTRODUCTION TO MEDICAL MICROBIOLOGY

4.00 Credits

Microbiological principles using medically important organisms. Topics may include microbial cell biology, microbial genetics, interactions of microorganisms with humans and other organisms, microbial diversity and microbial evolution. CREDIT CANNOT BE RECEIVED FOR BOTH BIOL 311 AND 313. Prerequisites: BIOL 122, 123, or 124 or one year of chemistry.

315 - MEDICAL TERMINOLOGY

2.00 Credits

An overview of root words, prefixes, suffixes and their appropriate combination to develop and utilize a medical vocabulary. Pronunciation and spelling will be emphasized as well as an examination of related medical disorders, procedures, and diagnostic/laboratory techniques. Prerequisites: BIOL 122; and sophomore standing or permission of instructor.

319 - FORENSIC MICROSCOPY

4.00 Credits

Familiarization with a variety of microscopes utilized in the forensic laboratory to describe, photograph and categorize evidence.

Prerequisite: BIOL 121, 122, 123 and 249.

321 - INTRODUCTION TO IMMUNOLOGY

4.00 Credits

Basic anatomical, physiological, and genetic principles of immunology with reference to clinical and research applications. Laboratories involve performance and demonstration of various immunoassays currently used in biological inquiry. Prerequisites: BIOL 122. BIOL 124 recommended.

322 - BIOSCIENCE LABORATORY 1

1.00 Credit

Methodologies used in drug development including routine histological techniques and principles/methods of in vitro and in vivo drug screening. Basic mechanisms and in vivo models of selected diseases are presented.

Prerequisites: BIOL 124 and 126.

323 - BIOSCIENCE LABORATORY 2

1.00 Credit

Exercises in microbiology, molecular biology, and cell biology. Experimental data analysis emphasized. A lab fee is charged. Prerequisites: BIOL 311 or 313 and 322; PHBS 341 and 342.

329 - PHYSICAL METHODS IN FORENSIC SCIENCE

4.00 Credits

The forensic physical sciences including document examinations, examinations of trace evidence, explosives and firearms. Prerequisites: BIOL 249.

331 - PHYSIOLOGY 1

3.00 Credits

An advanced structural and functional approach to understanding the human body. Emphasis is on the integration of parameters from all levels of tissue and organ system function. Prerequisites: BIOL 122 and one year of chemistry.

332 - PHYSIOLOGY 2

3.00 Credits

Continuation of 331. Emphasis on the cardiovascular and respiratory systems.

Prerequisite: BIOL 331.

333 - PHYSIOLOGY 3

3.00 Credits

Continuation of 332. Emphasis is on the renal, gastrointestinal and endocrine systems.

Prerequisite: BIOL 332.

334 - PHYSIOLOGY LAB 1

1.00 Credit

Experiments investigating neural and skeletal muscle physiology. A lab fee is charged. Co-requisite: BIOL 331.

335 - PHYSIOLOGY LAB 2

1.00 Credit

Experiments investigating cardiovascular and respiratory physiology. A lab fee is charged. Co-requisite: BIOL 332.

336 - PHYSIOLOGY LAB 3

1.00 Credit

Experiments investigating renal, gastrointestinal and endocrine systems. A lab fee is charged. Co-requisite: BIOL 333.

340 - PROFESSIONAL EXPERIENCE CO-OP

1.00 Credit

Experience in a biologically or environmentally-related occupation with a governmental, consulting or industrial entity. Opportunities to interact with professional scientists in an employer-employee context. The "normal" academic program for the CO-OP option will be five years rather than the four-year degree. CO-OP students will spend a total of four ten-week terms of compensated employee/intern activity with the CO-OP agency. These CO-OP activities will be interspersed with regular academic terms on campus enrolled as a full-time student. Junior status and approval of the department chair is required for participation in the CO-OP option. Graded S/U.

343 - HISTOLOGICAL TECHNIQUES

3.00 Credits

Principles and procedures used in the preparation of biological specimens for microscopic study. Offered alternate years. Prerequisite: BIOL 124 or 303, or permission of the instructor.

351 - CELL BIOLOGY (3+3)

4.00 Credits

The function, ultrastructure and growth of eukaryotic cells are examined with emphasis on experimental techniques and micrograph analysis. Focus on membrane structure and transport, the endomembrane system, ribosomes, mitochondria, chloroplasts, the cytoskeleton and the cell wall. Prerequisites: BIOL 122, 123 and CHEM 173.

354 - INTRODUCTION TO BIOINFORMATICS

4.00 Credits

The mining of data used in the fields of genomics or proteomics. Computer-based exercises with contextual learning for problem solving using the databases of NCBI and other public domain sequences sources such as EMBL available on the internet. Prerequisites: BIOL 201 or 217 and CHEM 253.

360 - NORTH AMERICAN MAMMALS

4.00 Credits

The natural history, behavior, ecology and systematics of North American mammals. Representatives of all North American orders and most North American families are considered. A weekend field trip is required. Offered alternating years. Prerequisite: BIOL 122.

361 - ENTOMOLOGY

4.00 Credits

The principles of entomology including the morphology, ecology, evolution and taxonomy of insects. A Nature Center use fee is charged. Offered alternate years. Prerequisite: BIOL 122. BIOL 223 strongly recommended.

362 - PARASITOLOGY

4.00 Credits

The ecology, evolution and taxonomy, immunology and pathology of the protozoan and metazoan parasites. Major human and veterinary parasites, including their distribution, pathology and control. Offered alternate years. Prerequisite: BIOL 122. BIOL 223 strongly recommended.

363 - ORNITHOLOGY

4.00 Credits

The natural history, behavior, ecology and systematics of birds. Representatives of most orders and many families are considered. A weekend field trip is required. A Nature Center use fee is charged. Prerequisite: BIOL 122.

364 - HERPETOLOGY

3.00 Credits

The biology of amphibians and reptiles with particular emphasis on the major taxonomic groupings. Morphology, behavior, systematics and the significance to man are examined. A Nature Center use fee is charged. Offered alternate years.

366 - RADIATION BIOLOGY

4.00 Credits

Interaction of radioactive decay particles with matter, the principles of radiological health and safety, and the biological effects of radiation. Offered alternate years with demand.

368 - ICHTHYOLOGY

4.00 Credits

Fish biology with emphasis on the freshwater teleosts inhabiting Ohio waters. Emphasis placed on field exercises, techniques and systematics. University defensive driving certification required. A Nature Center use fee is charged. Prerequisite: BIOL 122.

371 - ADVANCED MARINE BIOLOGY

4.00 Credits

The unifying concepts of marine biology including biological, physical and chemical aspects. Emphasis will be on various organisms and their interactions with their environments. A two-week field trip to a selected marine environment is required. An additional fee is charged. Prerequisites: BIOL 271 and permission of the instructor.

372 - TOPICS IN MARINE BIOLOGY

4.00 Credits

The unifying concepts of marine biology including biological, physical and chemical aspects. Emphasis on various organisms and their interactions with their environments. A two-week trip to a selected marine environment is required. Additional fee is charged. Prerequisites: BIOL 271 and permission of the instructor.

383 - ANIMAL BEHAVIOR

4.00 Credits

The behavior and ethology of invertebrates and vertebrates, stressing observational and descriptive techniques. Offered alternate years. A Nature Center use fee is charged. Prerequisites: BIOL 122 and 223.

395 - BIOLOGICAL RESEARCH REPORT

1.00 Credit

Working with a research advisor, investigation of the project proposed in BIOL 295, and preparation and submission of a written report in approved scientific format. Report must detail the progress of the senior thesis research including a literature review and work completed to date. Attendance at all departmental and thesis seminars required. Prerequisite: BIOL 295.

397 - SELF-DIRECTED STUDIES IN THE BIOLOGICAL SCIENCES

1.00 to 2.00 Credits

Investigation of specialty fields within the biological sciences by utilizing interactive and/or multimedia programs. Various self-directed topics will be offered, e.g., Hematology. A maximum of 3 hours may be counted toward the major. This course cannot be used as a general education class. Prerequisites: BIOL 122, 123, or 124. Graded S/U.

423 - TOPICS IN ECOLOGY AND BIOGEOGRAPHY

3.00 Credits

Current literature on selected topics in ecology and biogeography, Prerequisites: BIOL 251, 263 or permission of instructor. Offered alternate years. May be repeated for credit as the topics varies.

451 - ADVANCED TOPICS IN CELL BIOLOGY

3.00 Credits

Current literature on selected topics in cell biology. May be repeated for credit as the topic varies. Prerequisites: BIOL 351 or PHBS 342.

481 - INTERNSHIP PROGRAM

16.00 Credits

Practical experience in areas such as wildlife/fisheries biology, zookeeping, environmental monitoring, cardio-pulmonary technology, pro-health programs and other specializations. Internships for which credit hours are also offered by another department are acceptable as long as the credit hours total 16 quarter hours. All departments involved must agree with the internship arrangement. Prerequisites: normally restricted to seniors, must be approved by biological sciences faculty, and a minimum of 3 years work in the fundamentals of biology and related areas. Graded S/U.

482 - INTERNSHIP IN ENVIRONMENTAL STUDIES

16.00 Credits

Required experience in areas of environmental studies such as monitoring, compliance, and consulting. Prerequisite: Senior standing.

490 - SPECIAL TOPICS IN BIOLOGICAL SCIENCES

1.00 to 4.00 Credits

Disciplines such as mammalogy and plant taxonomy. May be repeated for credit as topic varies.

494 - BIOLOGY SENIOR SEMINAR

1.00 Credit

The presentation of a library research topic in both written and oral formats. A biology comprehensive examination must be passed with a grade of 70% or better. Previous or concurrent enrollment in AASG 300. Attendance at all departmental and thesis seminars required. Prerequisite: Junior or senior status.

495 - SENIOR THESIS SEMINAR

1.00 Credit

Written and oral presentation of the senior research project. The completed research project will be written in a format acceptable for submission to a scientific journal and presented during a formal seminar. Attendance at all departmental and thesis seminars required. Prerequisite: BIOL 395.

497 - INDEPENDENT STUDY IN BIOLOGY

1.00 to 3.00 Credits

Prerequisites: Junior standing and majors in the department. Graded S/U.

Subject - Clinical Laboratory Science (CLS)

460 - FOUNDATIONS OF CLINICAL LABORATORY SCIENCE

3.00 Credits

An integrated lecture/lab introducing the principles and practices underlying the work performed by clinical laboratory science professionals. Topics covered include safety, regulatory issues, specimen collection and phlebotomy, quality assurance, professionalism and ethics. Prerequisite: Admission to WCOCLS. Lab fee: \$25.00. (Formerly MDTC 460)

461 - PROFESSIONAL PRACTICE AND DEVELOPMENT (WEB-BASED)

3.00 Credits

The concepts and practices governing clinical laboratory operations including ongoing professional development. Topics include interpersonal and interdisciplinary communication, team-building skills, organizational structure, leadership, resources management, and education techniques. Prerequisite: Admission to WCOCLS. (Formerly MDTC 475)

462 - BIOLOGICAL FLUIDS

3.00 Credits

The formation and function of various human body fluids and the methods used to analyze them in the clinical laboratory are studied. Students perform physical, biochemical and microscopic analyses and correlate results with states of health and disease. Prerequisite: BIOL 331. Lab fee: \$25.00. (Formerly MDTC 473 and 474)

463 - CLINICAL IMMUNOLOGY

3.00 Credits

Methods used in the clinical investigation of the human immune system featuring those useful in the diagnosis, treatment, or determination of infections, allergies, autoimmunity conditions, malignancy, paternity and blood product and tissue transplant compatibility. Prerequisite: BIOL 321. Lab fee: \$25.00. (Formerly MDTC 467 and 468)

464 - HEMATOLOGY AND HEMOSTASIS

5.00 Credits

The human blood, its origins, kinetics, and pathophysiology. Lecture and lab integrate theory with application of techniques used to diagnose and monitor hematological disease and disorders of hemostasis. Prerequisite: BIOL 121. Lab fee is \$25.00. (Formerly MDTC 469 and 470)

465 - BLOOD BANKING AND TRANSFUSION SCIENCE

5.00 Credits

Theoretical concepts underlying blood group biochemistry, genetics and serology are presented as they relate to blood donation and transfusion therapy practices. Students duplicate routine blood bank practices including donor selection and component preparation, detection, and identification of antibodies, and compatibility testing. Prerequisites: BIOL 210 and 321. Lab fee is \$25.00. (Formerly MDTC 471 and 472).

466 - CLINICAL CHEMISTRY

4.00 Credits

Concepts underlying biochemistry are applied to the diagnosis, prognosis and treatment of human disease. Through experimentation, students employ various techniques to detect and quantify carbohydrates, lipids, electrolytes, nitrogen metabolites, trace elements, drugs, and other medically important chemicals present in clinical specimens. Prerequisite: PHBS 341. Lab fee: \$25.00. (Formerly MDTC 471 and 472)

467 - CLINICAL MICROBIOLOGY

5.00 Credits

The etiologic role of microbes in human disease is investigated. Students demonstrate knowledge and skill using conventional techniques to isolate, identify, quantify, and differentiate pathogens including bacteria, viruses and fungi found in clinical specimens. Prerequisite: BIOL 311. Lab fee: \$25.00. (Formerly MDTC 461 and 464)

468 - CLINICAL LABORATORY PRACTICUM ORIENTATION

2.00 Credits

Advanced practical experience emphasizing the policies and procedures governing clinical laboratory operations including safety, specimen collection and phlebotomy, resource management, communications and information systems. Lab fee: \$25.00. Prerequisite: Admission to WCOCLS.

469 - CLINICAL HEMATOLOGY PRACTICUM

6.00 Credits

Advanced practical experience in the clinical hematology laboratory emphasizes application of knowledge to perform analytical procedures in a clinical setting and further develop discipline-specific competency. Prerequisite: CLS 464 and admission to WCOCLS. Lab fee: \$25.00.

470 - BLOOD BANK PRACTICUM

6.00 Credits

Advanced practical experience in the blood bank emphasizes application of knowledge to perform analytical procedures, implement therapy protocols in a clinical setting and further develop discipline-specific competency. Prerequisite: CLS 465 and admission to WCOCLS. Lab fee: \$25.00.

471 - CLINICAL CHEMISTRY PRACTICUM

6.00 Credits

Advanced practical experience in the clinical chemistry laboratory emphasizes application of knowledge to perform analytical procedures in a clinical setting and further develop discipline-specific competency. Prerequisite: CLS 466 and admission to WCOCLS. Lab fee: \$25.00.

472 - CLINICAL MICROBIOLOGY PRACTICUM

6.00 Credits

Advanced practical experience in the clinical immunology laboratory emphasizes application of knowledge to perform those procedures used to identify and quantify human immune response to various substances and causative agents of infectious diseases, and to further develop discipline-specific competency. Prerequisite: CLS 472. Lab fee: \$25.00.

473 - IMMUNOLOGY AND INFECTIOUS DISEASES PRACTICUM

3.00 Credits

Advanced practical experience in the clinical immunology laboratory emphasizes application of knowledge to perform those procedures used to identify and quantify human immune response to various substances and causative agents of infectious diseases, and to further develop discipline-specific competency. Prerequisite: CLS 463 and admission to WCOCLS. Lab fee \$25.00.

474 - CASE STUDIES IN CLINICAL LABORATORY SCIENCE (WEB-BASED)

1.00 Credit

Students demonstrate knowledge and comprehension of clinical laboratory science subject matter by developing and presenting a topic in case study format. Participants are encouraged to ask and respond to questions posed and issues identified as needing resolution. Prerequisite: Admission to WCOCLS program. Graded S-U.

490 - SPECIAL TOPICS IN CLINICAL LABORATORY SCIENCES

1.00 to 3.00 Credits

Under faculty direction, further exploration of various aspects of clinical laboratory science including clinical research, computer applications, and advances in technology. Prerequisites: Admission to WCOCLS Program and senior standing. (Formerly MDTC 490)

Subject - Geology (GEOL) _____

280 - GEOLOGY

4.00 Credits

Physical geology and paleogeology, including chemical properties of minerals and rocks, geologic processes, and earth materials, and how these relate to the formation and preservation of plant and animal fossils. A Nature Center use fee is charged. Prerequisites: BIOL 121,122 or 123.

290 - SPECIAL TOPICS IN GEOLOGY

1.00 to 4.00 Credits

May be repeated for credit up to a total of 8 hours as the topic varies.

297 - INDEPENDENT STUDY IN GEOLOGY

1.00 to 3.00 Credits

Independent study in geology. Prerequisite: GEOL 280 or permission of instructor. Graded S/U.

Subject - Nursing (NURS) _____

131 - INTRODUCTION TO NURSING HEALTH PRACTICES

1.00 Credit

Theories and principles of health promotion and disease prevention on local, state, national and international levels. Individual, community and cultural beliefs, behaviors and practices are explored. Prerequisite: Enrollment restricted to Nursing majors.

141 – FOUNDATIONS OF THE DISCIPLINE AND SCIENCE

2.00 Credits

The framework of the discipline of nursing. An examination of related historical figures and events, ethical conduct, and concepts related to the discipline will be discussed. Introduces the conceptual framework of the nursing curriculum. Medical terminology will be integrated into course content. Prerequisite: NURS 131.

195 - COLLEGE EXPERIENCE

1.00 Credit

Orientation to the BSN program. Presentations and discussions relating to adjustment and requirements of academic life within the University, College and the Department of Biological and Allied Health Sciences with an emphasis on time management, study skills and expectations of the nursing student. Enrollment is restricted to Nursing majors.

211 - FUNDAMENTALS OF NURSING PRACTICE

4.00 Credits

The foundation of learning fundamental nursing clinical skills in relation to the concepts of communication, safety, hygiene, comfort, hydration/nutrition and elimination. Selected concepts will be applied to fundamental nursing care in selected settings. Application of the nursing process for beginning clinical practice will be emphasized. Prerequisites: NURS 131, 141; BIOL 231, 232; CHEM 135, 136.

221 - PATHOPHYSIOLOGY

4.00 Credits

The basis of human diseases and disorders and the interaction of environmental, biological, behavioral and pharmacologic consequences to the disease process. Microbiological concepts applied to the understanding of normal and pathological body processes. Emphasis on the effects of degenerative, metabolic and neoplastic diseases and disorders occurring in the following body systems: immunologic, nervous, hematologic, cardiovascular, respiratory, endocrine, gastrointestinal, reproductive, skeletal, integumentary and special senses. Enrollment is restricted to Nursing majors. Prerequisites: BIOL 215, 231, 232 and 312; NURS 211.

241 - PHYSICAL ASSESSMENT

4.00 Credits

Aspects of routine well-adult health assessment and physical examination are presented and demonstrated. Nursing techniques of inspection, palpation, percussion, and auscultation are demonstrated and practiced. Emphasis on differentiating normal from abnormal findings. Therapeutic communication techniques and caring behaviors are integrated with assessment skills. Enrollment is restricted to Nursing majors. Prerequisites: BIOL 231 and 232.

251 - PHARMACOLOGY

4.00 Credits

The principles of pharmacology, including: pharmacokinetics, pharmacodynamics, drug interactions, common side effects and the misuse of medications. Selected drug classifications related to the neurological, circulatory, respiratory, endocrine, immune, gastrointestinal and urinary systems and processes. Enrollment is restricted to Nursing majors. Prerequisites: BIOL 231 and 232; or permission of the instructor.

295 - SERVICE LEARNING SEMINAR

1.00 Credit

Presentation of service activity related to the theoretical classroom material, conceptual framework and philosophy, and the integration and use of general nursing assessment skills. Expression of how the service activity affected others, her or himself, and how she or he was able to apply classroom knowledge to non-hospitalized individuals. Enrollment is restricted to Nursing majors. Prerequisites: NURS 211 and completion of 20 hours of volunteer service.

300 - FOUNDATIONS OF MENTAL HEALTH NURSING

5.00 Credits

The acquisition and application of new knowledge of mental health nursing. Emphasis is on the use of the nursing process with children, adolescents, adults and families experiencing alterations in mental health. Opportunities are provided, in selected care environments, to observe, to gain skill and refine therapeutic communication techniques, and work with patients/clients and family members in promoting therapeutic interpersonal relationships. Enrollment is restricted to Nursing majors. Prerequisites: NURS 211, 221, 241, and 251.

310 - MEDICAL / SURGICAL NURSING I

5.00 Credits

Acquisition and application of nursing knowledge and fundamental nursing skills with adult patients of all ages and their families who are experiencing health alterations in tissue perfusion, digestive functioning, cellular integrity and immunologic functioning. Emphasis on the role of the nurse in primary care, health adaptation, teaching-learning and therapeutic communication. Nurse evidence-based practice is integrated into the clinical experience. Enrollment is restricted to Nursing majors. Prerequisites: NURS 211, 221, 241 and 251.

320 - MEDICAL / SURGICAL NURSING II

5.00 Credits

Utilization of the fundamental concepts of medical/surgical nursing. Emphasis on new knowledge and clinical skills for individuals and families with alterations in: activity/mobility, skin function and integrity, hormonal regulation and regulatory function, motor sensory function, oxygenation and management of the perioperative patient. Enrollment is restricted to Nursing majors. Prerequisite: NURS 310.

323 - TRANSCULTURAL HEALTH CARE

4.00 Credits

Broadening the understanding and perspective of health and illness in differing sociocultural populations. Transcultural health care's influences which affect an individual's attitude toward institutional health care and use, and identification of culturally competent nursing

interventions. Enrollment is restricted to Nursing majors. Prerequisites: NURS 211 and 295.

330 - MEDICAL / SURGICAL NURSING III

5.00 Credits

Utilization of fundamental concepts in medical/surgical nursing. Emphasis on new knowledge and clinical skills for individuals and their family members with alterations in the immune system, cardiac output and tissue perfusion, and medical problems of the sensory and reproductive systems. Continued application of the nursing process will be emphasized. Enrollment is restricted to Nursing majors. Prerequisite: NURS 320.

340 - NURSING CARE OF THE CHILD AND FAMILY

5.00 Credits

Acquisition of knowledge, utilization of nursing skills and the nursing process in caring for the toddler and developing family, including common health problems (acute and chronic) specific to the pediatric population. Topics include: well child care, genetic disorders with defects, and family dynamics. Emphasis on patient and family health promotion and health maintenance. Enrollment restricted to Nursing majors. Prerequisite: NURS 320.

390 - SPECIAL TOPICS IN NURSING

1.00 to 4.00 Credits

The practice and principles of specialized topics in non acute nursing care. Topics include but are not limited to: oncology nursing care, end of life nursing care and neurological nursing care. May be repeated as the topic varies to a total of 8 hours. Enrollment is restricted to Nursing majors. Prerequisite: NURS 330.

395 - NURSING RESEARCH PROCESS AND INFORMATICS

3.00 Credits

The historical developments and methodologies of nursing research as it relates to professional nursing practice. Emphasis on developing an understanding of the research process and research proposals. Engagement in the interpretation of research reports and critiquing research literature. Exploration and examination of computer technology, basic information systems, and the use of cyber technology as it relates to a variety of health care environments and nursing practice. The impact of these technologies on nursing clinical practice, nursing administration, education and research.

Enrollment is restricted to Nursing majors.
Prerequisites: NURS 211 and STAT 156.

420 - OBSTETRICAL NURSING

5.00 Credits

Knowledge development and nursing skills in caring for the newborn and developing family. Topics include: the need for sexuality, pregnancy, labor, delivery, postpartum care, newborn care and family dynamics. Emphasis on women's health issues, gynecological problems, genetic disorders and birth defects. Enrollment restricted to Nursing majors. Prerequisite: NURS 330 and 340.

430 - OLDER ADULT NURSING

5.00 Credits

Concepts of gerontological nursing models. Examination of issues within aged care policy and the aged care industry. Consideration of the application of demographics and epidemiology to providing care for older adults in an aging society, including an exploration of ethical issues related to aging and concepts of research in aging. Enrollment is restricted to Nursing majors. Prerequisite: NURS 330.

470 - LEADERSHIP AND MANAGEMENT IN NURSING

4.00 Credits

Leadership and management theory/principles for professional nursing practice in key leadership and management areas. Current issues and trends (national, state and local) in nursing and health care illustrate the practical application of leadership/management theory to practice and create a framework to identify, explore and analyze issues. Emphasis on the use of critical thinking skills and clinical judgment in the care of individuals or groups in multiple care environments. Enrollment is restricted to Nursing majors. Prerequisites: NURS 330 and senior standing in BSN program.

490 - SPECIAL TOPICS IN NURSING

1.00 to 4.00 Credits

The practice and principles of specialized topics in nursing care in acute settings. Topics to be covered include, but are not limited to: Emergency/Urgent Nursing Care and ICU Nursing Care. May be repeated as the topic varies to a total of 8 hours of credit. Enrollment is restricted to Nursing majors. Prerequisite: NURS 330.

498 - TRANSITION TO PROFESSIONAL PRACTICE: CLINICAL CAPSTONE

8.00 Credits

The delivery of nursing care to individuals from children to adults, with multiple, acute and/or chronic, complex health problems. Synthesis of content from previous courses. Provision of direct nursing care and making decisions about care based on a thorough assessment, analysis, and exploration of potential consequences.

The use of therapeutic communication and development of skills needed to design, implement, and evaluate therapeutic nursing interventions. Clinical experience is provided by RN preceptors in varied settings. Enrollment is restricted to Nursing majors. Prerequisites: NURS 330, 410, 420, and 430; and senior standing in the BSN program.

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

Professors Canagaratna, Gray, Kurtz (*Chair*), Lamb, Peterson, Sadurski; Associate Professors Bates, Broekemeier; Assistant Professors Bowers, B. Myers, Slobodzian; Visiting Assistant Professor V. Mativo; Director of Laboratories Daws

Mission Statement

The department of chemistry and biochemistry prepares students for research and careers in physical and medical sciences. Students master methods in mathematics and physical sciences while developing competence to identify, analyze, and solve scientific problems. The department also meets the need of non-technical students for an understanding of scientific methods and insights as they apply to the world of the mind and to decision making in a free society.

The department is on the list of those approved by the American Chemical Society for the professional education of Chemists and Biochemists, and offers both the Bachelor of Science and Bachelor of Arts degrees.

Departmental Majors Five programs are available in the department of chemistry and biochemistry. They are the American Chemical Society Approved Chemistry Major, the Chemistry Major basic program, the Chemistry Major modified program, the American Chemical Society Approved Biochemistry Major, and the Medicinal Chemistry Major.

The Chemistry Major

American Chemical Society Approved Program

Students desiring ACS Certification in Chemistry complete a program designed to prepare for graduate studies in chemistry or environmental science or direct entry into the chemical industry. Students may select either a B.A. or a B.S. degree.

The following core chemistry courses are required for the chemistry major: Chemistry 000, 181-182-183, 261-262-263, 271, 300, 304, 324, 341-342-343, 351 and 494. A "professional" component comprised of CHEM 311, 451, 462, and 5 credits or more from among 473, 474, 481, 2, 3, or approved 300 level or above mathematics and physics courses must be added to this core. The following cognates are required: mathematics 163-164-165; a department approved computer

science course; and Physics 231-232-233 with related laboratories.

The Basic Program Premedical students and students seeking a less technical path into graduate and professional schools or chemical industry may select the basic program with a B.S. or B.A. degree. This program includes the core and cognate courses listed above, but does not require the “professional” chemistry component.

The Modified Major A modified program is available for those who seek careers in chemically related areas such as chemical sales, patent law, science writing, or scientific information retrieval. It is designed individually in order to permit additional courses to be taken in the area which supports the entrant’s chemistry related career goal. Entrance into the modified major must be approved by the department, and students selecting this program are expected to complete a second major or teacher licensure. High school physical science licensure at ONU is approved by the National Science Teachers Association and the State of Ohio. All modified programs include Chemistry 000, 181-182-183, 261-262-263 and 494, plus three courses from among 304, 311, 324, 337, 341-342-343. In addition the entrant must select a minimum of twelve credit hours of 300-400 level courses in the division of mathematics and natural sciences or other 300-400 level courses acceptable to the department. PHBS Biochemistry 341 and 342 may be substituted for Chemistry 311. Two of the following cognates must also be taken: Physics 211-212-213 or 231-232-233 with related laboratories; Biology 121-122-123; three mathematics courses at the level of 120 or above.

The American Chemical Society Approved Biochemistry Major This program is designed to prepare students for professional employment as biochemists and for graduate or professional studies in biochemistry, toxicology, molecular genetics, and related fields. The following core courses are required: Chemistry 000, 181-182-183, 261-262-263, 271, 300, 311, 321, 341-342-343, 351 and 494. To this core must be added Chemistry 312, Chemistry 414-415-416 and a minimum of two courses from among Biology 210, 311, 321, 351, and 451. Required cognates are Biology 121-122-123; Mathematics 163-164-165; a chemistry department approved computer science course; and Physics 231-232-233 with related laboratories.

The Medicinal Chemistry Major The Bachelor of Science in medicinal chemistry is an interdisciplinary major designed for students preparing for research careers in pharmacology, medicinal chemistry, pharmaceutical sciences, or for direct employment in pharmaceutical chemistry. Required core chemistry courses are Chemistry 000, 181-182-183, 261-262-263, 271, 300, 304, 311-312, 341-342-343, 351, 481-482-483 or PHBS 565 and Chemistry 494. Required cognates are Biology 121-122-123; Mathematics 163-164-165; a

chemistry department approved computer science course; and Physics 231-232-233 with related laboratories. The following Pharmacy College courses complete the major; PHBS 381, 562 (or BIOL 351), and approved special topics in pharmacology.

Minor in Chemistry Students wishing to obtain a minor in chemistry should complete these courses: Chemistry 181-182-183 (or 171-172-173) and 261-262-263 plus two additional courses from among Chemistry 304, 312, 321, 337, 341, 342, 343, 351, or 363.

Minor in Biochemistry Students wishing to obtain a minor in biochemistry should complete these courses: Chemistry 181-182-183 (or 171-172-173) and 261-262-263, 311 (or PHBS 341), 312 (or PHBS 342) and Chemistry 414 and 415.

Subject - Chemistry (CHEM)

000 - ORIENTATION (1+0)

1.00 Credit

Familiarization with the department, requirements for majors, planning a program of courses, university catalog, career planning and library. Required of department majors. Course graded S/U.

100 - CHEMISTRY (3+1)

4.00 Credits

The behavior of matter at the macroscopic level and explanations of this behavior using molecular-level models. Applications in everyday life. Chemistry 171 recommended for science majors. Credit may be received for either CHEM 100 or CHEM 171 but not for both.

102 - PHYSICAL AND EARTH SCIENCES- EARLY & MIDDLE CHILDHOOD MAJORS

4.00 Credits

Expressions of the nature of matter and energy in the earth (geology), atmosphere (meteorology), and space (astronomy). Includes major conceptual models in these disciplines. For early childhood and middle childhood education majors only. Prerequisite: PHYS 101.

108 - BASICS OF CHEMISTRY (4+0)

4.00 Credits

Basic skills and concepts needed to understand the nature of chemical processes. Recommended for students with little or no previous background in chemistry prior to entry into CHEM 171. CHEM 108 DOES NOT SATISFY A GENERAL EDUCATION REQUIREMENT AND IT CANNOT BE USED TO SATISFY SPECIFIC DEPARTMENTAL OR PROGRAM REQUIREMENTS.

114 - CHEMISTRY OF LIFE (4+0)

4.00 Credits

Chemical nature of the major groups of biological molecules and their activities in living systems. Credit may not be received for both CHEM 114 and CHEM 311 or PHBS 341. Offered alternate years. Prerequisite: CHEM 100 or 162 or 171.

115 - ENVIRONMENTAL CHEMISTRY (4+0)

4.00 Credits

Chemical aspects of the natural and polluted environment. Particular emphasis on air and water pollution. Prerequisite: CHEM 100 or 162 or 171.

135 – CHEMISTRY 1 - CONCEPTS AND APPLICATIONS FOR HEALTH TECHNOLOGIES

4.00 Credits

Chemical principles and theories in the areas of atomic structure, chemical bonding, solution chemistry, redox chemistry and acid/base chemistry. Basic principles and applications of kinetics and thermodynamics. An introduction to stereochemistry, functional groups and the basic properties of functional groups. Enrollment is restricted to Nursing majors. Prerequisite: None; high school chemistry recommended.

136 – CHEMISTRY 2 - CONCEPTS AND APPLICATIONS FOR HEALTH TECHNOLOGIES

4.00 Credits

The structures, properties and functions of biologically relevant carbohydrates, lipids, and proteins. Facets of DNA structures and replication as well as relevant concepts in protein synthesis. Principles of enzyme catalysis in biochemical processes with application to specific pathways in both carbohydrate and lipid metabolism. Basic bioenergetic principles as present in the citric acid and oxidative phosphorylation. Enrollment is restricted to Nursing majors. Prerequisites: CHEM 135 or 171, 172 and 173.

171 - INTRODUCTORY CHEMISTRY 1 (4+3)

5.00 Credits

Macroscopic concepts of the elements, compounds and reactions. Stoichiometry, thermochemistry and properties of ideal gases as applied to reactive systems. Emphasis on acid-base, redox, and descriptive chemistry. Laboratory relates physical observations to principles presented in lecture. Credit may be received for either CHEM 100 or 171 but not for both. Prerequisite: High school chemistry or equivalent, or CHEM 108.

172 - INTRODUCTORY CHEMISTRY 2 (4+3)

5.00 Credits

Atomic theory and its application to bonding, molecular structure, condensed phases, chemical reactions and mechanisms. Laboratory supports principles presented in lecture, including spectroscopy. Prerequisite: CHEM 171.

173 - INTRODUCTORY CHEMISTRY 3 (4+3)

5.00 Credits

Physical principles controlling chemical reactions including kinetics, thermodynamics, electrochemistry, and acid-base equilibrium conditions. Laboratory supports principles presented in lecture, including kinetics and equilibrium. Prerequisite: CHEM 172.

181 - INTRODUCTORY CHEMISTRY FOR MAJORS 1 (4+3)

5.00 Credits

Same lecture and laboratory as CHEM 171.

182 - INTRODUCTORY CHEMISTRY FOR MAJORS 2 (4+3)

5.00 Credits

Same lecture and laboratory as CHEM 172. Prerequisite: CHEM 181.

183 - INTRODUCTORY CHEMISTRY FOR MAJORS 3 (4+3)

5.00 Credits

Same lecture and laboratory as CHEM 173. Prerequisite: CHEM 182.

225 - CHEMISTRY CONCEPTS AND APPLICATIONS 1

4.00 Credits

Chemistry for engineering students. Basic chemical theories applied to practical situations. Prerequisites: High school chemistry; MATH 164; PHYS 231, 232, 233, 234, 235, 236 or equivalent of the above or approval of the department chairman. (Formerly CHEM 162)

226 - CHEMISTRY CONCEPTS AND APPLICATIONS 2

4.00 Credits

Continuation of CHEM 225. Laboratory reinforces the lecture program. Prerequisite: CHEM 225. (Formerly CHEM 163)

251 - ORGANIC CHEMISTRY 1

4.00 Credits

Bonding, energetics, synthesis and mechanisms emphasized throughout the course. Electronic structure, acid-base and redox relationships among functional groups, conformational and configurational isomers, IUPAC nomenclature, Sn, E, Ad2 and Sr reactivity, and the synthesis of alkenes and alkynes. Laboratory introduces chromatographic and classical separation techniques. Elimination and substitution reactions are investigated. Credit may be received for CHEM 251 or 261, but not both. Prerequisite: CHEM 173 or 183.

252 - ORGANIC CHEMISTRY 2

4.00 Credits

Mass, ir, uv, and nmr spectroscopy in structure determination; alcohol synthesis, organometallics, nucleophilic additions to carbonyls, polyenes, aromaticity, SeAR and SnAR processes. Laboratory includes applications of spectroscopy, synthetic, and stereochemical principles, carbonyl and alkene additions, terpene identification, and aromatic substitutions. Credit may be received for CHEM 252 or 262, but not both. Prerequisite: CHEM 251.

253 - ORGANIC CHEMISTRY 3

4.00 Credits

Organic nitrogen chemistry, carbohydrates, enolate condensations, alkylation, and conjugate addition, heterocyclic chemistry, polymerization, amino acids and proteins. Laboratory emphasizes short syntheses of biological and pharmaceutical relevance. Credit may be received for CHEM 253 or 263, but not both. Prerequisite: CHEM 252.

254 - LAB FOR ORGANIC CHEMISTRY 1

.00 Credits

Physical characterization and separation techniques including chromatography applied to organic compounds. Elimination and substitution processes are investigated. Corequisite or prerequisite: CHEM 251 or 261.

255 - LAB FOR ORGANIC CHEMISTRY 2

.00 Credits

Applications of spectroscopy, synthetic and stereochemical applications of carbonyl and alkene addition, terpene identification, and aromatic substitution mechanisms. Prerequisite: CHEM 254 or CHEM 251 or 261. Corequisite CHEM 252.

256 - LAB FOR ORGANIC CHEMISTRY 3

.00 Credits

Representative short organic syntheses with bioorganic and pharmaceutical relevance. Elementary applications of enolate chemistry. Prerequisite: CHEM 255 or CHEM 262. Corequisite: CHEM 253.

261 - ORGANIC CHEMISTRY 1 - MAJORS

4.00 Credits

Same as Chemistry 251 lecture with Chemistry 254 Lab. Credit may be received for CHEM 251 or CHEM 261 but not for both. Prerequisite: CHEM 173 or CHEM 183.

262 - ORGANIC CHEMISTRY 2 - MAJORS

4.00 Credits

Same as Chemistry 252 lecture with Chemistry 255 lab. Credit may be received for CHEM 252 or CHEM 262 but not for both. Prerequisites: CHEM 251 or CHEM 261.

263 - ORGANIC CHEMISTRY 3 - MAJORS

5.00 Credits

Same lecture as Chemistry 253 with two credit laboratory in organic structure elucidation. Laboratory comprises traditional wet tests as well as instrumental experience with ir, uv, mass and nmr spectrometry. Inferential and critical reasoning emphasized. Credit may be received for CHEM 253 or CHEM 263 but not for both. Prerequisites: CHEM 252 or CHEM 262.

271 - CHEMICAL APPLICATIONS OF MATHEMATICS

4.00 Credits

Selected mathematical techniques used in modern chemistry as a preparation for the higher level quantitative chemistry courses (junior year Physical Chemistry, Chemical Instrumentation and Advanced Physical Chemistry). Examples illustrate the application of mathematical techniques to problems in Chemistry. Prerequisites: CHEM 181, 182, 183 or equivalent; and MATH 165.

290 - SPECIAL TOPICS IN CHEMISTRY

1.00 to 4.00 Credits

Can be repeated as the topic varies.

297 - INDEPENDENT STUDY IN CHEMISTRY

1.00 to 4.00 Credits

Can be repeated for a maximum of 6 credit hours. Prerequisite: Approval of the department chairman.

300 - INTRODUCTION TO CHEMICAL RESEARCH (1+0)

.00 Credits

Methods and objectives of chemical research. Undergraduate research opportunities in the department. Required of all students in the Basic, ACS or Biochemistry programs prior to enrollment in CHEM 497 or 481, 482 and 483. Course graded S/U. Prerequisite: Junior standing or approval of department chairman.

304 - ORGANIC SYNTHESIS (2+6)

4.00 Credits

Major carbon skeletal alteration techniques and selective functional group transformations. Laboratory consists of planning and executing multistep syntheses of graded complexity. Use of synthetic chemical literature introduced. Prerequisite: CHEM 253 or 263.

311 - CHEMISTRY OF BIOLOGICAL MOLECULES (4+0)

4.00 Credits

Structures and properties of the major classes of biological molecules with emphasis on the physical properties of macromolecules. Includes thermodynamics, enzyme kinetics and mechanisms, coenzymes, isolation and characterization techniques and an introduction to the design and regulation of metabolic pathways. Prerequisites: CHEM 253 or 263.

312 - CHEMISTRY OF METABOLISM (4+0)

4.00 Credits

Intermediary metabolism with emphasis on the chemical reactions of glycolysis, the citric acid cycle, lipid and amino acid synthesis and degradation, and nucleic acid metabolism. Prerequisite: CHEM 311.

321 - INTERMEDIATE INORGANIC CHEMISTRY-BIOCHEMISTRY MAJORS (3+3)

4.00 Credits

Same lecture as CHEM 324 with a different laboratory. Bonding, structures, preparation, properties, compounds, and reactions of main group and transition metal elements. Laboratory involves basic methods of synthesis and characterization with selected experiments for the biochemistry major. Prerequisite: CHEM 263 or approval of the department chairman.

324 - INTERMEDIATE INORGANIC CHEMISTRY-CHEMISTRY MAJORS (3+3)

4.00 Credits

Same lecture as CHEM 321 with a different laboratory. Bonding, structures, preparation, properties, compounds, and reactions of main group and transition metal elements. Laboratory involves basic methods of synthesis and characterization. Prerequisite: CHEM 263 or approval of the department chairman.

337 - ELEMENTS OF PHYSICAL CHEMISTRY (4+0)

4.00 Credits

Principles and applications of selected areas of physical chemistry including thermodynamics, kinetics, and spectroscopy. Intended for students in the modified chemistry major or chemistry minor. Credit may be received for CHEM 337 or CHEM 341 but not for both. Prerequisites: CHEM 163 or 173. Offered alternate years.

339 - CHEMICAL INTERACTIONS IN ENVIRONMENTAL SYSTEMS (4+0)

4.00 Credits

Chemical interactions in the natural environment, including the effects of man's activities on the dynamics, thermodynamics and kinetics of atmospheric, hydrospheric and lithospheric chemical systems. Taught in alternate years. Prerequisites: CHEM 163, 253 or 263.

341 - PHYSICAL CHEMISTRY 1 (3+3)

4.00 Credits

Classical thermodynamics. Laboratory illustrates principles and applications. Knowledge of computer programming recommended. Prerequisites: CHEM 271; MATH 165; and PHYS 231, 232, and 233 with related laboratories.

342 - PHYSICAL CHEMISTRY 2 (3+3)

4.00 Credits

Quantum mechanics. Laboratory illustrates applications in spectroscopy. Knowledge of elementary differential equations recommended. Prerequisite: CHEM 341.

343 - PHYSICAL CHEMISTRY 3 (3+3)

4.00 Credits

Statistical thermodynamics, kinetic molecular theory and chemical kinetics. Laboratory illustrates principles and applications. Prerequisite: CHEM 342.

351 - INTERMEDIATE QUANTITATIVE ANALYSIS (2+6)

4.00 Credits

Practice and principles of modern chemical methods of analysis. Introduction to instrumental methods of analysis. Prerequisite: CHEM 173 or 183.

363 - APPLICATIONS OF CHEMICAL INSTRUMENTATION (1+5)

3.00 Credits

Principles and methods of instrumental measurements for the analysis of real samples. Lecture and laboratory integrated to deal with the collection, preparation and analysis of environmental, geological, biological and industrial samples. Automatic sequencing and process analysis. Prerequisite: CHEM 163 or 253 or 263. Offered alternate years.

390 - SPECIAL TOPICS IN CHEMISTRY

1.00 to 4.00 Credits

Can be repeated as the topic varies.

411 - ADVANCED TOPICS IN BIOCHEMISTRY (3+0)

3.00 Credits

Behavior and characterization of biological macromolecules. Biochemical basis for hormone action, gene expression and photosynthesis. Prerequisites: CHEM 312 or PHBS 342 and CHEM 343 or approval of the department chair.

414 - BIOCHEMISTRY LABORATORY 1 (0+6)

2.00 Credits

Chemical and physical properties of biological molecules and an introduction to enzyme kinetics. Prerequisite: CHEM 312 or PHBS 342.

415 - BIOCHEMISTRY LABORATORY 2 (0+6)

2.00 Credits

Protein, nucleic acid, lipid and carbohydrate isolation and characterization. Prerequisite: CHEM 414.

416 - BIOCHEMISTRY LABORATORY 3 (0+6)

2.00 Credits

Modern methods of nucleic acid analysis with an emphasis on recombinant DNA techniques. Prerequisite: CHEM 415.

451 - ADVANCED INORGANIC CHEMISTRY (3+3)

4.00 Credits

Theory, bonding, spectroscopy, reaction mechanisms and organometallic compounds. Laboratory involves advanced methods of synthesis and characterization. Prerequisites: CHEM 321 or 324 and 343 or approval of the department chairman.

462 - ADVANCED ANALYTICAL CHEMISTRY (3+3)

4.00 Credits

Theoretical and experimental study of modern methods of instrumental analysis. Principles, design and use of chemical instrumentation. Laboratory stresses independent, investigative experimentation. Prerequisites: CHEM 343 and 351 or approval of the department chair.

473 - ADVANCED TOPICS IN PHYSICAL CHEMISTRY (4+0)

4.00 Credits

Selected topics from group theory, advanced quantum mechanics, spectroscopy and chemical dynamics. Knowledge of computer programming recommended. Prerequisite: CHEM 343.

474 - THEORETICAL ORGANIC CHEMISTRY (4+0)

4.00 Credits

Application of molecular orbital theory and various thermodynamic relationships to the study of organic reaction mechanisms. Structure-reactivity relationships are emphasized. Prerequisites: CHEM 304 and 343 or approval of the department chair.

481 - SENIOR RESEARCH 1

2.00 Credits

Prerequisites: CHEM 300 and approval of the department chairman.

482 - SENIOR RESEARCH 2

2.00 Credits

Prerequisites: CHEM 481 and approval of the department chairman.

483 - SENIOR RESEARCH 3

2.00 Credits

Prerequisites: CHEM 482 and approval of the department chairman.

490 – SPECIAL TOPICS IN CHEMISTRY

1.00 to 4.00 Credits

Can be repeated as the topic varies.

494 - SEMINAR IN CHEMISTRY (1+0)

1.00 Credit

Oral presentation and a formal paper on a chemical topic related to a selected seminar theme. Required of all senior chemistry and biochemistry majors.

497 - INDEPENDENT STUDY IN CHEMISTRY

1.00 to 4.00 Credits

Can be repeated for a maximum of 6 credit hours. Prerequisite: CHEM 300 and approval of the department chair.

DEPARTMENT OF COMMUNICATION ARTS

Professors Iseman, Riess (*Chair*); Associate Professors Bell (Resident Artist), Gainey, Vivian; Assistant Professors Behrens, Monaco; Visiting Instructors Asman, Hoover; Teaching Professional Ferree

Mission Statement

The Communication Arts major emphasizes a liberal arts education combined with a professional program, designed to produce graduates who are prepared for a lifetime of learning in a diverse and changing world. We strive to provide a flexible program that adapts easily to individual needs and interests while maintaining professional standards. Our curriculum and manner of instruction encourage critical thinking, development of aesthetic and ethical standards, and an understanding of human communication in all aspects of personal and professional life. With a strong foundation in general knowledge and specialty studies, graduates are prepared for entry level positions or graduate studies in their professional areas. They also attain the reasoning, organization, and management skills necessary for a useful and meaningful life.

Departmental Curriculum

The departmental course offerings promote understanding of the theory, practice, and aesthetics of human communication. Students majoring in communication arts pursue a concentration particular to their professional education goals.

Concentrations leading to the **Bachelor of Arts** degree are offered in the following areas:

- Professional and Organizational Communication
- Theatre
- Public Relations
- Broadcasting and Electronic Media

Professional and Organizational Communication provides knowledge and skills emphasizing the close relationship between effective communication and the successful operation of all organizations. The concentration prepares students for graduate study and for careers in fields such as human resources, law, business, education, personnel, and politics.

Theatre provides artistic expression of human actions. As a liberal art it is a foundation for many careers where critical thinking, analytic ability, and creative expression are important. Graduates have been successful in theatre, law, medicine, banking, public service, and graduate school. The program has an extensive production and directing focus.

Public Relations prepares students for jobs with agencies, nonprofit organizations, and corporations doing both internal and external communication tasks. Public relations majors learn how to conduct research, plan programs, produce communication materials, and carry out program evaluation.

Ohio Northern holds the Certified in Education for Public Relations (CEPR) designation from the Public Relations Society of America (PRSA), the largest professional organization in the public relations field.

Broadcasting and Electronic Media provides a review of the past and a preview of the future in radio, television, cable, and telecommunications. The concentration affords opportunities to develop hands-on skills for careers in broadcast production and performance, corporate audio/video, multimedia production, as well as graduate study.

Concentrations leading to the **Bachelor of Fine Arts** degree are offered in:

- International Theatre Production
- Musical Theatre

International Theatre Production seeks to produce artists/scholars who possess a comprehensive knowledge of the aspects of theatre technology and design while emphasizing an international component. The degree program is intended for the individual who plans to pursue a professional career, graduate study, or further training in theatre.

Musical Theatre provides professional training within a liberal arts environment and blends dance, music, and theatre. Students must audition for acceptance into the Musical Theatre concentration and are expected to successfully complete juries during their course of study. Graduates typically pursue professional careers in the performing arts. Double majors are permitted.

Department majors as well as dual majors whose primary major is from another department/college may elect to pursue more than one concentration.

It is a policy of the Department of Communication Arts that a student not be able to earn a BA in Theatre while concurrently earning a BFA in Musical Theatre or International Theatre Production.

Departmental majors who are unable to fulfill specified curricular requirements in existing departmental concentrations may obtain a major in Communication Arts (without concentration) upon approval by the department Chair.

Internships are an integral part of some concentrations. Related courses outside the department are also required of some concentrations.

Minors are offered in the following areas:

- Professional and Organizational Communication
- Theatre
- Public Relations
- Broadcasting and Electronic Media
- Dance

Prelaw Program The department cooperates with the Pettit College of Law at Ohio Northern University relative to the "guaranteed admission" prelaw program. Those interested in the program and a course of studies within the department should contact the chair for information and/or advising.

Business Option A business option is available for any student majoring in communication arts. The courses for the option are in addition to concentration course work. The option is designed to provide a business focus for students within their communication career goals. See page 53 of this catalog for the Business Option courses.

Departmental Activities

Beyond the traditional classroom experience, students are encouraged to become involved in a variety of departmental activities. WONB-FM, the campus radio station, allows students to gain experience in broadcasting and management. ONU Cable TV provides students experience in campus telecommunication activities. The Public Relations Student Society of America gives students professional learning experiences through networking, workshops, campaign exposure, and service. Ohio Northern University Theatre offers opportunities for students to act in and engage in technical work for musicals,

new works, readers theatre, dance and traditional plays. In all these activities, the department encourages student involvement. Credit toward graduation may be received from participation in some activities.

Grading Any grade below "C" that is received in a departmental course or a concentration requirement will not count toward major or minor requirements.

Communication Arts with Professional and Organizational Communication Concentration (66 hours)

- I. Concentration Requirements:* (54 hours)
 COMM 211 Public Speaking
 COMM 212 Business and Prof. Speaking
 COMM 221 Interviewing
 COMM 225 Interpersonal Communication
 COMM 230 Communication Theory
 COMM 311 Persuasive Speaking
 COMM 321 Group Communication
 COMM 345 Organizational Communication
 COMM 440 Comm. and Conflict Mgmt.
 COMM 445 Issues in Professional Comm.
 ABUS 201 PC Applications
 MGMT 333 Management and Org. Beh.
 MRKT 351 Principles of Marketing
 COMM 236 Public Relations Writing *or*
 COMM 256 Writing for Broadcasting and Electronic Media *or*
 ENGL 241 News Writing *or*
 ENGL 243 Magazine Writing *or*
 ENGL 343 Persuasive Writing *or*
 ENGL 347 Advanced Writing
 Senior Capstone Experience

- II. Concentration Electives* (12 hrs)
Choose two courses:
 COMM 121 Argumentation
 COMM 130 Intro. to Public Relations
 COMM 150 Intro. to Broadcasting and Electronic Media
 COMM 240 Parliamentary Procedure
 COMM 340 Voice and Diction
 COMM 348 Health Communication
 COMM 421 Political Communication

- Choose one course:*
 ABUS 312 Business Law 1
 MGMT 363 Human Resource Mgmt.
 MRKT 452 Consumer Behavior

Professional and Organizational Communication Minor (32 hours)

- I. Minor Requirements* (24 hours)
 COMM 211 Public Speaking*
 COMM 212 Business and Prof. Speaking
 COMM 225 Interpersonal Communication*
 COMM 230 Communication Theory
 COMM 311 Persuasive Speaking
 COMM 345 Organizational Communication
 COMM 445 Issues in Prof. Communication

*Whichever was not taken to meet general education requirement

II. Minor Electives (8 hours)

- Choose two courses:*
 COMM 121 Argumentation
 COMM 221 Interviewing
 COMM 240 Parliamentary Procedure
 COMM 321 Group Communication
 COMM 348 Health Communication
 COMM 440 Comm. and Conflict Mgmt.

Communication Arts with Theatre Concentration (68 hours)

- I. Concentration Requirements:* (32 hours)
 COMM 260 Acting 1
 COMM 274 Fundamentals of Lighting and Sound
 COMM 275 Fundamentals of Stagecraft
 COMM 291 World Theatre History 1
 COMM 292 World Theatre History 2
 COMM 370 Dance History
 COMM 385 Dramatic Criticism and Performance Studies
 COMM 499 Senior Capstone*

Two hours of practicum credit to be selected from COMM 204, 261, 276, 277, 283, 378 or 387

*Or designated artistic project

- II. Concentration Electives* (36 hours)
 Select any of the other "Discipline: Theatre" courses.**
 Classes from other departments that may count toward the concentration electives include:

- PHIL 250 Aesthetics
 ENGL 208 Modern World Drama
 ENGL 260 Intro to Shakespeare
 or
 ENGL 412 Shakespeare Studies
 ** Of which only 14 hours in Dance and only 6 hrs. of practicum credits will be accepted.

Theatre Minor (24 hours)

- COMM 260 Acting 1
 COMM 275 Fundamentals of Stagecraft
 COMM 285 Stage Management
 COMM 291 World Theatre History 1
 COMM 292 World Theatre History 2
 COMM 385 Dramatic Criticism and Performance Studies

Plus 4 hrs. of theatre electives other than practicum.

Communication Arts with Public Relations Concentration (62 hrs.)

- I. Concentration Requirements* (38 hrs.)
 COMM 130 Introduction to Public Relations
 COMM 203 Public Relations Practicum*
 COMM 236 Public Relations Writing
 TECH 240 Introduction to Communication Technology

COMM 330 Publicity, Media & Campaigns
 COMM 335 Internship**
 COMM 336 Advanced Public Relations Writing

COMM 342 Public Relations Research
 COMM 430 Public Relations Case Studies
 Senior Capstone Experience

II. Concentration Electives (24 hours)

Choose four courses:

COMM 211 Public Speaking***
 or
 COMM 225 Interpersonal Communication***
 ART 222 Graphic Design
 ENGL 241 News Writing
 ENGL 243 Magazine Writing
 COMM 256 Writing for Broadcasting and Electronic Media

COMM 321 Group Communication
 COMM 355 Broadcast Journalism
 COMM 373 Issues in Public Relations
 Special Topics in Public Relations
 (COMM 190, 290, 390, or 490)****

Choose two courses:

COMM 150 Intro. to Broadcasting and Electronic Media
 COMM 212 Business and Prof. Speaking
 COMM 221 Interviewing
 MGMT 333 Management and Org. Beh.
 MRKT 351 Principles of Marketing
 MGMT 363 Human Resource Management
 MGMT 410 Business and Society

*Six hours minimum-twelve hours maximum

**Four hours minimum-sixteen hour maximum;
 Minimum 2.5 GPA required overall and in concentration requirements

***Whichever was not taken to meet general education requirements

****May be repeated with different topics

Public Relations Minor (28 hours)

COMM 130 Intro. to Public Relations
 COMM 236 Public Relations Writing
 TECH 240 Intro. to Comm. Technology
 COMM 330 Publ., Media and Campaigns
 COMM 336 Adv. Public Relations Writing
 COMM 342 Public Relations Research
 COMM 430 Public Relations Case Studies

Communication Arts with Broadcasting and Electronic Media Concentration (49 hours)

I. Concentration Requirements (29 hours)

COMM 150 Intro. to Broadcasting and Electronic Media
 COMM 256 Writing for Broadcasting and Electronic Media
 COMM 258 Broadcasting and Electronic Media Practicum: Audio (4 hrs.)
 COMM 259 Broadcasting and Electronic Media Practicum: Video (4 hrs.)
 COMM 335 Internship

COMM 351 Audio/Video Production
 COMM 453 Mass Media and Society
 COMM 457 Senior Capstone

II. Concentration Electives (20 hours)

Choose three courses:

COMM 355 Broadcast Journalism
 COMM 452 Broadcast Sales and Promotions
 COMM 454 Corporate Audio and Video Production
 COMM 455 Broadcasting and Electronic Media Management
 ENGL 371 Journalism
 ART 222 Graphic Design 1
 MRKT 360 Promotion Management
 MRKT 372 Advertising

Choose two courses:

COMM 130 Introduction to Public Relations
 COMM 211 Public Speaking*
 COMM 225 Interpersonal Communication*
 COMM 212 Business and Professional Speaking
 COMM 221 Interviewing
 COMM 260 Acting
 COMM 340 Voice and Diction
 MGMT 333 Management and Org. Beh.
 MRKT 351 Principles of Marketing

*Whichever was not taken to meet general education requirement

Broadcasting and Electronic Media Minor (28 hrs)

COMM 150 Intro. to Broadcasting and Electronic Media
 COMM 256 Writing for Broadcasting and Electronic Media
 COMM 258 B and EM Practicum: Audio
 COMM 259 B and EM Practicum: Video
 COMM 355 Broadcast Journalism
 COMM 452 Broadcast Sales and Promotions
 COMM 453 Mass Media & Society
 COMM 455 Broadcasting and Electronic Media Management

Communication Arts with Musical Theatre Concentration (88 hours)

I. Concentration Requirements (55 hours)

Theatre
 COMM 260 Acting 1
 COMM 261 Performance Practicum
 or
 COMM 204 Dance Practicum
 COMM 262 Stage Combat
 COMM 275 Fundamentals of Stagecraft
 COMM 278 Makeup
 COMM 283 Stage Management Practicum
 COMM 291 World Theatre History 1
 COMM 292 World Theatre History 2
 COMM 300 Theatre Symposium
 COMM 340 Voice and Diction
 COMM 360 Acting 2
 COMM 365 Musical Theatre Performance

COMM 370 Dance Composition
COMM 461 Acting 3
COMM 499 Senior Capstone

Music (17 hours)

AMUS 015 Individual Voice
AMUS 020 Piano Class
or
AMUS 025 Individual Piano
MUSC 100 Music Appreciation
MUSC 121 Theory of Music
MUSC 131 Ear Training

Dance (14 hours)

(Chosen from the following with at least one course in each area)

COMM 114 Introduction to Dance
COMM 115 Tap Dance 1
COMM 116 Jazz Dance 1
COMM 117 Ballet 1
COMM 118 Modern Dance 1
COMM 215 Tap Dance 2
COMM 216 Jazz Dance 2
COMM 217 Ballet 2
COMM 218 Modern Dance 2

II. Concentration Cognate Requirements (2 hours)

AHPE 050 Social Dance
AHPE 083 Square and Folk Dance

Communication Arts/Dance Minor (29 hrs.)

The dance minor, which is available to majors and non-majors throughout the university, has a strong technical component. Students pursuing a dance minor must choose a technical area of emphasis in either ballet or modern dance.

Ballet Emphasis

COMM 117 Ballet 1
COMM 118 Modern Dance 1
COMM 204 Dance Practicum
COMM 217 Ballet 2
COMM 370 Dance History
COMM 470 Dance Composition*

Modern Dance Emphasis

COMM 117 Ballet 1
COMM 118 Modern Dance 1
COMM 204 Dance Practicum
COMM 218 Modern Dance 2
COMM 370 Dance History
COMM 470 Dance Composition*

*To be offered on alternate years.

Communication Arts with International Theatre Production Concentration (75 hours)

I. Concentration Requirements (59 hours)

COMM 260 Acting 1
COMM 274 Fundamentals of Lighting and Sound

COMM 275 Fundamentals of Stagecraft
COMM 276 Production Practicum
COMM 278 Makeup
COMM 283 Stage Management Practicum
COMM 285 Stage Management
COMM 291 World Theatre History 1
COMM 292 World Theatre History 2
COMM 300 Theatre Symposium
COMM 335 Internship*
COMM 375 Topics in Theatre Design
COMM 378 Design Practicum
COMM 380 Arts Administration
or
COMM 386 Directing
COMM 285 Dramatic Criticism and Performance Studies
COMM 499 Senior Capstone

II. Concentration Cognates (16 hours)

ACCT 211 Principles of Accounting 1
PLSC 107 International Studies and World Problems
TECH 120 Introduction to Computer Aided Design
TECH 261 Fundamentals of Electricity and Electronics

*Students will be required to have an international experience by studying abroad or by international internship and are required to successfully complete one year competency of a foreign language.

Subject - Communication Arts (COMM)

000 - ORIENTATION

1.00 Credit

Familiarization with the departmental requirements for majors, planning a program of courses, university catalog and library. Required of departmental majors. Graded S/U.

105 - THEATRE APPRECIATION

4.00 Credits

An introduction to theatre through the study of its origin and development, and its contemporary theory and practice. For the non-major. Two hours of lecture per week, along with play attendance and production experience. Not applicable to the Musical Theatre or Theatre concentration. May not be taken after a successful enrollment in COMM 106. (Discipline: Theatre)

114 - INTRODUCTION TO DANCE*2.00 Credits*

The three forms of dance; ballet, jazz and tap are presented to develop the student's ability to learn basic components and vocabulary of each of these forms. For the student with little or no previous experience. May be repeated, but only 8 credit hours will count toward graduation. Offered annually Fall Quarter. (Discipline: Theatre)

115 - TAP DANCE 1*2.00 Credits*

Tap dancing, taught in a studio format. The course is designed for the student with little or no experience in tap dancing. May be repeated, but only 8 credit hours will count toward graduation. Offered annually Fall and Winter Quarters. (Discipline: Theatre)

116 - JAZZ DANCE 1*2.00 Credits*

Jazz dancing taught in a studio format. The course is designed for the student with little or no experience in jazz dancing. May be repeated, but only 8 credit hours will count toward graduation. Offered annually Winter and Spring Quarters. (Discipline: Theatre)

117 - BALLET 1*2.00 Credits*

Ballet dancing taught in a studio format. The course is designed for the student with little or no experience in ballet dancing. May be repeated, but only 8 credit hours will count toward graduation. (Discipline: Theatre)

118 - MODERN DANCE 1*2.00 Credits*

Modern dance taught in the studio format. The course is designed for the student with little or no experience in modern dance. May be repeated, but only 8 credit hours will count toward graduation. (Discipline: Theatre)

121 - ARGUMENTATION*4.00 Credits*

Basic skills in critical thinking by applying elementary debate theory through oral and written activities. (Discipline: Prof. & Org. Comm.)

130 - INTRODUCTION TO PUBLIC RELATIONS*4.00 Credits*

The role, function, and responsibilities of the public relations practitioner within organizations. (Discipline: Public Relations)

150 - INTRODUCTION TO BROADCASTING AND ELECTRONIC MEDIA*4.00 Credits*

A survey course that examines various aspects of broadcasting, cable, and the emerging electronic media. (Discipline: Brdcsting. & Elec. Media)

190 - SPECIAL TOPICS IN COMMUNICATION ARTS*1.00 to 4.00 Credits*

Course may be repeated as topics vary, but only 12 hours will count toward graduation.

203 - PUBLIC RELATIONS PRACTICUM*1.00 to 4.00 Credits*

Course provides students the opportunity to experience public relations firsthand through professional involvement with service and non-profit projects. A repeatable course. For non-majors, only 12 hours apply toward graduation. Prerequisite: Permission of instructor. (Discipline: Public Relations)

204 - DANCE PRACTICUM*1.00 to 4.00 Credits*

Participation in a collaborative laboratory experience. Open only to students who have auditioned and been awarded roles in Ohio Northern University Dance Company or dance productions. A repeatable course. For non-majors, only 6 hours apply toward graduation. Prerequisite: Permission of the instructor. (Discipline: Theatre)

211 - PUBLIC SPEAKING*4.00 Credits*

Basic principles of preparation, organization, and delivery of original informative and persuasive speeches. (Discipline: Prof. & Org. Comm.)

212 - BUSINESS AND PROFESSIONAL SPEAKING*4.00 Credits*

A course to assist the student in acquiring the knowledge and skills especially pertinent to meeting the speech communication tasks of a business or professional person. Prerequisite: COMM 211. (Discipline: Prof. & Org. Comm.)

215 - TAP DANCE 2*2.00 Credits*

A studio tap dance class for the intermediate and advanced student. Course may be repeated, but only 8 credit hours will count toward graduation. Offered annually Spring Quarter. (Discipline: Theatre)

216 - JAZZ DANCE 2*2.00 Credits*

A studio jazz dance class for the intermediate and advanced student. Course may be repeated, but only 8 credit hours will count toward graduation. Offered alternating years Spring Quarter. (Discipline: Theatre)

217 - BALLET 2*2.00 Credits*

A studio ballet class for the intermediate and advanced student. At the discretion of the instructor, the class may include pointe work and partnering work for students with strong technique. Course may be repeated, but only 8 credit hours will count toward graduation. Offered annually Winter Quarter and alternating Spring Quarter. (Discipline: Theatre)

218 - MODERN DANCE 2*2.00 Credits*

A modern dance studio class for the intermediate and advanced student. Course may be repeated, but only 8 credit hours will count toward graduation. Offered annually Spring Quarter and alternating Winter Quarter. (Discipline: Theatre)

221 - INTERVIEWING*4.00 Credits*

The basic principles and structures of interviewing are examined and applied to interview situations such as employment, performance/appraisal, journalism, etc. (Discipline: Prof. & Org. Comm.)

225 - INTERPERSONAL COMMUNICATION*4.00 Credits*

Course explores a range of theories and issues which will help students improve their ability to communicate effectively in a variety of interpersonal relationships. (Discipline: Prof. & Org. Comm.)

230 - COMMUNICATION THEORY*4.00 Credits*

The course is designed to provide a framework of knowledge about the theories, nature, and dynamics of human communication/interaction. Prerequisite: COMM 211 or 225. (Discipline: Prof. & Org. Comm.)

236 - PUBLIC RELATIONS WRITING*4.00 Credits*

Study of basic concepts for public relations writing projects and production of written public relations materials. The course consists of lectures, discussions, and supervised writing labs. Prerequisite: COMM 130. (Discipline: Public Relations)

240 - PARLIAMENTARY PROCEDURE*4.00 Credits*

Methods of conducting formal meetings by parliamentary rules. (Discipline: Prof. & Org. Comm.)

241 - ORAL INTERPRETATION OF LITERATURE*4.00 Credits*

Analyzing prose, poetry, and dramatic literature for individual and group presentations in class. Offered alternate years Winter Quarter. (Discipline: Prof. & Org. Comm. and Theatre)

256 - WRITING FOR THE BROADCASTING AND ELECTRONIC MEDIA*4.00 Credits*

A study of the principles and techniques of copywriting for radio and television, corporate audio/video productions and the electronic media. (Discipline: Brdcstg. & Elec. Media)

257 - BROADCASTING AND ELECTRONIC MEDIA PRACTICUM*1.00 to 4.00 Credits*

Production practicum utilizing the facilities of WONB Radio or ONU Cable. Primarily for non-majors with an interest in working with the campus radio station or campus cable system. Majors with limited skills in production are welcome to take the course as well. A repeatable course. For non-majors, only 12 hours apply toward graduation. Prerequisite: Permission of instructor. (Discipline: Brdcstg. & Elec. Media)

258 - BROADCASTING AND ELECTRONIC MEDIA PRACTICUM: AUDIO*1.00 to 4.00 Credits*

Production practicum utilizing the facilities of WONB Radio. Majors are required to complete eight hours of practicum (COMM 258 or 259). Highly skilled non-majors are welcome to take the course, but only 12 hours apply toward graduation. Prerequisite: Permission of instructor. (Discipline: Brdcstg. & Elec. Media)

259 - BROADCASTING AND ELECTRONIC MEDIA PRACTICUM: VIDEO*1.00 to 4.00 Credits*

Production practicum utilizing the facilities of ONU Cable. Majors are required to complete eight hours of practicum (COMM 258 or 259). Highly skilled non-majors are welcome to take the course but only 12 hours apply toward graduation. Prerequisite: Permission of instructor. (Discipline: Brdcstg. & Elec. Media)

260 - ACTING*4.00 Credits*

A studio class designed to introduce and develop fundamental acting skills through readings, discussions, exercises, monologues, and scenes. Course may be repeated, but only 12 credit hours will count toward graduation. Offered annually Fall Quarter. (Discipline: Theatre)

261 - PERFORMANCE PRACTICUM

1.00 to 4.00 Credits

Participation in a collaborative laboratory experience. Open only to students who have auditioned for and have been awarded roles in University mainstage or studio theatre productions. A repeatable course. For non-majors, only 6 hours apply toward graduation. Prerequisite: Permission of the instructor. (Discipline: Theatre)

262 - STAGE COMBAT

2.00 Credits

Fundamentals of unarmed stage combat, quarterstaff stage combat and the safe execution of these techniques. Course may be repeated, but only 6 credit hours will count toward graduation. Offered annually Winter Quarter. (Discipline: Theatre)

274 - FUNDAMENTALS OF LIGHTING AND SOUND PRODUCTION

4.00 Credits

Theoretical and practical work in the basics of lighting and sound. Topics covered include basic electricity, equipment knowledge and color theory as well as recorded and live sound. This class is a partner class with Fundamentals of Stagecraft and is a prerequisite for sound and lighting design. Offered annually Winter Quarter. (Discipline: Theatre)

275 - FUNDAMENTALS OF STAGECRAFT

4.00 Credits

Theoretical and practical work in the fundamentals of technical theatre production. Content includes scenic construction, property construction, theatrical rigging, basic drafting, and basic design theory. Offered annually Fall Quarter. (Discipline: Theatre)

276 - PRODUCTION PRACTICUM

1.00 to 4.00 Credits

Participation in a collaborative laboratory experience which involves serving on a crew for a University mainstage or studio production. A repeatable course. For non-majors, only 6 hours apply toward graduation. Prerequisite: Permission of the instructor. (Discipline: Theatre)

277 - SHOP PRACTICUM

1.00 to 4.00 Credits

Participation in a collaborative laboratory experience working in the scene or costume shop for University productions. A repeatable course. For non-majors, only 6 hours apply toward graduation. Prerequisite: Permission of the instructor. (Discipline: Theatre)

278 - MAKEUP

2.00 Credits

Methods and practice in the creation and application of stage makeup. Students may comprise makeup crews for University Theatre and Studio Theatre productions. Offered annually Spring Quarter. (Discipline: Theatre)

283 - THEATRE MANAGEMENT PRACTICUM

1.00 to 4.00 Credits

Participation in a collaborative laboratory experience as a stage manager, assistant stage manager or company manager for a University mainstage or studio production. A repeatable course. For non-majors, only 6 hours apply toward graduation. Prerequisite: Permission of the Instructor. (Discipline: Theatre)

285 - STAGE MANAGEMENT

4.00 Credits

Principles and practices of stage management and logistical organization of commercial and noncommercial theatre. Content includes scheduling, pre-production planning, auditions, rehearsals, performance procedures, budgeting, company organization and structure. Offered annually Fall Quarter. (Discipline: Theatre)

290 - SPECIAL TOPICS IN COMMUNICATION ARTS

1.00 to 4.00 Credits

Course may be repeated as topics vary, but only 12 hours will count toward graduation.

291 - WORLD THEATRE HISTORY 1

4.00 Credits

A survey of the history and social impact of the theatre in Western and non-Western cultures from ancient times to the Renaissance. Offered annually Fall Quarter. (Discipline: Theatre)

292 - WORLD THEATRE HISTORY 2

4.00 Credits

A survey that examines the development of world drama and theatre with an emphasis on social, cultural and theatrical contexts. The course covers the 17th Century through the 20th Century. Offered annually Winter Quarter. (Discipline: Theatre)

299 - INDEPENDENT STUDY IN COMMUNICATION ARTS

1.00 to 4.00 Credits

A topic in Communication Arts of particular interest to the Communication Arts student. Prerequisite: Permission of department.

300 - THEATRE SYMPOSIUM

1.00 Credit

Workshop with visiting theatre professionals which may include stage directors, designers, choreographers, and professional performers. Course may be repeated as topics vary but only 4 hours apply toward graduation. Graded S/U. Does not meet General Education requirement. Prerequisite: Permission of the instructor. (Discipline: Theatre)

311 - PERSUASIVE SPEAKING

4.00 Credits

An advanced public speaking course with an emphasis on persuasive theory and techniques. Prerequisite: COMM 211. (Discipline: Prof. & Org. Comm.)

317 - BALLET POINTE

2.00 Credits

The techniques of working en pointe. Pointe work will include exercises at the barre and techniques necessary for the execution of proper work en pointe. May be repeated, but only 8 credit hours will count toward graduation. Offered alternate years Spring Quarter. (Discipline: Theatre)

321 - GROUP COMMUNICATION

4.00 Credits

Group theory and problem solving methods are examined; course focuses on the process of analyzing problems to implementing solutions. Prerequisite: COMM 211. (Discipline: Prof. & Org. Comm.)

330 - PUBLICITY, MEDIA, AND CAMPAIGNS

4.00 Credits

A course analyzing techniques for motivating target audiences along with practical analysis and preparation of communication materials to elicit reactions or support from specialized groups. Offered annually Spring Quarter. Prerequisite: COMM 336. (Discipline: Public Relations)

335 - INTERNSHIP

1.00 to 16.00 Credits

A skills course designed to blend classroom theory with practical experience through working in an outside organization. Approval of department required prior to registration for course. Course may be repeated, but only 16 credit hours will count toward graduation. (Discipline: Public Relations, Brdcstg. & Elec. Media, and Theatre)

336 - ADVANCED PUBLIC RELATIONS WRITING

4.00 Credits

This course presents opportunities for researching, identifying and writing public affairs columns, editorials, features, and position papers for use in the public relations arena. Offered annually Winter Quarter. Prerequisites: COMM 236 and 342. (Discipline: Public Relations)

340 - VOICE AND DICTION

2.00 Credits

Voice and speech production; intensive drill, on a phonetic basis, in articulating the sounds which make up the English language, with attention to the production of good vocal quality and expression. Offered annually Winter Quarter. (Discipline: Prof. & Org. Comm. and Theatre)

342 - PUBLIC RELATIONS RESEARCH FOR PLANNING AND EVALUATION

4.00 Credits

The planning and evaluation process of public relations. The difference between public relations research and social science research methods. Offered annually Fall Quarter. Prerequisite: COMM 130. (Discipline: Public Relations)

345 - ORGANIZATIONAL COMMUNICATION

4.00 Credits

Major organization and communication theories and their practical applications for effective communication within organizations and the professions. Examines communication processes, various roles and relationships in organizations, leadership communication, ethics, and problematic communication situations. (Discipline: Prof. & Org. Comm.)

348 - HEALTH COMMUNICATION

4.00 Credits

Theory and practice of health communication. Examines communication between practitioner/client, in community/ consumer health education, in health teams and groups, in health care delivery systems, in support systems for the elderly, disabled, terminally ill, in intercultural settings. Offered alternate years. (Discipline: Prof. & Org. Comm.)

351 - AUDIO/VIDEO PRODUCTION

4.00 Credits

Principles and techniques of audio and video production. Course will include lab times utilizing the facilities of WONB Radio and ONU Cable Television. Prerequisite: COMM 256. (Discipline: Brdcstg. & Elec. Media)

355 - BROADCAST JOURNALISM

4.00 Credits

Principles of news gathering and reporting primarily for television and radio. Subjective and objective analysis of news, its presentation, and its effects. Practical assignments emphasized. Prerequisite: COMM 150. (Discipline: Brdcstg. & Elec. Media)

360 - ACTING 2

4.00 Credits

Improvement of acting techniques and preparation of roles and monologues. This course builds upon principles learned in COMM 260 (Acting 1). Course may be repeated, but only 12 hours apply toward graduation. Offered annually Winter Quarter. Prerequisite: COMM 260, CATH or CAMT concentration, and sophomore status. (Discipline: Theatre)

365 - MUSICAL THEATRE PERFORMANCE

4.00 Credits

Performance techniques for musical theatre, especially acting. Students will prepare and present scenes from musicals. Course may be repeated, but only 12 hours apply toward graduation. Offered annually Spring Quarter. Prerequisite: Acceptance into the BFA program, COMM 260 and sophomore status. (Discipline: Theatre)

370 - DANCE HISTORY

4.00 Credits

Evolution of dance through the ages. Ethnic dance styles and dance as a performance art will be studied. Some reconstruction of cultural and historical dance will be included in the coursework. Offered annually Fall Quarter. (Discipline: Theatre)

373 - ISSUES IN PUBLIC RELATIONS

1.00 to 4.00 Credits

Current topics in the field including but not limited to: the role of public relations in organizational decision making, ethics and special practice areas. Prerequisite: Permission of instructor. (Discipline: Public Relations)

375 - TOPICS IN THEATRE DESIGN

4.00 Credits

The principle design elements of theatre including, but not limited to: Scenic, Lighting, Costume, Sound, Props and Advanced Technology. May be repeated, but only 16 credit hours will count toward graduation. Offered annually Winter and Spring Quarters. Prerequisites: COMM 274 and 275 or permission of the instructor. (Discipline: Theatre)

378 - DESIGN PRACTICUM

1.00 to 4.00 Credits

Participation in a collaborative laboratory experience which focuses on the design, supervision, and execution of lights, sets, costumes, sound or props for a University mainstage or studio production. The student is assigned a departmental advisor for the project. A repeatable course. For non-majors, only 6 hours apply toward graduation. Prerequisite: COMM 375 and permission of the instructor. (Discipline: Theatre)

380 - ARTS ADMINISTRATION

4.00 Credits

The management of non-profit arts organizations. Content includes study in planning, programming, marketing and fundraising. (Discipline: Theatre)

385 - DRAMATIC CRITICISM AND PERFORMANCE STUDIES

4.00 Credits

The techniques for the interpreting and staging of dramatic literature by the producer, director, and designers. Content includes the basic concepts of interpretation, theme, style, play analysis, and staging. Offered annually Fall Quarter. Prerequisites: COMM 291 and 292. (Discipline: Theatre)

386 - DIRECTING

4.00 Credits

Methods, theories, exercises, and practices in directing and presenting dramatic scenes. Offered alternate years Spring Quarter. Prerequisites: COMM 260 and permission of the instructor. (Discipline: Theatre)

387 - DIRECTING PRACTICUM

1.00 to 4.00 Credits

Participation in a collaborative laboratory experience which focuses on directing a University mainstage or studio production. The student is assigned a departmental advisor for the project. A repeatable course. For non-majors, only 6 hours apply toward graduation. Prerequisite: COMM 386 and permission of the instructor. (Discipline: Theatre)

390 - SPECIAL TOPICS IN COMMUNICATION ARTS

1.00 to 4.00 Credits

May be repeated as topics vary, but only 12 hours will count toward graduation.

391 - AMERICAN THEATRE HISTORY

4.00 Credits

An historical survey of American theatre and popular entertainment forms from the colonial period through the rise of realism and contemporary theatre. Offered alternate years Spring Quarter. (Discipline: Theatre)

421 - POLITICAL COMMUNICATION

4.00 Credits

Political communication and the means to assess political activities through rhetorical methods of analysis. Methods may include those presented by classical and contemporary theorists, such as Aristotle, Lloyd Bitzer, and Kenneth Burke. Offered alternate years. (Discipline: Prof. & Org. Comm.)

430 - PUBLIC RELATIONS CASE STUDIES

4.00 Credits

Public relations case studies concerning problems in industry, business, education, government, social welfare, and trade associations. Offered annually Spring Quarter. Prerequisites: COMM 330 and senior standing. (Discipline: Public Relations)

440 - COMMUNICATION AND CONFLICT MANAGEMENT

4.00 Credits

The central role of communication in the creation and management of conflict, as well as communication skills and strategies for managing conflict effectively, with an emphasis on collaborative problem solving. Prerequisite: Sophomore standing. (Discipline: Prof. & Org. Comm.)

445 - ISSUES IN PROFESSIONAL COMMUNICATION

4.00 Credits

Issues in communication relative to entry into the professional and organizational sector. The role of communication in such issues as affirmative action, harassment, gender equity, sexual orientation, workplace environment, labor relations, multiculturalism, and use of new communication technologies. Offered alternate years. (Discipline: Prof. & Org. Comm.)

452 - BROADCAST SALES AND PROMOTIONS

4.00 Credits

Skills involved in selling broadcast time and station promotion. (Discipline: Brdcstg. & Elec. Media)

453 - MASS MEDIA AND SOCIETY

4.00 Credits

The legal, ethical, and social responsibilities of journalists and other mass communicators. Prerequisite: COMM 150. (Discipline: Brdcstg. & Elec. Media)

454 - CORPORATE VIDEO PRODUCTION

4.00 Credits

Video production course reviewing the needs of the corporate, non-broadcast, industry. Will cover planning, scripting and production of short and long form corporate videos. Prerequisite: COMM 150. (Discipline: Brdcstg. & Elec. Media)

455 - BROADCASTING AND ELECTRONIC MEDIA MANAGEMENT

4.00 Credits

Sales, programming, marketing, and management techniques unique to the broadcast medium. Prerequisite: COMM 150. (Discipline: Brdcstg. & Elec. Media)

457 - BEM PRACTICUM: SENIOR CAPSTONE

1.00 to 4.00 Credits

A production/performance based course which serves as the senior capstone for the Broadcasting and Electronic Media concentration. Prerequisite: Permission of instructor and senior status. (Discipline: Brdcstg. & Elec. Media)

460 - STYLES OF ACTING

4.00 Credits

Improvement of acting techniques and preparation for creating characterizations from the classical theatre repertoire including Shakespearean Tragedy and Comedy, Moliere's Comedy, Restoration Comedy of Manners, and Farce. Course may be repeated but only 12 credit hours will count toward graduation. Offered alternate years Spring Quarter. Prerequisite: COMM 360. (Discipline: Theatre)

461 - ACTING 3

4.00 Credits

Portrayal of Shakespearean characters. The ability to analyze and scan verse, expansion of the vocal range, clear articulation and vocal production are stressed. Offered alternate years Spring Quarter. Prerequisite: COMM 360. (Discipline: Theatre)

470 - DANCE COMPOSITION

4.00 Credits

Principles general to all choreographic compositional styles and application of these principles through weekly choreographic compositional projects and in-class performances. Offered alternate years Winter Quarter. (Discipline: Theatre)

486 - PLAYWRITING

4.00 Credits

The principles of writing plays by examining the process for selecting and arranging dramatic material for an artistic purpose. Offered alternate years Spring Quarter. (Discipline: Theatre)

490 - SPECIAL TOPICS IN COMMUNICATION ARTS

1.00 to 4.00 Credits

May be repeated as topics vary, but only 12 hours will count toward graduation.

499 - INDEPENDENT STUDY IN COMMUNICATION ARTS

1.00 to 4.00 Credits

Prerequisite: Permission of department.

CENTER FOR TEACHER EDUCATION

Professors Crosser, Dufault, Haynes, Hoagstrom, Meininger, Putt, Romanowski, C. Smith; Associate Professors Bates, Berg, D'Arca, Freeman, Greavu, Myers, Roepke (*Director*), Theisen, Wilson; Assistant Professors Beaschler, Durand, M. Croskery, Garver, J. Mativo, Witte; Visiting Instructor McCullough; Lecturers Osborn, Russell

Conceptual Framework

TEACHING IS ENABLING. The enabling teacher is firmly grounded in knowledge of the learner, knowledge of discipline, and knowledge of pedagogy. Utilizing that knowledge, the enabling teacher is able to put into motion pedagogical strategies which are both appropriate and sound. The end result of that teaching and corresponding learning is greater than the sum of its parts. This synergism is exemplified by the model of four interdependent gears which, when properly meshed, result in an integrated mechanism for enabling students to become autonomous learners capable of contributing both individually and collectively to the common good of the larger society.

Ohio Northern University is vitally concerned with preparing effective teachers. Programs are offered within the degree requirements in almost every department. In addition, a Master of Education in Teaching (M.E.T.) is offered through a graduate education program. This program provides teachers the opportunity to add an Endorsement in Reading to their current certification or licensure. Students must complete 45-quarter hours of study at the graduate level. The degree program must be completed in five years from the date of completion of the first class. (The M.E.T. program is not admitting new degree-seeking students for the 2005-06 academic year.)

The professional education unit at Ohio Northern University is the Center for Teacher Education, which is nationally accredited by the National Council for Accreditation of Teacher Education. The Center is the single, unified faculty and administrative unit within the University that is primarily responsible for the preparation of teachers. The Director of Teacher Education, as head of the unit, is delegated the authority and responsibility for the overall administration and operation of the professional education unit.

The teacher education program is designed to provide the prospective teacher with the general education, subject area concentration, and professional education experiences that will enable the student to enter the profession of teaching with competency.

Teaching licenses are issued by the state of Ohio to students who have successfully completed an approved program of teacher preparation and met all requirements prescribed by the State Board of Education. Approved programs and requirements may be obtained in the Center for Teacher Education.

PLEASE NOTE: All general education, curriculum area, professional education, and admission to teacher education programs requirements listed herein are subject to the approval of the State Board of Education.

Students are required to participate in supervised field experience before student teaching. These experiences are included in the required education courses. (Additional information about field experience is available in the office of the Center for Teacher Education and from professional education advisors.)

Admission to the Teacher Education Program

Specific requirements may be obtained in the office of the Center for Teacher Education. The student is responsible for following the program in a timely manner.

Early Childhood Education preK-3rd grade licensure

General education, curriculum area, and professional education requirements may be obtained in the office of the Center for Teacher Education. The courses in general education and the curriculum area will meet College of Arts and Sciences and state licensure requirements.

Professional Education Requirements

•Students must be admitted to the teacher education program (**Students must pass Praxis I and have at least a 2.50 GPA).

EDUC 115	Culture and Schooling, 4 hrs.
EDUC 150	Five-Day Field Experience, 0 hrs. (taken twice)
EDUC 210	Exceptional Learner, 4 hrs.
EDUC 320	Instr. Media and Educ. Tech., 4 hrs.
•EDUC 342	Reading in the Content Area, 5 hrs.
•EDUC 445	Org. & Admin. of Schools in American Society, 2 hrs.
•EDUC 470	Student Teaching, 15 hrs.
•EDUC 475	Student Teaching Seminar, 1 hr.

Plus:

EDUC 195	Orientation, 1 hr.
EDUC 220	Integrated Fine Arts, 4 hrs.
EDUC 230	Early Childhood Mathematics, 4 hrs.
EDUC 223	Child Development and Psychology, 4 hrs.
**EDUC 240	Introduction to Early Childhood Education, 4 hrs.

- EDUC 241 Early Childhood Methods and Instruction, 4 hrs.
- EDUC 242 Early Childhood Curriculum and Policies, 4 hrs.
- EDUC 310 Integrated Language Arts, 4 hrs.
- EDUC 312 Teaching Phonics, 5 hrs.
- EDUC 314 Foundations of Reading and Assessments, 5 hrs.
- EDUC 340 Diagnosis and Correction of Reading Difficulties, 4 hrs.

Middle Childhood Education 4-9th grades Licensure

General education, curriculum area, and professional education requirements may be obtained in the office of the Center for Teacher Education. The courses in general education and the curriculum area will meet the College of Arts and Sciences and state approved licensure requirements.

Professional Education Requirements

•Students must be admitted to the teacher education program (**Students must pass Praxis I and have at least a 2.50 GPA).

- EDUC 115 Culture and Schooling, 4 hrs.
- EDUC 150 Five- Day Field Experience, 0 hrs. (taken twice)
- EDUC 210 Exceptional Learner, 4 hrs.
- EDUC 320 Instr. Media and Educ. Tech., 4 hrs.
- EDUC 342 Reading in the Content Area, 5 hrs.
- EDUC 445 Org. & Admin. of Schools in American Society, 2 hrs
- EDUC 470 Student Teaching, 15 hrs.
- EDUC 475 Student Teaching Seminar, 1 hr.

Plus:

- EDUC 195 Orientation, 1 hr.
- EDUC 224 Young and Late Adolescent Psychology, 4 hrs.
- **EDUC 260 Introduction to Middle Childhood Education, 4 hrs.
- EDUC 261 Middle Childhood Methods and Instruction, 4 hrs.
- EDUC 262 Middle Childhood Curriculum and Policies, 4 hrs.
- EDUC 312 Teaching Phonics, 5 hrs.
- EDUC 314 Foundations of Reading and Assessments, 5 hrs.
- EDUC 340 Diagnosis and Correction of Reading Difficulties, 4 hrs.

In addition the student must choose two of four content areas to use for concentration areas. Students may choose between math, reading-language arts, science, or social studies.

They will take the education methods course for the two program areas and at least 30 hours in the disciplines.

Choices:

- EDUC 308 Middle School Math Methods
- EDUC 309 Middle School Science Methods
- EDUC 310 Integrated Language Arts
- EDUC 311 Middle School Social Studies Methods

A list of discipline courses in the concentration areas is available in the Center of Teacher Education office.

Adolescent Licensure 7-12

Requirements for licensure in the various adolescent teaching fields may be obtained in the office of the Center for Teacher Education.

Adolescent Licensure Programs are offered in the following areas:

- Integrated Science
- Integrated Language Arts
- Integrated Mathematics
- Integrated Social Studies
- Life Science
- Physical Science

Professional Education Course Requirements:

•Students must be admitted to the teacher education program (**Students must pass Praxis I and have at least a 2.50 GPA).

- EDUC 115 Culture and Schooling, 4 hrs.
- EDUC 150 Five- Day Field Experience, 0 hrs. (taken twice)
- EDUC 210 Exceptional Learner, 4 hrs.
- EDUC 224 Young and Late Adolescent Psychology, 4 hrs.
- **EDUC 285 Curriculum & Instruction, 4 hrs.
- EDUC 320 Instr. Media and Educ. Tech., 4 hrs.
- EDUC 342 Reading in the Content Area, 5 hrs.
- EDUC 440 Classroom Strategies, 4 hrs.
- EDUC 445 Org. & Admin. of Schools in American Society, 2 hrs

Specific Methods Courses:

Students must be admitted to the teacher education program in order to take these courses.

- EDUC 451 Integrated Science Methods, 5 hrs.
- EDUC 452 Integrated English/Language Arts Methods, 4 hrs.
- EDUC 453 Integrated Social Studies Methods, 4 hrs.
- EDUC 454 Integrated Mathematics Methods, 4 hrs.
- EDUC 475 Student Teaching Seminar, 1 hr.
- EDUC 480 Student Teaching, 15 hrs.

Multiage Licensure PreK-12

Requirements for licensure in the various multiage licensure areas may be obtained in the office of the Center for Teacher Education.

Multiage Licensure Programs are offered in the following areas:

Visual Art
Health
Physical Education
Foreign Language
Music

Professional Education Course Requirements:

•Students must be admitted to the teacher education program (**Students must pass Praxis I and have at least a 2.50 GPA).

- EDUC 115 Culture and Schooling, 4 hrs.
- EDUC 150 Five-Day Field Experience, 0 hrs. (taken twice)
- EDUC 210 Exceptional Learner, 4 hrs.
- EDUC 223 Child Development and Psychology, 4 hrs.
- EDUC 224 Young and Late Adolescent Psychology, 4 hrs.
- **EDUC 285 Curriculum & Instruction, 4 hrs.
- EDUC 320 Instr. Media and Educ. Tech., 4 hrs.
- EDUC 342 Reading in the Content Area, 5 hrs.
- EDUC 440 Classroom Strategies, 4 hrs
- EDUC 445 Org. & Admin. of Schools in American Society, 2 hrs

Specific Methods Courses:

Students must be admitted to the teacher education program in order to take these courses.

- EDUC 456 Integrated Modern Language Methods, 4 hrs.
- EDUC 457 Integrated Art Methods, 4 hrs.
- EDUC 459 Integrated Music Methods, 4 hrs.
- EDUC 460 Integrated Health Methods, 4 hrs.
- EDUC 461 Integrated Physical Education Methods, 4 hrs.
- EDUC 470 Student Teaching, 7 hrs.
- EDUC 475 Student Teaching Seminar, 1 hr.
- EDUC 480 Student Teaching, 8 hrs.

Vocational Licensure 4-12

Requirements for vocational licensure 4-12 may be obtained in the office of the Center for Teacher Education.

Vocational Licensure Programs are offered in the following area:

Technology Education

Professional Education Course Requirements:

•Students must be admitted to the teacher education program (**Students must pass Praxis I and have at least a 2.50 GPA).

- EDUC 115 Culture and Schooling 4 hrs.
- EDUC 150 Five- Day Field Experience, 0 hrs. (taken twice)
- EDUC 210 Exceptional Learner, 4 hrs.
- EDUC 224 Young and Late Adolescent Psychology, 4 hrs.
- **EDUC 285 Curriculum & Instruction, 4 hrs.
- EDUC 342 Reading in the Content Area, 5 hrs.
- EDUC 445 Org. & Admin. of Schools in American Society, 2 hrs

Specific Methods Courses:

Students must be admitted to the teacher education program in order to take these courses.

- EDUC 304 Strategies for Technology Education, 4 hrs.
- EDUC 458 Organization and Methods of Technology Education, 4 hrs.
- EDUC 470 Student Teaching, 7 or 15 hrs.
- EDUC 475 Student Teaching Seminar, 1 hr.
- EDUC 480 Student Teaching, 8 or 15 hrs.

Master of Education in Teaching Courses:

Core Courses

- EDUC 505 Foundations of American Education, 5 hrs.
- EDUC 515 Educational Ethics and Character Education, 5 hrs.
- EDUC 525 Curriculum and Instructional Design, 5 hrs.
- EDUC 570 Educational Research and Design, 5 hrs.

Reading Courses

- EDUC 540 Foundations of Reading, 5 hrs.
- EDUC 545 Advanced Reading in the Content Area, 5 hrs.
- EDUC 550 Clinical Diagnosis and Correction of Reading Difficulties, 5 hrs.
- EDUC 555 Literature and Reading, 5 hrs.

Electives*

- EDUC 530 Current Trends in Education, 5 hrs.
- EDUC 560 Current Trends in Reading, 5 hrs.
- EDUC 572 Teaching Students With Exceptional Needs, 5 hrs.
- EDUC 597 Independent Study, 5 hrs.
- EDUC 599 Special Topics in Education, 1-5 hrs.

Practicum

- EDUC 590 Research Practicum, 5-10 hrs.

*Electives can be taken if a student has already completed some of the required course work or does not wish to obtain endorsement.

Ohio Northern University

Praxis II - Pass-Rate Data: Regular Teacher Preparation Program

Academic Year: 2002-03

Testing Period 7/02–6/03

Number of Program Completers¹: 71

Type of Assessment	# Taking Praxis II ²	# Passing Praxis II ³	Ave. Pass Rate (%)	OH Pass Rate (%)	Nat'l Pass Rate (%) ⁴
Professional Knowledge					
Principles of Learning and Teaching K-6				92%	72%
Principles of Learning and Teaching 5-9	15	13	87%	94%	70%
Principles of Learning and Teaching 7-12	39	35	90%	95%	72%
Academic Content Areas					
EIEd Curriculum/Instruction/Assessment				95%	80%
Early Childhood Education	17	16	94%	98%	87%
Eng Lang Lit Comp Content Knowledge	3	***	***	90%	70%
Middle School English Language Arts	11	9	82%	95%	84%
Mathematics: Content Knowledge	1	***	***	90%	56%
Middle School Mathematics	6	***	***	100%	87%
Chem Physics and General Science				88%	74%
Social Studies: Content Knowledge	5	***	***	91%	72%
Middle School Social Studies	8	***	***	92%	80%
Physical Ed: Content Knowledge	4	***	***	88%	60%
Business Education				92%	73%
Music: Content Knowledge	10	10	100%	94%	76%
Art: Content Knowledge	3	***	***	96%	83%
French: Content Knowledge	2	***	***	96%	83%
Biology: Content Knowledge 1	5	***	***	94%	73%
Biology: Content Knowledge 2	5	***	***	88%	56%
Chemistry: Content Knowledge				85%	54%
Physics: Content Knowledge				86%	46%
Other Content Areas					
Health Education	3	***	***	100%	100%
Aggregate Data					
Professional Knowledge	54	48	89%	94%	
Academic Content Areas (Math, English, Biology, etc.)	75	70	93%	95%	
Other Content Areas (Career/Technical Education, Health Education, etc.)	3	***	***	100%	
Summary Totals and Pass Rates ⁵	71	64	90%	93%	

Contextual Information

¹ The number of program completers found, matched, and used in the passing rate calculation will not equal the sum of the column labeled "Number Taking Assessment" since a completer can take more than one assessment.

² Numbers of completers who took one or more tests in a category and within their area of specialization.

³ Number who passed all tests they took within the category and within their area of specialization.

⁴ The national passing rate is calculated at Ohio's cut schools, which are among the highest in the nation. For instance, Ohio requires the highest cut score in Principles of Learning and Teaching 5-9 and ranks second in Principles of Learning and Teaching K-6 and 7-12.

⁵ Number of completers who successfully completed one or more tests across all categories used by the state for licensure and the total pass rate

***No pass rate percentage is calculated when fewer than 10 teacher candidates take the Praxis II test.

Subject- Education (EDUC)

115 - CULTURE AND SCHOOLING

4.00 Credits

The philosophical, historical, and sociological aspects of education used to investigate the cultural factors that impact students and curriculum including diverse world views, values, norms, and history of multicultural American groups. Characteristics, legislation, programs, and strategies for identifying and working with exceptional students in the classroom are stressed. A 5-day field experience is required. Required of all Early Childhood Education, Middle Childhood Education, Adolescent Level and Multiage Level majors.

150 - FIVE DAY FIELD EXPERIENCE

.00 Credits

Observation and participation with students and teachers in a school setting for five consecutive school days and a minimum of 35 hours. Must be repeated one time. One experience must be in a culturally, racially and/or socioeconomically diverse setting. Required twice during freshman or sophomore year of all students seeking teaching licensure. Approval of education advisor is required prior to this experience. Graded S/U. Prerequisite: EDUC 115.

190 – SPECIAL TOPICS IN EDUCATION

1.00 to 4.00 Credits

Can be repeated as the topic varies.

195 - ORIENTATION

1.00 Credit

Familiarization with the department, requirements for majors, planning program of courses and field-based experiences, University catalog, and library. Required of early childhood education and middle childhood education majors. Graded S/U.

210 - EXCEPTIONAL LEARNER

4.00 Credits

To familiarize students with the varying characteristics and needs of exceptional individuals, their rights under the law and programming alternatives developed to meet their needs. Prerequisite: EDUC 115.

220 - INTEGRATED FINE ARTS

4.00 Credits

Translation of knowledge of and experiences in the visual and performing arts into appropriate integrated experiences. Styles and modes of visual and performing arts across cultures and from various periods of history.

223 - CHILD DEVELOPMENT AND PSYCHOLOGY

4.00 Credits

Characteristics of the child at different levels of maturity; physical, mental, social and emotional growth; growth and organization of meanings and concepts; controls and factors in social behavior; personality developments. Includes a minimum of 20 hours of field experience. A criminal record check is required. Prerequisite: EDUC 115.

224 - YOUNG AND LATE ADOLESCENT PSYCHOLOGY

4.00 Credits

The physical, social, emotional, and intellectual development of early and late adolescents, and the corresponding implications for curriculum and instruction. Includes 10 hours of field experience. Prerequisite: EDUC 115.

230 - EARLY CHILDHOOD MATHEMATICS

4.00 Credits

Content, strategies, materials, and evaluation that reflect the current emphasis in mathematics education. Includes 30 hours of field experience. Prerequisites: MATH 172 and 173.

240 - INTRODUCTION TO EARLY CHILDHOOD EDUCATION

4.00 Credits

History, philosophy and current developments in the field of early childhood education. Prerequisites: EDUC 223, 2.50 GPA, and completion of Praxis 1.

241 - EARLY CHILDHOOD METHODS AND INSTRUCTION

4.00 Credits

Teaching processes and development of materials for early childhood settings. Planning methodology and strategies. Includes 10 hours of field experience. Prerequisite: EDUC 240.

242 - EARLY CHILDHOOD CURRICULUM AND POLICIES

4.00 Credits

The comprehensive examination of the curriculum of early childhood programs and the policies of the early childhood movement. Curriculum planning and organization. Includes 30 hours of field experience. Prerequisites: EDUC 241.

260 - INTRODUCTION TO MIDDLE CHILDHOOD EDUCATION

4.00 Credits

The history, philosophy, and organization of middle school education. Evaluation of multi-media materials, creative exploration, and enrichment activities to build an effective middle school. Includes 20 hours of field experience. Prerequisites: EDUC 224, 2.50 GPA, and completion of Praxis 1.

261 - MIDDLE CHILDHOOD METHODS AND INSTRUCTION

4.00 Credits

Integrated teaching at the middle school level. Planning, instruction, strategies, and evaluation of an interdisciplinary nature. Includes 20 hours of field experience. Prerequisites: EDUC 260.

262 - MIDDLE CHILDHOOD CURRICULUM AND POLICIES

4.00 Credits

The development of theory, organization, and decision making in middle school curriculum from integrated, interdisciplinary focus. Includes 20 hours of field experience. Prerequisites: EDUC 261.

285 - CURRICULUM AND INSTRUCTION

4.00 Credits

School curriculum practices, instructional materials, curriculum development changes and trends. Discussion of mainstreaming and gifted education. Designed for adolescent and multiage education majors. Includes 30 hours of clinical field experience. Prerequisites: EDUC 115, 2.50 GPA, and completion of Praxis 1.

290 - SPECIAL TOPICS IN EDUCATION

1.00 to 4.00 Credits

Can be repeated as the topic varies.

304 - STRATEGIES FOR TECHNOLOGY EDUCATION

4.00 Credits

Technology and technical activity at the middle school level to assist the children in learning. The use of materials, tools and processes to enhance learning and to assist in developing interests and talents. The rationale, materials, creative and manipulative activities. Typical problems and the planning and organizing of the learning environment. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program.

308 - MIDDLE SCHOOL MATH METHODS

4.00 Credits

Methods and current issues in middle school mathematics teaching, including problem solving, technology, strategies, and teaching aids. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program.

309 - MIDDLE SCHOOL SCIENCE METHODS

5.00 Credits

Science in middle school education, the preparation of materials, and organization of learning activities for problem solving. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program.

310 - INTEGRATED LANGUAGE ARTS

4.00 Credits

An integrated or whole language approach is taken in this course and is based on cognitive, developmental, and psycholinguistic theories about how students learn. Knowledge and appreciation of children's books, teaching of creative writing. Encompasses strategies showing how to integrate all of the language arts with an emphasis on children's literature. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program.

311 - MIDDLE SCHOOL SOCIAL STUDIES METHODS

4.00 Credits

Objectives, trends, issues, and evaluation of the teaching of social studies in the middle school. Includes the preparation of units and organization of learning activities for problem solving. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program.

312 - TEACHING PHONICS

5.00 Credits

Emphasis on how to teach phonics, word recognition skills and communication skills including listening and speaking. Includes 30 hours of field experience (including 10 clinical hours). Prerequisite: Admission to the teacher program.

314 - FOUNDATIONS OF READING AND ASSESSMENTS

5.00 Credits

Principles and methods of teaching reading including whole language, phonics, creative writing, diagnostic skills, and preparation and evaluation of reading materials. Includes 30 hours of field experience. Prerequisites: Admission to the teacher education program and EDUC 312.

320 - INSTRUCTIONAL MEDIA AND EDUCATIONAL TECHNOLOGIES

4.00 Credits

The role that technologies play in our schools of today as well as in American society. Emphasis on instruction, planning, selection, utilization, operation, production, and evaluation of media equipment and materials including motion media, projected visuals, audio media, computers, and multimedia systems. Includes 10 hours of field experience. Prerequisites: EDUC 115 and juniors or seniors seeking teacher licensure.

340 - DIAGNOSIS AND CORRECTION OF READING DIFFICULTIES

4.00 Credits

Reading difficulties and related causal factors. Investigation and utilization of diagnostic procedures and techniques, including experience in administration and interpretation. Appropriate teaching procedures for reading. Includes 10 hours of field experience. Prerequisites: EDUC 312 and admission to the teacher education program.

342 - READING IN THE CONTENT AREA

5.00 Credits

Strategies for facilitating student/text interaction in a variety of curricular areas. Emphasis on the following aspects of reading: assessment of student and text; prereading, vocabulary, and comprehension strategies; study skills. Includes 10-30 hours of field experience. Prerequisite: Admission to the teacher education program.

350 - DEPARTMENTAL FIELD EXPERIENCE

.00 Credits

Individually planned field experience based on an area of licensure purposes and objectives and/or student teaching objectives. Specific objectives and experience proposed by student and must be approved by major department and education advisors. Required for adolescent or multiage licensure if 190 hours of field experience is not complete in other professional education courses. Graded S/U. May be repeated once.

390 - SPECIAL TOPICS IN EDUCATION

1.00 to 4.00 Credits

Can be repeated as the topic varies.

440 - CLASSROOM STRATEGIES

4.00 Credits

Teaching behavior, techniques, methods, and strategies that are required for effective instruction in adolescent and multiage classrooms. Focuses on other aspects of effective teaching such as positive teacher beliefs, evaluation, and classroom management. Includes 30 hours of field experience. Note: EDUC 440 does not fulfill the specific methodology requirement for adolescent and multiage education majors. Prerequisite: Admission to the teacher education program.

445 - ORGANIZATION AND ADMINISTRATION OF SCHOOLS IN AMERICAN SOCIETY

2.00 Credits

Professional issues and orientation to school administrative structure, job search strategies, educational law, educational finance and the politics of education. Prerequisites: Admission to the teacher education program and senior status.

451 - INTEGRATED SCIENCE METHODS

5.00 Credits

Methods, strategies and safety considerations for classroom and laboratory instruction in science. Topics include laboratory planning, laboratory management, laboratory safety, science-technology-society, computer-assisted instruction, materials procurement and materials storage. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program.

452 - INTEGRATED ENGLISH/LANGUAGE ARTS METHODS

4.00 Credits

Effective methods in teaching grammar, writing, and literature. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program.

453 - INTEGRATED SOCIAL STUDIES METHODS

4.00 Credits

Effective methods in teaching History, Political Science, Psychology, Sociology, Geography, Economics and Anthropology. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program.

454 - INTEGRATED MATHEMATICS METHODS

4.00 Credits

Methods and current issues in adolescent/young adult mathematics teaching including guided discovery, problem solving, diagnosis and remediation, technology, strategies, and teaching aids. This course will not count toward a major in mathematics. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program.

456 - INTEGRATED MODERN LANGUAGE METHODS

4.00 Credits

Theory and practice of current methods for teaching modern languages; evaluation of textbooks; use of audio-visual media; methods of evaluating student progress. Includes 30 hours of field experience. Prerequisites: minimum of 18 hours in foreign languages; admission to the teacher education program.

457 - INTEGRATED ART METHODS

4.00 Credits

Effective strategies dealing with materials, techniques and methods of instruction in art. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program.

458 - ORGANIZATION AND METHODS OF TECHNOLOGY EDUCATION

4.00 Credits

Philosophical constructs, organizing courses, program and course objectives, preparing lesson plans and industrial materials, laboratory procedures, and administrative practices. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program.

459 - INTEGRATED MUSIC METHODS

4.00 Credits

Philosophy, techniques, materials, curriculum planning for the music teacher. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program.

460 - INTEGRATED HEALTH METHODS

4.00 Credits

Innovative strategies for the teaching of health education are applied. Attention is given to conceptualizing instruction, specifying instructional objectives, planning units and lessons, utilizing various instructional methods, selecting and using instructional materials, and evaluating teaching effectiveness. Includes 30 hours of field experience. Prerequisite: Admission to the teacher education program. Course is offered winter quarter every other year during the odd/even year.

461 - INTEGRATED PHYSICAL EDUCATION METHODS

4.00 Credits

Methods, devices and techniques which are most effective in teaching of the discipline in the public schools. Includes 30 hours of field experience. Prerequisites: One year of physical education for majors; junior status; and admission to the teacher education program. Course is offered fall quarter every year.

470 - STUDENT TEACHING - EARLY CHILDHOOD-MIDDLE CHILDHOOD

7.00 or 15.00 Credits

Planning and teaching under supervision in the early or middle level grades; weekly seminar on campus. Prerequisites: An overall accumulative point average of 2.50 with no grade less than "C" in education and major courses required for licensure; a minimum of 190 hours of supervised field experiences; recommendation of the major department advisor and chairperson, professional education advisor, and the Director of Teacher Education. Students seeking multiage licensure enroll for 7 hours and enroll in EDUC 480 for 8 hours. Students seeking early childhood or middle childhood licensure enroll for 15 hours. The student teaching experience is for eleven weeks. Corequisite: EDUC 475. Graded S/U.

475 - STUDENT TEACHING SEMINAR

1.00 Credit

Weekly seminar to be taken concurrently with student teaching. Includes such discussion topics as classroom management, legal aspects, communication with parents, licensure and interviewing techniques, etc. Graded S/U, based upon attendance. Corequisite: EDUC 470 and/or 480.

480 - STUDENT TEACHING-ADOLESCENT

8.00 or 15.00 Credits

Planning and teaching under supervision in the adolescent level, full time, five days per week for 11 weeks, in the major teaching field of the student; weekly seminar on campus. Prerequisite: An overall accumulative point average of 2.50 with no grade less than "C" in education or major courses required for licensure; a minimum of 190 hours of supervised clinical/ field experiences; recommendation of the major department advisor and chairperson, professional education advisor, and Director of Teacher Education. Students seeking multiage licensure enroll for 8 hours. Students seeking 7-12 licensure enroll for 15 hours. Corequisite: EDUC 475. Graded S/U.

490 - SPECIAL TOPICS IN EDUCATION

1.00 to 4.00 Credits

Can be repeated as the topic varies.

497 - INDEPENDENT STUDY IN EDUCATION

1.00 to 4.00 Credits

In areas of student interest with permission of the Director of Teacher Education.

502 – SEMINAR IN GRADUATE DEVELOPMENT

0.00 Credits

For graduate students in the MET degree program who are not registered for a course in a particular quarter.

505 - FOUNDATIONS OF AMERICAN EDUCATION

5.00 Credits

An interdisciplinary approach which integrates history, philosophy, and sociology, ways in which these disciplines are applied to the investigation of selected educational topics, questions, and issues relevant to contemporary education. Prerequisite: Admission to the graduate program.

515 - EDUCATIONAL ETHICS AND CHARACTER EDUCATION

5.00 Credits

The area of educational ethics and character education centering on education and schooling as problems and positions; examinations of theoretical and practical applications, including character education. Prerequisite: Admission to the graduate program.

525 - CURRICULUM AND INSTRUCTIONAL DESIGN

5.00 Credits

Development of knowledge, skills, and dispositions needed to structure knowledge, organize and change the elementary, middle, and secondary school curriculum; emphasis on purposes, materials and practices associated with effective schools. Prerequisite: Admission to the graduate program.

530 – CURRENT TRENDS IN EDUCATION

1.00 to 5.00 Credits

Examination of contemporary issues and trends in education and their historical perspectives. Prerequisite: Admission to the graduate program.

540 - FOUNDATIONS OF READING

5.00 Credits

Different models of reading will be presented. The understanding of what research reveals about each of the components of the reading process. Prerequisite: Admission to the graduate program.

545 - ADVANCED READING IN THE CONTENT AREA

5.00 Credits

Emphasis on helping K-12 students process and learn from content materials, including understanding text structure, vocabulary development, comprehension strategies, language acquisitions, purposes of language, assessment and evaluation. Prerequisite: Admission to the graduate program.

550 - CLINICAL DIAGNOSIS AND CORRECTION OF READING DIFFICULTIES

5.00 Credits

Reading difficulties and related causal factors. Investigation and utilization of diagnostic procedures and techniques, including experience and interpretation. Prerequisite: Admission to the graduate program.

555 - LITERATURE AND READING

5.00 Credits

Development of knowledge, skills and dispositions needed to increase knowledge and awareness of how crucial children's literature is in the curriculum of schools today; emphasis on using children's literature as a tool for building character. Prerequisite: Admission to the graduate program.

560 - CURRENT TRENDS IN READING

5.00 Credits

Development of knowledge, skills, and dispositions needed to increase knowledge and awareness of trends, research, strategies, and innovations in reading today. Prerequisite: Admission to the graduate program.

570 - EDUCATIONAL RESEARCH AND DESIGN

5.00 Credits

Development of knowledge, skills, and dispositions needed to research and evaluate the effectiveness of instruction; emphasis on research strategies and analysis of descriptive information. Prerequisite: Admission to the graduate program.

572 - TEACHING STUDENTS WITH EXCEPTIONAL NEEDS

5.00 Credits

Designing instruction through an examination of pupil assessment, the correlation of strategies and materials, and application of classroom management techniques. Direct experiences in planning educational programs and making curricular modifications for students with exceptional needs in regular classrooms.

590 - RESEARCH PRACTICUM

5.00 Credits

Culminating written project for completion of Masters Degree. Can be repeated once. Permission of the Director of Graduate Program is required. Prerequisites: Admission to the graduate program, EDUC 505, 515, 525 and 570.

597 - INDEPENDENT STUDY

1.00 to 5.00 Credits

Studies in areas of student interest. Permission of the Director of Graduate Program is required. Can be repeated once. Prerequisites: Admission to the Graduate Program.

599 - SPECIAL TOPICS IN EDUCATION

1.00 to 5.00 Credits

Can be repeated as the topic varies.

DEPARTMENT OF ENGLISH

Professors McManus (*Chair*), Smith; Associate Professors Cullen, Lietz, Pitts, Robeson, Scott; Assistant Professors Bender, Croskery, Mara, O'Connell

Mission Statement

As a traditional humanities discipline, English promotes the reading of Western and non-Western literatures as works of art, sources of pleasure, and as means for understanding people and culture. As a theoretical discipline, it responds to and incorporates changing conceptions of language, texts, literature,

rhetorics, and interpretation. As a practical discipline, it develops within multimedia settings the various skills essential to critical thinking and writing.

The English faculty designs its courses for the general education of the university student and for the training of its majors. English prepares students for life after college, for professional and business careers, for law school, and for graduate study in English and other disciplines.

The English Department offers majors in Literature, Language Arts Education (for secondary teaching licensure), Creative Writing, Professional Writing, and Journalism. It offers minors in Literature, Creative Writing, Professional Writing, and Journalism. All majors include a 2-hour senior seminar, a research and writing workshop guided by a faculty mentor in which students prepare a professional project or paper with a view to publication.

The Department encourages complementary majors, minors, or options in other disciplines, including specifically a recommended option or minor in business. The student may also complete two majors or a major and a minor within the department so long as there is no more than 40% duplication of courses within the second major or minor. The Department provides opportunities for practical experience in writing, editing, and publication management through internships, five different practica, a department newsletter, and various activities within the Sigma Tau Delta honor society.

Majors are urged to consider study abroad as part of their English degree. One option is to participate in the university's cooperative exchange agreement with the University of Wales, Lampeter.

General Education: The B.A. requirement in humanities beyond ENGL 204 may be fulfilled by designated literature, culture, criticism, and creative writing courses. Students with an ACT score of 25 or above in both English and Reading may be waived from ENGL 110.

Major and Minor Programs: 100-level English courses and ENGL 204 do not count toward any major, minor, or option in the Department, nor does any course with a grade below "C." Required cognate for the Major in Literature is one course in History, Modern Language or Philosophy beyond General Education requirements. For Literature, Creative Writing and Language Arts Education majors, 7 courses (not including the senior essay) must be above the 200 level. For the other majors, the 300/400-level requirements are indicated separately below. Most majors and minors must take specified literature courses from the following **core distribution:**

British Literature: Medieval/Renaissance Jacobean (ENGL 213, 310, 319, 410, 412)

British Literature: Restoration/Eighteenth-Century/Romantic (ENGL 213, 214, 322, 323)

British Literature: Victorian/Twentieth-Century (ENGL 214, 324, 326)

American Literature: Pre-Twentieth-Century (ENGL 211, 334)

American Literature: Twentieth-Century (ENGL 212, 335)

World Literature: Ancient to Modern (ENGL 208, 209, 219, 220, 262, 430, 432, 451)

Other courses, whose content changes significantly with each offering, may also satisfy specific literature requirements: ENGL 207, 261, 263, 290, 364, 365, 390, 431, 490.

Major in Literature (64 hours)

Required Courses (22 hours)

ENGL 210	English Studies
ENGL 351	English Language
ENGL 410	Chaucer
ENGL 412	Shakespeare Studies
ENGL 451	Literary Criticism
ENGL 445	Senior Seminar

Electives (24 hours)

Option 1

ENGL 211	American Literature 1
ENGL 212	American Literature 2

Three 300/400 courses in British literature, at least two after 1700

(ENGL 310, 319, 322, 323, 324, 326, 364)

One 300/400 course in American literature (ENGL 334, 335, 365, 431)

Option 2

ENGL 213	British Literature 1
ENGL 214	British Literature 2

Three courses in American Literature, at least two 300/400 level

(ENGL 261, 271, 274, 281, 334, 335, 365, 431)

One 300/400 course in British literature after 1700 (ENGL 322, 323, 324, 326, 364)

Additional Electives (14 hours)

Two courses in world literature, at least one 300/400 level

(ENGL 208, 209, 219, 220, 262, 430, 432)

One elective in literature, culture or writing

Two hours of publication experience

(ENGL 230, 231, 232, 244, 250, 251, 420; COMM 110)

Cognate (4 hours)

One course in Language, History or Philosophy beyond General Education requirements

Major in Language Arts Education (63 hours)

Integrated Language Arts Secondary Teaching Licensure

Literature (36 hours)

ENGL 210	English Studies
ENGL 211	American Literature 1
ENGL 212	American Literature 2

ENGL	225	Children's & Young Adult Literature
ENGL	410	Chaucer
ENGL	412	Shakespeare Studies
Three literature courses in three core areas: British literature (Restoration to Romantic; Victorian/Twentieth Century) and world literature		
<u>Writing (15 hours)</u>		
ENGL	241	News Writing <i>or</i>
ENGL	273	Writing in the Public Sphere <i>or</i>
ENGL	244	Desktop Publishing <i>or</i>
ENGL	443	Nonfiction Writing
ENGL	230	Web Publishing Practicum <i>or</i>
ENGL	231	Journal Publishing Practicum <i>or</i>
ENGL	250	Newspaper Practicum <i>or</i>
ENGL	251	Magazine Practicum
ENGL	341	Poetry Writing <i>or</i>
ENGL	342	Fiction Writing <i>or</i>
ENGL	343	Persuasive Writing <i>or</i>
ENGL	345	Screenwriting <i>or</i>
ENGL	349	Writing for Young Audiences
ENGL	347	Advanced Writing
ENGL	445	Senior Seminar
<u>Linguistics, Grammar, History of the Language (4 hours)</u>		
ENGL	351	English Language
<u>Oral Communication (8 hours)</u>		
COMM	225	Interpersonal Communication
COMM	241	Oral Interpretation of Literature
Attendance at two professional conferences/workshops		

Major in Creative Writing (57 hours)

Required Writing Courses (12 hours)

ENGL	341	Poetry Writing
ENGL	342	Fiction Writing
ENGL	447	Advanced Creative Writing

Two Additional Writing Courses (8 hours)

ENGL	345	Screenwriting
ENGL	349	Writing for Young Audiences
ENGL	443	Nonfiction Writing
COMM	486	Playwriting

Other Required Courses (9 hours)

ENGL	230	Web Publishing Practicum <i>or</i>
ENGL	231	Journal Publishing Practicum <i>or</i>
ENGL	251	Magazine Practicum <i>or</i>
ENGL	290	Screenwriting Practicum
ENGL	451	Literary Criticism
ENGL	445	Senior Seminar

Language and Literature Core (28 hours)

ENGL	210	English Studies
ENGL	351	English Language
Five courses in five core areas in British, American, and world literature		

Major in Professional Writing (58 hours + Secondary Study)

Professional Writing Core 23 hours)

ENGL	244	Desktop Publishing
ENGL	273	Writing in the Public Sphere
ENGL	405	Cultural Studies
ENGL	443	Nonfiction Writing
ENGL	470	Editing
ENGL	481	Internship
ENGL	445	Senior Seminar

Core Electives (12 hours)

ENGL	241	News Writing
COMM	256	Writing for Broadcasting and Electronic Media
ENGL	342	Fiction Writing
ENGL	343	Persuasive Writing
ENGL	344	Writing Cyberspace
ENGL	345	Screenwriting
ENGL	346	Prelaw Writing
ENGL	347	Advanced Writing
ENGL	378	Journal Publishing
ENGL	451	Literary Criticism
Special topics courses (290, 390, 490) when the topic is writing		

Practicums (3 hours in at least two different practicums)

ENGL	230	Web Publishing Practicum
ENGL	231	Journal Publishing Practicum
ENGL	250	Newspaper Practicum
ENGL	251	Magazine Practicum
ENGL	290	Screenwriting Practicum
ENGL	377	Professional Writing Workshop

Language and Literature Core (20 hours)

ENGL	210	English Studies
ENGL	351	English Language
Three literature courses in three core areas, two at the 300/400 level: World Literature (ENGL 208, 209, 219, 220, 262, 432, 451)		

British Literature (ENGL 213, 214, 260, 310-326, 364, 410, 412)		
American Literature (ENGL 211, 212, 261, 271, 274, 281, 334, 335, 365, 431)		

Other courses, whose content changes significantly with each offering, may also satisfy these literature requirements: ENGL 207, 263, 290, 390, 430, 490.

Secondary Study

An Option, Minor, or Second Major in a discipline other than English

Major in Journalism

(59 hours + Secondary Study)

Journalism Core Requirements (35 hours)

ENGL	241	News Writing
ENGL	244	Desktop Publishing
ENGL	250	Newspaper Practicum
ENGL	273	Writing in the Public Sphere
ENGL	371	Journalism
ENGL	380	Literary Journalism
ENGL	470	Editing
ENGL	481	Internship
ENGL	445	Senior Seminar

Core Elective (4 hours)

COMM	150	Introduction to Broadcasting & Electronic Media
COMM	221	Interviewing
COMM	230	Communication Theory
COMM	256	Writing for Broadcasting and Electronic Media
ENGL	343	Persuasive Writing

ENGL	344	Writing Cyberspace
ENGL	346	Prelaw Writing
ENGL	347	Advanced Writing
COMM	355	Broadcast Journalism
ENGL	376	Journalism Workshop
ENGL	443	Nonfiction Writing
ENGL	452	Cultural Studies

Special topics courses (290, 390, 490) when the topic is journalism

Language and Literature Core (20 hours)

ENGL	210	English Studies
ENGL	351	English Language

Three literature courses in three core areas, two at the 300/400 level:

World Literature (ENGL 208, 209, 219, 220, 262, 432, 451)

British Literature (ENGL 213, 214, 260, 310-326, 364, 410, 412)

American Literature (ENGL 211, 212, 261, 271, 274, 281, 334, 335, 365, 431)

Other courses, whose content changes significantly with each offering, may also satisfy these literature requirements: ENGL 207, 263, 290, 390, 430, 490.

Secondary Study

An Option, Minor, or Second Major in a discipline other than English

Minor in Literature (32 hours)

The Minor in Literature requires the completion of eight 4-hour courses, including electives according to the following distribution: 2 American, 2 British, 1 World, 2 open. At least one American literature course must be before 1900, and at least one British literature course before 1800. At least four of the courses must be on the 300/400 level.

Required course (4 hours)

English 210 English Studies

Electives (28 hours)

British Literature: ENGL 213, 214, 310, 319, 322, 323, 324, 326, 364, 410, 412

American Literature: ENGL 211, 212, 261, 271, 274, 281, 334, 335, 365, 431

World Literature: ENGL 208, 209, 219, 220, 262, 430, 432

Literary Studies: ENGL 451

Creative Writing: ENGL 341, 342, 345, 349, 443, 447, COMM 486

Minor in Creative Writing (30 hours)

Required course (4 hours)

ENGL 210 English Studies

Writing and Criticism Electives (14 hours)

ENGL 251 Magazine Practicum (1-2 hours)

ENGL 341 Poetry Writing

ENGL 342 Fiction Writing

ENGL 345 Screenwriting

ENGL 349 Writing for Young Audiences

ENGL 375 Creative Writing Workshop (1-4 hours)

ENGL 443 Nonfiction Writing

ENGL 447 Advanced Creative Writing

ENGL 451 Literary Criticism

COMM 486 Playwriting

Literature Electives (12 hours)

Three courses from at least two of the three core areas of British, American, and world literatures

Minor in Professional Writing (31 hours)

Required courses (16 hours)

ENGL	210	English Studies
ENGL	244	Desktop Publishing
ENGL	273	Writing in the Public Sphere
ENGL	470	Editing

Practicums (3 hours in at least two different practicums)

ENGL	230	Web Publishing Practicum
ENGL	231	Journal Publishing Practicum
ENGL	250	Newspaper Practicum
ENGL	251	Magazine Practicum
ENGL	290	Screenwriting Practicum
ENGL	377	Professional Writing Workshop

Electives (12 hours)

ENGL	241	News Writing
COMM	256	Writing for Broadcasting and Electronic Media
ENGL	342	Fiction Writing
ENGL	343	Persuasive Writing
ENGL	344	Writing Cyberspace
ENGL	345	Screenwriting
ENGL	346	Prelaw Writing
ENGL	347	Advanced Writing
ENGL	349	Writing for Young Audiences
ENGL	378	Journal Publishing
ENGL	405	Cultural Studies
ENGL	443	Nonfiction Writing
ENGL	447	Advanced Creative Writing
ENGL	451	Literary Criticism
ENGL	452	Rhetorical Theory

Special topics courses (290, 390, 490) when the topic is writing

Minor in Journalism (30 hours)

Required courses (18 hours)

ENGL	241	News Writing
ENGL	250	Newspaper Practicum
ENGL	273	Writing in the Public Sphere
ENGL	371	Journalism
ENGL	470	Editing

Electives (12 hours)

COMM	150	Introduction to Broadcasting and Electronic Media
COMM	221	Interviewing
COMM	230	Communication Theory
COMM	236	Public Relations Writing
COMM	256	Writing for Broadcasting and Electronic Media
ART	222	Graphic Design 1
ENGL	343	Persuasive Writing
ENGL	344	Writing Cyberspace
ENGL	346	Prelaw Writing
ENGL	347	Advanced Writing
COMM	355	Broadcast Journalism
ENGL	376	Journalism Workshop
ENGL	380	Literary Journalism
ENGL	443	Nonfiction Writing

Special topics courses (290, 390, 490) when the topic is journalism

Subject - English (ENGL)

000 - ENGLISH ORIENTATION

1.00 Credit

Familiarization with department faculty, students, programs, and technology. Emphasis on career development within a liberal arts framework. Introduction to general university services and activities. Required of all majors. Graded S/U.

001 - ENRICHMENT

.00 Credits

Enrichment of the curriculum for English majors through required attendance at designated cultural and academic extracurricular events. Must be taken twice each academic year by all English majors. Graded S/U.

105 - WRITING WORKSHOP

4.00 Credits

Instruction and practice in writing for entering students whose English ACT is below 16. Offered Fall Quarter. **CREDIT IN THIS COURSE DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY.**

110 - WRITING 1

4.00 Credits

Development of reading and writing skills for effective communication on the college level. Prerequisite for all 200-level courses in English. Students with ACT of 25 or above in both English and Reading may be exempted from this course.

111 - WRITING 2

4.00 Credits

Continuation of ENGL 110. Prerequisites: ENGL 110 or HONR 100 or ACT or 25 or above in English and Reading.

151 - COLLEGE COMPOSITION 1

4.00 Credits

Communication skills for non-native speakers of English with emphasis on reading and writing in an academic setting. ENGL 151 and 152 together may be substituted for ENGL 110.

152 - COLLEGE COMPOSITION 2

4.00 Credits

Continuation of ENGL 151. ENGL 151 and 152 together may be substituted for ENGL 110. Prerequisite: ENGL 151 or 110.

153 - COLLEGE COMPOSITION 3

4.00 Credits

Writing skills for non-native speakers of English. ENGL 153 may be substituted for ENGL 111. Prerequisites: ENGL 151 and ENGL 152.

190 - SPECIAL TOPICS IN ENGLISH

1.00 to 4.00 Credits

May be repeated as the topic varies.

Except for ENGL 210, 211-12, 213-14, 225 and 244, 200-level courses are designed for the general student. ENGL 210 is open only to majors and minors. Prerequisites for ENGL 204: ENGL 110, 111, and Sophomore standing. No prerequisites for Practica: 230, 231, 232, 250, 251. Prerequisite for other 200-level courses: English 110 or equivalent.

204 - GREAT WORKS

4.00 Credits

Major literary texts from the classical period to the present, including Shakespeare. A general education course. An Arts and Sciences requirement. Not open to Freshmen. Does not count toward an English major or minor. Prerequisites: ENGL 111 or 153.

207 - MODERN POETRY

4.00 Credits

Representative twentieth-century poetry written in English. Prerequisite: ENGL 110 or equivalent.

208 - MODERN WORLD DRAMA

4.00 Credits

Representative twentieth-century plays from Western and non-Western countries. ENGL 110 or equivalent

209 - MODERN FICTION

4.00 Credits

Representative twentieth-century novels, short stories, and other prose fiction from Western and non-Western countries. Prerequisite: ENGL 110 or equivalent.

210 - ENGLISH STUDIES

4.00 Credits

An introduction to the English major. An overview of literary terms, genres, historical periods, literary theory, and rhetoric; practice in literary criticism and creative writing; an awareness of career opportunities. Required of all majors and of minors in Creative Writing, Literature, and Professional Writing. Open only to English majors and minors. To be taken during the sophomore year. Prerequisite: ENGL 111.

211 - AMERICAN LITERATURE 1

4.00 Credits

The early period of American Literature (1492-1870s), including such genres as exploration and spiritual narratives, revolutionary political writing, fiction, and poetry, taking into account social and historical context. Prerequisite: ENGL 111.

212 - AMERICAN LITERATURE 2

4.00 Credits

The early modern, modern, and contemporary periods of American literature (1870s to the present), including such movements as regionalism, realism, naturalism, modernism, and postmodernism in a variety of genres—mainly poetry, fiction, and drama—in a rapidly changing social milieu. Prerequisite: ENGL 111.

213 - BRITISH LITERATURE 1

4.00 Credits

A survey of British literature from the Anglo-Saxon period through Neo-classicism in the eighteenth century, focusing on major and minor authors as reflective of both continuity and radical change in literary forms and cultural contexts. (Formerly ENGL 201 and 202) Prerequisite: ENGL 111.

214 - BRITISH LITERATURE 2

4.00 Credits

A survey of British literature from late eighteenth-century Romanticism to the end of the twentieth century, with continuing emphasis on literary themes and forms within changing cultural contexts. (Formerly ENGL 202 and 203) Prerequisite: ENGL 111.

219 - NON-WESTERN LITERATURE

4.00 Credits

Representative literary works in English or in English translation from the non-Western world. This course satisfies the Arts and Sciences non-Western requirement. Prerequisite: ENGL 110 or equivalent.

220 - EUROPEAN LITERATURE

4.00 Credits

The Western tradition in literature, including representative continental literature in translation from the Classical Greek era to the present. Prerequisite: ENGL 110 or equivalent.

225 - CHILDREN'S AND YOUNG ADULT LITERATURE

4.00 Credits

Literature specifically suited for children and adolescents. The readings selected from various genres will be studied using the same critical approaches that are traditionally used to analyze literature for adults. Open to majors in Language Arts Education, Youth Ministry, Early Childhood and Middle Childhood Education. Others by department permission only. Prerequisite: ENGL 111.

230 - WEB PUBLISHING PRACTICUM

1.00 to 6.00 Credits

Publication activities on the ONU electronic magazine (e-zine). One to six credits, depending on role, to be determined by department. Course may be repeated, but only 12 hours will count toward graduation. Graded S/U.

231 - JOURNAL PUBLISHING PRACTICUM

1.00 to 6.00 Credits

Workshop experience for English majors in technical and management skills related to the publication of professional journals. One to six credits, depending on role, to be determined by department. May be repeated, but only 12 hours will count toward graduation.

232 - RESEARCH PRACTICUM

1.00 to 6.00 Credits

Practical experience in using such research skills as documentation, editing, and preparing manuscripts. Student will work with faculty member as research assistant. One to six credits, depending on role, to be determined by department. May be repeated, but only 12 hours will count toward graduation. English majors only. Graded S/U.

241 - NEWS WRITING

4.00 Credits

Gathering information and writing for a newspaper. Prerequisite: ENGL 111.

244 - DESKTOP PUBLISHING

4.00 Credits

Design principles of desktop publishing used in the printing industry. Practical application of software publication tools in a computer classroom setting. Issues specific to English Department programs. Open to English Department majors. Others by permission of the department.

250 - NEWSPAPER PRACTICUM

1.00 to 6.00 Credits

Journalism activities on the Northern Review. One to six credits, depending on role, to be determined by department. Course may be repeated, but only 12 hours will count toward graduation. Graded S/U. (Formerly Journalism Activities-Newspaper)

251 - MAGAZINE PRACTICUM

1.00 to 6.00 Credits

Publication activities on Polaris. One to six credits, depending on role, to be determined by department. Course may be repeated, but only 12 hours will count toward graduation. Graded S/U. (Formerly Journalism Activities- Magazine)

260 - INTRODUCTION TO SHAKESPEARE

4.00 Credits

Representative plays and poetry from the entire span of Shakespeare's career and from each of the genres. For Communication Arts and Education majors. Others by department permission only. Prerequisites: ENGL 110 or equivalent.

261 - AFRICAN-AMERICAN LITERATURE

4.00 Credits

The tradition of African-American literature from the eighteenth-century to the present, including such genres as spiritual and folk poems, autobiography, poetry, short stories, novels and essays, in the context of formative political, historical, and social forces, with a special emphasis on writing as an expression of liberation for the African-American community. Prerequisite: ENGL 110 or equivalent.

262 - AFRICAN LITERATURE

4.00 Credits

Folktales, traditional epics, and contemporary fiction and drama that reflect African life and thought from the pre-colonial era to present day. This course satisfies the Arts and Sciences non-Western requirement. (Formerly ENGL 370) Prerequisite: ENGL 110 or equivalent.

263 - WOMEN'S LITERATURE

4.00 Credits

Selected works by or about women in English or in translation, drawn from a variety of genres in all historical eras, viewed from various critical perspectives, including feminist and historical/cultural theories. Prerequisite: ENGL 110 or equivalent.

271 - MODERN AMERICAN DRAMA

4.00 Credits

A sustained study of twentieth-century American drama. Prerequisite: ENGL 110 or equivalent.

273 - WRITING IN THE PUBLIC SPHERE

4.00 Credits

The functions, uses, history and practice of writing in civic and professional life, with a focus on practical understanding of basic rhetorical concepts. Completion of online writing and documentation projects in various simulated and real-world professional situations. Prerequisite: ENGL 204 or permission of department.

274 - AMERICAN MULTICULTURAL LITERATURE

4.00 Credits

American multicultural literature with emphasis on aesthetic value and cultural context. Prerequisite: ENGL 110 or equivalent.

281 - CONTEMPORARY AMERICAN POETRY

4.00 Credits

Representative poems by selected poets demonstrating the range of approaches to the genre and the concerns addressed by significant poets during the period from World War Two to the present. Prerequisites: ENGL 110 or equivalent.

290 - SPECIAL TOPICS IN ENGLISH

1.00 to 4.00 Credits

May be repeated as the topic varies. Prerequisite: ENGL 110 or equivalent.

297 - INDEPENDENT STUDY IN ENGLISH

1.00 to 4.00 Credits

May be repeated as the topic varies. Prerequisite: ENGL 110 or equivalent.

300-level courses are designed for English majors and minors but some are open to the general student. Prerequisite for 300-level creative writing and English language courses (ENGL 341, 342, 345, 349, 351): ENGL 204. Prerequisites for other 300-level writing courses (343, 346, 347): ENGL 204 and 210. Prerequisites for 300-level journalism courses (371, 380): ENGL 204 and 241. Prerequisites for 300-level literature courses: ENGL 204 and 210; one other 200-level literature course recommended.

310 - BRITISH LITERATURE BEFORE 1500

4.00 Credits

The epic, lyric and narrative poetry, tales, myths, and romances, and forms of drama during the early periods of British literature. Prerequisite: ENGL 204 and 210.

319 - RENAISSANCE AND JACOBEAN LITERATURE

4.00 Credits

Major writers, themes, movements, or genres from 1485 to 1660, including such figures as Marlowe, Jonson, Spenser, Donne, and Milton. Prerequisites: ENGL 204 and 210.

322 - RESTORATION AND THE EIGHTEENTH CENTURY

4.00 Credits

Major works of English literature between 1660 and 1789, with concentration on a few writers such as Dryden, Behn, Congreve, Addison & Steele, Richardson, Swift, Pope, and Sheridan. Prerequisites: ENGL 204 and 210.

323 - BRITISH ROMANTICISM

4.00 Credits

Revolutionary changes in British literature between 1790 and 1832, including such innovative thinkers and writers as Blake, the Wordsworths, Coleridge, Byron, Keats, the Shelleys, Wollstonecraft, Radcliffe and Scott. Prerequisites ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.

324 - VICTORIAN PERIOD

4.00 Credits

British literature between 1832 and 1901, with concentration on a few selected writers. Prerequisite: ENGL 204 and 210.

326 - TWENTIETH-CENTURY BRITISH LITERATURE

4.00 Credits

British literature from 1900 to the present, with concentration on a few selected writers. Prerequisite: ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.

334 - AMERICAN WRITERS 1

4.00 Credits

American literature from 1492 to the 1870s, with concentration on a few selected writers or themes in the context of literary and social influences. Prerequisite: ENGL 204 and 210.

335 - AMERICAN WRITERS 2

4.00 Credits

American literature from the 1870s to the present, with concentration on a few selected writers or themes in the context of literary and social influences. Prerequisite: ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.

341 - POETRY WRITING

4.00 Credits

The discipline and technique of writing poetry. May be continued as ENGL 498-Independent Study in Writing. Prerequisite: ENGL 204 or HONR 200 or 205 or 212.

342 - FICTION WRITING

4.00 Credits

The discipline and technique of writing fiction. May be continued as ENGL 498-Independent Study in Writing. Prerequisite: ENGL 204.

343 - PERSUASIVE WRITING

4.00 Credits

Analysis of and practice in using traditional rhetorical strategies of persuasion. Prerequisites: ENGL 204 and 210.

344 - WRITING CYBERSPACE

4.00 Credits

Issues of writing, rhetoric, culture, and technology. Prerequisites: ENGL 210 and 273.

345 - SCREENWRITING

4.00 Credits

Introduction to the theory and practice of screenwriting, and to the promotion of completed screenplays. May be continued as ENGL 498-Independent Study in Writing. Prerequisite: ENGL 204.

346 - PRELAW WRITING

4.00 Credits

Analysis of fact situations and the writing of quasi-legal essays, memoranda, and briefs. Emphasis on close reading, logical thinking, and clear written expression in standard English. Prerequisites: ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.

347 - ADVANCED WRITING

4.00 Credits

An understanding of and practice in writing various academic genres, from research and analysis to book reviews and abstracts. Prerequisites: ENGL 204 and 210.

349 - WRITING FOR YOUNG AUDIENCES

4.00 Credits

The theory and practice of writing for young audiences. May be continued as ENGL 498-Independent Study in Writing. Prerequisite: ENGL 204 or HONR 200 or 205 or 212.

351 - THE ENGLISH LANGUAGE

4.00 Credits

History of the English language, developments in American and world English, and changes in vocabulary, grammar, phonology, and dialects. Prerequisite: ENGL 204 and 210.

364 - THE BRITISH NOVEL

4.00 Credits

Representative novels, from the early development of the genre in the eighteenth century to romantic and social novels of the nineteenth and experimental novels of the twentieth centuries. Prerequisites: ENGL 204 and 210.

365 - THE AMERICAN NOVEL

4.00 Credits

Selected novels from the eighteenth century to the present in the context of diverse literary and social influences. Prerequisite: ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.

371 - JOURNALISM

4.00 Credits

American journalism history and principles; contemporary ethical, legal, and diversity issues; the press as a cultural force in society. Prerequisites: ENGL 204 and 241.

372 – REPORTING CONTEMPORARY ISSUES

4.00 Credits

Advanced journalism reporting techniques and research tools and formats used by newspapers in covering public policy issues. Prerequisites: ENGL 204 and 241.

375 – CREATIVE WRITING WORKSHOP

1.00 to 4.00 Credits

Individualized instruction in writing poetry and fiction within a workshop environment. Prerequisites: ENGL 204 and one of the following, ENGL 341, 342, 345, 349, 443, COMM 486.

376 – JOURNALISM WORKSHOP

1.00 to 4.00 Credits

American journalism history and principles; contemporary ethical, legal, and diversity issues; the press as a cultural force in society. Prerequisites: ENGL 204 and 241.

377 - PROFESSIONAL WRITING WORKSHOP

1.00 to 4.00 Credits

Individualized instruction in writing for publication within a workshop environment. Prerequisites: ENGL 204 and either 243 or 443.

378 - JOURNAL PUBLISHING

4.00 Credits

Hands-on opportunity to learn about scholarly journal publication. Issues of budgeting, layout and design, creation of style manuals, copy editing and other responsibilities of an editor. Use of "Shakespeare and the Classroom" as a focus, and work on the publication, preparing the

spring edition for press. When possible inclusion of guest speakers and field trips. Prerequisite: ENGL 204.

380 - LITERARY JOURNALISM

4.00 Credits

The journalist as a creator of literature: the transformation of significant literary figures from working journalists to award-winning fiction writers and the writing techniques they employ. Includes such authors as Ernest Hemingway, John Hersey, Tom Wolfe, Jimmy Breslin and Hunter Thompson. Prerequisites: ENGL 204 and 241.

390 - SPECIAL TOPICS IN ENGLISH

1.00 to 4.00 Credits

May be repeated as the topic varies.

Prerequisites: ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.

400-level courses are designed for English majors and minors. Prerequisites for ENGL 405, 443, and 470: ENGL 204 and 210; two other 200/300-level English courses recommended. Prerequisites for other 400-level courses: ENGL 204 and 210; two other 200/300-level literature courses recommended.

405 - CULTURAL STUDIES

4.00 Credits

Criticism of popular culture, theory, and practice, with focus on contemporary concepts of culture, textuality, and ideology. Prerequisites: ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.

410 - CHAUCER

4.00 Credits

The poetry of Chaucer, with special emphasis on the Canterbury Tales, Troilus and Criseyde, and reading and understanding Middle English. Prerequisites: ENGL 204 and 210.

412 - SHAKESPEARE STUDIES

4.00 Credits

Close reading and analysis of Shakespeare's plays within their historical context, using a variety of critical approaches. May be repeated as content varies. Prerequisites: ENGL 204 and 210.

420 - DEPARTMENT NEWSLETTER

1.00 to 3.00 Credits

Writing and laying out the annual department newsletter. May be repeated up to a maximum of 4 hours. English majors only.

430 - READINGS IN ENGLISH LANGUAGE LITERATURE

4.00 Credits

Major works in world literatures written in English from such regions as India, Anglophone Africa, Australia, and the Caribbean, with attention to cultural context. This course satisfies the Arts and Sciences non-Western requirement. Prerequisites: ENGL 204 and 210.

431 - READINGS IN AMERICAN LITERATURE

4.00 Credits

A major writer, genre, or theme in American literature, with attention to cultural context. Prerequisites: ENGL 204 and 210.

432 - STUDIES IN COMPARATIVE LITERATURE

4.00 Credits

Issues of special interest to English majors about literary texts from ancient times to the present that highlight differences between Western and non-Western literatures. This course satisfies the Arts and Sciences non-Western requirement. Prerequisites: ENGL 204 and 210.

443 - NONFICTION WRITING

4.00 Credits

A literary approach to the reading and writing of nonfiction essays. Prerequisites: ENGL 204 and 210.

445 - SENIOR SEMINAR

2.00 Credits

The advanced revision strategies and techniques needed to market and prepare texts for professional publication. Working as a community of writers in a workshop setting for thorough revision of works with a publication goal in mind. Prerequisite: Junior status.

447 - ADVANCED CREATIVE WRITING

4.00 Credits

Extension of writing opportunities within a workshop setting to broaden creative writing skills. The production of original writing and the critiquing, editing, and revision of that writing with a view to publication. Prerequisites: Two of the following courses: ENGL 341, 342, 345, 349, 443, or COMM 485.

451 - LITERARY CRITICISM

4.00 Credits

Major literary theories of the twentieth century and their historical antecedents, with emphasis on theories currently practiced in university classes and academic journals. (Formerly ENGL 381) Prerequisites: ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.

452 – RHETORICAL THEORY

1.00 to 6.00 Credits

The history and theory of rhetoric and its practice in contemporary public discourse and media. Prerequisite: ENGL 210.

470 - EDITING

4.00 Credits

Editing techniques and concerns critical to producing polished writing on a variety of levels, from corporate communications to book publishing. Prerequisites: ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.

481 - INTERNSHIP

1.00 to 16.00 Credits

Internships in English are designed to provide practical experience outside the classroom and to enhance the student's professional interests. May be repeated up to a maximum of 16 hours. Prerequisites: Courses appropriate for the internship. Graded S/U.

490 – SPECIAL TOPICS IN ENGLISH

1.00 to 4.00 Credits

May be repeated as the topic varies. Prerequisites: ENGL 204 and 210.

497 - INDEPENDENT STUDY IN LITERATURE

1.00 to 4.00 Credits

May be repeated as the topic varies. Prerequisites: ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.

498 - INDEPENDENT STUDY IN WRITING

1.00 to 4.00 Credits

May be repeated as the topic varies. Prerequisites: ENGL 210 or ENGL 204 or HONR 200 or 205 or 212.

499 - INDEPENDENT STUDY IN JOURNALISM

1.00 to 4.00 Credits

May be repeated as the topic varies. Prerequisites: ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.

DEPARTMENT OF HISTORY, POLITICAL SCIENCE, AND CRIMINAL JUSTICE

Professors Lomax, Loughlin, Ludanyi, J. Scott; Visiting Professor Cupp; Associate Professors D. Smith, Wilson (*Chair*); Assistant Professor Alexander; Visiting Assistant Professor Schuck; Visiting Instructor Burden

Mission Statement

The department, as part of Ohio Northern University, helps to assist the students' development into self-reliant individuals. The department places special emphasis in the development of diverse ideas within the historical, political, and legal realm and furthers students' understanding of the world through the development and enhancement of critical thinking skills.

The **Wilfred E. Binkley Chair of History and Political Science**, inaugurated in 1971, has been made possible by a grant from the Scaife Foundation of Pittsburgh. The 2004-05 recipient of this professorship is John P. Lomax, professor of history.

The **Kernan Robson Chair of Government**, inaugurated in 1972, has been made possible by a trust established by the late Kernan Robson. The 2004-05 recipient of this professorship is JoAnn M. Scott, professor of political science.

The department offers separate majors in history, political science, criminal justice, international studies and social studies. Minors in Public History/Museum Studies, Geography/GIS, Geography/Area Studies, as well as history, political science and criminal justice and options in Forensic Science and Leadership Studies are offered. An Archaeological Field School is also available. To pursue a dual major or a major and minor, students must complete all the requirements for each separate major and minor.

Majors in history and political science prepare students generally for careers in teaching, law, journalism, government service, or business. A history major in combination with a minor in Public History/Museum Studies prepares students to move into entry level positions in either curatorial or managerial fields. A major in social studies will qualify the student for licensure in integrated social studies by the State Department of Education of Ohio. There are special departmental advisors for prelaw and teacher licensure.

Criminal Justice prepares students for employment in law enforcement, corrections, and court management and is a highly interdisciplinary major. Criminal Justice focuses on the po-

litical, sociological and psychological aspects of crime and the criminal justice system. A minor in Geography/GIS provides direction for the Criminal Justice major and develops practical skills that are of increasing value in the workplace. In addition to the social sciences, students may also pursue course work in forensic science offered in cooperation with the Department of Biological and Allied Health Sciences.

Equally interdisciplinary is a major in International Studies. Political science, international relations, language, geography, history and economics form the foundation of the major. Each student chooses an area of emphasis in international relations, business or the humanities, depending on the direction of their career goals and interests.

There are active chapters of Phi Alpha Theta, the national history honorary, Pi Sigma Alpha, the national political science honorary, Alpha Phi Sigma, the national criminal justice honorary and Phi Beta Delta, the national honorary for international scholars. Public service internships are available at all levels of government, including the Ohio Legislature. Public history interns include work in museums and in archival management. Students annually participate in the National Model United Nations in New York City or the Global Model United Nations and the American Mock Trial program in Des Moines, Iowa, and Minneapolis, Minnesota. The department also offers students the opportunity to participate in the Washington Center or the Washington Semester Program sponsored by American University.

The department participates in study-abroad programs. Students majoring in history are encouraged to consider a year abroad at University of Joensuu, the University of Wales, Lampeter, or University of Debrecen in Debrecen, Hungary. Political science, criminal justice, and international studies majors are directed toward Glasgow Caledonian University, University of Debrecen, or the University of Joensuu.

Prelaw Program In addition to its emphasis upon prelaw advising, the department cooperates with the Pettit College of Law at Ohio Northern University relative to the formal guaranteed admission prelaw program.

Major in History

Specific requirements for the history major:

HSPS 000	Orientation	1 hour
HIST 110-111	West. Civ. 1 & 2	8 hours
HIST 204	Historiography	4 hours
PLSC 201	Intro. to Amer. Govt.	4 hours
PLSC 202	State and Local Politics	4 hours
HIST 214-215	U.S. History 1 & 2	8 hours
HSPS 222-25	One cont. course	4 hours
	or GEOG 226	
HIST 488-489	Sr. Research 1 & 2	3 hours
28 hours history electives at 300 or 400 level, distributed as follows:		
HIST, HSPS	World History	8 hours

HIST, HSPS	U.S. History	8 hours
HIST, HSPS	Electives	12 hours
AASG 300	Job/Grad Search	1 hour

Minor in History

HIST 110-111	West. Civ. 1 & 2	8 hours
HIST 204	Historiography	4 hours
HIST 214-215	U.S. History 1 & 2	8 hours
HSPS 222-25	One cont. course or GEOG 226	4 hours

The following must be at the 300 or 400 level:

HIST, HSPS	World History	4 hours
HIST, HSPS	U.S. History	4 hours
HIST, HSPS	Elective	4 hours

Major in Political Science

Specific requirements for the political science major are:

HSPS 000	Orientation	1 hour
PLSC 105	Mod. Pol. Conflicts	4 hours
ISR 253-254	Research Methods 1 & 2	8 hours
PLSC 201	Intro. to Amer. Govt.	4 hours
PLSC 202	State and Local Politics	4 hours
HIST 214 or 215	U.S. History 1 or 2	4 hours
HSPS 222-25	One cont. course or GEOG 226	4 hours
HSPS 458 or 459	West. Pol. Thgt. 1 or 2	4 hours
PLSC 488-489	Sr. Research 1 & 2	3 hours

28 hours political science electives at 300 or 400 level, distributed as follows:

PLSC, HSPS	American politics	8 hours
PLSC, HSPS	World politics	8 hours
PLSC, HSPS	Electives	12 hours
AASG 300	Job/Grad Search	1 hour

Minor in Political Science

PLSC 105	Mod. Pol. Conflicts	4 hours
ISR 253-254	Research Methods 1 & 2	8 hours
PLSC 201	Intro. to Amer. Govt.	4 hours
PLSC 202	State and Local Politics	4 hours
HSPS 222-25	One cont. course or GEOG 226	4 hours
HSPS 458 or 459	West. Pol. Thgt. 1 or 2	4 hours

The following courses must be at the 300 or 400 level:

PLSC, HSPS	Am. politics	4 hours
PLSC, HSPS	World politics	4 hours
PLSC, HSPS	Elective	4 hours

Major in Criminal Justice

Core requirements for the Criminal Justice major:

PLSC 121	Intro. to Criminal Justice*	4 hours
PLSC 201	Intro. to American Gov.	4 hours
or PLSC 202	State and Local Politics	4 hours
GEOG 248	Intro. to G.I.S.	4 hours
SOC 261	Criminology*	4 hours
PSYC 215	Developmental Psychology*	4 hours

PLSC 342	Judicial Process/Criminal Law	4 hours
ISR 253	Research Methods I	4 hours
ISR 254	Research Methods II	4 hours
STAT 142	Statistics	4 hours
PLSC 488	Senior Research I	1 hour
PLSC 489	Senior Research II	2 hours
PLSC 481	Internship	1-16 hours

* Prerequisite for other courses in the major and the concentrations. In addition to the core requirements, students complete one of the following concentrations:

1. Administration of Justice (32 Hours)

Students are to select 32 hours from this course list under the direction of the student's academic advisor.

PLSC 122	Police in America	4 hours
PLSC 123	Corrections in America	4 hours
PLSC 351	Constitutional Law II	4 hours
PLSC 332	Criminal Procedure	4 hours
SOC 361	Delinquency & Juvenile Justice	4 hours
PLSC	Criminal Investigation	4 hours
PLSC 355	Women & Minorities in Criminal Justice	4 hours
PSYC 320	Psychology and the Law	4 hours
PHIL 238	Ethics	4 hours
or PHIL 320	Social Justice	4 hours
PLSC 366	Public Administration	4 hours
PLSC	American Jury System	4 hours
HIST 451	History of Law	4 hours
or PHIL 351	Philosophy of Law	4 hours

2. Behavioral Science (32 Hours)

Required: 8 hours

PSYC 212	Behavioral Management	4 hours
SOC 361	Delinquency & Juvenile Justice	4 hours

Students select 24 hours from this course list under the direction of the student's academic advisor.

SOC 243	Social Deviance	4 hours
SOC 263	Victimology	4 hours
SOC 364	Occupational Crime & Deviance	4 hours
SOC	Criminal Behavioral Systems	4 hours
PSSC 301	Social Psychology	4 hours
PSYC 218	Child/Adolescent Psychopathology	4 hours
PSYC 219	Child/Adolescent Psychotherapy	4 hours
PSYC 311	Psychology of Personality	4 hours
PSYC 312	Psychological Assessment	4 hours
PSYC 420	Abnormal Psychology	4 hours
PSYC 462	Psychological Issues in Criminal Justice	4 hours

Minor in Criminal Justice

PLSC 121	Intro. to Crim. Justice	4 hours
PLSC 122	Police in America	4 hours
PLSC 123	Corrections	4 hours
SOC 261	Criminology	4 hours
PLSC 342	Judicial Process	4 hours

SOC 361 Delinquency 4 hours
 Crim. Justice electives 12 hours
 The electives are taken in two of the following disciplines (political science, psychology, and/or sociology) and outside the student's major. These courses must be taken from among those approved for the major. All criminal justice minors must take at least one course in psychology and demonstrate competence in social science methods.

Major in International Studies

Core requirements for the International Studies major:

HSPS 000	Orientation	1 hour
PLSC 107	Intro. to Int'l. Studies	4 hours
HIST 204	Historiography or	4 or
ISR 253-254	Research Methods 1 & 2	8 hours
HSPS 222-225	One cont. course	4 hours
GEOG 226	World Regional Geog.	4 hours
HIST 384	Modern Europe 2	4 hours
PLSC 388	Int'l. Relations & Law	4 hours
HSPS 395	Int'l. Studies Seminar	4 hours
HSPS 452	Am. Foreign Relations	4 hours
HIST, PLSC, or HSPS 488, 489	Sr. Research 1 & 2	3 hours
AASG 300	Job/Grad Search	1 hour
STAT 142	Intro. to Statistics	4 hours

Academic or employment experience abroad

Cognate: Second-year proficiency in a modern language plus one advanced course approved by the department of modern languages.

In addition to the core requirements, students take five courses in Social Sciences **OR** five courses at the 300 or 400 level in their second language or another language other than their own **OR** the business option.

This provides maximum flexibility for students to develop a course of study most appropriate to their interests and goals. In all cases, the selections of electives must be done in close consultation with the student's advisor in International Studies.

Minor in Geography/Area Studies

Core courses:

GEOG 226	World Regional Geog.	4 hours
GEOG 237	Physical Geography	4 hours
GEOG 248	Introduction to GIS	<u>4 hours</u>
		12 hours

Modern Language:
 1 year required, 2 years recommended

Two regions from: (8 credit hours)

HSPS 222	Contemporary Africa	4 hours
HSPS 223	Contemporary Asia	4 hours
HSPS 224	Contemporary Middle East	4 hours
HSPS 225	Contemporary Latin America	4 hours
HIST 384	Modern Europe 2	4 hours
PLSC 416	East Central Europe & Russia	4 hours

Electives: (8 credit hours)

PLSC 107	Intro. to Int'l. Studies	4 hours
PLSC 336	Developing Pol. Systems	4 hours
PLSC 475	Model United Nations	1-4 hours
HIST 384	Modern Europe 2	4 hours

PLSC 416	East Central Europe & Russia	4 hours
GEOG 348	Applied GIS	4 hours

Minor in Geography/GIS

Core courses:

GEOG 226	World Regional Geog.	4 hours
GEOG 237	Physical Geography	4 hours
GEOG 248	Intro. to GIS	4 hours
GEOG 268	Intro. to Cartography	4 hours
GEOG 348	Applied GIS	4 hours
GEOG 481	GIS Internship	<u>1-8 hours</u> 21-28 hours

Cognates:

STAT 142	Intro. to Statistics	4 hours
ISR 253	Research Methods 1	4 hours
ISR 254	Research Methods 2	<u>4 hours</u> 12 hours

Minor in Public History/Museum Studies

Core Courses:

HIST 230	Intro. to Museums & Archives	4 hours
GEOG 248	Intro. to GIS	4 hours
HIST 320	Adv. Public History	4 hours
HIST 330	Adv. Local History	4 hours
HIST 308	Material Culture	4 hours
HIST 481	Public Service Internship*	or
HIST 482	Archaeology Field School	<u>4 hours</u> 24 hours

Managerial Track (12 credit hours)

COMM 130	Intro. to Public Relations	4 hours
COMM 380	Arts Administration	4 hours
MRKT 351	Prin. of Marketing	4 hours
MGMT 333	Management and Organizational Behavior	4 hours

Note: COMM 211 and COMM 225 are strongly recommended

Curatorial Track (12 credit hours)

ART 100	Art	4 hours
ART 222	Graphic Design 1	4 hours
ART 223	Graphic Design 2	4 hours
SOC 250	Cultural Anthropology	4 hours
HIST 301	Intro. to Family History and Genealogy	4 hours

Note: For non-art majors, Art History 1, 2, and 3 as well as Graphic Design 3 are recommended in addition to three selections from the Curatorial Track.

COMM 211 is recommended to meet the General Education requirement.

*This requirement can be substituted with similar offerings in respective student disciplines (e.g. ART 471 Internship for Art majors).

Options

Options in accounting, business and economics are available to any department major. They are designed to give direction and depth to areas of study related to the major. The courses for the option are in addition to major course work, and the selection of electives must be done in close consultation with the student's advisor. See business options under Arts and Sciences description.

Forensic Science Option in Criminal Justice

BIOL 121	General Biology	4 hours
BIOL 122	Intro to Zoology	4 hours
BIOL 210	Introductory Genetics	4 hours
BIOL 217	Intro to Molecular Bio.	4 hours
BIOL 219, 229	Forensic Biology 1, 2	8 hours
BIOL 302	Human Anatomy	4 hours
and either		
CHEM 100	Chemistry	4 hours
CHEM 114	Chemistry of Life	4 hours
CHEM 115	Environmental Chem.	4 hours
Or		
CHEM 171	Introductory Chem. 1	5 hours
CHEM 172	Introductory Chem. 2	5 hours
CHEM 173	Introductory Chem. 3	5 hours
PLSC	Criminal Investigation	4 hours

Leadership Studies Option

Leadership Core:		
Leadership Seminar 1,2, 3*		6 hours
Leadership Practicum		1-3 hours
OR		
Leadership Practicum 1, 2, 3		6 hours
PHIL 238	Ethics	
OR		
PHIL 240	Ethics in Professional Life	4 hours
MGMT 333	Mgmt. and Org. Behavior	4 hours
COMM 225	Interpersonal Com.	4 hours
COMM 311	Persuasive Speaking	4 hours
PLSC 409	The Presidency	
OR		
PLSC 366	Public Administration and Policy Analysis	4 hours

Electives: 8 hours from the following:**

COMM 221	Interviewing	
COMM 321	Group Communication	
COMM 345	Organizational Communication	
COMM 440	Comm. and Conflict Mgmt.	
MGMT 363	Human Resource Management	
MGMT 410	Business and Society	
PLSC 342	Judicial Process and Criminal Law	
PLSC 366	Public Admin. and Policy Analysis	
PLSC 409	The Presidency	
PLSC 411	Congress	
PSYC 311	Psychology of Personality	
SOC 247	Social Stratification	
SOC 250	Cultural Anthropology	

35 (34)hrs.

*The Leadership Studies Committee will accept applications for admission to the Leadership Seminar. Students not admitted to the Seminar may complete the option by taking the Leadership Practicum.

**Electives must represent two different disciplines and may not be in discipline of primary major. Students enrolled in ROTC may substitute Professionalism/Leadership ARMY 301 for 4 elective hours.

Teacher Licensure with Major in Social Studies

HSPS 000	Orientation	1 hour
HIST 004	Teacher Licensure Ori.	1 hour
HIST 110-111	West. Civ. 1 & 2	8 hours
HIST 214-215	U.S. History 1 & 2	8 hours
HIST 303	Ohio History	4 hours
HIST 365	African-Am. History	4 hours
HIST/HSPS 300/400 level	Am. History Elective	4 hours
HIST/HSPS 300/400 level	Eur. History Elective	4 hours
HIST 204 or ISR 253-254	Historiography or Research Methods 1 & 2	4 or 8 hours
PLSC 107, HSPS 222-225	Intro. to Int'l Studies, Contemporary Affairs	4 hours
GEOG 226	World Regional Geog.	4 hours
GEOG 237	Physical Geography	4 hours
PLSC 201	Intro. to Amer. Govt.	4 hours
PLSC 202	State and Local Politics	4 hours
PLSC/HSPS 300/400 level	Elective	4 hours
IBEC 202	Microeconomics	4 hours
IBEC 203	Macroeconomics	4 hours
PSSC 301	Social Psychology	4 hours
PSYC 100	Psychology	4 hours
SOC 105	Sociology	4 hours
SOC 250	Cultural Anthropology	4 hours
HIST/HSPS 488,489	Senior Research 1 & 2	3 hours
AASG 300	Job/Grad Search	1 hour
Professional Education courses		50 hours

Subject - Geography (GEOG)

193 – SPECIAL TOPICS IN GEOGRAPHY

1.00 to 4.00 Credits

Can be repeated as topic varies.

226 - WORLD REGIONAL GEOGRAPHY

4.00 Credits

A regional survey of the non-Western world, including its leading cultural, economic, historical, political and appropriate environmental features. Open to freshmen. Does not satisfy humanities requirement. Formerly HSPS 226.

237 - PHYSICAL GEOGRAPHY

4.00 Credits

Basic concepts in physical geography. Topics covered include: the atmosphere, the biosphere, the lithosphere, and the hydrosphere. Emphasis on processes driving physical systems on the earth, interactions among physical systems, human interaction with the physical environment, and understanding the basic physical geographic processes and the global geographic patterns resulting from those processes. Does not satisfy Social Science distribution requirement.

248 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS

4.00 Credits

The fundamentals of geographic information systems (GIS). Includes basic cartographic principles, an introduction to the incorporation of the Global Positioning System (GPS) into GIS, and the necessary hardware and software elements used in GIS. Lab exercises in various applications of GIS technology used in environmental science, business, government, and criminal justice. Lecture topics include understanding of GIS terminology, raster and vector data structures, data sources and accuracy, methods of data acquisition, conversion, and input, working with spatial databases and spatial analysis. Does not satisfy Social Science distribution requirement. Prerequisite: working knowledge of Windows operating system. Exercises require work in the computer lab outside class hours.

268 - CARTOGRAPHY

4.00 Credits

The art and science of making maps. The history of maps, elements of map construction and properties of map projections, and how to construct different kinds of thematic maps and manipulate geographic data to illustrate characteristics of distribution, concentration or other geographic patterns that promote interpretation of the earth's features. Exercises require work in the computer lab outside class hours. Offered alternate years.

293 – SPECIAL TOPICS IN GEOGRAPHY

1.00 to 4.00 Credits

Can be repeated as topic varies.

348 - APPLIED GEOGRAPHIC INFORMATION SYSTEMS

4.00 Credits

A continuation of GEOG 248, Geographic Information Systems (GIS). More advanced discussion on spatial interpolations, error and uncertainty, Global Positioning Systems (GPS), and spatial model-building. Advanced knowledge of GIS theory and science. Computer lab projects will be geared toward the relevant major. Offered alternate years. Exercises require work in the computer lab outside class hours. Prerequisite: GEOG 248.

393 - SPECIAL TOPICS IN GEOGRAPHY

1.00 to 4.00 Credits

Can be repeated as the topic varies.

481 - PUBLIC SERVICE INTERNSHIP PROGRAM

1.00 to 16.00 Credits

Field experiences in the area of public service. Work in a close relationship with public offices and officials. Interns service in a local agency receive four credit hours for ten hours of service per week. Those who work full-time for a quarter receive 16 credit hours. A maximum of 6 hours will count toward major requirements. Graded S/U. Prerequisites: Consultation with the department internship committee and completion of the application process, a 2.75 GPA, and junior or senior status.

493 – SPECIAL TOPICS IN GEOGRAPHY

1.00 to 4.00 Credits

Can be repeated as topic varies.

496 – INDEPENDENT STUDY IN GEOGRAPHY

1.00 to 4.00 Credits

Approval of department chairman required prior to registration.

Subject - History (HIST)

004 - TEACHER LICENSURE ORIENTATION

1.00 Credit

Familiarity with standards for admission to the Teacher Education Program and direction for successful completion of licensure program. Credit earned in this course does not satisfy graduation requirements for any program offered at the university. Graded S/U. Prerequisite: Social studies majors or considering licensure in social studies.

110 - WESTERN CIVILIZATION 1

4.00 Credits

Ideas, attitudes, and institutions basic to civilization as it developed in the West from ancient times to the seventeenth century.

111 - WESTERN CIVILIZATION 2

4.00 Credits

Ideas, attitudes, and institutions basic to civilization as it developed in the West from the seventeenth century to the present.

120 - PUBLIC HISTORY

4.00 Credits

The application of history through discussions, demonstrations, readings and fieldwork on a variety of public history topics including museums and historical societies, historic preservation, material culture, popular culture, and family and ethnic group history.

130 - LOCAL HISTORY

4.00 Credits

Significant aspects of local history for reference and teaching purposes. Investigation, examination and study of a variety of topics and trends in local history theory and practice through readings, discussions, demonstrations, and field trips.

190 - SPECIAL TOPICS IN HISTORY

1.00 to 4.00 Credits

May be repeated as the topic varies.

204 - HISTORIOGRAPHY

4.00 Credits

Western historical thought from the Greeks to the present. Research methods for history majors and minors and social studies majors. Requires a fully documented research paper on an historical topic. Prerequisite: sophomore status.

214 - UNITED STATES HISTORY TO 1865

4.00 Credits

American colonies and United States from 1492 to 1865. Emphasis is placed on the formation of American political, economic, and social attitudes and their application in the early Republic.

215 - UNITED STATES HISTORY SINCE 1865

4.00 Credits

The United States since the Civil War. Major topics include the role played by the US in global affairs and US domestic policy.

230 - INTRODUCTION TO MUSEUMS AND ARCHIVES

4.00 Credits

The theoretical, administrative, and curatorial aspects of museum and archival management and practice. Topics include the growth of museums and archives, the development of private and public institutions, and the manner in which museum and archival collections are gathered, catalogued, utilized, stored, and made available for research, educational and exhibition purposes.

290 - SPECIAL TOPICS IN HISTORY

1.00 to 4.00 Credits

May be repeated as topic varies.

301 - INTRODUCTION TO FAMILY HISTORY AND GENEALOGY

1.00 to 4.00 Credits

The importance of genealogical research and practice for understanding family history and social development. Exploration of family records; local, state, and federal records; church records; census records; land and probate records and documents; school records; immigration lists and naturalization records; and miscellaneous records used to document specific ethnic origins. Offered alternate years.

302 - WEEKEND SEMINAR

1.00 Credit

A weekend seminar at the Metzger Nature Center, Bolon Hall. Topics include Ohio Prehistory, Historical Archaeology, The Society of Separatists at Zoar, Religion on the Frontier, Tuscarawas County and the Settlement of the Northwest Territory, Native-American Culture and Life in 18th Century Ohio, Industrial Revolution in Eastern Ohio, the Moravian Missions, Water Sources for Transportation and Development, Politics in Eastern Ohio. A Nature Center use fee is charged. May be repeated as topic varies.

303 - OHIO HISTORY

4.00 Credits

The political and cultural evolution of Ohio from the prehistoric period to the late 19th century. Emphasis placed on the 18th and early 19th century.

308 - MATERIAL CULTURE

4.00 Credits

Material culture as a means of understanding history and the built environment. Interdisciplinary trends in the theory and methodology, and the importance of material culture analysis in understanding issues such as consumption, fashion, gender, technology, built form, and popular contemporary culture. Offered alternate years.

320 - ADVANCED PUBLIC HISTORY

4.00 Credits

The application and understanding of public history through discussion, readings, demonstrations, and fieldwork on a variety of applied history topics. Research topics related to museums and historical societies and the role they play in society, historic preservation, material culture and its uses, and popular culture. All course work will be associated with the particular discipline of the student.

330 - ADVANCED LOCAL HISTORY

4.00 Credits

Aspects of local history for reference and teaching purposes. Focus on trends in local history theory and practice through readings, discussions, demonstrations, field trips and independent research.

361 - RECENT AMERICAN HISTORY 1

4.00 Credits

The history of the United States from the beginning of World War I until the conclusion of World War II. Formerly HSPS 361.

362 - RECENT AMERICAN HISTORY 2

4.00 Credits

The history of the United States from the conclusion of World War II to the present-day. Formerly HSPS 362.

365 - AFRICAN-AMERICAN HISTORY

4.00 Credits

The history of the African-American experience from the African beginnings to the present-day.

372 - THE ANCIENT WORLD

4.00 Credits

The political, social, economic, and cultural development of the Near Eastern, Greek, and Roman civilizations of antiquity.

373 - MEDIEVAL EUROPE

4.00 Credits

The political, social, economic, and cultural development of Europe from the decline of the Roman Empire to the beginning of the Renaissance, with special attention to the emergence of institutions that shaped the modern world.

374 - RENAISSANCE AND REFORMATION

4.00 Credits

The evolution of the Italian communes. European cultural movements from the fourteenth through the sixteenth centuries. The Church and European society in the later Middle Ages, the Protestant Reformation, the Catholic Reformation, and the Wars of Religion.

382 - ABSOLUTISM, ENLIGHTENMENT, AND THE FRENCH REVOLUTION

4.00 Credits

European history from the Treaty of Westphalia to the French Revolution. The rise of the modern state, the ancient regime, the origins and nature of the French Revolution, and the coming of Napoleon are stressed. Offered alternate years. Formerly 322, 375 and 376.

383 - HISTORY OF MODERN EUROPE 1

4.00 Credits

European history from 1815 to the era before World War I. This course covers Europe from the age of Reaction and the Romantics to the age of Realism, Naturalism, and Modernism.

384 - HISTORY OF MODERN EUROPE 2

4.00 Credits

European history from the origins of World War I to the collapse of the Soviet Empire and the evolution of the European community.

390 - SPECIAL TOPICS IN HISTORY

1.00 to 4.00 Credits

May be repeated as topic varies.

415 – RUSSIAN HISTORY TO 1815

4.00 Credits

The social, political and economic development of the Russian state from ancient Kiev and Appanage Russia to the Mongol invasion to the Muscovite State of Ivan the Dread, the Time of Troubles, and the Romanov Dynasty to 1815. Formerly HSPS 415.

451 - HISTORY OF LAW

4.00 Credits

The evolution of law as an instrument of dispute resolution and social control. The development of the Roman and civil law tradition and the English common law tradition to the seventeenth century.

454 - CIVIL WAR AND RECONSTRUCTION

4.00 Credits

Causes, duration and consequences of the American Civil War.

461 - TOPICS IN NORTH AMERICA TO 1783

4.00 Credits

Topics such as: Religion in America, Colonial North America, the British in North America, Revolutionary America, Race and Gender in America. Formerly HIST 355. May be repeated as topic varies.

462 - TOPICS IN NORTH AMERICA SINCE 1783

4.00 Credits

Includes topics such as: the Early Republic, Religion in America, the War of 1812, Mid-19th Century Politics in North America, Race and Gender in North America, America and the Cold War, the Vietnam Experience, the Age of Roosevelt, and Environmental History. May be repeated as topic varies.

463 - TOPICS IN MODERN EUROPE

4.00 Credits

Topics include but are not limited to World War I, the Rise of Fascism, Hitler and Nazism, the European Community, and the European Avant-Garde, Existentialism and Deconstruction. May be repeated as topic varies.

471 - HISTORY OF THE OTTOMAN EMPIRE

4.00 Credits

The emergence, expansion and decline of Turkish power in South-Eastern Europe, Asia Minor, the Middle East and North Africa from the time of the Seljuks to the Young Turks, with particular emphasis on this non-Western empire's military, political and cultural legacy.

481 - PUBLIC SERVICE INTERNSHIP PROGRAM

1.00 to 16.00 Credits

Field experience in the area of public service. Work in a close relationship with public offices and officials. Interns serving in a local agency receive four credit hours for ten hours of service per week. Those who work full-time for a quarter receive 16 credit hours. A maximum of 6 hours will count toward major requirements. Graded S/U. Prerequisites: Consultation with the department internship committee and completion of the application process, a 2.75 GPA, and junior or senior status.

482 - FIELD SCHOOL IN ARCHAEOLOGY

4.00 Credits

Basic archaeology and archaeological field work. Curriculum includes survey and excavation; basic geophysical survey methods; preparation of field notes and documentation; and instruction in other fundamental field skills.

488 - SENIOR RESEARCH PAPER 1

1.00 Credit

Topic selection, development of bibliography and outline for senior paper (See HIST 489) directed by a departmental faculty member. Required of all departmental majors. Students will enroll in this course at least two quarters before the quarter in which they expect to graduate. Prerequisites: Senior status; major in History or International Studies.

489 - SENIOR RESEARCH PAPER 2

2.00 Credits

Writing of a research paper directed by a department faculty member relevant to their major. Required of all departmental majors. Enrollment before the quarter of expected graduation. Prerequisite: HIST 488.

490 - SPECIAL TOPICS IN HISTORY

1.00 to 4.00 Credits

May be repeated as topic varies.

494 – SEMINAR IN HISTORY

1.00 to 4.00 Credits

May be repeated as topic varies.

497 - INDEPENDENT STUDY IN HISTORY

1.00 to 4.00 Credits

Approval of department chairman required prior to registration.

Subject - History, Political Science and Criminal Justice (HSPS)

000 - HISTORY AND POLITICAL SCIENCE ORIENTATION

1.00 Credit

Familiarization with the department, requirements for majors, planning a program of courses, the catalog, careers, the library and university services. Required of majors in history, political science, criminal justice, international studies, and social studies. Graded S/U.

192 - SPECIAL TOPICS - HISTORY AND POLITICAL SCIENCE

1.00 to 4.00 Credits

May be repeated as the topic varies.

222 - CONTEMPORARY ASIA

4.00 Credits

The ways in which Asia has been shaped through culture, politics, art, religion, economics and family. The primary focus is on events since World War II. Open to freshmen.

223 - CONTEMPORARY AFRICA

4.00 Credits

Political, socioeconomic, and intellectual development of Africa since the conclusion of World War II. Open to freshmen.

224 - CONTEMPORARY MIDDLE EAST

4.00 Credits

The political, socioeconomic and intellectual development of the Middle East since the conclusion of World War II. A survey of the clash of Western and non-Western power centers in the region. Open to freshmen.

225 - CONTEMPORARY LATIN AMERICA

4.00 Credits

Political, economic, social, and cultural development of Latin America. The primary focus is on events since World War II. Open to freshmen.

292 - SPECIAL TOPICS - HISTORY AND POLITICAL SCIENCE

1.00 to 4.00 Credits

May be repeated as the topic varies.

311 - URBAN HISTORY AND POLITICS

4.00 Credits

The historical development of American cities and the contemporary problems faced by cities and their suburbs.

378 – INTRODUCTION TO CANADIAN STUDIES

4.00 Credits

Canada's history, politics, geography, environment, economics and literature. Interdisciplinary, team taught. Formerly HSPS 278.

392 - SPECIAL TOPICS - HISTORY AND POLITICAL SCIENCE

1.00 to 4.00 Credits

May be repeated as the topic varies.

395 - SEMINAR IN INTERNATIONAL STUDIES

4.00 Credits

An in-depth multidisciplinary analysis of a global crisis, an international regional concern, or an issue in global politics. An integrating experience for international studies majors. Focuses on timely or weighty problems in terms of their long-term implications for the international and inter-state stability and order of the world.

Prerequisite: HIST 204 or ISR 253 and 254.

452 - AMERICAN FOREIGN RELATIONS

4.00 Credits

An analytical and conceptual overview of the nature of American Foreign Policy decision-making with a use of case studies to uncover the variables at play in recent American Foreign Policy.

458 - WESTERN POLITICAL THOUGHT 1

4.00 Credits

Western political theory commencing with Plato, Aristotle, and the Stoics. Proceeds through Machiavelli and finishes with the Reformation and the wars of religion with an emphasis on their political implications.

459 - WESTERN POLITICAL THOUGHT 2

4.00 Credits

Western political theory commencing with the Enlightenment and ending with John Rawls. Constitutionalism, contract theory, conservatism, idealism, liberalism, utilitarianism, Marxism, anarchism, socialism, fascism, feminism, and environmentalism shall be considered.

481 - PUBLIC SERVICE INTERNSHIP

1.00 to 16.00 Credits

Field experience in the area of public service. Work in a close relationship with public offices and officials. Interns serving in a local agency receive four credit hours for ten hours of service per week. Those who work full-time for a quarter receive 16 credit hours. A maximum of 6 hours will count toward major requirements. Graded S/U. Prerequisites: Consultation with the department internship committee and completion of the application process, 2.75 GPA, and junior or senior status.

488 - SENIOR RESEARCH PAPER 1

1.00 Credit

Topic selection, development of bibliography and outline for senior paper (See HSPS 489) directed by a departmental faculty member. May be used as a substitute for HIST 488 or PLSC 488 for students completing a dual major within the department. Prerequisites: Senior standing and dual major.

489 - SENIOR RESEARCH PAPER 2

2.00 Credits

Writing of a research paper directed by a department faculty member relevant to their majors. Open to all dual departmental majors. Enrollment before the quarter of expected graduation. Prerequisite: HSPS 488.

492 - SPECIAL TOPICS - HISTORY AND POLITICAL SCIENCE

1.00 to 4.00 Credits

May be repeated as the topic varies.

Subject - Leadership Studies (LEAD)

493 - FOUNDATIONS OF LEADERSHIP

2.00 Credits

Leadership and how it works. Topics include theories, definitions and models of leadership. Participants interview a contemporary leader, analyze that leader's style, and complete a personal vision statement. Prerequisite: Junior standing and above.

494 - ISSUES IN CONTEMPORARY LEADERSHIP

2.00 Credits

Effective leadership in the contemporary setting. Topics include using personal leadership to improve communities; leadership in an era of social, cultural, racial and gender diversity; balancing commitments to career, family and community; and the future of leadership. Participants will link with an experienced leader for participatory mentoring and report on their experience. Prerequisite: Junior standing and above.

495 - TECHNIQUES AND DYNAMICS OF LEADERSHIP

2.00 Credits

Effective techniques and the discernable dynamics of leadership. Topics include leading in groups, team building, problem solving and negotiation, leadership in crises, and getting a foothold in the real world. Participants will be involved in a civic engagement project or an alternate leadership project and report on the same. Prerequisite: Junior standing and above.

499 - LEADERSHIP PRACTICUM

1.00 to 2.00 Credits

A field experience in leadership with approval of the Leadership Studies Committee and the instructor.

Significant involvement in a civic engagement project or have a major leadership role on campus.

Maintenance of a journal that reflects the involvement and reactions to the experience.

Additional requirements may be included in the contract. May be repeated as topic varies.

Prerequisite: Junior standing and above.

Subject - Political Science (PLSC)

105 - MODERN POLITICAL CONFLICTS AND ISSUES

4.00 Credits

A comparative examination of government structure, political attitudes and relations among nations.

107 - INTERNATIONAL STUDIES AND WORLD PROBLEMS

4.00 Credits

Introduction to the relations of states, governments, political movements and international organizations in the global context, particularly the non-Western world. A survey of the political actors and their objectives in a world of limited resources. Underdevelopment and an ongoing population crisis, with intense competition between the rich and the poor, the major powers and their client states and independence movements. Formerly HSPS 107.

121 - INTRODUCTION TO CRIMINAL JUSTICE

4.00 Credits

Concepts, issues, substance, structures of the American criminal justice system, causes of criminal behavior, theories of law and punishment, and the roles of various actors within the system.

122 - POLICE IN AMERICA

4.00 Credits

Historical, philosophical and legal basis of police institutions, practices and procedures. Issue oriented course and discussion topics will vary with prevailing issues. Prerequisites: PLSC 121 and SOC 261.

123 - CORRECTIONS

4.00 Credits

Historical, philosophical and legal basis of correctional procedures and institutions. Issue oriented course and discussion topics will vary with prevailing correctional issues. Prerequisites: PLSC 121 and SOC 261.

191 – SPECIAL TOPICS IN POLITICAL SCIENCE

1.00 to 4.00 Credits

May be repeated as topic varies.

201 - INTRODUCTION TO AMERICAN GOVERNMENT

4.00 Credits

Introduction to the constitutional underpinnings, political behavior, processes, and institutions of American national government.

202 - STATE AND LOCAL POLITICS

4.00 Credits

Introduction to the underpinnings, political behavior, processes, and institutions found in American states and localities.

230 - POVERTY, INEQUALITY AND PUBLIC ISSUES

4.00 Credits

The nature, extent and causes of social mobility in American society, with particular emphasis on poverty, ethnic, racial and gender inequalities in this and other areas of socioeconomic attainment in the United States. The variety of (past, present or future) government actions and/or policies to promote upward mobility and eradicate social inequalities.

291 - SPECIAL TOPICS IN POLITICAL SCIENCE

1.00 to 4.00 Credits

May be repeated as topic varies.

302 - WEEKEND SEMINAR

1.00 Credit

A weekend seminar at the Metzger Nature Center, Bolon Hall. Topics include Politics in Eastern Ohio, Water Sources for Transportation and Development, Politics and Rural America, and Current Issues in Political Science and Criminal Justice. A Nature Center use fee is charged. May be repeated as topic varies.

306 - ENVIRONMENTAL LAW

3.00 Credits

The American legal system as it is used to preserve the nation's environment. Significant environmental laws and policies developed for implementation. Prerequisites: BIOL 251, CE 323, CE 371 or permission of instructor. Formerly HSPS 306.

321 - POLITICAL PARTIES AND INTEREST GROUPS

4.00 Credits

Examination of the formation, maintenance, and influence of interest groups and political parties in the United States.

323 - MASS POLITICAL BEHAVIOR

4.00 Credits

Examination of the theory, practice and role of voting behavior in the United States.

325 – TOPICS IN AMERICAN POLITICS

4.00 Credits

Topics include but are not limited to: Film and Politics, Popular Culture and Politics, Media and Politics, Sports and Politics. Can be repeated as topic varies.

332 - CRIMINAL PROCEDURE

4.00 Credits

An in-depth understanding of the procedural aspects involved in developing and prosecuting or defending criminal cases. The Constitutional issues involved during the various aspects of a criminal case from investigation to arrest through trial and appeal. The concept of due process. Specific attention is focused on the rights and limitations offered the prosecution and defense under the Bill of Rights. Topics included are: lineups, searches, arrests, stop and frisk, bail, extradition, preliminary hearings, arraignment, trials, sentencing, appeals, probation, parole, and the death penalty. Prerequisite: PLSC 121 and SOC 261.

334 - PARLIAMENTARY DEMOCRACIES

4.00 Credits

A comparison of the politics of contemporary parliamentary democracies, stressing the impact of political culture and the operations of governmental institutions, parties and interest groups in the process of public policy-making.

336 - DEVELOPING POLITICAL SYSTEMS

4.00 Credits

A comparison of contemporary politics in developing and non-Western societies, stressing the impact of cultural fragmentation, modernization, social unrest and rising expectations on the stability and effectiveness of governmental institutions and processes.

342 - JUDICIAL PROCESS AND CRIMINAL LAW

4.00 Credits

The roles of lawyers, judges, and juries and the organization and operation of federal and state courts, with special emphasis on criminal law procedure. Examination of selective substantive criminal statutes.

350 - CONSTITUTIONAL LAW AND GOVERNMENT

4.00 Credits

Social and political forces that shaped constitutional political theory and the interaction of law and politics through the Reconstruction era. Relationship of the Supreme Court vis-a-vis Congress, the executive, states, and emergency powers. Formerly HSPS 350.

351 - CONSTITUTIONAL LAW AND CIVIL LIBERTIES

4.00 Credits

Late nineteenth and twentieth century decisions of the Supreme Court with special attention directed to civil liberties, civil rights and criminal justice issues. Formerly HSPS 351.

355 - MINORITIES AND WOMEN IN CRIMINAL JUSTICE

4.00 Credits

The role of minorities and women in the American criminal justice system. Issues relating to minorities and women as offenders, victims of crime, and criminal justice professionals will be presented and explored. Additionally, concepts such as racism, prejudice, discrimination and victimization will be examined. Prerequisite: PLSC 121 and SOC 261.

366 - PUBLIC ADMINISTRATION AND POLICY ANALYSIS

4.00 Credits

Bureaucrats as actors in the American political system, their sources of power, their relationship to elected public officials, the basic dynamics and problems in the policymaking process and widely used analytical approaches to public policy.

388 - INTERNATIONAL RELATIONS AND LAW

4.00 Credits

The factors and forces which determine the policies of nation-states and the structure, operation and legal setting of international politics. Particular emphasis is on the role of IGO's and NGO's as well as the changing international legal order.

391 - SPECIAL TOPICS IN POLITICAL SCIENCE

1.00 to 4.00 Credits

May be repeated as topic varies.

409 - THE PRESIDENCY

4.00 Credits

Examination of the development and contemporary operation of the Presidency.

411 - CONGRESS

4.00 Credits

Examination of the structure and operation of Congress.

416 - EAST CENTRAL EUROPE AND RUSSIA

4.00 Credits

A comparison of the politics of transition between autocratic and democratic political systems in the region formerly dominated by the Soviet Union, traced from Tsarist Russia through the Communist period to present efforts of democratization.

462 - LEGAL ISSUES IN CRIMINAL JUSTICE

4.00 Credits

Intensive study of selected topics related to criminal justice. Topics may include, but are not limited to: the death penalty, legal issues in police administration and management, legal issues in corrections and correctional management, the exclusionary rule, jury selection, gangs in America, films in criminal justice. May be repeated as topic varies. Prerequisites: PLSC 121, PSYC 215 and SOC 261.

475 - MODEL UNITED NATIONS

1.00 to 4.00 Credits

Preparation to participate in the National Model United Nations in New York City. An integrated and serious simulation of many aspects of the United Nations. Travel to New York City in the spring. May be repeated up to 12 credit hours, but only a maximum of 4 credit hours can count toward major or minor requirements. Up to 12 hours can fulfill graduation requirements. (Formerly HSPS 475)

476 - MOCK TRIAL

1.00 to 4.00 Credits

Preparation to participate in both the regional and national mock trial competition held at the University of Toledo and Drake University, respectively. Preparation of both civil and criminal cases including opening and closing arguments, direct and cross

examination of witnesses, and objections. May be repeated up to 12 credit hours, but only a maximum of 4 credit hours can count toward major or minor requirements. Up to 12 hours can fulfill graduation requirements. Prerequisite: Permission of the instructor. (Formerly HSPS 476)

481 - PUBLIC SERVICE INTERNSHIP PROGRAM

1.00 to 16.00 Credits

Field experience in the area of public service. Work in a close relationship with public offices and officials. Interns serving in a local agency receive four credit hours for ten hours of service per week. Those who work full-time for a quarter receive 16 credit hours. A maximum of 6 hours will count toward major requirements. Graded S/U. Prerequisites: Consultation with the department internship committee and completion of the application process, a 2.75 GPA, and junior or senior status.

488 - SENIOR RESEARCH PAPER 1

1.00 Credit

Topic selection, development of bibliography and outline for senior paper (see PLSC 489) directed by a departmental faculty member. Required of all departmental majors. Enrollment at least two quarters before expected graduation. Prerequisites: Senior status, major in Political Science, Criminal Justice or International Studies.

489 - SENIOR RESEARCH PAPER 2

2.00 Credits

Writing of a research paper directed by a department faculty member relevant to their major. Required of all departmental majors. Enrollment one quarter before expected graduation. Prerequisite: PLSC 488.

491 - SPECIAL TOPICS IN POLITICAL SCIENCE

1.00 to 4.00 Credits

May be repeated as topic varies.

495 - SEMINAR IN POLITICAL SCIENCE OR CRIMINAL JUSTICE

1.00 to 4.00 Credits

May be repeated as topic varies.

498 - INDEPENDENT STUDY IN POLITICAL SCIENCE, CRIMINAL JUSTICE OR INTERNATIONAL STUDIES

1.00 to 4.00 Credits

Approval of department chairman required prior to registration.

DEPARTMENT OF HUMAN PERFORMANCE AND SPORT SCIENCES

Associate Professors Campoli, Glon, Hofman, Keller, Swanson; Assistant Professors Beaschler (*Chair*), Coleman, Durand, Simmons, Terrell, West, Wilson, Witte; Instructors Batman, Rasic, Ridenour, Rohan; Lecturers Bendekovic, Cole, Duerr, Hairston, Hunt-Shepherd, Paul

Mission Statement

The department of human performance and sport sciences prepares professionals for teaching, service, research, and/or leadership roles in educational institutions, business and industry, and other agencies. We strive to create an environment, which offers a unique opportunity to provide diverse, comprehensive, and life-long learning, while encouraging an appreciation of the importance of health, fitness and sport and their contribution to quality of life.

The **bachelor of arts** and **bachelor of science** degrees are available to students enrolled in the department with the opportunity to major in the following academic areas:

Physical Education (pre K-12)	78 hours
Health Education (pre K-12)	53 hours
Athletic Training	78 hours
Sport Management	79 hours
Exercise Physiology	76-78 hours

The department provides majors an opportunity to acquire a business option (28 hours).

The department provides courses of study leading to endorsement in the following area:

Athletic Coaching Certification - by Ohio Northern University 25 hours

For specific information concerning these areas, please contact the human performance and sport sciences department chairperson.

Physical Education Service Courses

Service courses are those courses, other than varsity sports, listed below the 100 level (AHPE). Physical education service classes meet two hours per week for one hour credit. Classes are graded on the S/U basis. Students in all colleges with a physical education requirement are required to take a minimum of three hours, except for physical education majors.

Three different areas of activity classes are offered in the service course program to provide diversity in physical education experiences for the university student.

Wellness Area:

Wellness Lab
Weight Control and Nutrition

Fitness Area:

Beginning Fitness
Intermediate Fitness
Advanced Fitness
Weight Training and Physical Conditioning
Aerobic Activities
Dance Aerobics
Aquatic Exercise

Lifetime Activities Area:

Golf
Tennis
Beginners Swimming
Intermediate Swimming
Hiking and Backpacking
Rhythmic Fundamentals
Sailing and Seamanship
Snow Skiing
Social Dance
Canoeing and Whitewater Rafting
Bowling
Billiards
Archery
Racquetball
Self Defense
Square and Folk Dance
Volleyball
Badminton
Ultimate Frisbee
Frisbee Golf

Special Equipment or Fee Requirements for HPSS Department Courses

AHPE activity class special equipment/fee requirements:

Tennis—tennis balls and racquet
Golf—clubs (when possible)
Intermediate Fitness—bicycle
Racquetball—racquet, racquetballs, protective goggles
Canoeing and Whitewater Rafting—fee required
Bowling—fee required
Billiards—fee required
Snow Skiing—fee required
Hiking and Backpacking—fee required

HPSS class special equipment/fee requirements:

First Aid-Responding to Emergencies—fee required
Community CPR—fee required
CPR for the Professional Rescuer—fee required
Lifeguarding—pocket mask, whistle on lanyard, fee required
Water Safety Instruction—fee required

Majors in Human Performance and Sport Sciences

Special Requirements for Majors

1. All required courses and electives in the curricula of the student's major, minor and/or option and certification must be completed with a grade of "C" or better to satisfy graduation requirements.
2. In coaching theory course requirements, only one officiating course may apply.
3. Physical education majors are exempt from the three-hour service class requirement, but all other department majors must comply with this requirement.
4. Majors desiring teacher licensure must complete requirements of the Center for Teacher Education.
5. Students desiring to major in athletic training must be admitted to the certification tract of the athletic training program following a first-year competitive admissions process. Students must meet specific academic and technical standards prior to admittance. Specific requirements for admission may be obtained from the department of human performance and sport sciences or the athletic training education program director.
6. All students with a major in the HPSS department must fulfill a computer proficiency requirement (TECH-139, ABUS-201 or EDUC-320) in order to graduate.

NOTE: numbers in () indicate credit hours

Physical Education (pre K-12) 78 hours

HPES 112	First Aid (2)
HPES 113	Community CPR (1)
HPES 151	HPSS Foundations (4)
HPES 207	Advanced Strength & Conditioning (3)
HPES 209	Sports Nutr. and Supplementation (4)
HPES 213	Individual & Dual Sports (4)
HPES 217	Intramurals (4)
HPES 218	Team Sports (4)
HPES 221	Exercise Physio. (4)
HPES 223	Kinesiology (4)
HPES 226	Care & Prevention of Ath. Inj. (4)
HPES 230	Adapt. & Corr. PE (4)
HPES 233	Elem. School Phys. Ed. (4)
HPES 271	Motor Learning (4)
HPES 303	Org. & Admin. (4)
HPES 304	Teach Tech. (1)
HPES 305	Practical Techniques of Teaching Intramurals (1)
HPES 360	Test Meas. HPE (4)
HPES XXX	Coaching Techniques (6) (Only one officiating course may apply)

Biology Courses

BIOL 231	Anat. & Physio. 1 (4)
BIOL 232	Anat. & Physio. 2 (4)

Education Courses

EDUC 461	Integrated PE Methods (4)
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Health Education (pre K-12) 53 hours

HPES 099	Wellness Lab (1)
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HPES 110	Intro to Exercise, Nutrition and Health (4)
HPES 111	Pers. Hlth Prob (4)
HPES 112	First Aid (2)
HPES 113	Community CPR (1)
HPES 119	Sch. & Comm. Hlth. (3)
HPES 151	HPSS Foundations (4)
HPES 201	AIDS & other Sexually Transmitted Diseases (3)
HPES 209	Sports Nutrition and Supplementation (4)
HPES 221	Exercise Physio. (4)
HPES 303	Org. & Admin. (4)
HPES 360	Test Meas. HPE (4)
HPES 494	Health Seminar (3)

Biology Courses

BIOL 231	Anat. & Physio. 1 (4)
BIOL 232	Anat. & Physio. 2 (4)

Education Courses

EDUC 460	Integrated Health Methods (4)
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Exercise Physiology (Formerly Wellness)

76-78 hours

Core Exercise Physiology Classes

HPES 110	Introduction to Exercise, Nutrition and Health (4)
HPES 112	First Aid (2)
HPES 113	Community CPR (1)
HPES 207	Advanced Strength and Conditioning (3)
HPES 209	Sports Nutrition and Supplementation (4)
HPES 221	Exercise Physiology (4)
HPES 223	Kinesiology (4)
HPES 236	Biomechanics(4)
HPES 261	Exercise/Fitness Testing and Prescription 1 (4)
HPES 262	Exercise/Fitness Testing and Prescription 2 (4)
HPES 337	Exercise Biochemistry (4)
HPES 375	Research Design and Statistics (4)
HPES 381	ECG Analysis (2)
HPES 3XX	Practicums (2)

Clinical/Research Track Classes

BIOL 124/126	Anatomy and Histology (4)
BIOL 302	Human Anatomy (4)
HPES 329	Exercise Pharmacology (4)
HPES 441	Introduction to Pathophysiology (4)
HPES 485	Wellness and Health Promotion Internship (16)

Corporate Fitness/Personal Training Track Classes

HPES 247	Sport Marketing and Promotions (4)
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HPES 338	Exercise Programming for Selected Populations (2)	HPES 251	AT Clinical Lev. 1 (1)
HPES 355	Organization and Administration of Health Promotion Programs/ Facilities Management(4)	HPES 252	AT Clinical Lev. 2 (1)
HPES 362	Personal Training 1 (2)	HPES 275	Eval. Tech. in A.T. 1 (4)
HPES 363	Personal Training 2 (2)	HPES 276	Eval. Tech. in A.T. 2 (4)
HPES 485	Wellness and Health Promotion Internship (16)	HPES 284	Ath. Taping & Bracing (1)
		HPES 348	Off-campus Athletic Training Experience (0)
		HPES 353	AT Clinical Lev. 3 (1)
		HPES 354	AT Clinical Lev. 4 (1)
		HPES 371	Ther. Modalities in A.T. (4)
		HPES 372	Exer. Rehab in A.T. 1 (4)
		HPES 373	Exer. Rehab in A.T. 2 (4)
		HPES 378	Psych. Factors of A.T. (2)
		HPES 441	Intro. to Pathophysiology (4)
		HPES 455	AT Clinical Lev. 5 (1)
		HPES 456	AT Clinical Lev. 6 (1)
		HPES 461	Medical Considerations (3) (offered even years)
		HPES 493	Senior Seminar (4)
		HPES 495	Trends in A.T. (4) (offered odd years)

Exercise Physiology Minor 31 hours

HPES 207	Advanced Strength and Conditioning (3)
HPES 209	Sports Nutrition and Supplementation (4)
HPES 221	Exercise Physiology (4)
HPES 223	Kinesiology (4)
HPES 261	Exercise/Fitness Testing and Prescription 1 (4)
HPES 262	Exercise/Fitness Testing and Prescription 2 (4)

AND

Any Two (2) of the Following Courses:

HPES 110	Intro to Exercise, Nutrition and Health (4)
BIOL 302	Human Anatomy (4)
HPES 362	Personal Training 1 (2) AND
HPES 363	Personal Training 2 (2)

Athletic Training 78 hours

Students, including transfers, must be accepted into the athletic training program through a competitive admissions process. The formal admittance process occurs only one time per year beginning in the fall quarter and concluding during the spring quarter. A student desiring to transfer from another college or university must follow the university procedures outlined in the course catalog. Specific athletic training courses may receive transfer credit, but will only be accepted for graduation if there is documented evidence from the transfer institution that it includes the same educational competencies as the course(s) it is replacing. Specific requirements may be obtained from the department of human performance and sport sciences or the athletic training education program director. Students are responsible for all travel costs associated with off-campus clinicals.

HPES 111	Pers. Hlth. Prob. (4)
HPES 112	First Aid (2)
HPES 117	CPR for the Prof. Rescuer (1)
HPES 120	Adv. Wt. Control & Sport Nut. (2)
HPES 160	Basic Ath. Train. (4)
HPES 207	Adv. Strength & Conditioning (3)
HPES 215	Intro. to Eval. Tech. of Ath. Trng. (2)
HPES 221	Exer. Physio. (4)
HPES 223	Kinesiology (4)
BIOL 231	Ant. & Physio. 1 (4)
BIOL 232	Ant. & Physio. 2 (4)

Sport Management Major 79 hours

HPES 153	Intro. Sprt. Mgm. (4)
HPES 247	Sprt. Market/Promo (4)
HPES 256	Soc/Psych of Sport (4)
HPES 303	Org. & Adm. (4)
HPES 340	Finance-Economics of Sport(4)
HPES 344	Sport Management Practicum-Team Promo (1)
HPES 345	Sport Management Practicum-Facility Management 1 (1)
HPES 346	Sport Management Practicum-Facility Management 2 (1)
HPES 410	Ethics in Sport (4)
HPES 421	Sport Law (4)
HPES 486	Sprt. Mgm. Intern (15)
HPES 496	Sprt. Mgm. Seminar (1)

Communication Arts Courses

COMM 130	Intro. Pub. Rel. (4)
COMM 211	Public Speaking (4)
COMM 212	Business and Prof. Spkg. (4)
COMM 236	Public Relations Writ. (4)

Business Administration Courses

ACCT 211	Prin. of Accounting 1 (4)
ABUS 312	Business Law 1 (4)
MGMT 325	Employment Law (4)
MGMT 333	Mgmt. & Org. Beh. (4)

Majors in the HPSS department may select the College of Arts and Sciences **Business Option** by successful completion of the following option requirements and electives:

ACCT 211	Prin. of Accounting 1 (4)
ACCT 212	Prin. of Accounting 2 (4)
ABUS 312	Business Law 1 (4)
MRKT 351	Prin. of Marketing (4)
MRKT 371	Personal Selling (4)
MGMT 363	Human Resource Management (4)
MGMT 410	Business and Society (4)

In addition to the College of Arts and Sciences Business Option, the following **certification** is available from the department.

ONU Coaching Certification 25 hours
HPES 112 First Aid (2)
HPES 113 Community CPR (1)
HPES 207 Advanced Strength and Conditioning (3)
HPES 226 Care & Prevention of Ath. Inj. (4)
HPES 324 Psych. of Coaching (2)
HPES 334 Adv. Coach. (1)
HPES 410 Ethics in Sport (4)
HPES 421 Sport Law (4)
Two coaching theory courses (only one officiating course may apply)

Subject - Varsity Sports/Service Courses (AHPE)

All AHPE courses graded S/U

001 – VARSITY FOOTBALL PARTICIPATION
1.00 Credit

002 - VARSITY CROSS COUNTRY PARTICIPATION (MEN)
1.00 Credit

003 – VARSITY SOCCER PARTICIPATION (MEN)
1.00 Credit

004 – VARSITY VOLLEYBALL PARTICIPATION
1.00 Credit

005 – VARSITY BASKETBALL PARTICIPATION (MEN)
1.00 Credit

006 – VARSITY BASKETBALL PARTICIPATION (WOMEN)
1.00 Credit

007 – VARSITY CROSS COUNTRY PARTICIPATION (WOMEN)
1.00 Credit

008 – VARSITY SOCCER PARTICIPATION (WOMEN)
1.00 Credit

010 – VARSITY TRACK PARTICIPATION (WOMEN)
1.00 Credit

011 – VARSITY WRESTLING PARTICIPATION
1.00 Credit

012 – VARSITY TRACK PARTICIPATION (MEN)
1.00 Credit

013 – VARSITY TENNIS PARTICIPATION (MEN)
1.00 Credit

014 – VARSITY TENNIS PARTICIPATION (WOMEN)
1.00 Credit

015 – VARSITY GOLF PARTICIPATION (MEN)
1.00 Credit

016 – VARSITY SOFTBALL PARTICIPATION
1.00 Credit

017 – VARSITY BASEBALL PARTICIPATION
1.00 Credit

018 – VARSITY SWIMMING PARTICIPATION (MEN AND WOMEN)
1.00 Credit

019 – VARSITY GOLF PARTICIPATION (WOMEN)
1.00 Credit

021 - WEIGHT TRAINING AND PHYSICAL CONDITIONING
1.00 Credit
Provide knowledge and skills in various types of weight training and conditioning activities. To provide a knowledge of the Nautilus and Universal equipment. To promote better fitness through weight training activity and exercise. (Fitness)

024 - BEGINNERS GOLF
1.00 Credit
Only for novice and non-golfers. To learn about the past history of golf, proper etiquette and safety involved, basic fundamentals involved in stance, approach, short, middle and long irons, woods, etc. Also scoring and creating an interest for carry over value. (Lifetime Activities)

026 – FRISBEE GOLF
1.00 Credit
The basic skills, rules, etiquette and strategies of the game of disc golf will be taught. Participation is expected. (Lifetime Activities)

028 - ULTIMATE FRISBEE
1.00 Credit
The basic skills, rules, etiquette and strategies of the game of ultimate frisbee will be taught. Participation is expected. (Lifetime Activities)

029 - RACQUETBALL

1.00 Credit

Only for novice and beginning racquetball players. This course is designed to teach the basic skills and rules of the game so that one can become a competent and active participant, an informed spectator, and involved in an activity that will promote physical fitness. (Lifetime Activities)

030 - BEGINNERS SWIMMING

1.00 Credit

Designed to teach proper breath control along with the five basic swimming strokes (front crawl, back crawl, breaststroke, sidestroke, and elementary backstroke). Also provides the skills and knowledge for personal survival techniques and basic rescue equipment and usage. Only non-swimmers and those who cannot perform strokes with breath control should register for this course. (Lifetime Activities)

033 - INTERMEDIATE SWIMMING

1.00 Credit

To perfect the five basic strokes learned in beginners swimming. Develops stroke and breathing efficiency necessary to achieve the physiological benefits of swimming. Further develops rescue and survival skills to ensure the safety of oneself and others. Also teaches basic diving skills. Students registering for the course should be able to pass an entrance skills test consisting of the front crawl, back crawl, breaststroke, sidestroke, and elementary backstroke. (Lifetime Activities)

034 – BEGINNERS BOWLING

1.00 Credit

To offer the student an opportunity to understand the fundamentals of bowling. To teach scoring, etiquette and common courtesies. To provide an appreciation of the sport as a carry-over in their personal lives. (Lifetime Activities)

036 - BEGINNING FITNESS

1.00 Credit

Development of an individualized low intensity fitness program which best fits the physical and mental needs of each student. Programs will be formulated and monitored by the students and instructor. Activities include aerobic exercise and cardiovascular conditioning. (Fitness)

037 - INTERMEDIATE FITNESS

1.00 Credit

An individualized medium intensity fitness program which best fits the physical and mental needs of each student. Programs will be formulated and monitored by the students and instructor. Activities could include cycling, hydrobics (fitness swimming), running and power walking. (Fitness)

038 - ADVANCED FITNESS

1.00 Credit

An individualized high intensity fitness program which best fits the physical and mental needs of each student. Programs will be individually prescribed by the instructor in consultation with students. (Fitness)

040 - BILLIARDS

1.00 Credit

To offer each student the opportunity to learn and participate in the fundamentals of billiards. (Lifetime Activities)

042 - HIKING AND BACKPACKING

1.00 Credit

Hiking and backpacking skills for the beginner; to include information on equipment and safety procedures. Students will be required to make at least one field trip which may require a lab fee. (Lifetime Activities)

045 - RHYTHMIC FUNDAMENTALS

1.00 Credit

Physical activities which can be performed with music or other forms of rhythmic accompaniment. Activities include jump rope, bamboo pole, parachute play, lummi sticks and exercise to music. Particularly beneficial for elementary education majors. Offered odd numbered years. (Lifetime Activities)

047 - SAILING AND SEAMANSHIP

1.00 Credit

The course is taught mostly in the classroom, and lessons in safe boating are included. (Lifetime Activities)

049 - SNOW SKIING*1.00 Credit*

Snow skiing for the beginning skier. Course requirements will include basic classroom instruction dealing with equipment, techniques and safety for the beginner. Field trips will be arranged for the application and practice of skiing techniques. A course fee is required to cover lift tickets, travel expenses and rentals. Medical approval and participation waiver may be required. (Lifetime Activities)

050 - SOCIAL DANCE*1.00 Credit*

The traditional dance (i.e., waltz, foxtrot, swing, samba, rumba, cha-cha, tango). An understanding of dances, courtesies of dances, and identification of music for appropriate dances are emphasized. Develops basic knowledge of social dance steps, execution, leading and following. (Lifetime Activities)

052 - CANOEING AND WHITE WATER**RAFTING***1.00 Credit*

Canoeing and white water rafting skills for the beginner; to include information on equipment and safety procedures. A fee is required to cover travel expenses and rentals. Medical approval and participation waiver may be required. (Lifetime Activities)

060 - ARCHERY*1.00 Credit*

The scope and extent of archery, selection of equipment, safety, bracing of the bow, methods of shooting, points of aim, scoring, correction of problems. (Lifetime Activities)

065 - AQUATIC EXERCISE*1.00 Credit*

An opportunity is provided for the student to develop an understanding of the benefits of physical fitness concepts through the use of water exercises and to participate in fitness activities in the pool. Student need not be able to swim to participate, but activities will be in the pool. Does not fulfill physical education major's aquatic requirement. (Fitness)

066 - DANCE AEROBICS*1.00 Credit*

An opportunity is provided for students to develop an understanding of and improve their performance level of dance/step aerobic movements to music and to increase the students' knowledge of cardiovascular intensity levels and mental training needed for a lifetime of fitness. (Fitness)

070 - SELF DEFENSE*1.00 Credit*

Self defense maneuvers will enable the student to gain proficiency with fundamental punches, kicks, blocks and counters. An important part of this class is to create an awareness and an appreciation for self defense. (Lifetime Activities)

078 - BADMINTON*1.00 Credit*

The game of badminton, knowledge of the rules, history, scoring, and strategies of both singles and doubles play will be emphasized. (Lifetime Activities)

080 - BEGINNING TENNIS*1.00 Credit*

Recommended for non-tennis players. The course is designed to develop a basic knowledge of the history, rules, and courtesies of the game of tennis. The fundamental skills of tennis will be presented and practiced. (Lifetime Activities)

083 - SQUARE AND FOLK DANCE*1.00 Credit*

The skills in folk and square dance are taught. An understanding of the background and tradition (American and other countries) and an appreciation of folk and square dance are emphasized. A carry over activity for later life. (Lifetime Activities)

086 - VOLLEYBALL*1.00 Credit*

The basic skills, strategies and rules of the game of volleyball will be taught. Participation is expected. (Lifetime Activities)

087 - AEROBIC ACTIVITIES*1.00 Credit*

To offer each student an understanding of aerobic activities and provide the opportunity to choose an activity to accomplish individual fitness needs. (Fitness)

088 - WEIGHT CONTROL AND NUTRITION*1.00 Credit*

Basic nutrition and methods of healthy weight loss which could include prescribed activity. (Wellness)

090 - SPECIAL TOPICS IN HUMAN PERFORMANCE AND SPORT SCIENCES*1.00 to 4.00 Credits*

May be repeated for credit as topic varies.

093 - UNIVERSITY WELLNESS PROGRAM*.00 Credits*

Assist full-time faculty/staff to design and implement a wellness program. Graded S/U. (Wellness)

099 - WELLNESS LAB

1.00 Credit

A clinical experience in the evaluation of one's wellness status. Participants will test their own individual fitness levels and will be provided the knowledge to develop personalized exercise prescriptions. Wellness counseling will enable students to select those behaviors which are appropriate to a healthy life style. (Wellness)

Subject - Human Performance & Sport Sciences (HPES)

000 - ORIENTATION-HEALTH, PHYSICAL EDUCATION, SPORT STUDIES

1.00 Credit

Introduction to the professions of Health, Physical Education, Sport Management, Athletic Training and Exercise Physiology. Graded S/U.

101 – WELLNESS ORIENTATION AND OBSERVATION

1.00 Credit

A minimum of 45 clock hours of experience or observation in an organization, corporation, hospital or agency fitness or health promotion program. Graded S/U

110 - INTRODUCTION TO EXERCISE, NUTRITION AND HEALTH

4.00 Credits

Basic concepts and components of health and fitness related topics such as physical activity, disease, nutrition and body composition. Application and assessment of selected physiological and fitness parameters and how these topics can be used to promote a healthy, active lifestyle. Permission of department chairperson. EXPH and ATTR majors only.

111 - PERSONAL HEALTH PROBLEMS

4.00 Credits

A theoretical and practical treatment of the concepts of disease prevention and health promotion. Course content includes topics such as emotional health; aging and death; alcohol, tobacco, and drug abuse; physical fitness; nutrition and dieting; consumer health; chronic and communicable diseases; human sexuality; and stress management.

112 - FIRST AID-RESPONDING TO EMERGENCIES

2.00 Credits

Lectures, discussion and practice in the giving of first aid in emergencies. The American Red Cross Certification may be obtained by students who pass an examination. Course can be taken only once for graduation credit. Course may be repeated an unlimited number of times for card renewal as space permits. (Fee)

113 - COMMUNITY CPR

1.00 Credit

Instruct correct techniques in rescue breathing, obstructed airway and CPR for the adult, child and infant. Completion of the course will entitle the student to receive the American Red Cross Community CPR Card. Course can be taken only once for graduation credit. Course may be repeated an unlimited number of times for card renewal as space permits. Graded S/U. (Fee)

114 - LIFEGUARDING

2.00 Credits

To develop knowledge and skills to aid in the prevention of aquatic accidents and an ability to give assistance to victims. The American Red Cross Advanced Lifeguarding certificate/emblem may be obtained by passing an examination. Prerequisite: Must possess valid First Aid and CPR certification. Instructor approval. (Fee)

115 - WATER SAFETY INSTRUCTION

3.00 Credits

Teaching of swimming and water safety skills, methods and techniques. Successful completion of the course will lead to American Red Cross Water Safety Instruction certification. Meets 4 days per week. Prerequisite: Current certification in advanced lifeguarding, First Aid and CPR for the professional rescuer. (Fee)

117 - CPR FOR THE PROFESSIONAL RESCUER

1.00 Credit

Skills in Community CPR with additional emphasis in advanced assessment and care including the use of AED's, stabilization and transportation and special resuscitation techniques. The American Red Cross certification may be obtained by students who pass an examination. Course can be taken only once for graduation credit. Course may be repeated an unlimited number of times for card renewal as space permits. (Fee)

119 - SCHOOL AND COMMUNITY HEALTH

3.00 Credits

Skills and knowledge for aiding teachers and wellness staff to observe and understand the target population in health and illness; the health program of the public schools and the relationship of the school to the students' habits, attitudes and knowledge conducive to good health. Health matters with focus on health problems amenable to community action.

120 - ADVANCED WEIGHT CONTROL AND SPORTS NUTRITION

2.00 Credits

The nutritional requirements for athletes and the physically active population. Analyze principles of weight control, including body fat, caloric requirements, effects of exercise and fluid loss/replacement. Recognize disordered eating habits and illnesses associated with poor nutritional habits and implement proper referral procedures.

151 - HPE/SPORT STUDIES FOUNDATIONS

4.00 Credits

Introduction to five foundation areas - the historical, philosophical, psychological, physiological and sociological - of physical education, health education, and sport studies. A sixth unit treats scope, justification and needs of the profession and professional opportunities.

153 - INTRODUCTION TO SPORT MANAGEMENT

4.00 Credits

Initial professional experience and preparation to pursue the sport management curriculum with enhanced understanding and insight. The basic concepts in sport management; career preparation, professional opportunities and professional skills. Prerequisite: SPMG major only or with permission of department chairperson.

160 - BASIC ATHLETIC TRAINING

4.00 Credits

The prevention, recognition and care of athletic injuries as well as common principles associated with the athletic training profession. For ATTR majors only. Credit cannot be given for both HPES 160 and HPES 226.

190 - SPECIAL TOPICS IN HUMAN PERFORMANCE AND SPORT SCIENCES

1.00 to 4.00 Credits

May be repeated for credit as topic varies.

201 - AIDS AND OTHER SEXUALLY TRANSMITTED DISEASES

3.00 Credits

An introductory, non-technical examination of the biological/medical, social, psychological, and other ethical aspects of AIDS and other sexually transmitted diseases. Topics include but are not limited to: history of STD's, types, treatment, and prevention of STDs; medical aspects of HIV/AIDS; counseling of AIDS/HIV virus individuals; HIV testing; AIDS education in school systems; religion and AIDS/HIV; minorities/women and AIDS; legal aspects and ethical issues of AIDS/HIV; life with AIDS/HIV (presentation by HIV positive individuals and family members of persons with AIDS).

207 - ADVANCED STRENGTH AND CONDITIONING

3.00 Credits

Addresses physiological response to exercise, proper and safe methods and techniques of strength training, testing of strength and conditioning, interpreting testing data, and developing proper strength and conditioning programs for various individuals and groups. Prerequisite: BIOL 231.

209 - SPORTS NUTRITION AND SUPPLEMENTATION

4.00 Credits

Macro and Micro-nutrient aspects of exercise training and an overview of sports supplementation. An in-depth examination of how nutrition, sports supplementation and ergogenic aids alter athletic performance. Topics include high carbohydrate and fat diets, muscle glycogen loading, creatine supplementation, protein and amino acid supplementation, vitamin and mineral supplementation, steroid use and other ergogenic substances. Prerequisite: HPES 110

213 - INDIVIDUAL AND DUAL SPORTS

4.00 Credits

The fundamental skills, methods and techniques in teaching the following individual and dual sports: tennis, bowling, golf, weight lifting, badminton, track and field. Prerequisite: PHED majors only.

215 - INTRODUCTION TO EVALUATION TECHNIQUES IN ATHLETIC TRAINING

2.00 Credits

Overview of the injury evaluation process to include appropriate use of medical terminology and SOAP note writing. Laboratory experiences in anatomic palpation, goniometry and manual muscle testing. Prerequisite: ATTR majors only.

217 - INTRAMURALS

4.00 Credits

The knowledge and skills for successful development, organization and operation of an intramural program in the public schools. Prerequisite: PHED majors only.

218 - TEAM SPORTS

4.00 Credits

The fundamental skills, methods, and techniques in teaching team sports including but not limited to: basketball, volleyball, soccer, baseball/softball, hockey, team handball and touch football. Prerequisite: PHED majors only.

221 - EXERCISE PHYSIOLOGY

4.00 Credits

The physiological basis of exercise and training. Metabolism, muscle physiology, cardiovascular physiology and special topics in exercise physiology. Laboratory covers techniques for evaluating physical conditioning as related to lecture topics. (Formerly BIOL 233). Prerequisites: BIOL 232 or 333.

223 - KINESIOLOGY

4.00 Credits

General body mechanics of the human organism; the activities of the physical education program in their relation to coordination and the proper body mechanics, analysis of movement. Prerequisites: BIOL 231.

226 - CARE AND PREVENTION OF ATHLETIC INJURIES

4.00 Credits

Complete body examination focusing on the initial care and prevention of athletic injuries. Common risk factors and mechanism of athletic injuries will also be identified. Laboratory designed to familiarize the student with taping techniques. Credit cannot be given for both HPES 160 and HPES 226.

230 - ADAPTIVE AND CORRECTIVE PHYSICAL EDUCATION

4.00 Credits

For the professionals concerned with physical activities for people with disabilities; to develop an understanding of the various disabling conditions and to explore methods of adapting physical activities to meet the needs of the atypical student in the physical education class. Prerequisite: HLED and PHED majors only.

233 - PHYSICAL EDUCATION FOR THE ELEMENTARY SCHOOL

4.00 Credits

The aims, objectives, methods, and techniques of teaching physical education in the elementary school. The need for physical activity and practical application of theories are emphasized. Prerequisite: sophomore standing.

236 - BIOMECHANICS

4.00 Credits

Basic biomechanical properties between the body and the physical world. Integration of the qualitative description of movements (linear and angular) with the forces associated with static and dynamic systems in the body. Topics include the stresses, forces and loads as applied to cartilage, muscle, tendons and bones. Prerequisite: HPES 223.

247 - SPORT MARKETING AND PROMOTIONS

4.00 Credits

The practice of marketing, promotions and sales in the sport marketplace. Introduction to event management, print and broadcast media advertising, marketing strategies, and a class project. Open to sport management majors and others with approval of the department chairperson. Prerequisites: HPES 153 and sophomore status.

251 - ATHLETIC TRAINING CLINICAL LEVEL 1

1.00 Credit

Involvement in on-campus clinical sport rotation as assigned by the athletic training staff. Under the supervision of an approved clinical instructor, specific clinical proficiencies will be completed. Prerequisites: HPES 112, HPES 160, admission to the certification track of the athletic training major, and must be in good academic standing. Graded S/U.

252 - ATHLETIC TRAINING CLINICAL LEVEL 2

1.00 Credit

Involvement in on-campus clinical sport rotation as assigned by the athletic training staff. Under the supervision of an approved clinical instructor, specific clinical proficiencies will be completed. Prerequisites: HPES 251 and must be in good academic standing. Graded S/U.

256 - SOCIOLOGY/PSYCHOLOGY OF SPORT

4.00 Credits

Significance of sports in society; examination of the relationships between social institutions and how these relationships shape the mental characteristics of those involved in sports; how sports contribute to human welfare in advanced technological societies. Prerequisite: HPES 153 and sophomore status.

261 - EXERCISE/FITNESS TESTING AND PRESCRIPTION 1

4.00 Credits

The concepts and principles of testing and evaluating fitness levels and the application of those results for the purpose of designing individual exercise prescriptions. Prerequisites: HPES 110 and 221.

262 - EXERCISE/FITNESS TESTING AND PRESCRIPTION 2

4.00 Credits

Measurement and evaluation of basic physiological components of exercise and fitness. The assessment and interpretation of physiological parameters associated with fitness and the application of these results to exercise training and prescription. Prerequisites: HPES 261 and HPSS major or permission of the department chairperson.

271 - MOTOR LEARNING

4.00 Credits

Provides the future physical educator with opportunities to acquire practical knowledge of the processes and variables that influence the rate, level, and retention of skill acquisition. The student will ultimately be able to develop a sound theoretical basis for instruction, coaching and performance enhancement.

275 - EVALUATION TECHNIQUES IN ATHLETIC TRAINING 1

4.00 Credits

The practical application of the injury evaluation process, incorporating origins, insertions, and innervations of selected muscle groups and manual muscle testing of the upper body, including the head and cervical spine. Also prepares students to make assessments of injuries, and formulate written injury evaluations and SOAP notes for documentation purposes. Prerequisite: BIOL 231 and HPES 215.

276 - EVALUATION TECHNIQUES IN ATHLETIC TRAINING 2

4.00 Credits

Continuation of HPES 275, but focusing on the lower body, with an in-depth look at postural abnormalities and gait analysis. Prerequisites: HPES 251 and 275.

284 - ATHLETIC TAPING AND BRACING

1.00 Credit

Principles and techniques associated with specialized taping, wrapping, bracing and padding selected joints and body parts. Additional focus on legal concepts regulating design, application, construction, maintenance and reconditioning of immobilization devices. Prerequisite: Must be admitted to the certification tract of the athletic training major. Graded S/U.

290 - SPECIAL TOPICS IN HUMAN PERFORMANCE AND SPORT SCIENCES

1.00 to 4.00 Credits

May be repeated for credit as topic varies.

300 - HEALTH PROMOTION PRACTICUM

3.00 Credits
An on campus experience designed to provide practical experience as a health promotion professional under the direct supervision of departmental staff. Experiences will be in the University Wellness and Exercise Program. Prerequisites: AHPE 099; HPES 110, 112, 226 and 261. Permission of department chairperson required.

303 - ORGANIZATION AND ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION, AND SPORT STUDIES

4.00 Credits

Examination of the philosophy, principles, problems, policies and procedures essential in the organization and administration of meaningful programs in health education, physical education, and sports studies. Prerequisite: SPMG, HLED and PHED majors only and junior status.

304 - PRACTICAL TECHNIQUES OF TEACHING PHYSICAL EDUCATION

1.00 Credit

Required of all physical education majors, preferably in their junior year. Involves assisting in service classes. Permission of department chairperson required.

305 - PRACTICAL TECHNIQUES OF TEACHING INTRAMURALS

1.00 Credit

Involves assisting with the organization and administration of the university intramural program. This course is an extension of the course HPES 217. Prerequisites: Permission of the department chairperson and HPES 217.

306 - PRACTICAL TECHNIQUES OF TEACHING PHYSICAL EDUCATION 3

1.00 Credit

Continuation of HPES 304,305. Prerequisites: HPES 304 and 305, and permission of department chairperson required.

308 - TECHNIQUES-COACHING VOLLEYBALL

2.00 Credits

Develops a basic expertise in the techniques and knowledge of coaching volleyball. Provides laboratory experiences in the practical application of techniques and knowledge of coaching volleyball. Upon successful completion of course requirements and instructor's recommendation, participants may receive USVBA Level I certification. Volleyball playing or coaching experience required. Offered odd numbered years.

310 - TECHNIQUES-COACHING SOFTBALL

2.00 Credits

Develops a basic expertise in the knowledge and techniques of coaching softball. Provides laboratory experiences in the practical application of techniques and knowledge of coaching softball. Emphasis is on fast pitch. Offered even numbered years.

315 - OFFICIATING-VOLLEYBALL

2.00 Credits

Knowledge and techniques of officiating volleyball. USA and NCAA rules. Laboratory experiences during class and intramural volleyball. Offered even numbered years. Certification available upon successful completion of course.

317 - THEORY OF TRACK AND FIELD OFFICIATING

2.00 Credits

Knowledge and techniques of officiating track and field. National Federation rules. Laboratory experiences during varsity track and field. Offered odd numbered years.

319 - THEORY AND METHOD OF COACHING TRACK

2.00 Credits

Methods and forms for all of the events in track and field. Lectures, reports, demonstrations and practice. Offered even numbered years.

320 - THEORY OF COACHING AND OFFICIATING WRESTLING

2.00 Credits

Equipment, fundamentals of the art and skill of wrestling. Offered even numbered years.

321 - THEORY OF FOOTBALL COACHING

2.00 Credits

Equipment, fundamentals of the game, kicking, passing, handling the ball, tackling, blocking; individual position play; offensive and defensive formation; strategy and generalship. To prepare students to coach on the junior high and senior high level.

322 - THEORY OF COACHING BASKETBALL

2.00 Credits

The fundamentals: passing, shooting, dribbling, feinting and pivoting, styles of offense and defense, equipment, conditioning, the handling of a team in games. Lectures, demonstrations and practice. Prerequisite: Junior status or permission of department chairperson.

323 - THEORY OF COACHING BASEBALL

2.00 Credits

Individual position and team play in baseball. Lectures, reports, demonstration, and practice.

324 - PSYCHOLOGY OF COACHING

2.00 Credits

The cultural, emotional, psychological and sociological aspects of coaching. Player-coach relationship, understanding the athlete, improving coaching effectiveness.

327 - THEORY OF COACHING SOCCER

2.00 Credits

Equipment, fundamentals of the game: kicking, passing, playing the ball, strategy and generalship. Offered on demand.

329 - EXERCISE PHARMACOLOGY

4.00 Credits

Influence of commonly used drugs and medicinal supplements on exercise performance and exercise prescription in patients and athletes. Substances examined include over-the-counter, prescription and social drugs, as well as natural substances. Agents covered include hormonal, cardiopulmonary, metabolic and social drugs, and naturally-derived medicinal substances. Prerequisites: Junior status and HPES 221. Offered odd numbered years.

334 - ADVANCED COACHING INTERNSHIP- EXTERNSHIP

1.00 Credit

Coaching under supervision in any sport in season. Hours arranged. May be repeated but only six credit hours will count toward graduation. Prerequisite: Permission of department chairperson.

337 - EXERCISE BIOCHEMISTRY

4.00 Credits

Bioenergetics of energy production during exercise in skeletal muscle, liver and adipose tissue. The major biochemical pathways, enzymes and intermediates associated with carbohydrate, fat, and protein utilization during exercise. Topics relevant to anabolism and catabolism during exercise including glycolysis, cellular metabolism, glycogen synthesis gluconeogenesis, lipolysis, and amino acid and protein synthesis. The effects of exercise training on fuel utilization. Prerequisite: HPES 221

338 - EXERCISE PROGRAMMING FOR SELECTED POPULATIONS

2.00 Credits

Exercise programming, development and implementation for selected populations. Selected populations include children, adolescents, older adults, pregnant women and corporate clients. The rehabilitation programming for individuals with cardiac, vascular and pulmonary diseases. Prerequisites: HPES 362 and 363.

340 - FINANCE AND ECONOMICS OF SPORT

4.00 Credits

The application of economic and financial theories applied to the sports industry in both the professional and the amateur sports markets. The critical and objective evaluation of economic and financial issues that arise in the sports industry. Increase knowledge of various sports markets, while emphasizing the role economics plays in determining outcomes in these markets. Prerequisites: Junior status, SPMG majors only or permission of department chairperson.

342 - BASKETBALL OFFICIATING

2.00 Credits

Basketball rules and mechanics from the standpoint of player, coach and official. Not for certification. Arrangements can be made if certification is desired. Basketball playing or coaching experience required.

344 - SPORT MANAGEMENT PRACTICUM-TEAM PROMOTIONS

1.00 Credit

Designed to give Sport Management majors the opportunity to acquire promotional experience through involvement with a sport team at the University. Can be taken only once for graduation credit. Can be repeated an unlimited number of times as space permits. Prerequisite: Junior status and permission of department chairperson.

345 - SPORT MANAGEMENT PRACTICUM-FACILITIES MANAGEMENT 1

1.00 Credit

Designed to give Sport Management majors the opportunity to experience facilities management through involvement with the sports facilities at the University. Course can be taken only once for graduation credit. Course may be repeated an unlimited number of times as space permits. Prerequisite: Junior status and permission of department chairperson; SPMG majors only.

346 - SPORT MANAGEMENT PRACTICUM-FACILITIES MANAGEMENT 2

1.00 Credit

Continuation of HPES 345. Prerequisites: HPES 345 and permission of department chairperson; SPMG majors only.

348 - OFF-CAMPUS ATHLETIC TRAINING CLINICAL EXPERIENCE

.00 Credits

Taken concurrently with Athletic Training Clinical Level 4, 5, or 6, indicating involvement in an off-campus experience at a local high school and/or outpatient sports medicine clinic. Graded S/U. Prerequisite: HPES 353.

353 - ATHLETIC TRAINING CLINICAL LEVEL 3

1.00 Credit

Involvement in on-campus clinical sport rotation as assigned by the athletic training staff. Under the supervision of an approved clinical instructor, specific clinical proficiencies will be completed. Prerequisites: HPES 252 and 276, and must be in good academic standing. Graded S/U.

354 - ATHLETIC TRAINING CLINICAL LEVEL 4

1.00 Credit

Involvement in on-campus sport rotation or off-campus clinic site as assigned by the athletic training staff. Under the supervision of an approved clinical instructor, specific clinical proficiencies will be completed. Prerequisites: HPES 353 and 371, and must be in good academic standing. Graded S/U.

355 - ORGANIZATION & ADMINISTRATION OF HEALTH PROMOTION PROGRAMS

4.00 Credits

A study of the design implementation, organization, administration and evaluation of health promotion programs; consists of competencies and strategies in administrative tasks, programming, facilities, equipment, marketing, sales, finance and liability. Prerequisite: Junior status.

360 - TESTS AND MEASUREMENTS OF HEALTH AND PHYSICAL EDUCATION

4.00 Credits

Fundamental considerations of measurement; physical education and health measurements; test evaluation; criteria of tests; validity of tests; accuracy of tests; physical fitness; skills tests; application of measurement; elements of statistics. HLED and PHED majors only.

362 - PERSONAL TRAINING 1

2.00 Credits

Design and implementation of personal training programs to increase aerobic conditioning and endurance. Prerequisite: HPES 262.

363 - PERSONAL TRAINING 2

2.00 Credits

Design and implementation of personal training programs to increase muscular strength and power. Prerequisite: HPES 362.

365 - ATHLETICS TESTING PRACTICUM

1.00 Credit

The collection and interpretation of physiological data associated with the training of athletes under the direct supervision of departmental staff. Various athletic populations will be tested for physiological parameters such as aerobic and anaerobic capacities, strength, power, and metabolism. Testing of a variety of athletic teams at Ohio Northern University, providing the opportunity to gain practical athletics testing experience with the athletics population(s) of the student's choice. Prerequisites: EXPH major, junior status, HPES 261 or permission of the department chairperson.

367 - BODY COMPOSITION PRACTICUM

1.00 Credit

The collection and interpretation of physiological data associated with body composition under the direct supervision of departmental staff. Body composition as determined by skinfold measurement, hydrostatic weighing, and bio-electrical impedance. Prerequisites: EXPH major, junior status, HPES 261 or permission of department chairperson.

369 - HEALTH AND WELLNESS SCREENING PRACTICUM

1.00 Credit

Organizing and conducting health and wellness screenings under the direct supervision of departmental staff. Experiences include health and fitness assessment of body composition, cardiorespiratory fitness, blood profiles and dietary analysis. Prerequisites: EXPH major, sophomore status, HPES 110 or permission of the department chairperson.

371 - THERAPEUTIC MODALITIES IN ATHLETIC TRAINING

4.00 Credits

Indications and contraindications of therapeutic modalities in the treatment of athletic injuries as they relate to the healing process. Prerequisites: HPES 221 and 276.

372 - EXERCISE REHABILITATION IN ATHLETIC TRAINING 1

4.00 Credits

Basic components of a comprehensive rehabilitation program. Selection of therapeutic exercises for injuries/corrective surgeries sustained by the recreational athlete. Discussion will focus on the upper extremities. Prerequisite: HPES 371.

373 - EXERCISE REHABILITATION IN ATHLETIC TRAINING 2

4.00 Credits

Continuation of HPES 372, but focusing on the lower extremities. Covers basic components of a comprehensive rehabilitation program. Prerequisite: HPES 372.

375 - RESEARCH DESIGN AND STATISTICS

4.00 Credits

The design and analysis of basic research in the exercise physiology. Overview of experimental design, literature review, research methodology and statistical concepts and analysis. Prerequisite: Junior status.

378 - PSYCHOSOCIAL FACTORS IN ATHLETIC TRAINING

2.00 Credits

The psychological and sociocultural factors relative to an athletic population as well as the roles and functions of various health care providers responsible for professional care. Strategies for identifying problems, intervening and making appropriate referrals are presented. Prerequisite: HPES 353.

381 - ECG ANALYSIS

2.00 Credits

The cardiac muscle, electrocardiography, ECG analysis and interpretation in the normal and diseased state. The physiological basis of normal and abnormal ECG tracings as they relate to cardiac physiology. Prerequisites: HPES 221 and EXPH majors.

383 - ADULT FITNESS PROGRAM PRACTICUM

1.00 Credit

Comprehensive practical experience working with an adult fitness program under the direct supervision of departmental staff. Practicum is conducted through Ohio Northern University Health and Wellness program. Experiences include client testing, counseling, monitoring, as well as fitness facility management. Prerequisites: EXPH major, junior status, HPES 262 or permission of department chairperson.

390 - SPECIAL TOPICS IN HUMAN PERFORMANCE AND SPORT SCIENCES

1.00 to 4.00 Credits

May be repeated for credit as topic varies.

410 - ETHICS IN SPORT

4.00 Credits

Survey, interpretations, and evolution of past and present ethical concepts and value conflicts facing the sport profession. Discussion of ethical theories and issues that arise in sport situations and ways of resolving them. Prerequisite: Junior status and SPMG majors only.

421 - SPORT LAW

4.00 Credits

Develops an awareness of the complexities concerning sports litigation, primarily in the focus of educational institutions. To use this new knowledge to assist their professional growth in the field. To have a clear understanding of the Law and its fundamental elements. Prerequisites: Junior status, SPMG majors only, or permission of department chairperson.

441 – INTRODUCTION TO PATHOPHYSIOLOGY

4.00 Credits

The physiology of abnormal and disease states. The functional and physiological changes that accompany a particular disease or syndrome. Major health-related disease states such as coronary heart disease, hypertension, diabetes, atherosclerosis and arteriosclerosis will be examined. Prerequisites: Junior status and HPES 221. Offered even numbered years.

455 - ATHLETIC TRAINING CLINICAL LEVEL 5*1.00 Credit*

Involvement in on-campus clinical sport rotation or off-campus site as assigned by the athletic training staff. Under the supervision of an approved clinical instructor, specific clinical proficiencies will be completed. Prerequisites: HPES 354 and 373. and must be in good academic standing. Graded S/U.

456 - ATHLETIC TRAINING CLINICAL LEVEL 6*1.00 Credit*

Involvement in on-campus clinical sport rotation or off-campus clinic site as assigned by the athletic training staff. Under the supervision of an approved clinical instructor, specific clinical proficiencies will be completed. Prerequisite: HPES 455 and must be in good academic standing.

461 - MEDICAL CONSIDERATIONS IN ATHLETICS*3.00 Credits*

Etiology, recognition, evaluation, treatment and referral of general medical conditions and disabilities. Focus on assessment of body systems. Pharmacological applications relevant to treatment of injuries and illnesses common to athletes. Prerequisites: Junior status and HPES 252. Offered even numbered years.

485 - WELLNESS AND HEALTH PROMOTION INTERNSHIP*4.00 to 16.00 Credits*

Participation in a broad based, off-campus experience designed for fitness development or health promotion program under the supervision of the University as well as a worksite supervisor. May be repeated but only 15 credit hours will count toward graduation. Prerequisites: Senior status; 2.00 GPA, and permission of the department chairperson required.

486 - SPORT MANAGEMENT INTERNSHIP*1.00 to 15.00 Credits*

Specially planned sport management work throughout the quarter to provide direct employment experience. Emphasis is on the practical application of theory and knowledge in developing professional skills. May be repeated but only 15 credit hours will count toward graduation. To be taken with the Sport Management Seminar to assist the students with the integration of field work and classroom learning. Junior status and permission of department chairperson required.

487 –HUMAN PERFORMANCE AND SPORT SCIENCES GENERAL INTERNSHIP*4.00 to 16.00 Credits*

Participation in a broad based, off-campus experience designed to accommodate students with a departmental major or multiple majors where a discipline-specific or combined discipline internships are not offered. Prerequisites: senior status; 2.00 GPA; and permission of department chairperson. Course may be repeated but only 16 hours count toward graduation.

490 - SPECIAL TOPICS IN HUMAN PERFORMANCE AND SPORT SCIENCES*1.00 to 4.00 Credits*

May be repeated for credit as topic varies.

493 - SENIOR SEMINAR IN ATHLETIC TRAINING*4.00 Credits*

Professional preparation for athletic training students taking the NATABOC exam. Review of athletic training domains, exam simulations, mock interviews and practical application of psychomotor skills will be emphasized. Prerequisite: HPES 455.

494 - HEALTH SEMINAR*3.00 Credits*

An in-depth analysis of current health problems, issues and trends as they apply to the teacher of health education. Prerequisite: Junior status and HLED majors only.

495 - TRENDS IN ATHLETIC TRAINING*4.00 Credits*

Current topical issues affecting the Athletic Training Profession include organization and administration topics, legal issues, and selected health issues that are present in the athletic population. Prerequisites: Junior status and HPES 252. Offered odd numbered years.

496 - SPORT MANAGEMENT SEMINAR*1.00 Credit*

Discussion and analysis of the field setting, practice and organization. Includes monitoring and evaluation of the internships. To be taken concurrently with Sport Management Internship.

497 - INDEPENDENT STUDY IN HPSS*1.00 to 4.00 Credits*

An in-depth exploration of a subject of special interest. Can be repeated as topic varies. Prerequisite: junior status and written permission from the faculty-mentor, the department chairperson and the Dean of the College prior to registration. Junior status required.

INSTITUTE FOR SOCIAL RESEARCH

Professor J. Scott; Associate Professors Durkin (*Director*), Ewing, Iseman, Kauffman, D. Smith, Wilson; Assistant Professor Alexander

The Ohio Northern University's *Institute For Social Research* offers a unique opportunity for students in several of the undergraduate programs of the University. The Institute prepares surveys, needs assessments, policy research, and other social research tasks as required by public and private agencies in the region.

The research institute offers exceptional students with an opportunity to observe and participate in social, political, and geographic research and consulting services at increasing levels of responsibility as an important adjunct to their education in the Social Sciences.

ISR 186, 286, 386, 486 may count toward their primary or secondary major but only 4 credit hours will count for major and 12 credit hours will count toward degree.

Subject - Institute for Social Research (ISR)

186 - SOCIAL RESEARCH PRACTICUM 1

1.00 Credit

Participation in the Institute for Social Research under the direction of a Research Fellow. Permission required. Graded S/U.

253 - RESEARCH METHODS 1

4.00 Credits

Major research techniques, including participant and non-participant observation, interview, questionnaire, use of available data, and experiment. Other topics include sampling and establishing causality in non-experimental research. Prerequisite: STAT 142 or equivalent. (Formerly listed as PLSC 253 and SOC 253)

254 - RESEARCH METHODS 2

4.00 Credits

Empirical concepts and tools for analyzing and explaining political and social phenomena. Hands-on experience in applying and developing concepts and tools for modern qualitative and quantitative analysis. Prerequisites: STAT 142 and ISR 253. (Formerly listed as PLSC 254 and SOC 254)

286 - SOCIAL RESEARCH PRACTICUM 2

1.00 Credit

Participation in the Institute for Social Research. Work as part of a team, under the direction of a Research Fellow in the Institute of Social Research. Prerequisite: IRS 186 or permission of the instructor. Graded S/U.

386 - SOCIAL RESEARCH PRACTICUM 3

1.00 Credit

Participation in the Institute for Social Research, including some leadership responsibilities under the direction of a Research Fellow. Prerequisite: ISR 286 or permission of the instructor. Graded S/U.

486 - SOCIAL RESEARCH PRACTICUM 4

1.00 Credit

Participation in the Institute for Social Research under the direction of a Research Fellow. Student assumes responsibility as a project director or assistant project director. Prerequisite: ISR 386 or permission of the instructor. Graded S/U.

DEPARTMENT OF MATHEMATICS

Professors Boyadzhiev, Hovis, Putt; Associate Professors Mi. Caragi, Fuller (*Chair*), Hunt, Johns, Raiti, Retterer, Roepke; Assistant Professor Robinson; Visiting Instructors Rader, Schroeder, Torres; Lecturers Barnhart, Grove, Morrison, Roll

Mission Statement

The mission of the Department of Mathematics is to provide an environment in which students grow intellectually and which encourages the continued professional growth of the faculty. To achieve this, the department is committed to introducing students to the concepts used in mathematics, to giving them experiences in the development and application of mathematical theory, to helping them develop their critical and analytical reasoning skills, to exposing them to the relationships between mathematics and other fields of endeavor and to preparing them for their career choices.

The **Mary Reichelderfer Chair in Mathematical Sciences** was established in 1983 from funds of the estate of Mary K. Werkman. The 2004-05 recipient of this chair is Dr. Mihai Caragi, associate professor of mathematics.

The department offers majors in mathematics and mathematics/statistics as well as minors in mathematics, applied mathematics and applied statistics. Courses are offered in mathematics

and statistics to complement almost all disciplines in the university. Students with a primary major in the department may choose a general education program leading to either the bachelor of arts degree or the bachelor of science degree. In addition, the department cooperates with the Center for Teacher Education in program planning for licensure for those desiring to teach at the secondary school level. The secondary education program in mathematics is nationally accredited by the National Council of Teachers of Mathematics.

Students should consult with the department in which they are considering a major to determine the best choice of courses in mathematics and statistics. In general, the sequence 144-145-146 is designed for students in business administration, 154-155-156-256 for students in pharmacy and life sciences, 163-164-165-263 for students in engineering, physical sciences, mathematics and computer science, 172-173 for prospective early childhood and middle childhood teachers. Both MATH 144 (Finite Mathematics) and STAT 142 (Introduction to Statistics) should be of general interest to students in many areas.

MATH 120 and 122 are designed for students who require or desire additional preparation in algebra (120) or trigonometry (122) before enrolling in other required mathematics courses. The department recommends that MATH 120 not be used to satisfy the general education requirement. The three courses MATH 157, MATH 158 and MATH 159 are designed to incorporate a review of pre-calculus mathematics into the material covered in MATH 163 and MATH 164. After completing MATH 157, MATH 158 and MATH 159 a student is prepared to enter MATH 165. The student who needs intensive skill development before taking MATH 163 should take MATH 120 and 122; the student needing only a review of pre-calculus mathematics should take the MATH 157-159 sequence in place of MATH 163 and MATH 164.

MATH 105 is designed to meet the needs of students who, although otherwise well-prepared for college work, require remedial work in mathematics before beginning the mathematics required for their chosen major. Because it is a remedial course it carries credit neither toward graduation nor toward any major or minor. It does, however, count in the student's load, rank and GPA calculation. Entrance into MATH 105 is determined by the departmental placement program. Students whose ACT in mathematics is below 16 (SAT below 370) usually need to take this course before enrolling in any other mathematics course.

All courses in mathematics which are to be counted toward a mathematics department major or minor must be completed with a grade of "C" or higher.

Department Co-op Program

Students with a major in the department seeking a co-op experience must enroll in MATH 350 (1 hour). At least sophomore status is required for application for admission into a co-op program. Participation requires junior or senior status. Participants must agree to

- register for at least 12 hours of course work each term on campus.
- register for MATH 350 for each term at the co-op site.
- maintain an overall grade point average of at least 2.5.
- submit a co-op practicum report to the departmental co-op director during the ninth week of each work term.
- allow release of academic record to co-op employer and prospective employers and to allow the co-op employer to release employment record to Ohio Northern University.
- arrange to meet all deadlines for completion of paperwork normally associated with attendance at Ohio Northern University (e.g. advance registration, grants and loans, etc.)

Certification of completion of the program will appear as a concentration on the transcript. No other courses can be taken while on a co-op experience. Participation in intercollegiate athletic teams is prohibited while on a co-op experience. A minimum of three quarters of work is required for completion of the co-op experience—a maximum of six quarters of work is allowed. Most co-ops will be expected to do six quarters of work. Acceptance into the program is not guaranteed. Once the experience is begun, it can be terminated by the participant, the department, the university, or the employer for any reason. Co-op employers must meet the requirements of the department and the university. Complete details of the co-op program are available in the department office.

Mathematics Major Core

For any major in the department, the student must complete the following core courses:

MATH 163	Calculus 1
MATH 164	Calculus 2
MATH 165	Calculus 3
MATH 263	Calculus 4
MATH 272	Linear Algebra
MATH 285	Mathematical Problem Solving
MATH 294	Foundations of Mathematics
MATH 370	Junior Seminar
MATH 493	Senior Exposition

Mathematics Major

In addition to the core requirements listed above, the mathematics major must then complete one of the following two sequences:

*** Track 1 ***

MATH 275	Differential Equations
MATH 311	Abstract Algebra 1
MATH 312	Abstract Algebra 2

MATH 352	Real Analysis 1
MATH 353	Real Analysis 2
STAT 280	Stat for Sci/Engr
or	
MATH 480	Probability Models
MATH 3XX	Elective
MATH 3XX	Elective
MATH 492	Senior Research
ECCS 164	Programming 1

*** Track 2 ***

MATH 245	History of Math
MATH 301	Math for Sec. Teaching
or	
MATH 3XX	Elective
MATH 275	Differential Equations
or	
MATH 332	Operations Research
MATH 311	Abstract Algebra 1
MATH 336	Discrete Mathematics
MATH 352	Real Analysis 1
STAT 280	Stat for Sci/Engr.
or	
MATH 480	Probability Models
and	
MATH 481	Math Statistics 1
MATH 421	Foundations of Geometry
MATH 492	Senior Exposition
ECCS 164	Programming 1

A student planning on graduate study in mathematics should complete the requirements in track 1. A student who completes track 2 (including MATH 301) will have met the Ohio mathematics requirements for Adolescent Teacher Licensure in mathematics.

Mathematics/Statistics Major

In addition to the mathematics major core requirements listed above, the mathematics/statistics major must complete the following sequence of courses:

STAT 156*	Biostatistics 1
STAT 256	Biostatistics 2
STAT 281	Applied Regression
STAT 3xx	Elective
STAT 3xx	Elective
STAT 350	Statistical Computing
MATH 352	Real Analysis
MATH 480	Probability Models
MATH 481	Mathematical Statistics I
MATH 482	Mathematical Statistics 2
STAT 491	Statistics Practicum
or	
MATH 492	Senior Research

*Mathematics/statistics majors are encouraged to use STAT 156 as their first statistics course, but may use STAT 142, 146, or 280 with permission of the department chair.

Mathematics/statistics majors are strongly encouraged to complete a minor or option in a cognate area.

Mathematics Minor Core

For either the mathematics or the applied mathematics minor, the student must complete the following courses:

MATH 163	Calculus 1
MATH 164	Calculus 2
MATH 165	Calculus 3
MATH 272	Linear Algebra

Mathematics Minor

In addition to the core requirements listed above, the mathematics minor must complete the following courses:

MATH 294 Foundations of Mathematics
At least three additional MATH courses numbered 245 or higher and approved by the Mathematics Department. One of these must be a 300 or 400 level course.

Applied Mathematics Minor

In addition to the core requirements listed above, the applied mathematics minor must complete the following courses:

MATH 263 Calculus 4
MATH 275 Differential Equations
At least two courses selected from MATH 332, 336, 362, 363, 461, 462, 480, STAT 281, 390.

Applied Statistics Minor

The applied statistics minor must complete the following courses:

One and only one of: STAT 142, 146, 156, 280
At least one of: STAT 256, 281
8 additional hours of STAT courses numbered 200 or higher, excluding STAT 280.
8 additional hours of courses approved by the Department of Mathematics. Examples of approved selections include:
Two MATH courses numbered 144 or higher;
OR MATH 154, PHPR 302, PHPR 303;
OR PSYC 210, PSYC 211; OR ISR 253, ISR 254

Subject - Mathematics (MATH)

000 - ORIENTATION

1.00 Credit

Familiarization with the department, requirements for majors planning programs of study, University catalog and library. Graded S/U.

105 - INTERMEDIATE ALGEBRA

4.00 Credits

Algebraic expressions and operations, equations and problem solving, special products and factoring, linear equations, simultaneous equations, exponents, radicals and graphs. For the student whose score on the mathematics placement exam indicates the need for a review of the fundamentals of algebra. Usually the student whose Math ACT is less than 16 should expect to take this course. **CREDIT EARNED IN THIS COURSE DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY.**

120 - COLLEGE ALGEBRA

4.00 Credits

The real number system, polynomials. Equations and inequalities, functions and their graphs, polynomial and rational functions, exponential and logarithmic functions. Not open for credit to students who have received a grade of C or higher in any Calculus course. Recommended background: Two years of high school algebra.

122 - COLLEGE TRIGONOMETRY

3.00 Credits

Trigonometric functions, identities, solutions of triangles, complex numbers. Not open for credit to students who have received a grade of C or higher in MATH 163 or above. Recommended background: MATH 120 or its equivalent.

144 - FINITE MATHEMATICS

4.00 Credits

Introduction to and applications of topics from algebra and finite mathematics relevant to business: equations and inequalities, systems of linear equations and matrices, linear programming, mathematics of finance, and game theory. Recommended background: Two years of high school algebra.

145 - CALCULUS WITH BUSINESS APPLICATIONS

4.00 Credits

Algebra and calculus as relevant to business: algebraic, exponential, and logarithmic functions and their graphs, differentiation and applications of the derivative, introduction to integration. Recommended background: MATH 144.

154 - CALCULUS FOR LIFE SCIENCES 1

4.00 Credits

Concepts of differentiation and integration applied to algebraic, exponential, and logarithmic functions. Prerequisite: MATH 120 or equivalent is recommended.

155 - CALCULUS FOR LIFE SCIENCES 2

4.00 Credits

Continuation of MATH 154. Additional topics in integration, functions of several variables, elementary differential equations, and probability. Prerequisite: MATH 154 or equivalent.

157 - CALCULUS WITH PRE-CALCULUS 1

5.00 Credits

A fast-paced review of algebraic and trigonometric functions. Limit of a function, continuity, the derivative, the antiderivative. MATH 157 and MATH 158 together cover the entire content of MATH 163 and the pre-calculus preparation necessary for MATH 163. In addition, integration is introduced in MATH 158 so that concurrent enrollment in PHYS 231 and MATH 158 during winter quarter is possible. Recommended background: two years of high school algebra and one-half year trigonometry.

158 - CALCULUS WITH PRE-CALCULUS 2

5.00 Credits

A continuation of MATH 157. Continued review of algebra and trigonometry. Extrema, curve plotting, Mean Value Theorem, applications of the derivative. Introduction to definite and indefinite integrals and the Fundamental Theorem of Calculus. MATH 157 and MATH 158 together cover the entire content of MATH 163 and the pre-calculus preparation necessary for MATH 163. In addition, integration is introduced in MATH 158 so that concurrent enrollment in PHYS 231 and MATH 158 during winter quarter is possible. Prerequisite: MATH 157. **CREDIT CANNOT BE RECEIVED FOR BOTH MATH 158 AND MATH 163.**

159 - CALCULUS WITH PRE-CALCULUS 3

5.00 Credits

Review of definite and indefinite integrals and the Fundamental Theorem of Calculus. Review of inverse functions, exponentials and logarithms. Applications of the integral and techniques of integration. MATH 159 covers the content of MATH 164 and the pre-calculus material necessary for MATH 164. Previous exposure to the integration topics covered in MATH 158 is assumed. Prerequisite: MATH 158. **CREDIT CANNOT BE RECEIVED FOR BOTH MATH 159 AND MATH 164.**

163 - CALCULUS 1

4.00 Credits

Limit of a function, continuity, the derivative, extrema, curve plotting, Mean Value Theorem, applications of the derivative. Redcommended background: Two years of high school algebra and one-half year of high school trigonometry.

164 - CALCULUS 2

4.00 Credits

The Fundamental Theorem of Calculus, applications of the integral, the exponential function and inverse functions, techniques of integration. Prerequisite: MATH 158 or 163.

165 - CALCULUS 3

4.00 Credits

Sequences and series, Taylor series, polar coordinates, parametric equations, conic sections, vectors, planes and lines in space. Prerequisite: MATH 159 or 164.

172 - FUNDAMENTAL MATHEMATICS 1

5.00 Credits

Problem solving skills and techniques, elementary set theory, whole numbers, integers, rationals and reals, theory of arithmetic, and introductory number theory. Open only to early and middle childhood education majors.

173 - FUNDAMENTAL MATHEMATICS 2

4.00 Credits

Microsoft Works, fundamentals of counting, probability and statistics. Logo and turtle geometry, geometric figures, measurement, congruence, symmetry, constructions, transformations and similarity. Open only to early and middle education majors.

190 – SPECIAL TOPICS IN MATHEMATICS

1.00 to 5.00 Credits

245 - HISTORY OF MATHEMATICS

4.00 Credits

The history and origin of mathematics, restricted principally to mathematics through elementary calculus. A chronological study of some mathematicians and their contributions to mathematical thought. Prerequisites: MATH 155, 159 or 164.

263 - CALCULUS 4

4.00 Credits

Vector-valued functions, multivariate functions, spherical and cylindrical coordinates, differential calculus of multivariate functions, integral calculus of multivariate functions. Prerequisite: MATH 165.

272 - INTRODUCTION TO LINEAR ALGEBRA

4.00 Credits

Linear systems and Gauss elimination. Vector spaces. Linear transformations and their matrices. Eigenvalues and eigenvectors. Application to systems of first-order constant coefficient differential equations. Prerequisites: MATH 159 or 164 or consent of instructor.

275 - DIFFERENTIAL EQUATIONS

4.00 Credits

First and second order linear differential equations with emphasis on first and second order equations. Laplace transforms and applications are also included. Prerequisite: MATH 165.

285 - MATHEMATICAL PROBLEM SOLVING

1.00 Credit

A seminar on mathematical problem solving. Intended for students who enjoy solving challenging mathematical problems. Various techniques and strategies are used in the problem solving. Prerequisite: MATH 165 and consent of the instructor.

290 – SPECIAL TOPICS IN MATHEMATICS

1.00 to 4.00 Credits

294 - FOUNDATIONS OF MATHEMATICS

4.00 Credits

Sets, logic and mathematical proof; application of these concepts. Prerequisite: MATH 159 or 164.

297 – INDEPENDENT STUDY IN MATHEMATICS

1.00 to 4.00 Credits

301 - MATHEMATICS FOR SECONDARY TEACHERS

4.00 Credits

Enrichment and application topics for secondary school mathematics based on an advanced understanding of mathematics and mathematical proof.

311 - ABSTRACT ALGEBRA 1

4.00 Credits

Algebraic structures, groups, rings and fields. Prerequisite: MATH 294.

312 - ABSTRACT ALGEBRA 2

4.00 Credits

Continuation of MATH 311. Offered as needed. Prerequisite: MATH 311.

324 - TOPOLOGY

3.00 Credits

General point set topology and metric spaces. Offered as needed. Prerequisites: MATH 165 and 294.

332 - OPERATIONS RESEARCH

4.00 Credits

Optimal decision making in deterministic systems; linear programming model, simplex method and algorithms, primal and dual problem, sensitivity analysis, transportation and transshipment, assignment, shortest route, minimal spanning tree, maximal flow, PERT, game theory, and non-linear programming. Prerequisite: MATH 272. (Also listed as ECCS 332.)

336 - DISCRETE MATHEMATICS

4.00 Credits

An introduction to discrete mathematical structures: sets, logic, combinatorics, relations and digraphs, functions, elementary graph theory, partially ordered sets, lattices and Boolean Algebras, Karnaugh maps and simple circuit design. Prerequisite: MATH 159 or 164.

350 - PROFESSIONAL PRACTICE

1.00 Credit

Cooperative education at an off-campus site. Involvement in full-time work (40 hours per week or more) requiring knowledge and skills in the major. See description of co-op program in department's catalog narrative for details. Prerequisites: Junior status; 2.5 GPA; and acceptance into the Co-op program. Graded S/U.

352 - REAL ANALYSIS 1

4.00 Credits

Mathematical induction, properties of real and rational numbers, sequences, convergence, limits of functions. (Formerly MATH 452.) Prerequisites: MATH 263 and 294.

353 - REAL ANALYSIS 2

4.00 Credits

Continuous functions in real Cartesian spaces, theory of functions of one variable (differentiation and integration). (Formerly MATH 453.) Offered on demand. Prerequisite: MATH 352.

362 - FOURIER ANALYSIS AND PDES

4.00 Credits

Fourier series, fourier integrals, applications, the heat equation, the wave equation, additional methods for solving PDEs. Offered alternate years. Prerequisite: MATH 165.

363 - COMPLEX VARIABLES

4.00 Credits

Complex algebra, complex calculus, analytic functions, infinite series over the complex plane, theory of residues, conformal mapping. Offered alternate years. Prerequisite: MATH 263.

370 - JUNIOR SEMINAR

1.00 Credit

Career options, graduate and professional school options, attendance at departmental seminars and Capstone presentations, mathematics as a computational science, the synergy between mathematics and technology. Prerequisite: Mathematics major with junior standing.

390 – SPECIAL TOPICS IN MATHEMATICS

1.00 to 4.00 Credits

421 - FOUNDATIONS OF GEOMETRY

4.00 Credits

An axiomatic approach to geometry including the concepts of incidence, ordering, separation, and congruence in incidence, affine, Euclidean and non-Euclidean geometries. Offered alternate years. Prerequisite: MATH 294.

423 - PROJECTIVE GEOMETRY

3.00 Credits

Projectivities, perspective triangles, quadrangular sets, harmonic sets, duality, fundamental theorem and Pappus's Theorem, polarities, the conic, finite projective plane, parallelism, coordinates. Offered as needed. Prerequisite: MATH 421.

461 - NUMERICAL ANALYSIS 1

4.00 Credits

Matlab is used as a programming language to numerically solve problems in algebra and calculus involving linear and nonlinear equations. Real and complex roots, interpolation, fixed point recursion, accuracy and precision. Matrix inversion, ill-conditioned systems of linear equations and eigenvalues. Chebyshev polynomials and economized power series. Offered alternate years. Prerequisites: MATH 165 and 272.

462 - NUMERICAL ANALYSIS 2

3.00 Credits

Matlab is used as a programming language to numerically solve problems in calculus and differential equations. Finite and divided differences, curve fitting, orthogonal polynomials, numerical differentiation and integration, numerical solutions of ordinary differential equations by series, Runge-Kutta and predictor-corrector methods. Numerical Analysis 1 is not a prerequisite. Offered alternate years. Prerequisites: MATH 272 and 275.

470 – MATHEMATICS INTERNSHIP

2.00 to 12.00 Credits

Practical experience in the mathematical sciences. The experience may occur either on campus or at some off-campus site. Open to majors in the Department of Mathematics who have completed 6 quarters of work and have junior standing. Graded S/U.

480 - PROBABILITY MODELS

4.00 Credits

Axioms of probability theory, discrete and continuous random variables, introduction to stochastic processes. Offered alternate years. Prerequisite: MATH 263.

481 - MATHEMATICAL STATISTICS 1

4.00 Credits

Probability models, random variables, sampling, estimation, hypothesis testing, non-parametric procedures, regression, and correlation. Offered alternate years. Prerequisites: MATH 263 and 480.

482 - MATHEMATICAL STATISTICS 2

4.00 Credits

Hypothesis testing, ANOVA, analysis of enumerative data, non-parametric statistics. Offered alternate years. Prerequisite: MATH 481.

490 – SPECIAL TOPICS IN MATHEMATICS

1.00 to 4.00 Credits

492 - SENIOR RESEARCH

1.00 Credit

Exploration of a topic in mathematics or statistics with faculty supervision. Research for an expository paper. Prerequisite: Consent of the instructor.

493 - SENIOR EXPOSITION

1.00 Credit

The student prepares a paper and gives a lecture on work done in either STAT 491 or MATH 492. Prerequisite: STAT 491 or MATH 492.

494- SEMINAR IN MATHEMATICS

1.00 to 4.00 Credits

497 – INDEPENDENT STUDY IN MATHEMATICS

1.00 to 4.00 Credits

156 - BIOSTATISTICS 1

4.00 Credits

Basic statistical techniques with emphasis on applications to biological and health sciences. Recommended background: MATH 120 or its equivalent. Formerly MATH 156.

256 - BIOSTATISTICS 2

4.00 Credits

Review of inferential statistics, analysis of variance, linear and multiple regression and correlation. Prerequisite: STAT 156. Formerly MATH 256.

280 - STATISTICS FOR SCIENTISTS AND ENGINEERS

4.00 Credits

Basic statistical techniques: random variables and their distributions, estimation, hypothesis testing, and linear regression. Prerequisite: MATH 159 or 164. Formerly MATH 380.

281 - APPLIED REGRESSION

4.00 Credits

Linear and multiple regression with applications. Prerequisite: STAT 142 and permission of instructor; STAT 146 and permission of instructor; STAT 156 or STAT 280.

297 - INDEPENDENT STUDY IN STATISTICS

1.00 to 4.00 Credits

Topics to be determined by student and instructor. May be repeated as the topic varies. Prerequisite: Permission of instructor.

350 - STATISTICAL COMPUTING

4.00 Credits

Use of statistical package programs SPSS, Excel, and SAS. Topics include data management, data analysis, graphical displays, and computer simulation. Prerequisites: STAT 256 or 281, both preferred.

351 - CATEGORICAL DATA ANALYSIS

4.00 Credits

Statistical inference with regard to categorical variables, including goodness-of-fit tests, contingency table analysis, Fisher exact test, and logistic regression models. Prerequisites: STAT 142, 146, 156 or 280 or permission of instructor.

352 - ANALYSIS OF VARIANCE WITH EXPERIMENTAL DESIGN

4.00 Credits

Single factor analysis of variance, multiple comparisons, two and multiple factor analysis of variance, completely randomized designs, randomized block designs, analysis of covariance, random effects models, additional experimental designs. Prerequisites: STAT 142, 146, 156 or 280 or permission of instructor.

Subject - Statistics (STAT)

142 - INTRODUCTION TO STATISTICS

4.00 Credits

Descriptive statistics, probability, binomial distribution, normal distribution, confidence intervals, hypothesis testing. Statistical calculator required. Recommended background: MATH 105 or its equivalent. Formerly MATH 142.

146 - BUSINESS STATISTICS

4.00 Credits

Basic statistical techniques with emphasis on their applications in the field of business. Recommended background: MATH 145 or its equivalent. Formerly MATH 146.

353 - SURVEY SAMPLING METHODS

4.00 Credits

Statistical methods pertaining to survey sampling, with an emphasis on human populations, including simple random sampling, stratified sampling, cluster sampling, systematic sampling, and the use of demographic information to reduce margins of error. Prerequisites: STAT 142, 146, 156 or 280 or permission of instructor.

354 - NONPARAMETRIC STATISTICAL METHODS

4.00 Credits

Review of parametric inferential methods; nonparametric hypothesis testing (including Wilcoxon rank-sum, Wilcoxon signed-rank, sign, Kolmogorow-Smirnov, Kruskal-Wallis, Friedman); nonparametric confidence interval estimation; rank correlation; randomization and permutation tests. Prerequisites: STAT 142, 146, 156 or 280 or permission of instructor.

355 - APPLIED PROBABILITY

4.00 Credits

Combinational Analysis, Discrete Probability Distributions; Exponential Distribution; Poisson Distribution; Normal Distribution; DeMoivre-LaPlace Limit Theorem; Random Variables and their properties; Laws of Large Numbers; Generating Functions; Random Walk and Ruin Problems; Markov Chains. Prerequisites: STAT 142, 146, 156 or 280; MATH 154, 159 or 163 or permission of instructor.

356 - INTRODUCTION TO STOCHASTIC PROCESSES

4.00 Credits

Random variables and stochastic processes; Markov chains and their properties; other important stochastic processes and their properties; elementary stochastic calculus. Prerequisites: STAT 280; MATH 165 or permission of instructor.

390 - SPECIAL TOPICS IN STATISTICS

4.00 Credits

A particular area of statistics will be selected for in depth study. Possible areas of investigation include categorical data analysis, experimental design, multivariate statistics, nonparametric statistics, survey sampling, time series analysis, and statistical computing. May be repeated for a maximum of 24 hours credit. Prerequisite: STAT 256 or STAT 281.

491 - STATISTICS PRACTICUM

1.00 Credit

The student will serve as a statistical consultant under faculty supervision. The student will work on a statistical project as a service to some component of the university community. Prerequisite: STAT 256 or STAT 281.

DEPARTMENT OF MODERN LANGUAGES

Professors Dufault (*Chair*), Lippert; Associate Professors Finn, Walter; Assistant Professors Rodriguez, Sen; Lecturers Angulo, Brentlinger, Sutherland

Mission Statement

The mission of the Department of Modern Languages is to provide students with opportunities to learn to speak, understand, read, and write other languages.

The study of a language different from one's own promotes communication with another culture on its own terms, through its peoples, literatures, histories and experiences of itself as a part of humanity. While such communication has, in an electronic age, been greatly facilitated by technology, real understanding between peoples requires mutual knowledge and respect. Language study opens a door onto the diversity of our world, and so forms an essential part of a humanities education.

In its instruction, the Department of Modern Languages employs teaching methods that promote communication. Classrooms are equipped for multimedia instruction, and instructors typically incorporate a variety of media and methodology in daily lessons. The University Audio Center maintains an area where students may practice listening and speaking skills, as well as obtain materials for out-of-class study.

The Department encourages its majors to combine their study of a second language with another area of study; having a second major is an attractive and viable option for many students.

As a member of the University Studies Abroad Consortium (USAC), Ohio Northern offers students the opportunity to spend time in several countries. While studying abroad for a summer, one, or two semesters, students can earn ONU credit and greatly enhance their linguistic and cultural expertise. These programs may also count toward the Capstone Experience required of all Modern Language majors. Students may choose from a wide variety of programs including those in France, Germany and several Spanish-speaking countries.

The department administers placement tests to help students determine their appropriate course level. Placement credit counts toward fulfillment of requirements for language majors and minors, and toward language competency requirements. Placement toward a major can also be given, at the discretion of the Department, for non-traditional course work done while studying abroad.

Apart from the courses listed, Independent Studies can be arranged with members of the faculty. Because of the interactive nature of the elementary level courses, there can be no independent studies at the 100-level. Independent study courses may also count toward the major; these are limited to four credit hours in the case of the 52-hour major and to eight credit hours for the 68-hour major. Independent Studies can also be arranged for study of other, less commonly taught languages, as availability of instructors permits.

At Ohio Northern University, students can earn the Bachelor of Arts degree in French, German and Spanish (with teacher licensure if desired) or a minor in French, German or Spanish.

Major in French (52 hours)

- FREN 120 Elementary French 1
 - FREN 121 Elementary French 2
 - FREN 122 Elementary French 3
 - FREN 214 Intermediate French 1
 - FREN 215 Intermediate French 2
 - FREN 216 Intermediate French 3
 - FREN 310 Advanced French: Reading
 - FREN 311 Advanced French: Speaking
 - FREN 312 Advanced French: Writing
- Four more courses (two in civilization)
Capstone experience: study abroad (recommended) or research project.

Major in French: teacher licensure (68 hours)

The major
Four additional courses (two in literature)

Major in German (52 hours)*

- GRMN 130 Elementary German 1
 - GRMN 131 Elementary German 2
 - GRMN 132 Elementary German 3
 - GRMN 224 Intermediate German 1
 - GRMN 225 Intermediate German 1
 - GRMN 226 Intermediate German 1
 - GRMN 311 Using Contemporary German
 - GRMN 312 Communicating in German
 - GRMN 313 Advanced German Language Studies
- Four more courses (two in civilization)
Capstone experience: study abroad (**required**)

*Other German courses at or above the 300-level required to complete the major must normally be taken at the University of Lüneburg in Germany.

Major in German: teacher licensure (68 hours)

The major
Four additional courses (two in literature)

Major in Spanish (52 hours)

- SPAN 140 Elementary Spanish 1
- SPAN 141 Elementary Spanish 2
- SPAN 142 Elementary Spanish 3
- SPAN 244 Intermediate Spanish 1

- SPAN 245 Intermediate Spanish 2
- SPAN 246 Intermediate Spanish 3
- SPAN 342 Advanced Spanish Language
- SPAN 370 Spanish Conversation
- SPAN 372 Spanish Composition

Four additional courses (two in civilization)
Capstone experience: study abroad (recommended) or research project.

Major in Spanish: teacher licensure (68 hours)

The major
Four additional courses (two in literature)

Minor in French (36 hours)

- FREN 120 Elementary French 1
- FREN 121 Elementary French 2
- FREN 122 Elementary French 3
- FREN 214 Intermediate French 1
- FREN 215 Intermediate French 2
- FREN 216 Intermediate French 3
- FREN 310 Advanced French: Reading
- FREN 311 Advanced French: Speaking
- FREN 312 Advanced French: Writing

Minor in German (36 hours)

- GRMN 130 Elementary German 1
- GRMN 131 Elementary German 2
- GRMN 132 Elementary German 3
- GRMN 224 Intermediate German 1
- GRMN 225 Intermediate German 2
- GRMN 226 Intermediate German 3
- GRMN 311 Using Contemporary German
- GRMN 312 Communicating in German
- GRMN 313 Advanced German Language Studies

Minor in Spanish (36 hours)

- SPAN 140 Elementary Spanish 1
- SPAN 141 Elementary Spanish 2
- SPAN 142 Elementary Spanish 3
- SPAN 244 Intermediate Spanish 1
- SPAN 245 Intermediate Spanish 2
- SPAN 256 Intermediate Spanish 3
- SPAN 342 Advanced Spanish Language
- SPAN 370 Spanish Conversation
- SPAN 372 Spanish Composition

Subject - French (FREN)

120 - ELEMENTARY FRENCH 1

4.00 Credits

Basic proficiency in understanding, speaking, reading and writing French in everyday situations. Emphasis on comprehension and speaking. Audio visual materials illustrate French and francophone ways of life. Four classes per week.

121 - ELEMENTARY FRENCH 2

4.00 Credits

Continuation of FREN 120. Four classes per week. Prerequisite: FREN 120 or proficiency established by placement test.

122 - ELEMENTARY FRENCH 3

4.00 Credits

Continuation of FREN 121. Four classes per week. Prerequisite: FREN 121 or proficiency established by placement test.

214 - INTERMEDIATE FRENCH 1

4.00 Credits

Continued development of proficiency in understanding, speaking, reading and writing French. Emphasis on high- frequency vocabulary and grammatical structures. Four classes per week. Prerequisite: FREN 122 or proficiency established by placement test.

215 - INTERMEDIATE FRENCH 2

4.00 Credits

Continuation of FREN 214. Prerequisite: FREN 214.

216 - INTERMEDIATE FRENCH 3

4.00 Credits

Continuation of FREN 215. Prerequisite: FREN 215.

219 - INTRODUCTION TO FRENCH LITERATURE

4.00 Credits

Basic principles of analyzing and appreciating French poetry, prose and theatre. Reading and discussion in French of representative texts. Four classes per week. Prerequisite: FREN 216.

297 - INDEPENDENT STUDY IN FRENCH

1.00 to 4.00 Credits

May be repeated as topic varies. Permission of instructor.

310 - ADVANCED FRENCH: READING

4.00 Credits

Development of reading skills through analysis of authentic cultural and literary texts. Vocabulary building. Review of grammar as needed. Prerequisite: FREN 216 or proficiency established by placement test.

311 - ADVANCED FRENCH: SPEAKING

4.00 Credits

Intensive practice of oral communication in conversations, role playing, oral interviews. Emphasis on developing fluency and accurate pronunciation. Prerequisite: FREN 216 or proficiency established by placement test.

312 - ADVANCED FRENCH: WRITING

4.00 Credits

Intensive writing practice. Vocabulary development. Review of grammar. Prerequisite: FREN 216 or proficiency established by placement test.

313 - BUSINESS FRENCH

4.00 Credits

Development of oral and written proficiency within a business context. Business vocabulary, readings, business and cultural concepts, and situational practice. Prerequisite: FREN 310 or 312.

315 - THE FRENCH TEXT: THE NOVEL

4.00 Credits

Reading and discussion in French of representative works in their historical and cultural contexts. Four classes per week. Prerequisite: FREN 310 or 312.

316 - THE FRENCH TEXT: THE ESSAY AND NON-LITERARY TEXTS

4.00 Credits

Reading and discussion in French of representative classic authors and texts from contemporary French periodicals. Four classes per week. Prerequisite: FREN 310 or 312.

319 - FRENCH POETRY AND SONG

4.00 Credits

Discussion and analysis in French of representative French and francophone works in their historical and cultural contexts. Rules of French versification. Interpretations of poetry into song. Classic and contemporary "chansonniers." Four classes per week. Prerequisite: FREN 310 or 312.

324 - THE FRENCH FILM

4.00 Credits

Viewing of representative films and discussion in French of well-known directors and actors, from the origins of French cinema to the present. Prerequisite: FREN 310 or 312.

327 - FRENCH CIVILIZATION: CONTEMPORARY FRANCE

4.00 Credits

Discussion in French of 20th and 21st Century French culture with emphasis on the family, education, employment, politics, technology and cultural values. Prerequisite: FREN 310 or 312.

328 - FRENCH CIVILIZATION: HISTORY OF FRANCE

4.00 Credits

Discussion in French of French history, art, architecture, and cultural values from their origins to the 20th Century. Prerequisite: FREN 310 or 312.

329 - FRENCH CIVILIZATION: FRANCOPHONE CULTURES

4.00 Credits

Discussion in French of francophone cultures, emphasizing Quebec and Sub-Saharan Africa in terms of historical perspectives and contemporary concerns. Prerequisite: FREN 310 or 312. NOTE: Fulfills the non-western studies requirement.

390 - SPECIAL TOPICS IN FRENCH

1.00 to 4.00 Credits

May be repeated as topic varies. Prerequisite: FREN 310 or 312.

405 - MODERN FRENCH MUSICAL

4.00 Credits

The visual, auditory, and lyrical elements of musical theatre as "text." Opportunities to enrich and enhance literary analytical skills in a multimedia environment while improving linguistic competencies and cultural knowledge. Prerequisites: FREN 310 or 312.

416 - THE FRENCH THEATRE

4.00 Credits

Reading and discussion in French of representative works from the 17th Century to the present. Recordings, films, and actual performances enhance discussions as available and appropriate. Four classes per week. Prerequisite: FREN 310 or 312.

418 - FRANCOPHONE LITERATURE OF THE TWENTIETH CENTURY

4.00 Credits

Reading and discussion in French of works by contemporary writers in various French-speaking countries including Quebec and Sub-Saharan Africa. Four classes per week. Prerequisite: FREN 310 or 312. NOTE: Fulfills the non-western studies requirement.

497 - INDEPENDENT STUDY IN FRENCH

1.00 to 4.00 Credits

May be repeated as topic varies. Limited to majors. Maximum of 4 hours may count toward major. Permission of instructor.

Subject - German (GRMN) _____

130 - ELEMENTARY GERMAN 1

4.00 Credits

Basic proficiency in understanding, speaking, reading and writing German in everyday situations. Emphasis on comprehension and speaking. Audio visual materials illustrate life in Germany and Austria. Four classes per week.

131 - ELEMENTARY GERMAN 2

4.00 Credits

Continuation of GRMN 130. Four classes per week. Prerequisite: GRMN 130 or proficiency established by placement test.

132 - ELEMENTARY GERMAN 3

4.00 Credits

Continuation of GRMN 131. Four classes per week. Prerequisite: GRMN 131 or proficiency established by placement test.

224 - INTERMEDIATE GERMAN 1

4.00 Credits

Continued development of proficiency in understanding, speaking, reading and writing German. Emphasis on high-frequency vocabulary and grammatical structures, short writing assignments. Authentic materials and videos illustrate language usage and cultural context. Four classes per week. Prerequisite: GRMN 132 or proficiency established by placement test.

225 - INTERMEDIATE GERMAN 2

4.00 Credits

Continuation of GRMN 224. Four classes per week. Prerequisite: GRMN 224 or proficiency established by placement test.

226 - INTERMEDIATE GERMAN 3

4.00 Credits

Continuation of GRMN 225. Four classes per week. Prerequisite: GRMN 225 or proficiency established by placement test.

261 - INTRODUCTION TO GERMAN LITERATURE

4.00 Credits

Basic principles of analyzing and appreciating German essays, short stories, poetry, plays, novellas. Vocabulary building. Reading and discussions in German. Four classes per week. Prerequisite: GRMN 226.

298 - INDEPENDENT STUDY IN GERMAN

1.00 to 4.00 Credits

May be repeated as topic varies. Permission of instructor.

311 - USING CONTEMPORARY GERMAN*4.00 Credits*

Intensive practice of oral communication. Development of greater proficiency in using vocabulary and grammatical structures. Focus on aural comprehension with extensive use of video materials. Four classes per week. Prerequisite: GRMN 226 or permission of instructor.

312 - COMMUNICATING IN GERMAN*4.00 Credits*

Development of greater proficiency in communicating in German, with emphasis on writing and reading skills through cultural and literary texts. Four classes per week. Prerequisite: GRMN 226 or permission of instructor.

313 - ADVANCED GERMAN LANGUAGE STUDIES*4.00 Credits*

Intensive study of grammar and vocabulary. Use of texts and audio visual materials. Overview of German phonetics, phonology and the generic relationship between the German and English languages. Four classes per week. Prerequisite: GRMN 226 or permission of instructor.

336 – BUSINESS GERMAN*4.00 Credits*

Vocabulary and language structures pertaining to business culture in Germany. Letter and resume writing. Video and authentic materials. Four classes per week. Prerequisite: GRMN 226 or permission of instructor.

337 - GERMAN CIVILIZATION*4.00 Credits*

Political, economic, social and cultural forces in German-speaking Central Europe from the 5th century AD to the present. Discussion in German. Four classes per week. Prerequisite: GRMN 226 or permission of instructor.

338 - CONTEMPORARY GERMANY AND AUSTRIA*4.00 Credits*

German and Austrian culture since the Second World War with emphasis on family, education, employment, politics, technology, and social values based on readings, videos and other materials. Discussion in German. Four classes per week. Prerequisite: GRMN 226 or permission of instructor.

361 - GERMAN LITERATURE*4.00 Credits*

Readings and discussion in German of drama, the Novelle, poetry, the short story. Four classes per week. Prerequisite: GRMN 226 or permission of instructor.

391 - SPECIAL TOPICS IN GERMAN*1.00 to 4.00 Credits*

May be repeated as topic varies. Prerequisite: GRMN 226 or permission of instructor.

498 - INDEPENDENT STUDY IN GERMAN*1.00 to 4.00 Credits*

May be repeated as topic varies. Permission of instructor.

Subject - Modern Languages (MLNG)**190 - INDIVIDUALIZED LANGUAGE STUDY***1.00 to 3.00 Credits*

Individualized study of a modern spoken language for motivated students with a particular interest in or need for study of languages other than French, German, Spanish or Russian. Availability of any given language may vary from quarter to quarter. See department. Coverage of material based on number of credits applied for (1-3). Meets one hour per week with tutor for help and practice. Graded S/U. NOTE: These courses will not meet the general education language requirement.

403 – LITERATURE IN TRANSLATION*4.00 Credits*

Either Spanish, French or German literature in translation. Focus on major writers and literary trends of different periods. Lectures and assignments in English. Does not fulfill the general education language requirement.

499 - SENIOR ESSAY*1.00 to 4.00 Credits*

A critical essay on a topic selected in consultation with a faculty advisor. Prerequisites: Major in French or Spanish and permission of the department.

Subject - Russian (RUSS)

150 - ELEMENTARY RUSSIAN 1

4.00 Credits

Basic proficiency in understanding, speaking, reading and writing Russian in everyday situations. Emphasis on comprehension and speaking. Authentic materials illustrate life in Russia and the former Soviet Union. Four classes per week.

151 - ELEMENTARY RUSSIAN 2

4.00 Credits

Continuation of RUSS 150. Four classes per week. Prerequisite: RUSS 150 or demonstrated proficiency.

152 - ELEMENTARY RUSSIAN 3

4.00 Credits

Continuation of RUSS 151. Four classes per week. Prerequisite: RUSS 151 or demonstrated proficiency.

296 - INDEPENDENT STUDY IN RUSSIAN

1.00 to 3.00 Credits

May be repeated. Prerequisite: Permission of instructor. Graded S/U.

Subject - Spanish (SPAN)

140 - ELEMENTARY SPANISH 1

4.00 Credits

Basic proficiency in understanding, speaking, reading, and writing Spanish with emphasis on listening, speaking, and pronunciation. Audio visual materials illustrate Hispanic ways of life. Four classes per week.

141 - ELEMENTARY SPANISH 2

4.00 Credits

Continuation of SPAN 140. Four classes per week. Prerequisite: SPAN 140 or proficiency established by placement test.

142 - ELEMENTARY SPANISH 3

4.00 Credits

Continuation of SPAN 141. Four classes per week. Prerequisite: SPAN 141 or proficiency established by placement test.

244 - INTERMEDIATE SPANISH 1

4.00 Credits

Continued development of proficiency in understanding, speaking, reading and writing Spanish with emphasis on pronunciation and speaking. Four classes per week. Prerequisite: SPAN 142 or proficiency established by placement test.

245 - INTERMEDIATE SPANISH 2

4.00 Credits

Continuation of SPAN 244. Four classes per week. Prerequisite: SPAN 244.

246 - INTERMEDIATE SPANISH 3

4.00 Credits

Continuation of SPAN 245. Four classes per week. Prerequisite: SPAN 245.

247 - INTRODUCTION TO HISPANIC LITERATURE

4.00 Credits

Critical principles in the assessment of prose, fiction, poetry and drama as applied to selected readings in Spanish and Latin American literature. Prerequisite: SPAN 246.

250 - SPANISH PHONETICS

4.00 Credits

Introduction to linguistic terminology and a comparative analysis of the Spanish and English sound systems, with emphasis on improving students' pronunciation in Spanish. Prerequisite: SPAN 246.

299 - INDEPENDENT STUDY IN SPANISH

1.00 to 4.00 Credits

May be repeated as topic varies. Permission of instructor.

342 - ADVANCED SPANISH LANGUAGE STUDY

4.00 Credits

Intensive study of grammar and syntax emphasizing high- frequency constructions. Prerequisite: SPAN 246.

343 - BUSINESS SPANISH

4.00 Credits

Development of oral and written proficiency within a business context. Business vocabulary, readings, business and cultural concepts, situational practice and case studies. Prerequisite: SPAN 246.

351 - HISPANIC CULTURAL PERSPECTIVES

4.00 Credits

Hispanic world views with emphasis on social attitudes and life styles. Prerequisite: SPAN 372 and 370 or 342. NOTE: Fulfills the non-western studies requirement.

353 - SPANISH CIVILIZATION

4.00 Credits

Geographical, political, economic, social and cultural forces in Spain from prehistoric times to the present. Prerequisite: SPAN 372 and 370 or 342.

354 - LATIN AMERICAN CIVILIZATION

4.00 Credits

Geography, history and culture of Latin America from Mesoamerica to the present. Prerequisite: SPAN 372 and 370 or 342. NOTE: Fulfills the non-western studies requirement.

356 - SPANISH ART, MUSIC AND DANCE

4.00 Credits

Development of Spanish art, architecture, music and dance from prehistoric times to the present. Prerequisite: SPAN 372 and 370 or 342.

357 - LATIN AMERICAN ART, MUSIC AND DANCE

4.00 Credits

Development of Latin American art, architecture, music and dance from Mesoamerica to the present. Prerequisite: SPAN 372 and 370 or 342. NOTE: Fulfills the non-western studies requirement.

360 - HISPANIC MEDIA

4.00 Credits

Contemporary Spanish and Latin American radio, television, newspapers and magazines. Prerequisite: SPAN 372 and 370 or 342.

370 - SPANISH CONVERSATION

4.00 Credits

Strengthening of Spanish communication skills by regular guided oral practice of basic patterns and vocabulary, building vocabulary and reinforcement with written exercises, and improving comprehension by listening to live speech, videos, audio recordings, and films. Prerequisite: SPAN 246.

372 - SPANISH COMPOSITION

4.00 Credits

Improvement of written communication skills on different levels of Spanish language. Emphasis on task-oriented writing in Spanish, including composing and editing several drafts. Topics based on Spanish speaking societies and cultures. Prerequisite: SPAN 246.

392 - SPECIAL TOPICS IN SPANISH

1.00 to 4.00 Credits

May be repeated as topic varies. Prerequisites: SPAN 372 and 370 or 342.

451 - SPANISH LITERATURE TO 1681

4.00 Credits

Works of major Spanish authors from beginnings to Golden Age. Prerequisites: SPAN 372 and 370 or 342.

452 - EIGHTEENTH- AND NINETEENTH-CENTURY SPANISH LITERATURE

4.00 Credits

Neoclassicism, Romanticism, Realism and Generation of 1898. Prerequisites: SPAN 372 and 370 or 342.

453 - TWENTIETH-CENTURY SPANISH LITERATURE

4.00 Credits

Main currents of Spanish literature from the Generation of 1898 to the present. Prerequisites: SPAN 372 and 370 or 342.

456 – NINETEENTH-CENTURY LATIN AMERICAN LITERATURE

4.00 Credits

Romanticism, Realism and Modernism. Prerequisites: SPAN 372 and 370 or 342.

457 - TWENTIETH-CENTURY LATIN AMERICAN LITERATURE

4.00 Credits

Reading and discussion in Spanish of works by contemporary writers in Latin American countries. Prerequisites: SPAN 372 and 370 or 342.

499 - INDEPENDENT STUDY IN SPANISH

1.00 to 4.00 Credits

May be repeated as topic varies. Limited to majors. A maximum of 4 credit hours may count toward major. Permission of instructor.

DEPARTMENT OF MUSIC

Professors D'Arca, Kratzer, E. Williams (*Chair*), Zank; Associate Professors Bates; Assistant Professor Casey; Resident Artists Osbun, R. Williams; Lecturers D. Altstaetter, L. Altstaetter, P. Ashmore, P.L. Ashmore, Eichelberger, Gramm, Grim, Laukhuf, Leaman, Lincoln, Miglia, R. Pinkney, Russell, Sanders-Bechtol, Sycks, Yost, Zickafoose

Mission Statement

The Music Department is dedicated to the education and graduation of majors and minors who are skilled and accomplished in the musical arts and related fields. There is a strong commitment to self-development and the maximization of the unique talents and skills of the individual.

The department of music offers a full course of music, music business and music education studies for the aspiring music educator, composer, entrepreneur, or professional performer. The department also serves the general university community through its course offerings, its performing groups which are open to all students, and through its many concerts, recitals, and other performances which enhance the cultural life and atmosphere of the university. Ohio Northern University is an accredited institutional member of the National Association of Schools of Music.

The music major is given a variety of courses and experiences to help him/her gain the knowledge and proficiency in breadth and depth which will help him/her achieve future success in his/her chosen area of endeavor in the music field. Special topics and studies may be undertaken to enrich the basic course offerings.

A variety of degree programs are offered: Bachelor of Music with majors in music education, performance, composition, music major: with elective studies in business; and Bachelor of Arts with a major in music. A minor in music is also offered. Specific degree requirements are listed below.

Bachelor of Music

A candidate for the Bachelor of Music degree must complete the following general education requirements:

MUSC 000	Orientation	1 hr.
ART 100, COMM 105 or equiv.	Art, Theater Appreciation	4 hrs.
COMM 211 or 225	Public Speaking or Interpersonal Comm.	4 hrs.
ENGL 110, 111	Writing 1 and 2	8 hrs.
ENGL 204	Great Works	4 hrs.
MLNG	2 qtrs. of one language	8 hrs.
RELG	105 or equivalent	4 hrs.
HIST 110, 111	Western Civ. 1 and 2	8 hrs.
MUSC 200	Non-Western Music	4 hrs.
Soc. Sciences	Economics (Music Majors with Elective Studies in Business take IBEC 202), GEOG 226, Pol. Sci., Psychology (Music Education Majors take PSYC 100) or Sociology	4 hrs.
Math & Natural Sciences	Mathematics, Biological or Physical Sciences - two courses (Mus. Ed. Majors take MATH 120 or equiv. and one add. course)	8 hrs.
Computer Literacy	(Mus. Ed. Majors take EDUC 320)	4 hrs.
Health & P.E.	Wellness Elective	1 hr.
	Fitness Elective	1 hr.
	Lifetime Activities	1 hr.

Participation in the college assessment program.

All majors include the following basic musicianship and supportive courses:

MUSC 001	Concert and Recital Observation (each qtr.)	0 hrs.
MUSC 100	Music	4 hrs.
MUSC 121, 122, 123	Theory of Music 1, 2, 3	9 hrs.
MUSC 131, 132, 133	Ear Training 1, 2, 3	3 hrs.

MUSC 200	Non-Western Music	4 hrs.
MUSC 221, 222, 223	Advanced Theory of Music 1, 2, 3	9 hrs.
MUSC 231, 232, 233	Adv. Ear Training 1, 2, 3	3 hrs.
MUSC 311	Counterpoint	2 hrs.
MUSC 312	Form and Analysis	2 hrs.
MUSC 313	Orchestration	2 hrs.
MUSC 321 322, 323	Music History and Literature 1, 2, 3	9 hrs.
MUSC 241	Basic Conducting	2 hrs.
MUSC 342	Advanced Conducting- Instrumental	2 hrs.
MUSC 343	Adv. Conducting-Choral	2 hrs.
MUSC 280	Piano Proficiency	0 hrs.
	Must be passed by the end of fall qtr. of the junior year. Private piano is taken until the exam is passed. For specific requirements see AMUS 025 Piano Individual.	
MUSC 480	Senior Recital	0 hrs.

For vocal majors only

MUSC 261	Latin/Italian Diction for Singers	1 hr.
MUSC 262	French Diction for Singers	1 hr.
MUSC 263	German Diction for Singers	1 hr.

Bachelor of Music in Music Education Major

AMUS 015-075	Applied Mus.-Major Area	22 hrs.
AMUS 080 or 083	Major Vocal Ensemble (for voice or piano majors) each qtr. or Major Instrumental Ens. (for instrumental or piano majors) each qtr.	11 hrs.
AMUS 084, 087, 090 or 096	Classroom Instruments	1 hr.
MUSC 334	Woodwind Methods	2 hrs.
MUSC 336	Brass Methods	2 hrs.
MUSC 338	Percussion Methods	2 hrs.
MUSC 339	String Methods	2 hrs.
MUSC 461	Secondary Choral Meth. and Techniques	3 hrs.
MUSC 462	Secondary Instrumental Meth. and Techniques	3 hrs.
MUSC 463	Marching Band Methods and Techniques (instrumental majors only)	2 hrs.

AMUS 010 or 015	Voice Class or Individual	1+ hrs.
AMUS 020 or 025	Piano Class or Individual	1+ hrs.

Classroom Instruments (AMUS 043) must be taken before the senior year.

MUSC 281	Guitar Proficiency	0 hrs.
	Guitar Proficiency must be passed before student teaching.	
EDUC 115	Culture and Schooling	4 hrs.
EDUC 150	Five day field experience (twice)	0 hrs.
EDUC 210	Exceptional Learner	4 hrs.
EDUC 223	Child Dev. and Psy.	4 hrs.
EDUC 224	Young and Late Adolescent Psy.	4 hrs.
EDUC 285	Curriculum	4 hrs.

Admission to Teacher Education is required for the following courses:

EDUC 320	Instructional Media and Educational Technologies	4 hrs.
EDUC 342	Read. in the Content Area	4 hrs.
EDUC 440	Classroom Strategies	4 hrs.
EDUC 445	Org. and Admin. of Schls. in Am. Society	2 hrs.
EDUC 459	Integrated Music Meth.	4 hrs.
EDUC 470	Student Teaching-Early Childhood	7 hrs.
EDUC 475	Student Teaching Sem.	1 hr.
EDUC 480	Student Teaching-Adolescent	8 hrs.

300 hours of course related field experience. Music education students are required to have Praxis 2 examination scores on file prior to student teaching. Successful completion of Praxis 2 is expected before graduation.

Bachelor of Music in Performance Major

All performance majors must pass a thirty minute recital hearing before being admitted to the program.

AMUS 015-075	Applied Mus.-Major Area	36 hrs.
AMUS 020 or 025	Piano Class or Indv.	1+ hrs.
AMUS 080 or 083	Major Vocal Ensemble (for voice or piano majors) each qtr. or	12 hrs.
AMUS 084, 087, 090 or 096	Major Instrumental Ensemble (for instru. or piano majors) each qtr.	12 hrs.
AMUS 081, 082, 085, 089 or 099	Minor Vocal Ensemble or	6 hrs.
AMUS 088, 092, 094, 095, 096, 098 or 099	Minor Instrumental Ens.	6 hrs.
MUSC 371, 372, 373	Applied Field Lit. and Pedagogy 1, 2, 3	3 hrs.

MUSC 380	Junior Recital	0 hrs.
MUSC	Music Electives	5 hrs.
	Free Electives	18 hrs.

Bachelor of Music in Composition Major

MUSC 015-075	Applied Music-Primary minimum with achievement of junior performance level or continued study until graduation.	12+ hrs.
	Applied Music-Sec.	6 hrs.
AMUS 025	Piano Individual	6+ hrs.
AMUS 080, 083, 084, 087, 090, or 096	Major Ensemble each qtr.	12 hrs.
MUSC 211	Electronic Music	2 hrs.
MUSC 314	Music Composition	18 hrs.
MUSC 411	Advanced Electronic Music Composition	2 hrs.
MUSC 497	Independent Study-Senior Composition Proj.	3 hrs.
MUSC	Music Electives	4 hrs.
	Free Electives	18 hrs.

All composition majors will create a portfolio for periodic review by the music faculty.

Bachelor of Music: Music Major with Elective Studies in Business

AMUS 015-075	Applied Music-Indv. (major instrument or voice)	24 hrs.
AMUS 080, 083, 084, 087, 090, or 096	Major Ensemble (each qtr.)	12 hrs.
AMUS 025	Piano Individual	1+ hrs.
MUSC 270	Intro. To Mus. Industry	3 hrs.
IBEC 202	Principles of Microeconomics	4 hrs.
IBEC 203	Principles of Macroeconomics	4 hrs.
ACCT 211, 212	Principles of Act. 1, 2	8 hrs.
MGMT 333	Management and Organ. Behavior	4 hrs.
MRKT 351	Principles of Marketing	4 hrs.
ABUS 312	Business Law 1	4 hrs.
COMM 380	Arts Administration	4 hrs.
MUSC 470	Music Business Internship	3 hrs.
Two courses selected from the following:		
FINC 362	Managerial Finance	4 hrs.
MGMT 325	Employment Law	4 hrs.
MGMT 334	Cases and Exercises in Organizational Behavior	4 hrs.
MGMT 363	Human Res. Management	4 hrs.
MRKT 370	Retailing	4 hrs.
MRKT 371	Personal Selling	4 hrs.
MRKT 372	Advertising	4 hrs.
MUSC	Music Electives	5 hrs.
	Non-music Electives	14 hrs.

Bachelor of Arts in Music

The candidate for the Bachelor of Arts degree must complete the bachelor of arts general education requirements listed earlier in this catalog.

MUSC 001	Concert and Recital Observation (each qtr.)	0 hrs.
MUSC 100	Music	4 hrs.
MUSC 200	Non-Western Music	4 hrs.
MUSC 121, 122, 123	Music Theory 1, 2, 3	9 hrs.
MUSC 131, 132, 133	Ear Training 1, 2, 3	3 hrs.
MUSC 221, 222, 223	Advanced Theory of Music 1, 2, 3	9 hrs.
MUSC 231, 232, 233	Advanced Ear Training 1, 2, 3	3 hrs.
MUSC 321, 322, 323	Music History and Literature 1, 2, 3	9 hrs.
MUSC 020 or 025	Piano Class or Individual	1+ hrs.
MUSC 280	Piano Proficiency	0 hrs.
MUSC 480 or 497	Senior Project/Recital	0-3 hrs.
AMUS 015-075	Applied Music-Indiv. (distributed over four yrs.)	12 hrs.
AMUS 080 or 083	Major Vocal Ensemble (for voice or piano majors)	6 hrs.
AMUS 084, 087, 090 or 096	Major Instrumental Ensemble (for instrumental or piano majors)	6 hrs.
MUSC	Music Electives	8 hrs.
	General Stud. Electives	31 hrs.

A **minor in music** may be earned by taking a minimum of 39 hours which must include music 121, 122, 123, 131, 132, 133, 321, 322, 323; six quarters of private applied instruction in one area and six quarters in major performing group.

Applied Music Individual instruction is offered for varying hours of credit. Each music major generally takes two or three credit hours of individual instruction in his/her major applied area each quarter. Non-music majors and music majors studying minor applied areas usually register for one credit hour of class or individual instruction each quarter. Non-music and non-musical theatre majors are assessed an extra fee for individual lessons. Generally, one half hour of individual instruction is given for each hour of credit taken.

Subject - Applied Music and Performance (AMUS)

010 – VOICE CLASS

1.00 Credit

015 - VOICE-INDIVIDUAL

1.00 to 3.00 Credits

016 – MUSICAL THEATRE VOICE

1.00 Credit

A basic voice class with a focus on musical theatre singing styles. Preparatory course for students who intend to audition for the musical theatre concentration.

020- PIANO CLASS

1.00 Credit

021 – PIANO CLASS - MAJORS

1.00 Credit

025 - PIANO-INDIVIDUAL*1.00 to 3.00 Credits*

Special requirements for music majors are included in the course syllabus.

026 – HARPSICHORD-INDIVIDUAL*1.00 to 3.00 Credits***030 – ORGAN CLASS***1.00 Credit***035 – ORGAN – INDIVIDUAL***1.00 to 3.00 Credits***040 – STRINGS CLASS***1.00 Credit***041 – VIOLIN-VIOLA CLASS***1.00 Credit***042 – CELLO-BASS CLASS***1.00 Credit***043 – CLASSROOM INSTRUMENTS***1.00 Credit***045 – VIOLIN – INDIVIDUAL***1.00 to 3.00 Credits***046 – VIOLA-INDIVIDUAL***1.00 to 3.00 Credits***047 – CELLO – INDIVIDUAL***1.00 to 3.00 Credits***048 – DOUBLE BASS – INDIVIDUAL***1.00 to 3.00 Credits***049 - GUITAR-INDIVIDUAL***1.00 to 3.00 Credits*

Special requirements for music majors are included in the course syllabus.

050 – WOODWIND CLASS*1.00 Credit***055 – FLUTE – INDIVIDUAL***1.00 to 3.00 Credits***056 – OBOE – INDIVIDUAL***1.00 to 3.00 Credits***057 – CLARINET-INDIVIDUAL***1.00 to 3.00 Credits***058 – BASSOON-INDIVIDUAL***1.00 to 3.00 Credits***059 – SAXOPHONE-INDIVIDUAL***1.00 to 3.00 Credits***060 – BRASS CLASS***1.00 Credit***065 – TRUMPET-INDIVIDUAL***1.00 to 3.00 Credits***066 – FRENCH HORN-INDIVIDUAL***1.00 to 3.00 Credits***067 – TROMBONE-INDIVIDUAL***1.00 to 3.00 Credits***068 – EUPHONIUM-INDIVIDUAL***1.00 to 3.00 Credits***069 – TUBA-INDIVIDUAL***1.00 to 3.00 Credits***070 – PERCUSSION CLASS***1.00 Credit***075 – PERCUSSION-INDIVIDUAL***1.00 to 3.00 Credits*

Music Performing Groups

Membership in performing groups is open to all University students, and they are encouraged to participate. Students may enroll as many times as they wish; however, there are certain restrictions on the amount of ensemble credit which may count toward minimal graduation requirements in the College of Arts and Sciences. Requirements in fine arts may be satisfied by two to four years of membership in a major performing group.

May be repeated on an unlimited basis by music majors, other students must check with their college Dean for specific college requirements.

079 - MEN'S CHORUS*1.00 Credit*

A choral ensemble performing outstanding choral literature written and arranged for male voices. In addition to the wide variety of sacred and secular music, the chorus will combine with other university choruses to perform major choral works. A choral group open to all qualified students.

080 - CHORUS*1.00 Credit*

A large choral group open to all qualified students. Music of all types, accompanied and a cappella, is studied and sung throughout the year in concerts and performances on and off campus.

081 - CHAPEL CHOIR*1.00 Credit*

A choral group open to all students for the study and performance of sacred and traditional music. The Chapel Choir sings at chapel services and gives occasional concerts.

083 - UNIVERSITY SINGERS*1.00 Credit*

A select group of men and women vocalists designed to perform a wide variety of choral literature with the highest musical standards. Performances include concerts on and off campus and on tour. Membership by audition.

084 - WIND ENSEMBLE*1.00 Credit*

A concert ensemble open to qualified students who play band instruments. A wide variety of band literature is studied and performed in regular campus concerts. Membership by audition.

086 - PEP BAND*1.00 Credit*

A band specially organized to provide music for athletic events.

087 - SYMPHONIC BAND*1.00 Credit*

A fully-instrumented concert ensemble studying and performing the finest band literature with the highest musical standards. Performances include concerts and programs on campus and tour concerts.

088 - JAZZ ENSEMBLE*1.00 Credit*

Selected ensembles for the study and performance of jazz and popular music. Performances on and off campus are scheduled throughout the year. Membership is by audition and/or permission of instructor. Priority is given to members of symphonic band and wind ensemble.

089 - OPERA WORKSHOP*1.00 to 3.00 Credits*

Instruction and experience in preparation for opera performance, including study of operatic literature and coaching of singers for specific roles in public performance of opera scenes and/or full staged operas. Prerequisite: Approval of the instructor or audition.

090 - MARCHING BAND*1.00 Credit*

The preparation and performance of football game shows at home and selected away games. Open to all university students who play band instruments or who are accepted for auxiliary groups. Fall Quarter only. Includes a drill camp in advance of the Fall Quarter.

091 - CHAPEL BAND*1.00 Credit*

Select ensemble of musicians devoted to the preparation and performance of contemporary instrumental and/or vocal music suitable for a university chapel service.

092 - WOODWIND ENSEMBLE*1.00 Credit*

Selected ensembles of woodwind instrumentalists for the study and performance of characteristic literature.

093 - WOMEN'S CHORUS*1.00 Credit*

A choral ensemble performing outstanding choral literature written and arranged for female voices. In addition to the wide variety of sacred and secular music, the chorus will combine with other university choruses to perform major choral works. A choral group open to all qualified students.

094 - BRASS ENSEMBLE*1.00 Credit*

Selected ensembles of brass instrumentalists for the study and performance of characteristic literature.

095 - PERCUSSION ENSEMBLE*1.00 Credit*

Selected ensembles of percussionists for the study and performance of characteristic literature.

096 - SYMPHONY ORCHESTRA*1.00 Credit*

Credit may be earned for membership by audition in the ONU Symphony and for orchestras on campus which perform for large choral works and musical theatre productions. Permission of instructor is required.

097 - NORTHERNAIRES*1.00 Credit*

A highly select vocal jazz quartet with backup instrumental ensemble performing a wide variety of representative music. Performances include concerts both on and off campus. Membership by audition.

098 - STRING ENSEMBLE*1.00 Credit*

Ensembles of string instrumentalists for the study and performance of characteristic literature.

099 - NEW MUSIC ENSEMBLE

1.00 Credit

The rehearsal and performance of solo, chamber, and small ensemble music from the twentieth century. In addition, significant experimental music from previous centuries will be included. Emphasis will be on landmark works by major composers, and post-1960 music. Permission of the instructor.

Subject - Music (MUSIC)

000 - ORIENTATION

1.00 Credit

Familiarization with the department, departmental technology, requirements for majors, planning programs of courses, university catalog and library. Required of departmental majors. Graded S/U.

001 - CONCERT AND RECITAL OBSERVATION

.00 Credits

A required number of concerts and recitals to be attended each quarter. Required of all full-time music majors. Graded S/U.

100 - MUSIC

4.00 Credits

The nature, forms, styles and media of music of all types and periods. Emphasis upon listening and understanding. Laboratory listening and concert attendance, knowledge of fundamentals, recognition of composers and representative literature expected.

101 - MUSIC-MAJORS

3.00 Credits

A basic music course for music majors only.

110 - FUNDAMENTALS OF MUSIC FOR THE NON-MUSIC MAJOR

4.00 Credits

Basic components of music. The perception and reading of musical symbols. Includes listening experiences of representative literature and recognition of major composers.

121 - THEORY OF MUSIC 1

3.00 Credits

Basic music theory and harmony, scales, intervals, chords, part-writing, creative projects in composition and arranging. Required of all freshmen music majors. Continuation courses must be taken in sequence.

122 - THEORY OF MUSIC 2

3.00 Credits

Continuation of MUSC 121.

123 - THEORY OF MUSIC 3

3.00 Credits

Continuation of MUSC 122.

131 - EAR TRAINING 1

1.00 Credit

Sight-singing; melodic, rhythmic and harmonic dictation; keyboard harmony; conducting; improvisation taught in a laboratory setting. Supplemental and taken in conjunction with first year of music theory studies. Level determined by proficiency.

132 - EAR TRAINING 2

1.00 Credit

Continuation of MUSC 131.

133 - EAR TRAINING 3

1.00 Credit

Continuation of MUSC 132.

190 - SPECIAL TOPICS IN MUSIC

1.00 to 4.00 Credits

200 - NON-WESTERN MUSIC

4.00 Credits

The fundamental concepts of music in any culture with an in-depth exploration of the music of a limited number of non-Western groups. Emphasis on listening and understanding.

210 - JAZZ HISTORY AND LITERATURE

3.00 Credits

Modern jazz, from its roots in African tribal music through the gradual evolution of this American art form as it appears today.

211 - ELECTRONIC MUSIC

2.00 Credits

History, development, materials, and techniques of electronic music. Emphasis on composition in the medium. Concentration of classical (tape recorder) techniques and use of synthesizer. Work in the electronic laboratory. May be repeated on an unlimited basis by music majors. Prerequisite: Permission of the instructor.

221 - ADVANCED THEORY OF MUSIC 1

3.00 Credits

Continuation of MUSC 123. Study of 18th, 19th and 20th century compositional techniques, orchestration, and counterpoint. Development of analytical skills. Creative projects in composition using computers and other technology at various times throughout the sequence. Continuation courses must be taken in sequence. Prerequisite: MUSC 123.

222 - ADVANCED THEORY OF MUSIC 2

3.00 Credits

Continuation of MUSC 221.

223 - ADVANCED THEORY OF MUSIC 3

3.00 Credits

Continuation of MUSC 222.

231 - ADVANCED EAR TRAINING 1

1.00 Credit

Continuation of MUSC 131, 132 and 133. Supplemental and taken in conjunction with second year of music theory. Elements of traditional improvisation included in the keyboard harmony portion.

232 - ADVANCED EAR TRAINING 2

1.00 Credit

Continuation of MUSC 231.

233 - ADVANCED EAR TRAINING 3

1.00 Credit

Continuation of MUSC 232.

241 - BASIC CONDUCTING

2.00 Credits

General conducting techniques and principles of score study. Laboratory experiences. Continuation courses must be taken in sequence. Prerequisite: MUSC 121.

261 - LATIN AND ITALIAN DICTION FOR SINGERS

1.00 Credit

The proper pronunciation of vocal and choral texts in Latin and Italian. Required of all vocal music majors.

262 - FRENCH DICTION FOR SINGERS

1.00 Credit

Continuation of MUSC 261 in French.

263 - GERMAN DICTION FOR SINGERS

1.00 Credit

Continuation of MUSC 262 in German.

270 - INTRODUCTION TO THE MUSIC INDUSTRY

3.00 Credits

The various elements of the music industry - retailing, marketing, arts management, publishing, manufacturing, recording, unions and licensing. Prerequisite: MUSC 100.

280 – PIANO PROFICIENCY

.00 Credits

281 – GUITAR PROFICIENCY

.00 Credits

290 – SPECIAL TOPICS IN MUSIC

1.00 to 4.00 Credits

310 – AMERICAN MUSIC

4.00 Credits

Sacred and secular American music from colonial America to the present with particular attention to native art music and the incorporation of jazz into symphonic and stage works of the twentieth century.

311 - COUNTERPOINT

2.00 Credits

Polyphonic music in various styles with particular emphasis on that of the eighteenth century. Creative projects in contrapuntal writing. Prerequisite: MUSC 223.

312 - FORM AND ANALYSIS

2.00 Credits

Musical forms and styles from the Baroque to the present. Theoretical and stylistic analysis of representative music. Prerequisite: MUSC 223.

313 - ORCHESTRATION

2.00 Credits

The instruments of the band and orchestra. Arrangements for the band and orchestra. Arrangements for string, woodwind and brass combinations. Orchestrations by classical, romantic, and modern composers. Prerequisite: MUSC 223.

314 - MUSIC COMPOSITION

3.00 Credits

Principles general to all compositional styles, and application of these principles through weekly composition projects. Includes work in the electronic music laboratory. In class performances. May be repeated on an unlimited basis by music majors. Prerequisite: Permission of the instructor.

321 - MUSIC HISTORY AND LITERATURE 1

3.00 Credits

The historical development of music literature. Representative literature and composers: Ancient, Medieval and Renaissance periods. Prerequisite: MUSC 100.

322 - MUSIC HISTORY AND LITERATURE 2

3.00 Credits

Baroque and Classical periods. Prerequisite: MUSC 100.

323 - MUSIC HISTORY AND LITERATURE 3

3.00 Credits

Romantic and Twentieth Century periods. Prerequisite: MUSC 100.

334 - WOODWIND METHODS

2.00 Credits

Study, elementary performance skills, pedagogy, and materials of the woodwind instruments. For future school music teachers.

336 - BRASS METHODS

2.00 Credits

Study, elementary performance skills, pedagogy, and materials of the brass instruments. For future school music teachers.

338 - PERCUSSION METHODS

2.00 Credits

Study, elementary performance skills, pedagogy, and materials of the percussion instruments. For future school music teachers.

339 - STRING METHODS

2.00 Credits

Study, elementary performance skills, pedagogy, and materials of the orchestral stringed instruments. For future school music teachers.

342 - ADVANCED CONDUCTING - INSTRUMENTAL

2.00 Credits

Further development of baton techniques and other conducting skills relating to practice, reading and preparation of scores for working with instrumental ensembles. (Formerly MUSC 242). Prerequisite: MUSC 241.

343 - ADVANCED CONDUCTING - CHORAL

2.00 Credits

Adaptation of basic conducting techniques to the choral ensemble, including leadership, error detection, tonal development, stylistic accuracy and analysis. Exploration of choral philosophy and development. (Formerly MUSC 341.) Prerequisite: MUSC 241.

371 - APPLIED FIELD LITERATURE-PEDAGOGY 1

1.00 Credit

Study of the professional and educational literature in a specific applied field.

372 - APPLIED FIELD LITERATURE-PEDAGOGY 2

1.00 Credit

Continuation of MUSC 371.

373 - APPLIED FIELD LITERATURE-PEDAGOGY 3

1.00 Credit

Continuation of MUSC 372.

380 - JUNIOR RECITAL

.00 Credits

Recital hearing must be passed before approval is granted for performance. Graded S/U.

390 – SPECIAL TOPICS IN MUSIC

1.00 to 4.00 Credits

411 - ADVANCED ELECTRONIC MUSIC COMPOSITION

2.00 Credits

Study and creative work in the area of electronic music. Focus upon advanced synthesis, recording and notational techniques as they relate to creative efforts. Relevant historical topics and a survey of the electronic music literature will be included. May be repeated on an unlimited basis by music majors.

461 - SECONDARY CHORAL METHODS AND TECHNIQUES

3.00 Credits

Procedures in the development and direction of school choral groups, including choral literature of all types. Includes laboratory experience in teaching vocal techniques in the approximately 20 hours of field experience. Prerequisite: Admission to Teacher Education Program.

462 - SECONDARY INSTRUMENTAL METHODS AND TECHNIQUES

3.00 Credits

Procedures in the development and direction of school bands and orchestras, including band literature of all types. Includes laboratory experience in teaching beginning instrumental students individually, in small groups and larger classes in the approximately 20 hours of field experience. Prerequisite: Admission to the Teacher Education Program.

463 - MARCHING BAND METHODS AND TECHNIQUES

2.00 Credits

Methods, materials, and techniques in the development and direction of the marching band. Show planning, precision drill, rehearsal techniques, experience with the latest technology, and selection and rehearsal of music. Membership in Marching Band required in conjunction with the class. Includes approximately 8 hours of field experience.

470 - INTERNSHIP IN MUSIC BUSINESS

3.00 Credits

Professional experience in one area of music business. Application of classroom theory to practice through working in an outside organization or business. Can not be repeated for additional credit. Prerequisites: Completion of all business-related course work and permission of the department chair.

480 - SENIOR RECITAL

.00 Credits

Recital hearing must be passed before approval is granted for performance. Graded S/U.

490 – SPECIAL TOPICS IN MUSIC

1.00 to 4.00 Credits

497 - INDEPENDENT STUDY IN MUSIC

1.00 to 4.00 Credits

A wide variety of specialized musical subjects are available through individual study with a faculty member.



DEPARTMENT OF PHILOSOPHY AND RELIGION

Professors Beanblossom, Person (*Chair*); Associate Professors P. Croskery, Katayama, Morrison; Visiting Assistant Professors Dixon, Stauber

Mission Statement

The Department of Philosophy and Religion's purpose is to help all Ohio Northern students develop into "mature men and women capable of clear and logical thinking and sensitive to the higher values of truth, beauty and goodness." This development is to occur within a curriculum that introduces and critiques both the Judeo-Christian tradition and various other religious and philosophical traditions. The minors in philosophy and religion provide all students with opportunities to explore philosophical and religious traditions in more depth and the majors in philosophy and religion also offer rigorous preparation for students who wish to pursue graduate and professional studies.

General Education Requirements in philosophy or in religion may be met by any course offered in the appropriate discipline (PHIL or RELG except for PHIL 234 which does not count toward the philosophy requirement; except for RELG 271, 272, 281 and 282 which do not count toward the religion requirement; no youth ministry class [YMIN] counts toward the religion requirement). 100-level courses are available to all students. 200-level courses require at least sophomore standing or consent of the instructor, and 300- or 400-level courses require at least junior standing or consent of the instructor.

Philosophy Major The major in philosophy requires a minimum of 44 hours beyond PHIL 100, including the following courses: 234; two of the following (237, 238, 340); the two courses in the history of philosophy sequence (102, 202); and either 480 or 483. With departmental approval, a maximum of three courses in religion may be applied to the philosophy major.

Philosophy Major with prelaw emphasis The major in philosophy with a prelaw emphasis includes all of the requirements for the philosophy major with the following core courses for prelaw students: PHIL 234, PHIL 238, and PHIL 320 or PHIL 351.

Philosophy Minor The minor in philosophy requires a minimum of 28 hours in philosophy, including 234 and two of the following (102, 202, 237, 340).

Philosophy Minor with prelaw emphasis A minor in philosophy with a prelaw emphasis includes all of the requirements for the philosophy minor with the following core courses for prelaw students: PHIL 234, PHIL 238, and PHIL 320 or PHIL 351.

Religion Major The major in religion requires a minimum of 44 hours, including the following courses: either 105 or 107; either 109 or 110; either 241 or 264; 325; two additional courses in biblical studies; at least one course in the history of Christian thought (310, 311, or 312); and either 481 or 484. (No more than 12 hours of 100-level courses in religion may count toward the major.) With departmental approval, a maximum of three courses in philosophy may be applied to the religion major. No youth ministry class (YMIN) counts towards the religion major.

Religion Minor The minor in religion requires a minimum of 28 hours in religion, including 105 or 107 and 109 or 110. No more than 12 hours of 100-level courses in religion may count toward the minor. No youth ministry class (YMIN) counts towards the religion minor.

Philosophy and Religion Major The major in philosophy and religion requires a minimum of 44 hours. Selection of courses is subject to approval by the department and must include 480 or 481 or else 483 or 484. No youth ministry class (YMIN) counts towards the philosophy and religion major.

Youth Ministry Major The major in youth ministry requires a total of 80 hours (44 hours in RELG, 12 hours in YMIN, and 24 hours in cognate subjects) as follows: RELG 105 or RELG 107, RELG 108, RELG 109 or RELG 110, RELG 241 or RELG 264, RELG 263, RELG 325, two additional classes in Bible, two courses in the history of Christian thought (RELG 310, 311, or 312), YMIN 253, YMIN 453, 4 hours of YMIN 410, RELG 481 or RELG 484, PSYC 100, SOC 105, EDUC 223, EDUC 224, ENGL 225 and SOC 240.

It is recommended that majors in the department who plan to attend graduate or theological school or seminary take two years of foreign language.

Prelaw Program The department cooperates with the Pettit College of Law in the "guaranteed admission" prelaw program (see elsewhere in this catalog). Information about the curricular requirements of the program can be secured from the department chair.

Preseminary A faculty member in the department of philosophy and religion serves as advisor to preseminary students in planning a

preprofessional program. The recommendations of the American Association of Theological Schools are followed in advising students. A major in the department of philosophy and religion or in another appropriate department may be selected.

Philosophy

Philosophy is a quest for a comprehensive understanding of human existence. The objective of philosophy is to consider the rational justification of logical inferences, human values, criteria for establishing the claims of knowledge and certainty, and interpretations of the nature of reality. The diverse insights of significant philosophers from ancient times to the present contribute resources to stimulate contemporary philosophical thinking in each of these areas.

A major in philosophy prepares students generally for careers in areas which require the ability to analyze problems and to think and write clearly. It is an appropriate major for students planning to continue their education for professional careers such as law, medicine, or theology.

Subject - Philosophy (PHIL) _____

000 - ORIENTATION

1.00 Credit

Familiarization with the department, requirements for majors, planning program of courses, University catalog and library. Graded S/U.

100 - INTRODUCTION TO PHILOSOPHY

4.00 Credits

Philosophical inquiry, its scope and methodology, through a study of representative philosophical problems such as the nature of ethical values, principles of correct reasoning, the possibility and limits of knowledge, and the distinction between appearance and reality.

102 - GREAT MODERN PHILOSOPHERS

4.00 Credits

Philosophical inquiry, its scope, methodology, and persistent problems through a study of major modern philosophers from Bacon to James.

190 - SPECIAL TOPICS IN PHILOSOPHY

1.00 to 4.00 Credits

May be repeated for credit, depending on content.

PREREQUISITE FOR THE COURSES BELOW: ONE COURSE IN PHILOSOPHY; OR SOPHOMORE STANDING (FOR 200-LEVEL COURSES); OR AT LEAST JUNIOR STANDING (FOR 300 OR 400-LEVEL COURSES); OR CONSENT OF INSTRUCTOR.

202 - PLATO AND ARISTOTLE

4.00 Credits

The Greek philosophers Plato and Aristotle, against the background of the Pre-Socratics and Socrates. (Formerly PHIL 331)

234 - LOGIC

4.00 Credits

Logical fallacies and the principles of correct reasoning. The application of formal logical analysis to arguments encountered in ordinary language. WILL NOT SATISFY THE GENERAL EDUCATION REQUIREMENT IN PHILOSOPHY.

237 - KNOWLEDGE AND TRUTH

4.00 Credits

The scope and justification of knowledge with reference to problems such as skepticism, sense perception, reason, belief, and truth.

238 - ETHICS

4.00 Credits

Selected ethical theories and their rational justification. The use of ethical theories for resolving ethical issues in personal and social decision-making.

240 - ETHICS IN PROFESSIONAL LIFE

4.00 Credits

Ethical behavior with emphases on ethical theories and their rational justification, on such problems as relativism and why be moral, and on resolving issues as they arise in case studies from engineering, business, and health care. (Formerly PHIL 336)

250 - AESTHETICS

4.00 Credits

Classical and contemporary theories of art and aesthetic experience. Consideration of the nature of various arts and of issues such as meaning, truth, and value in art. (Formerly PHIL 341)

260 - PHILOSOPHY OF SCIENCE

4.00 Credits

Explores the logical and philosophical foundations that underlie science. Specific issues include: what is the difference between science and pseudo-science, what are scientific explanations, laws and theories, and what are science's limits?

290 - SPECIAL TOPICS IN PHILOSOPHY

1.00 to 4.00 Credits

May be repeated for credit, depending on content.

310 - ENVIRONMENTAL ETHICS

4.00 Credits

Theories of value, with special emphasis on the possible justification of extending the moral community to include non-human nature. Foci will include future generations, pollution, the commons, "jobs vs. wilderness," and legal and moral rights.

320 - SOCIAL JUSTICE

4.00 Credits

Theories of justice in contemporary society, including conceptions of the law, human rights, equality, liberty, and responsibility. Prerequisite: One Philosophy class, excluding PHIL 234.

325 - PHILOSOPHY OF RELIGION

4.00 Credits

Critical inquiry into issues such as the nature and existence of God, the problem of evil, the significance of religious experience, the justification of religious belief, and the relation of faith and reason. (Also listed as RELG 325)

336 - ETHICS IN PROFESSIONAL LIFE

4.00 Credits

Ethical behavior with emphases on ethical theories and their rational justification, on such problems as relativism and why be moral, and on resolving issues as they arise in case studies from engineering, business, and health care.

340 - THEORIES OF BEING

4.00 Credits

Theories of being with reference to problems such as reality, existence, essence, nature, and their implications for knowledge and values.

351 - PHILOSOPHY OF LAW

4.00 Credits

The major philosophical theories of law, from legal positivism to critical legal studies. Examination of areas of the law such as criminal law, contract law and constitutional interpretation. Topics include, but are not limited to, free speech, the insanity defense, and surrogate mother contracts. Prerequisite: One Philosophy class excluding PHIL 234.

390 - SPECIAL TOPICS IN PHILOSOPHY

1.00 to 4.00 Credits

May be repeated for credit, depending on content.

480 - PHILOSOPHY SENIOR ESSAY

4.00 Credits

A critical essay on a topic selected in consultation with a faculty advisor. Enrollment in the quarter during which the paper is to be completed. However, preliminary work on this project commences no later than the beginning of the senior year. (For majors only.)

483 - PHILOSOPHY SENIOR HONORS ESSAY

4.00 Credits

Open to students with at least a 3.5 cumulative GPA in their Philosophy or Philosophy and Religion major. Enrollment in the quarter during which a critical essay is to be completed on a topic selected in consultation with a faculty advisor. However, preliminary work on this project commences no later than the beginning of the senior year.

497 - INDEPENDENT STUDY IN PHILOSOPHY

1.00 to 4.00 Credits

Departmental permission required. May be repeated for credit, depending on content.

Religion

Religion is an integral part of human life and culture. It includes the ultimate commitments, attitudes, beliefs and forms of worship by which people live and find meaning for their personal and social existence. The courses in religion are intended to acquaint the student with the living religious traditions, primarily of the West, through an examination of their origins and development, their interaction with the changing cultural context, and their insights for dealing with the perennial questions of human existence and destiny. The approach to the study is ecumenical and makes use of current scholarly methods of research and findings.

Subject - Religion (RELG)

000 - ORIENTATION

1.00 Credit

Familiarization with the department, requirements for majors, planning program of courses, University catalog and library. Graded S/U.

105 - RELIGION IN HUMAN LIFE

4.00 Credits

The religious dimension of the human search for personal identity, meaningful existence, and ultimate reality, through the examination of various aspects and expressions of the religious life of humanity.

107 - RELIGIONS EAST AND WEST

4.00 Credits

Representative major religions of the world, their origins, sacred writings, basic beliefs, and life practices, with special attention to non-Western religious traditions.

108 - INTRODUCTION TO CHRISTIANITY

4.00 Credits

The major teachings, practices and institutional forms of Christianity in their historical and contemporary settings.

109 - INTRODUCTION TO THE OLD TESTAMENT

4.00 Credits

Critical reading of the Old Testament (the Hebrew Bible): its historical background, literary features, and theological claims.

110 - INTRODUCTION TO THE NEW TESTAMENT

4.00 Credits

Critical reading of the New Testament: its historical background, literary features, and theological claims.

PREREQUISITE FOR THE COURSES BELOW:
ONE COURSE IN RELIGION; OR SOPHOMORE
STANDING (FOR 200-LEVEL COURSES); OR AT
LEAST JUNIOR STANDING (FOR 300 OR 400-LEVEL
COURSES); OR CONSENT OF INSTRUCTOR.

210 - WOMEN IN THE BIBLE

4.00 Credits

The portrayal of women in the Old and New Testaments with secondary readings of feminist theory.

231 - RELIGIOUS EXPERIENCE

4.00 Credits

A comparative exploration of diverse encounters with the sacred, as portrayed in literature from around the world. (Also counts as an English literature course.) RELG 105 or RELG 107 is recommended.

241 - ISLAM AND CHRISTIANITY

4.00 Credits

The Islamic and Christian traditions, including the history, theology, and politics of each as well as an exploration of their interactions. RELG 105 or RELG 107 is recommended.

243 - THE BIBLE AND THE THIRD WORLD

4.00 Credits

Reading interpretations by Third World authors to learn more about the Bible, the cultures of the Third World, and how one's social location affects one's interpretation of texts.

Prerequisite: RELG 109 or RELG 110.

263 - CHRISTIAN ETHICS

4.00 Credits

The relation of biblical and theological thought to the development of ethical principles. Application to personal and social moral issues, such as marriage, family, race, politico-economic life, and international affairs. RELG 108 or RELG 110 is recommended.

264 - BUDDHISM

4.00 Credits

The ideas and practices of the Buddhist tradition in East and Southeast Asia, as well as in the West, with emphasis on the life and teaching of the Buddha and the growth of different forms of Buddhism. RELG 105 or RELG 107 is recommended.

271 - BIBLICAL HEBREW 1

3.00 Credits

Biblical Hebrew with heavy emphasis on grammar and vocabulary. Offered on demand.

272 - BIBLICAL HEBREW 2

3.00 Credits

Continuation of RELG 271. Offered on demand. Prerequisite: RELG 271.

273 - BIBLICAL HEBREW 3

3.00 Credits

Biblical Hebrew with heavy emphasis on readings from the Hebrew Bible. Offered on demand. Prerequisite: RELG 272.

281 - HELLENISTIC GREEK 1

3.00 Credits

Hellenistic Greek with heavy emphasis on grammar, and some readings from the Greek New Testament. Offered on demand.

282 - HELLENISTIC GREEK 2

3.00 Credits

Hellenistic Greek with heavy emphasis on grammar, and readings from the Greek New Testament. Offered on demand. Prerequisite: RELG 281.

283 - HELLENISTIC GREEK 3

3.00 Credits

Hellenistic Greek with heavy emphasis on grammar, and readings from the Greek New Testament and other early Christian literature. Offered on demand. Prerequisite: RELG 282.

291 - SPECIAL TOPICS IN RELIGION

1.00 to 4.00 Credits

May be repeated for credit, depending on content.

310 - EARLY CHRISTIAN THOUGHT

4.00 Credits

Christian history and theology from the formative period of the Church to the early Middle Ages. Diverse responses to cultural settings and efforts to formulate credal statements. Prerequisite: One religion class.

311 - MEDIEVAL AND REFORMATION THOUGHT

4.00 Credits

Church history and theology from the High Middle Ages to the beginning of the modern period. Philosophers, theologians, mystics and reformers. Prerequisite: One religion class.

312 - MODERN CHRISTIAN THOUGHT

4.00 Credits

Church history and theology over the past 200 years. Representative thinkers and issues. Prerequisite: One religion class. (Formerly 19th & 20th Century Christian Thought)

325 - PHILOSOPHY OF RELIGION

4.00 Credits

Critical inquiry into issues such as the nature and existence of God, the problem of evil, the significance of religious experience, the justification of religious belief, and the relation of faith and reason. (Also listed as PHIL 325.)

365 - JESUS AND THE GOSPELS

4.00 Credits

Critical examination of the New Testament Gospels: their portrayals of Jesus, their theological perspectives, and their reliability as sources for the life of Jesus. Prerequisite: RELG 110.

391 - SPECIAL TOPICS IN RELIGION

1.00 to 4.00 Credits

May be repeated for credit, depending on content.

481 - RELIGION SENIOR ESSAY

4.00 Credits

A critical essay on a topic selected in consultation with a faculty advisor. Enrollment in the quarter during which the paper is to be completed. However, preliminary work on this project commences no later than the beginning of the senior year. (For majors only.)

484 - RELIGION SENIOR HONORS ESSAY

4.00 Credits

Open to students with at least a 3.5 cumulative GPA in their Religion or Philosophy and Religion major. Enrollment in the quarter during which a critical essay is to be completed on a topic selected in consultation with a faculty advisor. However, preliminary work on this project commences no later than the beginning of the senior year.

498 - INDEPENDENT STUDY IN RELIGION

1.00 to 4.00 Credits

Departmental permission required. May be repeated for credit, depending on content.

Subject - Youth Ministry (YMIN)_____

253 - YOUTH MINISTRY AND ISSUES

4.00 Credits

Exploration of various settings for youth ministry, including weekly youth meetings, camps, mission trips, Sunday School, and community service. Offered alternate years. For youth ministry majors only. (Formerly RELG 253)

290 - SPECIAL TOPICS IN YOUTH MINISTRIES

1.00 to 4.00 Credits

May be repeated for credit depending on course content. RYMN majors only.

410 - YOUTH MINISTRIES INTERNSHIP

1.00 to 4.00 Credits

Internship in youth ministry in various possible settings: congregation, camp, mission trip, etc. Each credit hour requires 25 hours in internship. Prerequisites: Limited to majors in youth ministry and approved by the department before registration. (Formerly Church Vocations Internship - RELG 410).

453 - PRINCIPLES OF CHRISTIAN EDUCATION

4.00 Credits

The philosophy, theory, and current methods of Christian education. The relationship of Christian education to other areas of ministry (e.g., worship). Offered alternate years. Prerequisites: RELG 109 or 110, RELG 263, EDUC 223 or 224, and at least 1 hour of YMIN 410. Enrollment limited to RYMN majors only. (Formerly RELG 453)

499 - INDEPENDENT STUDY IN YOUTH MINISTRIES

1.00 to 4.00 Credits

Departmental permission required. May be repeated for credit depending on course content. Enrollment limited to YMIN majors only.

DEPARTMENT OF PHYSICS AND ASTRONOMY

Associate Professors Me. Caragiu, Theisen (*Chair*); Assistant Professors Pinkney, Sheridan

Mission Statement

The primary aim of the department is to offer courses that will stimulate scientific thought, train the student to reason from fundamental experimental fact, further the student's desire to continue scientific investigation, and meet the needs of those students who are interested in physics for its cultural or vocational value. The department aims to give a training sufficiently broad perspective to enable the student to appreciate the physics of scientific articles; to teach physics in the public schools; to apply physics in engineering, medicine, and other sciences; and to pursue graduate work. Ohio Northern University offers the major in physics with both the bachelor of arts degree and the bachelor of science degree.

Department Programs Ohio Northern University offers the Physics Major in the traditional track and the modified track, the Physics Minor and the Astronomy Minor.

Physics Major The traditional track toward the physics major consists of 56 credit hours. The required courses are: Freshman Seminar or Orientation, PHYS 231, 232, 233, 234, 235, 236, 301, 303, 345, 351, 352, 360, 411, 412, and two hours of PHYS 395 (maximum 2 hours). Additionally, in consultation with the chair of the department, eight hours of Physics electives must be taken from the 300 level or above. Required cognate courses are MATH 163, 164, 165, 263, 272, 275 and ECCS 164. Students desiring graduate study in physics are also encouraged to take MATH 362 and 363.

A modified track toward the physics major consists of 45 credit hours. It is intended for students who are completing the requirements for a second program in addition to the physics major. Examples of this second program include a second major or minor or a program of courses leading to licensure for public school teaching. The required courses for the modified physics track are: PHYS 231 or 211, 232 or 212, 233 or 213, 234, 235, 236, 252 or 253, 303, 345, 351, 411, and two hours of the Advanced Laboratory, PHYS 300 (maximum 4 hours). Additionally, in consultation with the chair of the department, eight hours of physics electives must be taken from the 300 level or above. Required cognates are MATH 163, 164, 165 and *one* of the following: (i) CHEM 181, 182, 183, (ii) BIOL 121, 122, 123, (iii) ECCS 164, 165, 166, (iv) completion of a major, minor, or option in another field.

Physics Minor The student desiring to complete the requirements for the physics minor must complete 31 credit hours. The required courses are PHYS 231, 232, 233, 234, 235, 236, 303, and three advanced courses in physics approved by the chair of the physics department. PHYS 211, 212, or 213 may be substituted respectively for PHYS 231, 232, or 233 with additional approved physics courses taken to complete the 31-hour requirement. Substitution of similar courses in other programs for physics courses is listed below.

Astronomy Minor The student desiring to complete the requirements for the astronomy minor must complete 31 credit hours. The required courses are PHYS 231, 232, 233, 234, 235, 236, 252, 253, 255, 256, 303, and 371. PHYS 211, 212, or 213 may be substituted respectively for PHYS 231, 232, or 233 with additional approved Physics courses taken to complete the 31-hour requirement.

Teaching Licensure The department also offers a program leading to licensure for teaching physics in the Ohio public schools. The secondary education program is nationally accredited by the National Science Teachers Association. The program is designed for the student whose goal is to teach physics in the high schools. Due to the nature of the programs permitted by the state of Ohio, the student will also obtain licensure to teach chemistry. Typically, the student will complete the modified track toward the physics major, a minor in chemistry, and a number of hours in the education department specified by state licensure requirements.

Substitution of Courses Substitution for courses specified in the physics major or physics minor may be made with the approval of the chair of the

department of physics. Substituted courses may be either internal to the department of physics or external. A maximum of 4 external credit hours may be substituted provided a grade of C or better is earned in the corresponding course. Substitutions which may be allowed are GE 214 for PHYS 351, ECCS 331 for PHYS 411, or CHEM 343 for PHYS 432.

Some of the courses listed below contain material which is similar but treated at different levels. Consequently, credit for both Physics 211 and 231, or 212 and 232, or 213 and 233 cannot be given toward satisfying minimum program requirements. Further, the department chair, in consultation with the registrar and dean of the College of Arts and Sciences, will evaluate transcripts from students who transfer to Ohio Northern University with physics courses from other institutions. Suitable credit will be awarded as appropriate.

Subject - Physics (PHYS)

000 - ORIENTATION

1.00 Credit

Familiarization with the department, requirements for majors' programs, University catalog and library. Required of departmental majors. AASG 100, Freshman Seminar, may be used to satisfy this requirement. Graded S/U.

100 - PHYSICS

4.00 Credits

Presentation of classical mechanics, heat, atomic and nuclear physics. Issues involving science and society will also be considered. Available for credit for non science majors in the College of Arts and Sciences, and students enrolled in the College of Business Administration. In special circumstances, others may enroll with permission of the department chair. Students may not receive credit for PHYS 100 or PHYS 110 after completion of either PHYS 213 or PHYS 233.

101 - PHYSICAL AND EARTH SCIENCES- EARLY & MIDDLE CHILDHOOD MAJORS

4.00 Credits

The first of a three-term integrated sequence of physics, earth, and life science. The nature of matter and energy and of their interactions as an introduction to the fundamental principles comprising the disciplines of physics and chemistry. Science teaching methods will be included. For early childhood and middle childhood licenses only. Prerequisite: MATH 173.

110 - INTRODUCTION TO PHYSICS

4.00 Credits

Mathematical expression of basic principles and numerical solution of problems chosen from mechanics, waves, heat, electricity, and magnetism. For students who have not had high school physics or who desire additional preparation for PHYS 231-232-233. DOES NOT SATISFY A GENERAL EDUCATION REQUIREMENT AND IT CANNOT BE USED TO SATISFY SPECIFIC DEPARTMENTAL OR PROGRAM REQUIREMENTS. Prerequisites: High school algebra, geometry and trigonometry. Students may not receive credit for PHYS 100 or PHYS 110 after completion of PHYS 211 or PHYS 231.

120 - PHYSICS WITH HEALTH SCIENCE APPLICATIONS

4.00 Credits

Selected basic physical principles and their application to health science. Topics include levers and torques, fluid dynamics, electrical conduction, magnetism, optics, and radiation. Offered every term.
Prerequisite: High school physics.

211 - GENERAL PHYSICS: MECHANICS OF SOLIDS

3.00 Credits

Basic principles of Newtonian mechanics of solids
The corresponding laboratory is PHYS 234.

212 - GENERAL PHYSICS: SOUND, HEAT, AND LIGHT

3.00 Credits

Sound propagation, heat and heat transfer, and light propagation. The corresponding laboratory is PHYS 235. Prerequisite: PHYS 211 or 231.

213 - GENERAL PHYSICS: ELECTRICITY AND MAGNETISM

3.00 Credits

Electrical and magnetic phenomena. The corresponding laboratory is PHYS 236.
Prerequisite: PHYS 211 or 231.

231 - PHYSICS: MECHANICS OF SOLIDS

4.00 Credits

Newtonian mechanics of solids employing the differential and integral calculus. The corresponding laboratory is PHYS 234.
Prerequisite: MATH 157 or 163.

232 - PHYSICS: HEAT, SOUND, AND LIGHT

4.00 Credits

Sound propagation, heat transfer and light propagation. Differential and integral calculus are used. The corresponding laboratory is PHYS 235. Prerequisite: PHYS 231.

233 - PHYSICS: ELECTRICITY AND MAGNETISM

4.00 Credits

Electrical and magnetic phenomena. Differential and integral calculus are used. The corresponding laboratory is PHYS 236.
Prerequisite: PHYS 231.

234 - PHYSICS LABORATORY: MECHANICS

1.00 Credit

Experiments in basic Newtonian mechanics. PHYS 211 or 231 should be taken concurrently, or instructor's permission must be obtained.

235 - PHYSICS LABORATORY: HEAT, SOUND, AND LIGHT

1.00 Credit

Experiments in heat, sound and light. PHYS 212 or 232 should be taken concurrently, or instructor's permission must be obtained.

236 - PHYSICS LABORATORY: ELECTRICITY AND MAGNETISM

1.00 Credit

Experiments with basic electrical and magnetic phenomena. PHYS 213 or 233 should be taken concurrently or instructor's permission must be obtained.

252 - EARTH SCIENCE AND PLANETARY ASTRONOMY

4.00 Credits

The history of astronomy, the tools of astronomy, basic earth science and an introduction to solar system science. This course was formerly named Astronomy.

253 - STELLAR AND GALACTIC ASTRONOMY

4.00 Credits

Structure, motions and evolution of stars, interstellar material, galaxies and the universe as a whole.

255 - PLANETARY ASTRONOMY LABORATORY

1.00 Credit

Laboratory and mathematical companion to PHYS 252.

256 - STELLAR AND GALACTIC ASTRONOMY LABORATORY

1.00 Credit

Laboratory and mathematical companion to PHYS 253.

290 – SPECIAL TOPICS IN PHYSICS

1.00 to 4.00 Credits

300 - ADVANCED PHYSICS LAB

1.00 to 3.00 Credits

Laboratory projects from Mechanics, Heat, Sound, Light, Nuclear, Solid State Physics chosen to help foster the interests at some intermediate or advanced level. Will substitute for courses PHYS 310, 320, 330 or 340, up to a maximum of 4 credit hours. Prerequisites: PHYS 213 or 233.

301 – ADVANCED LAB METHODS

2.00 Credits

Statistical analysis of data and error propagation. Linear and non-linear curve fitting. Design and construction of scientific apparatus. Signal conditioning. Optical techniques. Vacuum systems. Prerequisite: PHYS 213 or 233.

303 - MODERN PHYSICS

4.00 Credits

Relativity, quantum and wave mechanics, atomic structure and absorption and emission processes. Prerequisite: PHYS 213 or 233.

345 - MATH METHODS IN PHYSICS

4.00 Credits

Vector algebra, vector calculus in arbitrary coordinate systems, Fourier Analysis, contour integration in complex plane, special functions. Prerequisite: PHYS 213 or 233.

351 - ANALYTICAL MECHANICS 1

4.00 Credits

Vector analysis, kinematics, conservative forces, planetary motion, pendulum, free and forced oscillations, coupled systems and normal coordinates, angular momentum, rigid bodies. Part of the physics major program and offered when needed. Prerequisite: PHYS 213 or 233.

352 - ANALYTICAL MECHANICS 2

4.00 Credits

LaGrange equations, canonical formulation, principle of least action, normal coordinates, rigid bodies, special relativity, mathematical methods. Part of the Physics major program and offered when needed. Prerequisites: PHYS 351.

353- NUCLEAR PHYSICS

4.00 Credits

Nuclear radiation detection instruments, nuclear constituents and structure, nuclear models, nuclear reactions, fundamentals of nuclear reactor theory and design, shielding and safety principles in nuclear physics. Prerequisites: PHYS 213 or 231.

360 - QUANTUM MECHANICS

4.00 Credits

Eigenvalues and eigenvectors, commutators, bra-ket notation, postulates of quantum theory, solution of the Schrodinger wave equation for square well potential, harmonic oscillator, hydrogen atom, and other potentials. Perturbation theory. Prerequisite: PHYS 213 or 233.

361 - ELECTRONICS

4.00 Credits

Theory of solid state devices, rectifier circuits, transistor amplifiers, oscillators and modulators, instrumentation applications. Offered as needed. Prerequisites: PHYS 213 or 233.

364 - OPTICS

4.00 Credits

The laws of geometrical and physical optics. Image formation by mirrors and lenses and optical aberrations. Interference and diffraction. Part of the physics major program and offered when needed. Prerequisites: PHYS 213 or 233. Formerly PHYS 363 and 463.

371 - INTRODUCTORY ASTROPHYSICS

4.00 Credits

Motions and physical nature of objects in the solar system, electromagnetic radiation, telescopes and astronomical detectors. Prerequisites: PHYS 213 or 233, or permission of the instructor.

375 - PLASMA PHYSICS

4.00 Credits

Single particle motions. Plasmas as fluids. Waves and wave formation in plasmas. Nonlinear effects in plasmas. Prerequisites: PHYS 213 or 233.

381 - COMPUTATIONAL PHYSICS

4.00 Credits

Methods and problems in computational physics. Prerequisites: ECCS 461 and PHYS 345.

390 - SPECIAL TOPICS IN PHYSICS

1.00 to 4.00 Credits

395 - INDEPENDENT RESEARCH

1.00 to 2.00 Credits

Variable Credit hours. Prerequisite: PHYS 301.

411 - ELECTRICITY AND MAGNETISM 1

4.00 Credits

Electrostatic field theory, capacitance, multipole expansion, dielectric properties of matter; magnetic field theory; electromagnetic induction; magnetic properties of matter; Maxwell's equations and electromagnetic waves. Part of the Physics major program and offered when needed. Prerequisite: PHYS 233.

412 - ELECTRICITY AND MAGNETISM 2

4.00 Credits

Advanced electric and magnetic fields; electric and magnetic properties of solids, electromagnetic radiation. Prerequisite: PHYS 411.

413 - SOLID STATE

4.00 Credits

The structure of solids and their phenomena. Quantum and statistical mechanics concepts are introduced to develop theories of internal stress and strain in crystals, conductivity of electricity in metals, semiconductors and superconductors, magnetism, the thermal properties of solids and imperfections in solids. Prerequisite: PHYS 303.

432 - STATISTICAL PHYSICS

4.00 Credits

Properties of gases, thermal properties of solids and liquids. Elementary thermodynamic laws and techniques. Heat transfer. Elements of kinetic thermodynamics laws and techniques. Part of the Physics major program and offered when needed. Prerequisite: PHYS 212 or 232.

490 - SPECIAL TOPICS IN PHYSICS

1.00 to 4.00 Credits

Part of the Physics major program and offered when needed.

497 - INDEPENDENT STUDY

1.00 to 3.00 Credits

Part of the Physics major program and offered when needed.

DEPARTMENT OF PSYCHOLOGY AND SOCIOLOGY

Professor Cohoe; Associate Professors Durkin, Kauffman; Assistant Professor Benbassat; Visiting Assistant Professors Braunschweig, Hundersmarck

Wilson (*Division Chair*)

Mission Statement

The objectives of the department are to develop within each student an understanding of human relationships, institutions, and social processes; familiarity with the nature and causes of social problems; acquaintance with the theories of behavior; ability to think more critically and to integrate insights for useful participation in community life; and preparation for advanced study in the individual's selected field.

Prelaw with Psychology and Sociology Study in the behavioral sciences provides an especially suitable background for prelaw students. The department, in cooperation with the College of Law at Ohio Northern University, offers a for-

mal prelaw program with “guaranteed admission” to the law school. Detailed information appears on page 33 of this catalog.

Field Work, Externships and Practica The department offers a number of opportunities for out-of-class learning through field work, externships and practica. See the department chair for details and eligibility requirements.

Careers in the Behavioral Sciences The study of the various behavioral sciences provides preparation for entry into a number of different job opportunities. Consult with department faculty to explore various career options.

Alpha Kappa Delta, founded in 1920, is the International Sociology Honor Society. AKD is a “non-secret, democratic, international society of scholars dedicated to the ideal of *Anthropon Katamanthanein Diakonesian*” or “To investigate humanity for the purpose of service.” The purpose of AKD is to “promote an interest in the study of sociology, research of social problems, and such other social and intellectual activities as will lead to improvement in the human condition.”

Psi Chi is the national honor society in psychology, founded in 1929 for the purpose of encouraging, stimulating, and maintaining excellence in scholarship and advancing the science of psychology. Membership in the society is selective and based on high academic performance.

Psi Sigma is a student organization open to all students with an interest in either psychology or sociology. The club sponsors speakers and fundraisers for community organizations.

Psychology

Core requirements for the psychology major:

“C” grade or better in all courses used to complete the major or minor. No substitutions of courses without the permission of the department chair. A combined total of 8 credit hours from PSYC 426, 427, 428 may count toward the major; 12 toward graduation.

Core

AASG 300 Job and Grad. School Search Strategies
PSYC 000 Orientation
PSYC 100 Psychology
PSYC 111 Intro. Laboratory
PSYC 210 Experimental Psychology 1
PSYC 211 Experimental Psychology 2
PSYC 394 Junior Seminar
BIOL 121 General Biology
STAT 142* Intro. to Statistics
Capstone

Cognate Electives

BIOL 122 Intro. to Zoology
BIOL 124 Intro. to Human Anatomy & Histology or
STAT/MATH XXX
TECH 139 Intro. to Information Systems or
STAT/MATH XXX
STAT/MATH XXX

Electives:

32 hours of Psychology electives

For the minor:

PSYC 100 Psychology
PSYC 210 Experimental Psychology 1
PSYC 211 Experimental Psychology 2
BIOL 121 General Biology
STAT 142* Intro. to Statistics
20 hours of Psychology electives

*STAT 146-Business Statistics or STAT 156- Biostatistics 1 is acceptable.

Subject - Psychology and Sociology (PSSC)

301 - SOCIAL PSYCHOLOGY

4.00 Credits

The effect of social and cultural forces upon the individual The nature and development of attitudes, languages, cognitive processes. Individual and group projects illustrative of the methodology of social psychology. Prerequisite: PSYC 100.

Subject - Psychology (PSYC)

000 - ORIENTATION

1.00 Credit

Familiarization with the departmental requirements for majors, planning programs of courses, University catalog and library; career options. Graded S/U.

100 - PSYCHOLOGY

4.00 Credits

General research and concepts in human behavior. Lectures, demonstrations, and observations.

111 - INTRODUCTORY LABORATORY

1.00 Credit

Experiments demonstrating the basic psychological principles and familiarization with laboratory procedures and report writing. Graded S/U. Prerequisite: PSYC 100.

120 - INTRODUCTION TO HUMAN FACTORS AND ERGONOMICS 1

4.00 Credits

The principles of human factors in engineering with an emphasis on design principles and methodologies. Focuses on visual sensory systems; auditory, tactile, and vestibular system; cognition; decision making; engineering anthropometry and workspace design; biomechanics of work; work physiology; stress and workload; and selection and training. Two laboratory sessions are included.

121 – INTRODUCTION TO HUMAN FACTORS AND ERGONOMICS 2

4.00 Credits

The principles of human engineering with an emphasis on design principles and methodologies. Focuses on human factors; design and evaluation methods; displays, controls; safety, accidents, and human error; human-computer interaction; automation, transportation human factors, and social factors. Two laboratory sessions are included.

210 - EXPERIMENTAL PSYCHOLOGY 1

4.00 Credits

The logic of experimental research and the application of the methods of science to the study of behavior. Particular emphasis on framing empirically testable hypotheses, experimental design, and analysis of data. Taught through lecture, computer simulation, and actual research experience. Extensive instruction in scientific communication and the APA Publications Manual. Prerequisites: STAT 142, 146 or 156 and PSYC 100.

211 - EXPERIMENTAL PSYCHOLOGY 2

4.00 Credits

Continuation of PSYC 210.

212 - PRINCIPLES OF BEHAVIOR MANAGEMENT

4.00 Credits

The theory and supporting research which underlie behavior modification. Taught through lecture and laboratory demonstrations. Prerequisite: PSYC 100.

215 - DEVELOPMENTAL PSYCHOLOGY

4.00 Credits

Basic theories in human development from conception through old age; contemporary research at each age level. Prerequisite: PSYC 100.

218 - DEVELOPMENTAL PSYCHOPATHOLOGY

4.00 Credits

A developmental perspective to psychopathology. Research and theory on the etiology, clinical presentation, and course of major child and adolescent disorders. Topics pertaining to resiliency and vulnerability in children will be emphasized. Prerequisite: PSYC 100.

219 – CHILD AND ADOLESCENT PSYCHOTHERAPIES

4.00 Credits

Diagnosis and treatment of disorders of infancy, childhood and adolescence. Issues pertaining to therapy, ethics and utilization of services will be discussed. Prerequisites: PSYC 100 and 218.

226 - HUMAN SEXUAL BEHAVIOR

4.00 Credits

Use of research literature in an attempt to provide an understanding of what is known (as well as what is not known) about the major facets of human sexual behavior. Prerequisite: PSYC 100.

230 - COGNITIVE PSYCHOLOGY

4.00 Credits

An introduction to the complex system of mental abilities. Theoretical and empirical approaches to the role of pattern recognition, attention, memory, problem-solving and decision making in human thinking will be explored. Prerequisite: PSYC 100.

290 – SPECIAL TOPICS IN PSYCHOLOGY

1.00 to 4.00 Credits

May be repeated as topic varies.

311 - PSYCHOLOGY OF PERSONALITY

4.00 Credits

The major theories of personality from Freud to contemporary theoretical approaches. Prerequisite: PSYC 100.

312 - PSYCHOLOGICAL ASSESSMENT

4.00 Credits

Psychological measurement and evaluation in the areas of intelligence tests, tests of separate abilities, and personality inventories. Experience will be gained in test administration, scoring and interpretation. Prerequisite: PSYC 100.

315 - LEARNING THEORY AND RESEARCH

4.00 Credits

The major theories of learning and major empirical issues and findings related to classical and instrumental conditioning. Current research in learning is covered on both the animal and human level. Prerequisite: PSYC 100

320 - PSYCHOLOGY AND THE LAW

4.00 Credits

A review of the role of the psychologist in civil commitment procedures, the insanity defense, patient's rights, the determination of competency, and testifying as an expert witness. An examination of significant court cases involving psychology and the law, research in the areas of jury selection, eye witness testimony and psychologists' licensing procedures. Prerequisite: PSYC 100.

335 - PHYSIOLOGICAL PSYCHOLOGY

4.00 Credits

Psychology as a biological science. Physiological events underlying behavior, including sensory, neural, and glandular involvement in such topics as motivation, emotion, and learning. Prerequisite: PSYC 100 and BIOL 121.

350 – HEALTH PSYCHOLOGY

4.00 Credits

An overview of biological, psychological and social aspects as related to health promotion, health compromising and enhancing behaviors, stress management, coping strategies, patient-provider relations, utilization of health services, pain management, and coping with disease. Prerequisite: PSYC 100.

360 – PEDIATRIC PSYCHOLOGY

4.00 Credits

Basic research, consultation, clinical intervention and health promotion with pediatric populations. Prerequisite: PSYC 100.

390 – SPECIAL TOPICS IN PSYCHOLOGY

1.00 to 4.00 Credits

May be repeated as topic varies.

394 - JUNIOR SEMINAR

1.00 Credit

A professional preparation seminar for psychology majors. Discussion of career options, graduate school admissions, resume writing, placement services, GRE, practicum and other topics of importance in the senior year. Prerequisites: Junior status; only psychology majors.

420 - ABNORMAL PSYCHOLOGY

4.00 Credits

The development of a scientific approach to abnormal behavior. A review of the psychological, sociological, and biological factors

related to the development of abnormal behavior. A review of the research of, the causal factors related to, and the diagnosis and treatment of mental disorders and mental retardation. Prerequisite: PSYC 100.

426 - PRACTICUM IN PSYCHOLOGY

4.00 to 16.00 Credits

A field experience in the area of psychology. Open to juniors and seniors. Only 6 practicum credits may apply to the major. Graded S/U. Approval of chairperson.

427 - RESEARCH PRACTICUM IN PSYCHOLOGY

1.00 to 16.00 Credits

A research experience in the field of psychology supervised by a faculty member. Open to juniors and seniors. Only 8 practicum credits may apply to the major. Prerequisite: Approval of chairperson.

428 - LABORATORY TEACHING PRACTICUM IN PSYCHOLOGY

1.00 to 4.00 Credits

A mentoring experience in conducting undergraduate psychology laboratories. Practicum students work with a supervising professor in preparation and presentation of instruction and laboratory exercises and providing feedback to students. Ethical, organizational and practical issues will be discussed. Only 8 practicum credits may apply to the major. Prerequisites: PSYC 100, PSYC 111 and permission of the chairperson.

434 - HISTORY AND SYSTEMS OF PSYCHOLOGY

4.00 Credits

An overview of the major lines of thinking which have influenced the field of psychology beginning with ancient Greek philosopher-scientists to the twentieth century. Emphasis is given to theories of Empiricism, Associationism, and Scientific Materialism as well as twentieth century schools of psychological thought. Prerequisite: PSYC 100.

462 – PSYCHOLOGICAL ISSUES IN CRIMINAL JUSTICE

4.00 Credits

Includes topics such as: Substance use issues in adolescents and young adults, school based interventions, and learning disabilities. May be repeated as topic varies. Prerequisite: PSYC 100.

497 - INDEPENDENT STUDY IN PSYCHOLOGY

1.00 to 4.00 Credits

Prerequisite: Approval of chairman.

Sociology

Sociology major:

AASG 300 Job and Grad. School Search Strategies

SOC 000 Orientation

SOC 105 Sociology

ISR 253 Research Methods 1

ISR 254 Research Methods 2*

SOC 446 Classical Social Theory

SOC 447 Contemporary Social Theory

PSSC 301 Social Psychology

STAT 142** Intro. to Statistics

PHIL 100 Intro. to Philosophy

SOC 488

and 489 Senior Capstone 1 and 2

24 hours of sociology electives

Sociology minor:

SOC 105 Sociology

ISR 253 Research Methods 1

ISR 254 Research Methods 2*

SOC 446 or SOC 447

PSSC 301 Social Psychology

STAT 142** Intro. to Statistics

PHIL 100 Intro. to Philosophy

16 hours of sociology courses, selected in consultation with a member of the sociology faculty.

"C" grade or better in all courses used to complete the major or minor. No substitutions of courses without the permission of the department chair.

*ISR 254 can be waived for a Sociology major or minor who has taken 210 and 211.

**STAT 146 Business Statistics or STAT 156 Biostatistics 1 is also acceptable for those students with sufficient Calculus background.

Subject - Sociology (SOC)

000 - ORIENTATION

1.00 Credit

Familiarization with the department, requirements for majors, planning program of courses, University catalog and library. Graded S/U.

105 - SOCIOLOGY

4.00 Credits

An overview of the important theories and findings of sociology. Students will learn to view the major elements of society and social life from a sociological perspective. Topics discussed in this course include: socialization; culture; crime and deviance; and the major social institutions (family, education, government, work and religion).

240 - MARRIAGE AND FAMILY

4.00 Credits

Historical, cross cultural, and analytical study of family with emphasis on ideology and the effects of social structures and agencies on family composition and roles. Prerequisite: SOC 105.

243 - SOCIAL DEVIANCE

4.00 Credits

Sociological perspectives on the processes of individual and group deviance. An examination of how deviant behavior is defined, how the definitions are maintained, and how the violators are processed. Theory and research regarding specific classes of deviants are explored, and current public policy issues concerning deviants are discussed. Prerequisite: SOC 105.

247 - SOCIAL STRATIFICATION

4.00 Credits

The primary focus will be on stratification in contemporary American society and America's place in the global stratification system. Topics covered include: the dimensions of inequality, the history of inequality, theories of inequality, the American class structure, poverty and welfare, processes of legitimizing stratification, and racial, gender, and global stratification. Prerequisite: SOC 105.

250 - CULTURAL ANTHROPOLOGY

4.00 Credits

The major concepts and principles of cultural anthropology, emphasizing the understanding of the total configuration and interrelationships of culture traits, complexes, and social relationships in a particular geographic environment and historical context. Prerequisite: SOC 105.

260 - SOCIAL PROBLEMS

4.00 Credits

Topics to be covered include: health care, work and unemployment, problems in our schools, cities in crisis, environmental pollution and resource depletion and war and terrorism. These problems are usually presented as separate problems, how they come to be defined as social problems, and contemporary attempts to address these problems. Prerequisite: SOC 105.

261 - CRIMINOLOGY

4.00 Credits

The nature and extent of crime, development of criminological theory, major forms of criminal behavior, and society's attempts at prevention and control of crime. The major perspectives, issues and diverse concerns that characterize contemporary criminology are presented.

263 - VICTIMOLOGY

4.00 Credits

The history of victimology, patterns of victimization, the role of the victim in crime, the victim in the criminal justice system, (including jury perceptions of victims) victim assistance programs, and victim/offender reconciliation programs. Prerequisite: SOC 105.

291 – SPECIAL TOPICS IN SOCIOLOGY

1.00 to 4.00 Credits

May be repeated as topic varies.

302 – WEEKEND SEMINAR

1.00 Credit

A weekend seminar at the Metzger Nature Center, Bolon Hall. Topics include selected issues in rural sociology, e.g., rural poverty, crime, work and occupations in rural America. A Nature Center use fee is charged. May be repeated as topic varies.

347 - RACE, CLASS, AND GENDER

4.00 Credits

Analysis of the structural interplay and social ramifications of race, social class, and gender. The course focuses on power relationships, intra and intergroup conflict, and minority relations. Prerequisite: SOC 105.

361 - DELINQUENCY AND JUVENILE JUSTICE

4.00 Credits

An analysis of competing theoretical approaches to the causes of delinquent behavior, and the study of the prevention, treatment, and control of delinquency. Procedures and major contemporary issues in Juvenile Justice are addressed. Prerequisite: SOC 105.

362 - OCCUPATIONAL CRIME AND DEVIANCE

4.00 Credits

The various forms of criminal and deviant behavior that occur in the occupational context. A discussion of the nature, extent, consequences, and strategies to control this behavior. Major theoretical perspectives on occupational crime and deviance are considered. Topics covered include: white-collar crime, organized crime, employee theft, career criminality, and workplace violence. Prerequisite: SOC 105.

391 – SPECIAL TOPICS IN SOCIOLOGY

1.00 to 4.00 Credits

May be repeated as topic varies.

446 - CLASSICAL SOCIAL THEORY

4.00 Credits

Traces sociological theorizing from sociology's historical origins. Major theorists covered include Marx, Durkheim, Weber, Simmel, Chicago School sociologists, Parsons, and classical feminist theorists. Emphasis is on building an understanding of the roots of contemporary social theory. Prerequisite: Junior status. Formerly titled Social Thought.

447 - CONTEMPORARY SOCIAL THEORY

4.00 Credits

The major sociological theories developed since 1960. An examination of the critical debates in contemporary social theory. Prerequisite: Junior status.

481 - SOCIOLOGY INTERNSHIP

4.00 to 16.00 Credits

Supervised placement in an agency which involves work experience related to sociology or criminology or work experience on a research project. Prerequisites: Junior status, 2.75 GPA, consent of instructor, and approval of Department Chairman.

488 - SENIOR CAPSTONE RESEARCH 1

2.00 Credits

Development of research topic and/or question, literature review, and outline of research project directed by faculty advisor. Student must enroll at least three quarters before graduation. Capstone Research does not count toward Sociology elective hours. Prerequisites: Senior status, ISR 254, sociology primary major, and permission of department chair.

489 - SENIOR CAPSTONE RESEARCH 2

2.00 Credits

Research design, data collection, data analysis, and writing of the research paper directed by faculty advisor. Student must enroll at least two quarters before graduation and must have completed Senior Capstone Research 1. Capstone Research does not count toward Sociology elective hours. Prerequisite: SOC 488.

498 - INDEPENDENT STUDY IN SOCIOLOGY

1.00 to 4.00 Credits

Prerequisite: Approval of chairman.

DEPARTMENT OF TECHNOLOGICAL STUDIES

Professor Rouch (*Chair*); Assistant Professors
Jao, Mativo, Nutter, Sirinterlikci

Mission Statement

The mission of the department of technological studies is to graduate life-long learners that possess a high degree of technological literacy. Graduates of the program are able to effectively use, manage, and understand current and emerging technologies.

The course work comprising the curriculum in technology is designed to prepare students for careers in professional, technical fields throughout industry and education. The intent is to provide broad, foundational experiences in the technologies and applied sciences that comprise modern industrial-technical society. Carefully structured classroom and laboratory activities feature numerous operations and processes that promote realistic involvement with the construction, manufacturing, information technology systems, energy, power, and transportation-related fields. Course work and associated laboratory assignments place emphasis on researching, designing, experimenting, fabricating, and managing.

Two different majors are offered by the department: Technology and Technology Education (teacher licensure). Those selecting the technology education licensure major must complete all state and university requirements for licensure. Those selecting the Technology major must complete an option/minor comprised of a minimum of 28 hours in one of the following: advanced manufacturing, construction operations, multimedia design and development, design analysis, or a specifically selected option/minor.

The department offers two different work experience programs. The first is a one-quarter internship designed to give the student a ten-week real-world experience, which is completed during the normal four-year program. The other is a five-year co-op program in which the student completes four to six quarters of work experience, usually with the same company.

Also, the department has established articulation programs with several area community and technical colleges. All transfer students must complete a minimum of 24 hours of 300-level or above TECH or ITS courses at Ohio Northern University. Consult the department chair for more details.

Minors in virtual simulation or technology are also available to students in other majors who wish to enter technology-related careers.

The department has developed an extensive program of field work involving visits to industrial centers, museums, and schools. Students are required to participate in these excursions and are encouraged to participate in a variety of other organized professional activities.

Technology Major (industry track)

TECH 000	Orientation 000
TECH 110	Introduction to Technology
TECH 120	Introduction to CAD
TECH 130	Metallic Materials & Process 1
TECH 140	Microcomputer Applications in Technology
TECH 221 or TECH 421	Computer-Assisted Constr. Design or Solid Modeling for Design
TECH 223	Computer Assisted Product Design
TECH 230	Metallic Materials & Processes 2
TECH 232	Product Manufacturing
TECH 240	Introduction to Communication Technology
TECH 261	Fundamentals of Electricity & Electronics
TECH 294	Sophomore Seminar in Technology
TECH 332	PLC's and Industrial Robotics
TECH 335	CAD/CAM and Automation Systems
TECH 350	Construction Technology
TECH 362	Digital Electronics: Concepts & Applications
*TECH 412	Manufacturing Management
TECH 430	Nonmetallic Materials & Processes
TECH 460	Energy & Transportation
TECH 470	Quality Assurance & Work Measurement
TECH 494	Senior Seminar in Technology
TECH 496	Tour of American Industries
TECH 499	Senior Capstone in Technology

* Not required for those with construction operations option

Required Cognates:

- Three PHYS or CHEM courses
- Three MATH or STAT courses 120 or above

Note: Transfer students must complete a minimum of 24 hours of 300-level or above ITS or TECH courses at Ohio Northern.

Options/Minors (28 hours)

An option or minor is required of all technology-industrial bound students except those students who already possess an associate's degree on a 2+2 articulation program. The departmental structured options to select from are as follows:

Advanced Manufacturing Option (Not open to students who have a virtual simulation minor) This option is designed to give students exposure to the advanced concepts of manufacturing

operations. This includes courses in virtual simulation, advanced robotics applications, solids modeling, rapid prototyping and computer programming. Students with this option typically seek careers in process design, simulation, automation programming, robotics programming, and industrial supervision/management.

ECCS 133	Visual Basic <i>or</i>
ECCS 164	Programming 1
TECH 142	Electronic Media Design & Dev. 1
TECH 321	Basics of Virtual Simulation
TECH 322	Virtual Simulation of Systems
TECH 421	Solid Modeling for Design
TECH 423	Virtual Sim. Production & Mgmt.
TECH 435	Advanced Robotics (2 times)

Construction Operations Option

This option is designed for students who are interested in a career in construction management and supervisory type positions. The curriculum includes courses in civil engineering, technology, and business management, along with a required internship or co-op experience. Positions that students may seek with this option includes project manager, bid estimator, construction designer, and other construction management-type positions.

TECH 221	Computer Aided Construction Design
TECH 350	Construction Technology
CE 203	Surveying
CE 414	Project Management
MGMT 333	Management/Organizational Behavior
ABUS 312	Business Law 1
MGMT 363	Human Resource Management
TECH 484 or	Internship in Technology <i>or</i>
TECH 380	(Construction Placement) (4 quarters of Professional Practice with a construction industry placement)

Design Analysis Option

This option is designed for the Technology Major who wants to venture more into the mechanical and product design field with an understanding of engineering principles in statistics, dynamics, and strength of materials. Typical professional positions for this option include: product designer and tooling design.

TECH 120	Intro to CAD
TECH 223	Computer Assisted Product Design
GE 113	Statics
MATH 163	Calculus 1
MATH 164	Calculus 2
GE 214	Dynamics
GE 223	Strength of Materials
PHYS 231	Physics: Mechanics of Solids & Fluids

Multimedia Design and Development Option

(Option is available to all majors). This option provides students with a core of courses in graphic design, web page applications, and computer programming. This will give students the tools they need to develop outstanding web pages and learn to meet customer needs. Possible positions with this option include webmaster, web designer, or web developer for the private and public sectors.

ECCS 133	Visual Basic <i>or</i>
ECCS 164	Programming 1
TECH 142	Electronic Media Design & Dev. 1
TECH 341	Digital Photography
TECH 343	Electronic Media Design & Dev. 2
ART 222	Graphic Design 1
ART 223	Graphic Design 2
ART 340	Graphic Design 3
COMM 130	Introduction to Public Relations

Alternative **minors** or **options** may be selected to match a given student's career goals. This decision is made in consultation with the department of technological studies.

Internship

All technology-industrial track students (major or minor) are encouraged to complete 15 hours of Internship (TECH 484) in an industrial setting either during a summer or academic year. The arrangements are made through the department prior to the student's registration for the internship.

Co-op

The co-op is a five-year school/work program designed to integrate classroom study with planned and supervised work experiences. Technology co-op students normally are employed in manufacturing, construction or other industry related companies in semi-professional capacities. The employment sessions begin during the summer after the sophomore year. The student contracts for a total of four to six quarters of co-op during which they enroll in TECH 380 (Professional Practice in Technology).

Technology Minor (28 hours)

Students from other disciplines who desire to gain a basic introduction to industry may select a minor as follows (all TECH courses):
Metallic Materials and Processes I 130
Introduction to Computer-Assisted Drafting 120
Introduction to Communication Technology 240
PLC's and Industrial Robotics 332
Construction Technology 350
Electives (minimum of eight credit hours)
Selected from 110, 140, 142, 200, 221, 223, 231, 232, 261, 294, 335, 341, 343, 362, 412, 421, 430, 460, 470, 494, 495, 496, or 497.

Virtual Simulation Minor

The Virtual Simulation Minor is designed to give Ohio Northern University students the opportunity to experience state-of-the-art simulation, animation and analysis procedures that are important for multiple disciplines. This minor is available to students with any major who want a concentration of course work in virtual simulation and advanced analysis. The minor in Virtual Simulation is not open to students who have an Advanced Manufacturing Option.

ECCS 133	Visual Basic <i>or</i>
ECCS 164	Programming 1
STAT 142	Introduction to Statistics
TECH 142	Electronic Media Design & Dev. 1
TECH 321	Basics of Virtual Simulation
TECH 322	Virtual Simulation of Systems
TECH 423	Virtual Sim. Production & Mngmt.
MATH 122, 159	
163, or 164	(Choose one)

Capstone Experience

The purpose of the senior capstone experience is to foster individual research and the application of technical knowledge gained in the technology course work to solve technical problems. This includes following procedures in planning, scheduling, researching and developing, testing, fabricating, assembling, and evaluating designs.

Alternatives to the traditional senior project requirement for fulfillment of the Senior Capstone experience are as follows:

- 4 quarters of Co-op (TECH 380)
- 2 quarters of Robotics Team
- Internship 5 or 15 hrs.
- Student Teaching

Certification

The department offers students the opportunity to participate in certification examinations for: SME Certified Manufacturing Technologist, NAIT Certified Industrial Technologist, and Microsoft Office Specialist certification. These certifications may be used by students to provide employers of further evidence of professional skill attainment in these areas.

Technology Education Major Requirements (Leading to Technology Education Teacher Licensure, Grades 4-12):

TECH 000	Orientation
TECH 110	Introduction to Technology
TECH 120	Introduction to CAD
TECH 130	Metallic Materials & Processes 1
TECH 140	Microcomputer Applications in Technology
TECH 221	Computer Assisted Constr. Des.

TECH 223	Computer Assisted Product Design
TECH 230	Metallic Materials & Processes 2
TECH 232	Product Manufacturing
TECH 240	Intro. to Communication Technology
TECH 261	Fundamentals of Electricity & Electronics
TECH 294	Sophomore Seminar in Technology
TECH 332	PLC's & Industrial Robotics
TECH 335	CAD/CAM & Automation Systems
TECH 350	Construction Technology
TECH 430	Non-metallic materials & Processes
TECH 460	Energy & Transportation
TECH 491	Student Teaching Seminar in Technology
TECH 494	Senior Seminar in Technology
TECH 496	Tour of American Industries
TECH 499	Senior Capstone in Technology

Department of Education Requirements:

EDUC 115	Culture and Schooling
EDUC 150	Five Day Field Experience
EDUC 150	Five Day Field Experience
EDUC 210	Exceptional Leamer
EDUC 224	Young and Late Adoles. Psych.
EDUC 285	Curriculum
EDUC 304	Strategies for Technology Education
EDUC 342	Reading in the Content Area
EDUC 445	Organization and Administration of Schools
EDUC 458	Organization and Methods of Teaching Technology
EDUC 475	Student Teaching Seminar
EDUC 470	Student Teaching
EDUC 480	Student Teaching

Notes:

- Students must be admitted to teacher education to take 300 level and above education (EDUC) courses.
- Students must have 190 hours of course related field experience
- Graduates of the program must attain a passing score on Praxis for Teacher Licensure

Technical Electives - All Majors

There are several technical courses offered by the department, which may be selected by students to add greater depth. These include (all TECH courses):

Electronic Media Design & Development 1 142
Technology and Society 200
Construction Design 221
Custom Woodworking 231
Product Manufacturing 232
Basics of Virtual Simulation 321
Digital Photography 341
Solid Modeling for Design 421

Subject - Information Technology Systems (ITS)

141 - COMPUTER NETWORKING

4.00 Credits

The equipment and procedures for selecting hardware and for configuring networking equipment and control software. Topics include the following: Network Terminology, Infrastructure (wiring topologies), LAN protocols (TCP/IP), Network operating systems (Windows, Linux), and network devices (configuring routers and switches). Prerequisites: TECH 139 or 140; GE 101; or ABUS 201; and ECCS 133 or 164. (Formerly TECH 244)

142 - WIDE AREA NETWORKING

4.00 Credits

The equipment and procedures for selecting hardware and configuring networking equipment and control software for long distance communications. Topics include the following: WAN protocols (TCP/IP), Routing Protocols, Network Management, Physical Connections (Frame Relay, ATM, Point-to-Point). Formerly TECH342. Prerequisite: ITS 141.

251 - BASIC WEB SERVER CONSTRUCTION

4.00 Credits

Open source operating systems and web server software, including installation, configuration, maintenance, enhancements and management.

Subject - Technology (TECH)

000 - ORIENTATION

1.00 Credit

An introduction to the department, introduction to college life. Familiarization with the basic curriculum options. Planning a course program. University student services. The library. The departmental major requirements. Required of all department majors. Graded S/U.

110 - INTRODUCTION TO TECHNOLOGY

4.00 Credits

For students majoring, minoring, or interested in the Department of Technology. An overview of technology and industry and the two career path options offered by the Department: technology management and technology education. Major technology systems: construction, manufacturing, communication, energy/power/transportation, and management. Lab activities and visitations utilized to reinforce concepts.

120 - INTRODUCTION TO COMPUTER AIDED DESIGN

4.00 Credits

Graphic representation using the personal computer. Attention will be placed on the standards of the technical graphics field and the graphic illustration and visualization techniques as applied to CAD software. Develop proficient use of AutoCAD software for: orthographic projection, sections and conventions, auxiliary views, 3D drawings, and applied geometry. (Formerly TECH 220)

130 - METALLIC MATERIALS AND PROCESSES 1

4.00 Credits

Major metallic industrial materials and their processes. The conversion of raw materials via extraction, refining, and processing into consumer products. An emphasis on safety, metallurgy, nondestructive testing, destructive testing and material processing will be applied.

139 - INTRODUCTION TO INFORMATION SYSTEMS

4.00 Credits

The language, technology, techniques, applications, and management of information systems, including a laboratory component dealing with such issues as operating systems, word processing, spread sheets and data bases. (Formerly CS 130)

140 - MICROCOMPUTER APPLICATIONS IN TECHNOLOGY

4.00 Credits

The development of basic computer literacy skills in windows environment. Common application software, such as word processing, database, spreadsheet, Power Point and web development will be used with an emphasis on accessing, organizing, managing, and presenting data for professional and personal communication.

190 - SPECIAL TOPICS IN TECHNOLOGY

1.00 to 3.00 Credits

May be repeated as the topic varies.

200 - TECHNOLOGY AND SOCIETY

4.00 Credits

The major concepts of technology; its development, its effects on society, and the problems associated with it. Critical evaluations through written and verbal activities.

221 - COMPUTER ASSISTED CONSTRUCTION DESIGN

4.00 Credits

Construction planning, design, engineering and layout. Light construction principles, architectural details, plot surveying and layout, creation of architectural working drawings and cost estimating using Architectural Desktop PC-CAD software.

223 - COMPUTER ASSISTED PRODUCT DESIGN

4.00 Credits

Technical sketching, product design processes and the components/variables of good design. Utilization of the computer in the design process to generate working drawings/designs for manufactured products. Oral presentations, analysis of product designs through solids modeling, prototype development and market surveys.

230 - METALLIC MATERIALS AND PROCESSES 2

4.00 Credits

The metallic material processes involved in fabricating and machining of consumer products. Machining applications include turning, milling and drilling. Lecture topics include traditional and nontraditional material removal processes such as abrasive waterjet, EDM, electron beam, laser beam, and plasma machining. Fabrication applications include OXY-acetylene, MIG, TIG, SMAW (arc), and resistance welding.

231 - CUSTOM WOODWORKING

3.00 Credits

Basic processes, tools, and materials employed in the production of custom, individually designed, and crafted wood products. May be repeated up to a total of nine hours.

232 - PRODUCT MANUFACTURING

4.00 Credits

Machine operations in the manufacture of various types of products, primarily the processing of both traditional and non-traditional materials into consumer products. Emphasis on process design, material handling, organization of work, division of labor, distribution and sales practices relating the mass production industries. A major line production will be completed by each class. Prerequisites: TECH 120 or GE 102 and TECH 223.

240 - INTRODUCTION TO COMMUNICATION TECHNOLOGY

4.00 Credits

The history of communication technologies, present day procedures, equipment, and materials that are associated with the graphic reproduction techniques of relief, lithography, screen, and copying/duplication as well as graphic layout, design, and composition using desktop publishing technology and finishing and binding. Video communication technology will be covered in addition to graphic reproduction topics.

261 - FUNDAMENTALS OF ELECTRICITY AND ELECTRONICS

4.00 Credits

The fundamentals of alternating and direct current will be explored in the context of changing technological advances. Basic electrical circuits and electronic parts will be utilized in electronic communication activities. The use and maintenance of test equipment will be emphasized during the testing of analog and basic digital circuits. (Formerly TECH 361)

280 - COOPERATIVE EXPERIENCE ORIENTATION

1.00 Credit

Preparation to begin the co-op experience. Topics discussed include: identifying a position, development of the Co-op Plan, preparing for the first day, position expectations, outline of co-op requirements, getting the most from the experience, and record keeping. Sophomore technology majors with preliminary acceptance in the co-op program. Graded S/U.

290 - SPECIAL TOPICS IN TECHNOLOGY

1.00 to 3.00 Credits

May be repeated as the topic varies.

294 - SOPHOMORE SEMINAR IN TECHNOLOGY

1.00 Credit

Required of all technology majors near the end of their second year of college. Topics: assessment of basic skills, career planning, minor/option selection, review of academic performance, study skills, personality testing, and related topics. Meets one hour per week. Prerequisite: department major and five quarters work. Graded S/U.

321 - BASICS OF VIRTUAL SIMULATION

4.00 Credits

Development of basic skills to create computer simulations of components, equipment, and processes using advanced industrial software. Includes user interface; file configurations and networks; creating parts, devices and workcells; CAD geometry importing and exporting; motion kinematics; graphical simulation language programming; robotic workcell creation; and off-line robotic programming and operation.

322 - VIRTUAL SIMULATION OF SYSTEMS

4.00 Credits

Development of in-depth virtual simulations of discrete events provided by industrial and educational partners. Each student will utilize the newest generation of simulation applications based on the CATIA CAD/CAM system to produce simulations for advanced analysis of ergonomics and assembly sequencing in manufacturing environments. Team work and problem solving is required. Prerequisite: TECH 321.

332 - PLC'S AND INDUSTRIAL ROBOTICS

4.00 Credits

Programmable logic controllers will be used to illustrate the concepts of input/output (I/O), relay logic, and ladder logic. Industrial robots will be introduced and on-line programming will include tasks such as welding, pick and place, finish application, and robot integration. Off-line programming of robots will also be introduced.

335 - CAD/CAM AND AUTOMATION SYSTEMS

4.00 Credits

Computer automated manufacturing practices used to convert CAD drawings to NC machine code, customize machine code, produce metallic and non-metallic parts. Automated handling and processing of materials using conveyors, positioners/work-holders, robots, and NC machines. Computer Integrated Manufacturing techniques including PLC's, sensing, vision, automated product identification, storage and retrieval. Prerequisites: TECH 120 or GE 102.

341 - DIGITAL PHOTOGRAPHY

3.00 Credits

Techniques of digital photographic composition, camera types, uses and accessories, photographic optics, software applications, special effects, and methods of processing. Reference to, and experiences of chemical photography and the shift to digital photographic methods.

342 - ELECTRONIC MEDIA DESIGN AND DEVELOPMENT 1

3.00 Credits

Techniques of multimedia authoring and design using HTML, DHTML, CSS, Adobe Acrobat, and JavaScript. Activities include the use of imaging devices such as scanners, digital cameras, and video and audio recordings. Prerequisite: TECH 140 or equivalent.

343 - ELECTRONIC MEDIA DESIGN AND DEVELOPMENT 2

4.00 Credits

Emphasizes building a dynamic and interactive web site using web based animation software. Topics include the effective use of vector/bitmap images, frame-by-frame animation, motion and shape tween design, interactivity with mp3/wav sound files, movie files layers, scenes, and Basic ActionScript. Prerequisite: TECH 342.

350 - CONSTRUCTION TECHNOLOGY

4.00 Credits

Basic concepts of construction techniques used today; including the methods and materials involved in framing, enclosing, and finishing residential and light commercial buildings. Study of financing, contracting, procuring, supervising, site-operation, foundation, structural elements, utilities, landscaping, and personnel associated with construction activities.

362 - DIGITAL ELECTRONICS: CONCEPTS AND APPLICATIONS

4.00 Credits

Concepts and applications of digital, advanced digital, and basic microprocessor electronic circuits will be explored. An industrial-based application of these concepts will include the areas of robot construction, robotic interfacing, computer interfacing, sensors, controllers, and digital communication. Prerequisite: TECH 261. (Formerly TECH 462)

380 - PROFESSIONAL PRACTICE IN TECHNOLOGY

1.00 Credit

Study and professional experience in a technology-related occupation in an industrial enterprise, consulting firm, or governmental agency. A midterm and final report on the assignment and employer's evaluation are required. May be repeated up to a total of 6 hours. Prerequisites: TECH 280, junior status, and minimum 2.5 accumulative GPA. Graded S/U.

390 - SPECIAL TOPICS IN TECHNOLOGY

1.00 to 3.00 Credits

May be repeated as the topic varies.

412 - MANUFACTURING MANAGEMENT

4.00 Credits

Industrial management including facility planning, process planning and design, industrial equipment selection and maintenance, materials handling, inventory and production control, quality assurance, and safety. Also covers just-in-time inventory control and lean manufacturing, automatic identification, bar coding, self-directed work teams and conflict resolution. Independent industrial case study.

421 - SOLID MODELING FOR DESIGN

3.00 Credits

Techniques of illustration and 3D solid modeling with CAD software. Activities include the design and analysis of 3D solid models, rapid prototyping and graphic illustration techniques of designed and finished products or constructed facilities.

423 - VIRTUAL SIMULATION PRODUCTION AND MANAGEMENT

4.00 Credits

Development of advanced virtual simulations of discrete events. Factory layouts and process flows are analyzed utilizing state-of-the-art simulation software and computer equipment. Focus on project management, analysis, and class presentations. Prerequisites: TECH 321 and 322.

430 - NONMETALLIC MATERIALS AND PROCESSES

4.00 Credits

Nonmetallic materials and processing. Conversion of raw materials into consumer products via refining and processing. Major emphasis on polymers, ceramics, wood, and composites, with coverage of fibers, fabrics, leathers, and miscellaneous nonmetallics.

435 - ADVANCED ROBOTICS/AUTOMATION

2.00 Credits

Advanced investigation of robotics and automated equipment. Topics of investigation will include robot construction, robot programming, PLC's, CAD/CAM, CIM, FMS, workcell construction. Problem solving based in manufacturing situations is the main emphasis. Prerequisites: TECH 140 and 332; and TECH 120 or GE 102. May be repeated up to a maximum of 8 hours.

460 - ENERGY AND TRANSPORTATION

4.00 Credits

Concepts of energy conversion, power transmission, mechanical applications, and its control. Methods of maintaining, troubleshooting, and repairing energy conversion and transmission devices. Hydraulic and pneumatic power concepts, components, and their symbols. Control techniques experienced with hardware, and simulated with software based PLC ladder logic that is used in stationary and vehicular transportation systems.

470 - QUALITY ASSURANCE AND WORK MEASUREMENT

4.00 Credits

Methods applied in mass production industries. Quality topics include Statistical Process Control, TQM, Lean Mfg. and Six Sigma, ISO/QS/TS quality systems, and automatic identification and data capture. Work measurement topics include methods engineering, traditional time studies, predetermined time measurement and work sampling.

484 - INTERNSHIP IN TECHNOLOGY

5.00 to 15.00 Credits

A supervised program of experiences in production practices, management techniques, research applications, and other activities representative in modern industry. Selection is based upon proper application, screening, and acceptance by an appropriate industry. Five hours of credit for 3-4 weeks of full time work in the summer or fifteen hours of credit for one full time quarter during the year. Graded S/U. A maximum of fifteen hours to count toward graduation.

490 - SPECIAL TOPICS IN TECHNOLOGY

1.00 to 3.00 Credits

May be repeated as the topic varies.

491 - STUDENT TEACHING SEMINAR

1.00 Credit

Required to be taken concurrently with student teaching and is in addition to Education Department Seminar EDUC 475. Reinforces field experiences as well as develops insights into implementation of recent curriculum development in Technology Education. Corequisites: EDUC 470 and/or 480. Graded S/U.

494 - SENIOR SEMINAR IN TECHNOLOGY

1.00 Credit

Required of majors in technology who are within three quarters of graduation. Career planning, placement services, the employment search, graduate school, senior project review, graduation procedures, and related issues. Graded S/U.

495 - SENIOR PROJECT IN TECHNOLOGY

1.00 Credit

Individual study and senior capstone experiences involved with the investigation and application of technological subject matter. Involves researching and developing, testing, fabricating, assembling, and evaluating designs. May be repeated for a total of 3 credit hours.

496 - TOUR OF AMERICAN INDUSTRIES

1.00 Credit

Participation with the annual department-sponsored comprehensive tour of industries including the structured pre- and post-trip seminars and the submission of a written technical report pertaining to one or more facets of the experience. May be repeated to a total of five hours. Graded S/U.

499 - SENIOR CAPSTONE

1.00 Credit

Report, presentation, and culmination of the senior capstone experience. Presentation of the project management, planning, researching, developing, fabricating, assembling, testing, and evaluating processes completed in the senior capstone activity. Graded S/U. Prerequisites: TECH 380, or 435, or 495; or EDUC 470 or 480.



THE COLLEGE OF Business Administration

Terry L. Maris, Dean

Professors Goldberg, Meininger (*Associate Dean*), Woods; Visiting Professor M. Asman; Associate Professors Alhajji, Banfe, Christopher, Ewing, M. Govekar, Heinfeldt, Kleine, Savino, Zekany; Assistant Professors P. Govekar, Kemp; Computer Applications Professional Elsass

Patton Chair

The George Willard Patton Chair of Business and Economics, endowed by the Richard King Mellon Charitable Trust of Pittsburgh, Pennsylvania, has been established beginning with the academic year 1973-74. The 2004-05 recipient of this endowed professorship is Robert E. Kleine, III, associate professor of marketing.

Mission Statement

The College of Business Administration prepares students to become business and community leaders in a changing world. The College emphasizes active learning, global awareness, entrepreneurial spirit, technological proficiency and applied research.

Admissions Standards

Candidates seeking admission to the College of Business Administration are required to meet the general requirements for admission to the University. The College of Business Administration accepts high school graduates who have 16 acceptable units of high school credits. Thirteen of these units are prescribed as follows: Four units of English; three units of mathematics (including algebra and geometry); six units in history, social studies, language, or natural science, or any combination thereof. Candidates are encouraged to pursue a foreign language while in high school. Acceptable scores on the American College Test or the College Entrance Examination Board Test are expected of all candidates.

Transfer Students The Ohio Northern University College of Business Administration welcomes students from other accredited colleges and universities. Applications for transfer will be considered

only if the student has a prior grade point average of 2.00 on a 4.00 scale, and the student is eligible to return to his/her former institution.

Students transferring from a two-year associate degree program are advised that courses in advanced business subjects (i.e., offered at the college's 300 or 400 level) taken at a two-year institution are not normally granted credit as equivalents of the business courses taught at Ohio Northern University. Such courses can be accepted as general electives. Under certain circumstances, students could establish equivalent credit through college-administered proficiency tests.

Bachelor of Science in Business Administration Degree Requirements

The Bachelor of Science in Business Administration degree is an undergraduate degree that provides a foundation in the business disciplines of accounting, business law, economics, finance, international business, management, marketing and personal computer applications as well as a comprehensive understanding in the student's chosen major area. This program prepares students to successfully enter either the business world or a graduate course of study.

This program requires a minimum of 182 quarter hours of study including general education requirements, business administration core course requirements and additional requirements for the specific majors.

General Education Requirements

The general education requirements for the business degree intend to broaden the student's perspective and contribute significantly to the student's becoming an educated professional and responsible citizen. These courses provide a foundation for personal enrichment in the areas of communication competence, quantitative skills, values, culture and society, natural science, aesthetic sensibility, and physical fitness.

Communication Skills

All Majors

1. Writing 1 and 2 (ENGL 110 and 111)

Accounting, Management, and Marketing Majors
 1. Public Speaking (COMM 211)
 2. Interpersonal communications (COMM 225)
 3. One additional communication course selected from the Professional and Organizational Communication discipline.

International Business and Economics Majors
 1. Demonstrated competency in a foreign language through the second year of college level studies. This requirement may be waived for students whose native language is other than English
 2. Public Speaking or Interpersonal Communications (COMM 211 or 225)
 3. An international study and/or internship experience

Quantitative Skills
 All Majors

A minimum of three courses (12 hours) selected from mathematics and statistics. Course selections must include at least one calculus course and one statistics course.

Values, Culture and Society
 All Majors

1. History of Western Civilization 1 and 2 (HIST 110 and 111)
2. One Philosophy course
3. One Social Science course
4. One Religion course (RELG 105, 107, 108, 109, or 110)
5. One English elective course

Accounting, Management, and Marketing Majors

1. An additional eight quarter hours taken in the College of Arts and Sciences

Natural Science
 All Majors

1. One science course

Aesthetic Sensibility
 All Majors

1. One Fine Arts course (ART 100, MUSC 100 or COMM 105)

Physical Fitness
 All Majors

1. Three physical education sports/service courses under the AHPE course heading. A maximum of six such hours will count toward graduation.

An approved Honors Seminar may fulfill a requirement listed above. For specific information see the office of the dean.

Business Administration Core Courses

ABUS 000	Orientation
ABUS 120	Ethics in Bus. Prac.
ABUS 201	Personal Computer Appl. for Business

IBEC 202	Prin. of Microeconomics
IBEC 203	Prin. of Macroeconomics
ACCT 211 & 212	Prin. of Acct. 1 and 2
MGMT 240	Mgmt. Info. Systems
IBEC 300	Environ. of Int'l. Bus.
ABUS 312	Business Law 1
MGMT 333	Mgmt. & Org. Beh.
MRKT 351	Prin. of Marketing
FINC 362	Managerial Finance
MGMT 364	Production and Op. Mgmt.
MGMT 485	Bus. Policy and Strategy
One elective in economics discipline area	

SPECIFIC MAJORS AND MAJOR COURSE REQUIREMENTS

Beyond the general education requirements and the business core, students must also complete specific requirements in their major areas.

The College of Business Administration offers four major areas of study: accounting; international business and economics; management; and marketing.

Accounting

The accounting program offers a four-year (182 quarter hour) degree program that prepares students for many entry-level accounting positions. Students completing the accounting major will have the necessary educational requirements for the Certified Management Accounting (CMA) and the Certified Internal Auditing (CIA) examinations.

The curriculum core for the accounting major includes ACCT 301, 302, 314, 315, ACCT 435 or FINC 467, and eight hours of upper division accounting electives.

Bachelor of Science In Business Administration Accounting Major

First Year

ABUS 000	Orientation	1 hr.
ABUS 120	Ethics in Bus. Prac.	4 hrs.
ABUS 201	Pers. Computer Appl.	4 hrs.
AHPE	Phys. Ed. Electives	3 hrs.
COMM 211	Public Speaking	4 hrs.
ENGL 110, 111	Writing 1 and 2	8 hrs.
HIST 110, 111	W. Civ. 1 and 2	8 hrs.
	Math and/or Statistics Electives	8 hrs.
ART 100 or COMM 105 or MUSC 100	Fine Arts Elective	4 hrs.
	Soc. Sci. Elective	4 hrs.
TOTAL		48 hrs.

Second Year

ACCT 211, 212	Prin. of Acct. 1, 2	8 hrs.
IBEC 202, 203	Micro. & Macro.	8 hrs.
MGMT 240	Mgmt. Info. Syst.	4 hrs.
ENGL	English Elective	4 hrs.
PHIL	Philosophy Elective	4 hrs.
	Science Elective	4 hrs.
COMM 225	Interpersonal Comm.	4 hrs.
COMM	Comm. Elective	4 hrs.
COMM	Comm. Elective	4 hrs.
	Math and/or Statistics Elective	4 hrs.
TOTAL		48 hrs.

Third Year

ACCT 301, 302	Intermediate Acct. 1, 2	8 hrs.
ABUS 312	Business Law 1	4 hrs.
ACCT 314, 315	Int. Manag. Acct. 1, 2	8 hrs.
IBEC 300	Environ. of Int'l. Bus.	4 hrs.
MGMT 333	Mgmt. & Org. Beh.	4 hrs.
MRKT 351	Prin. of Marketing	4 hrs.
FINC 362	Managerial Finance	4 hrs.
MGMT 364	Prod. & Ops. Mgmt.	4 hrs.
	Arts & Sciences Elect.	4 hrs.
TOTAL		44 hrs.

Fourth Year

ACCT 435	International Acct.	4 hrs.
or		
FINC 467	International Finance	4 hrs.
	Arts & Sciences Elect.	4 hrs.
MGMT 485	Bus. Policy & Strategy	4 hrs.
ACCT	Accounting Electives	8 hrs.
IBEC	Economics Elective	4 hrs.
	General Electives	18 hrs.
TOTAL		42 hrs.

CPA Program

In many states including Ohio, students planning to sit for the Certified Public Accounting (CPA) examination will have to have earned 150 semester (225 quarter) hours of academic credit. Students may earn the additional hours needed for the CPA examination by taking additional undergraduate courses. Students should consult with their academic advisors and their State Boards of Accountancy for specific course and degree requirements. Additional recommended accounting courses for the CPA program include ACCT 303, 387, 388, 392, 402, 403, 404, and ABUS 313. Twelve additional hours of elective course work in the College of Arts and Sciences are also recommended.

International Business and Economics

The curriculum core for the international business and economics major includes: IBEC 352, 385, 453, 467, and 486.

Bachelor of Science in Business Administration International Business and Economics Major Curriculum

First Year

ABUS 000	Orientation	1 hr.
ABUS 120	Ethics in Bus. Prac.	4 hrs.
ABUS 201	Pers. Computer Appl.	4 hrs.
AHPE	Phys. Ed. Electives	3 hrs.
ENGL 110, 111	Writing 1 and 2	8 hrs.
HIST 110, 111	Western Civ. 1 and 2	8 hrs.
	Math and/or Statistics Electives	8 hrs.
	Foreign Language	12 hrs.
TOTAL		48 hrs.

Second Year

ART 100 or		
COMM 105 or		
MUSC 100	Fine Arts Elective	4 hrs.
ACCT 211, 212	Prin. of Accounting 1, 2	8 hrs.
COMM 211		
or 225	Speech Comm.	4 hrs.
IBEC 202, 203	Microeconomics and Macroeconomics	8 hrs.
	Math and/or Statistics Elective	4 hrs.
MGMT 240	Mgmt. Information Syst.	4 hrs.
ENGL	English Elective	4 hrs.
	Foreign Language	12 hrs.
TOTAL		48 hrs.

Third Year

ABUS 300	Environ. of Int'l. Bus.	4 hrs.
ABUS 312	Business Law 1	4 hrs.
MGMT 333	Mgmt. & Org. Beh.	4 hrs.
MRKT 351	Prin. of Marketing	4 hrs.
IBEC 352	Money & Banking	4 hrs.
FINC 362	Managerial Finance	4 hrs.
IBEC 385	Int'l. Economics	4 hrs.
IBEC 467	Int'l. Finance	4 hrs.
PHIL	Philosophy Elective	4 hrs.
	Science Elective	4 hrs.
RELG	Religion Elective	4 hrs.
TOTAL		44 hrs.

Fourth Year

MGMT 364	Prod. & Ops. Mgmt.	4 hrs.
IBEC 453	Int'l. Mrkt.	4 hrs.
MGMT 485	Bus. Policy & Strat.	4 hrs.
IBEC 486	Int'l. Mgmt.	4 hrs.
IBEC	Economics Elective	4 hrs.
	Social Science Elective	4 hrs.
	General Electives	18 hrs.
TOTAL		42 hrs.

Management

The curriculum core for the management major includes: MGMT 334, 363, 486, and 12 hrs. of upper division management electives.

**Bachelor of Science in
Business Administration
Management Major Curriculum**

<i>First Year</i>		
ABUS 000	Orientation	1 hr.
ABUS 120	Ethics in Bus. Prac.	4 hrs.
ABUS 201	Pers. Computer Appl.	4 hrs.
AHPE	Phys. Ed. Electives	3 hrs.
COMM 211	Public Speaking	4 hrs.
ENGL 110, 111	Writing 1 and 2	8 hrs.
HIST 110, 111	Western Civ. 1 and 2	8 hrs.
	Math and/or Statistics Electives	8 hrs.
ART 100 or COMM 105 or MUSC 100	Fine Arts Elective Social Science Elective	4 hrs. 4 hrs.
TOTAL		48 hrs.

<i>Second Year</i>		
PHIL	Philosophy Elective	4 hrs.
ACCT 211, 212	Prin. of Accounting 1, 2	8 hrs.
IBEC 202, 203	Microeconomics and Macroeconomics Math and/or Statistics Elective	8 hrs. 4 hrs.
MGMT 240	Mgmt. Information Syst.	4 hrs.
ENGL	English Elective	4 hrs.
RELG	Religion Elective	4 hrs.
	Science Elective	4 hrs.
COMM 225	Interpersonal Comm.	4 hrs.
COMM	Comm. Elective	4 hrs.
TOTAL		48 hrs.

<i>Third Year</i>		
IBEC 300	Environ. of Int'l. Bus.	4 hrs.
ABUS 312	Business Law 1	4 hrs.
MGMT 333	Mgmt. & Org. Beh.	4 hrs.
MGMT 334	Cases & Exer. in Org. Beh.	4 hrs.
MRKT 351	Prin. of Marketing	4 hrs.
FINC 362	Managerial Finance	4 hrs.
MGMT 363	Human Resource Mgmt.	4 hrs.
MGMT 364	Prod. & Ops. Mgmt.	4 hrs.
	Arts & Sciences Elect.	8 hrs.
IBEC	Economics Elective	4 hrs.
TOTAL		44 hrs.

<i>Fourth Year</i>		
MGMT 485	Bus. Policy & Strategy	4 hrs.
MGMT 486	Int'l. Mgmt.	4 hrs.
MGMT	Management Electives	12 hrs.
	General Electives	22 hrs.
TOTAL		42 hrs.

Marketing

The curriculum core for the marketing major includes: MRKT 420, 434, 452, 455 and 8 hours of upper level marketing electives.

**Bachelor of Science in
Business Administration
Marketing Major Curriculum**

<i>First Year</i>		
ABUS 000	Orientation	1 hr.
ABUS 120	Ethics in Bus. Prac.	4 hrs.
ABUS 201	Pers. Computer Appl.	4 hrs.
AHPE	Phys. Ed. Electives	3 hrs.
COMM 211	Public Speaking	4 hrs.
ENGL 110, 111	Writing 1 and 2	8 hrs.
HIST 110, 111	Western Civ. 1 and 2	8 hrs.
	Math and/or Statistics Electives	8 hrs.
ART 100 or COMM 105 or MUSC 100	Fine Arts Elective Social Science Elective	4 hrs. 4 hrs.
TOTAL		48 hrs.

<i>Second Year</i>		
PHIL	Philosophy Elective	4 hrs.
ACCT 211, 212	Prin. of Accounting 1, 2	8 hrs.
IBEC 202, 203	Microeconomics and Macroeconomics Math and/or Statistics Elective	8 hrs. 4 hrs.
MGMT 240	Mgmt. Information Syst.	4 hrs.
ENGL	English Elective	4 hrs.
RELG	Religion Elective	4 hrs.
	Science Elective	4 hrs.
COMM 225	Interpersonal Comm.	4 hrs.
COMM	Comm. Elective	4 hrs.
TOTAL		48 hrs.

<i>Third Year</i>		
IBEC 300	Environ. of Int'l. Bus.	4 hrs.
ABUS 312	Business Law 1	4 hrs.
MGMT 333	Mgmt. & Org. Beh.	4 hrs.
MRKT 351	Prin. of Marketing	4 hrs.
FINC 362	Managerial Finance	4 hrs.
MGMT 364	Prod. & Ops. Mgmt.	4 hrs.
	Arts & Sciences Elect.	8 hrs.
IBEC	Economics Elective	4 hrs.
MRKT	Marketing Electives	8 hrs.
TOTAL		44 hrs.

<i>Fourth Year</i>		
MGMT 485	Bus. Policy & Strategy	4 hrs.
MRKT 420	Marketing Internship	4 hrs.
MRKT 434	Marketing Reserach	4 hrs.
MRKT 452	Consumer Behavior	4 hrs.
MRKT 455	Advanced Marketing	4 hrs.
	General Electives	22 hrs.
TOTAL		42 hrs.

Dual Majors

No course used to satisfy either a specific requirement or a discipline elective may be counted toward a dual major except as a general elective.

Minor in Business Administration

The minor is available only to non-business majors. A "C" grade or higher is required in all courses. A minimum of 20 hours required for the minor must be completed at Ohio Northern University. Students are advised that MATH 144, Finite Mathematics, or its equivalent is prerequisite to FINC 362, Managerial Finance.

IBEC 202, 203	Microeconomics and Macroeconomics	8 hrs.
ACCT 211, 212	Prin. Acct. 1, 2	8 hrs.
ABUS 312	Business Law 1	4 hrs.
MGMT 333	Mgmt. & Org. Beh.	4 hrs.
MRKT 351	Prin. of Marketing	4 hrs.
FINC 362	Managerial Finance	4 hrs.
	an approved elective	4 hrs.
TOTAL		36 hrs.

Minor in Marketing

The marketing minor is available to both business and non-business majors. A grade of "C" or higher is required in all of the marketing courses. A minimum of 16 hours required for the minor must be completed at Ohio Northern University.

STAT 146	Business Statistics	4 hrs.
	(or equivalent, STAT 142 or 156)	
MRKT 351	Principles of Marketing	4 hrs.
MRKT 434	Marketing Research	4 hrs.
	Marketing Electives	16 hrs.
TOTAL		28 hrs.

Graduation Requirements

Bachelor of Science in Business Administration

It is the student's responsibility to assure that all of the graduation requirements for the degree and major(s) sought are satisfied:

1. The general education specific and elective courses in the College of Arts and Sciences.
2. The Business Administration core requirements and electives.
3. The specific major requirements and electives.
4. Satisfactory completion and presentation of a minimum of 182 quarter hours of appropriate course work for the specific major(s).
5. A minimum of 28 hours of required business courses at the 300 or 400 level to be completed at Ohio Northern University with at least 16 of these hours taken in the student's major.
6. A minimum 2.00 grade point average.
7. A letter grade of "C" or better in all but one course specified in (2) and (3) above.

GENERAL REGULATIONS OF THE COLLEGE OF BUSINESS ADMINISTRATION

1. A student may not register for more than 19 hours of academic course work without the dean's written approval. A normal program consists of 12 to 19 scheduled hours, including physical education. See page 18 for overload charges beyond 19 credit hours.

2. All freshmen in the College of Business Administration are required to take orientation, which is scheduled in the fall quarter.

3. All students are expected to participate in college program assessment activities.

4. All students are expected to participate in selected college-sponsored service activities that contribute to professional development.

5. A student indicates his/her major choice by completing a declaration of major form available in the Office of the Dean. Faculty advisors assist the student in the planning of his/her major.

6. Each student enrolled in the College of Business Administration is expected to make consistent progress toward completion of the degree requirements of his/her major(s).

7. CBA majors need to complete ACCT 211 with a C grade or higher before attempting ACCT 212.

8. With the written permission of the instructor and the dean, course prerequisites may be waived.

9. Except where noted in the course descriptions, credit hours earned in repeated courses may be counted only once in the total hours required for graduation.

10. A student not enrolled for one academic year (except on approved academic leave) must meet graduation requirements in the catalog effective for the academic year during which the student reentered.

11. Students must have junior standing or higher to enroll in 300 and 400 level College of Business Administration courses.

12. Non-College of Business Administration majors may not accumulate more than 44 hours of credit in business courses without the written approval of the dean of the College of Business Administration.

S/U Grade Option

Sophomores, juniors, seniors, and post-graduate students in the College of Business Administration are given the opportunity to register for one course per quarter on an S/U option basis, with the following stipulations:

1. The student must be registered full-time in the College of Business Administration.
2. The student must have sophomore, junior, senior, or postgraduate standing.

3. The requested course cannot be in the College of Business Administration except those specified as S/U in course descriptions.

4. The course cannot be a 100 or 200-level general education course.

5. The requested course cannot be a cognate. CBA cognates include all required mathematics and speech communication courses.

6. The grade of "S" is to be equated with A, B, C, and the grade of "U" is equated with D or F. S/U grades are not computed in the accumulative grade point average.

7. The student cannot change the grading option after the second week of classes.

Service and Activities Courses

A combined maximum of 24 hours of credit in varsity sports, physical education activity service courses, applied music and music performance courses may be counted for graduation. Service and activity courses cannot be used to satisfy College of Arts and Sciences elective requirements.

A minimum of three different physical education service courses are required for graduation and a maximum of six physical education service courses may be counted for graduation. Only three credits in the same varsity sport may be counted for graduation.

Only six credits in the same musical performance activity may be counted for graduation.

Classification of Students

For purposes of classification, the minimum requirements for sophomore standing are 45 quarter hrs. of completed academic work; for junior standing 90 quarter hrs.; and for senior standing 135 quarter hrs.

Academic Standing

A grade point average of 2.00 or higher is required for graduation. If a student's accumulative grade point average falls below 2.00, he/she is placed on academic probation and is not eligible to participate in competitive activities of individuals, teams, or other groups officially designated as representing the University.

Any student on probation whose work for the following quarter continues below 2.00 accumulative grade point average will have his/her record reviewed by the Academic Qualifications and Scholarship Committee of the college and may be recommended to the dean for suspension or dismissal from the college. Any student with a quarterly GPA of less than 1.00 may be placed on probation or suspended.

Prelaw Program

Business students interested in the Prelaw Program will find a complete description on page 33 of this publication.

Leadership Studies Option

A Leadership Studies Option is available to majors in the College of Business Administration. A complete description of this option can be found in the Department of History, Political Science and Criminal Justice program listings.

Small Business Institute

The Small Business Institute (SBI) provides intensive business counseling by utilizing small teams of qualified university students in business disciplines under expert faculty guidance. The students meet frequently over the course of a full university term with the small business owner to identify and solve unique business problems.

The SBI program was established by the Small Business Administration in 1972. Approximately 500 business colleges have been carefully chosen throughout the United States to administer this program.

A detailed case report is written and given to the client with suggestions as to how to implement it. SBI teams work on most business-related problems and provide recommendations tailored to the specific needs of the business.

Internship Program

The internship program in the College of Business Administration has been designed to help students gain these valuable experiences while still in college. By combining the concepts discussed in the classroom with practical on-the-job experiences, the internship program helps prepare the businessmen and businesswomen of tomorrow.

Academic year internships may be full- or part-time programs lasting 10 weeks. Interns may earn as many as 16 quarter hours of credit.

Summer internships take place in several locations throughout Ohio and beyond. As with academic-year internships, students may earn up to 16 credit hours.

To participate in the internship program, a student must have junior or senior status, be in good academic standing, and obtain the approval of the Director of the Internship Program.

Dual Degree Programs

Information concerning dual degree programs involving the College of Business Administration appears on page 33 of this catalog. Students may receive further details in the office of the dean of the college.

Microsoft Authorized Testing Center

The College of Business Administration houses an authorized testing center for Microsoft Office certification. The certification program is designed to validate desktop computer skills using Microsoft Office applications. Certification proves computer literacy, measures proficiency, and identifies opportunity for skills enhancement. Certification testing is available for Microsoft Word, Excel, Power Point, Access, and Outlook applications. Internet and Computing Core Certification (IC³) testing is also available in the College of Business Administration.

Center for Cuban Business Studies

The Center for Cuban Business Studies (CCBS) was established at Ohio Northern University to serve the needs of businesses, government agencies, researchers, faculty, students, and others interested in the current and future state of Cuban commercial affairs. Under licensing granted by the United States Treasury Department Office of Foreign Assets Control, the Cuba Center has conducted for credit study programs in Cuba for ONU students and established research linkages between U.S. and Cuban university faculty over the past several years.

International Business Program

The international business program is coordinated by the College's International Experience Committee. Students may participate in study abroad, work abroad, or student exchange.

Study abroad may take place at virtually any foreign college or university if the academic program is determined to meet certain standards for transfer of credit. Students are encouraged to enroll for a full academic year abroad. In some cases, study may occur during the summer or for a lesser period during the academic year.

Work abroad is available to ONU business students in cooperation with the Council on International Educational Exchange. This option may be combined with study abroad or pursued independently during the summer. A special bonus is that such employment may qualify the student to earn up to 16 credits toward graduation through the internship program.

Formal agreements for the exchange of students between Ohio Northern University and several prominent foreign institutions offer many opportunities for business students. These include Glasgow Caledonian University (Scotland), the University of Science and Technology of Lille (France), Robert Schuman University (France), the Plekhanov Economic Academy (Russia), Arnhem Business School (Netherlands), Helsinki School of Economics (Finland), Instituto Tecnológico y de Estudios Superiores de Monterrey, Campus Queretaro (Mexico), the University of Aarhus (Denmark), Southern Cross University (Australia), and Universidad Latina de Costa Rica (Costa Rica). Additional study-abroad experiences have taken place at the University of the Andes (Venezuela), Universidad Católica de Valparaíso (Chile), Bond University (Sydney, Australia), and Universidad Iberoamericana (Mexico).

The College also sponsors summer international business tours designed to satisfy the international experience requirement of International Business and Economics majors. The programs are open to all students and provide an opportunity to visit a variety of international corporations and agencies.

Recent tours have included visits to Paris, London, Rome, Madrid, Havana, Santiago de Cuba, and other major cities. In each country the students visited companies, agencies and offices where they participated in tours, lectures, interviews and discussions related to their majors. Past hosts for the visits include: BMW, Arthur Andersen, World Trade Organization, Union Bank of Switzerland, Hard Rock Café, BP Amoco, Paris Disneyland, Siemens, House of Versace, United Nations, TDK Corporation, Cooper Avon Tyre, Caterpillar, Inc., Universidad de la Habana, and Havana Tobacco Company.

Students with a foreign language background are likely to find that they have more opportunity to take advantage of these programs. All business students therefore are strongly advised to continue their foreign language study at ONU. Those who have no prior course work in foreign language are encouraged to incorporate such courses into their undergraduate studies.

COLLEGE OF BUSINESS ADMINISTRATION

Subject - General Business (ABUS)

000 - ORIENTATION / CAREER DEVELOPMENT AND SEARCH

1.00 Credit

Familiarization with the college, requirements of the majors, planning sequences of courses, university catalog and library, career investigation and guidance. Activities include a service requirement. Fall Quarter. Graded S/U.

120 - ETHICS IN BUSINESS PRACTICE

4.00 Credits

Systematic examination of alternative ethical decision making approaches followed by case analysis and discussion. Provides individual reflection and experience in alternative ethical approaches. Business majors only.

190 - SPECIAL TOPICS IN BUSINESS

1.00 to 4.00 Credits

Can be repeated as the topic varies.

201 - PERSONAL COMPUTER APPLICATIONS FOR BUSINESS

4.00 Credits

Business applications for microcomputers. Introductory level use of software for word processing, file management, spreadsheets, and graphics.

312 - BUSINESS LAW 1

4.00 Credits

The legal environment in which businesses must operate. Topics include business ethics, sources of law, methods of dispute resolution, and the basic law regulating contracts, agency, business organizations, the workplace, consumer transactions, purchase and sale of securities, anticompetitive activities, actions affecting the environment, and international business transactions. Prerequisite: Junior standing.

313 - BUSINESS LAW 2

4.00 Credits

The law as it applies to certain private business transactions. Topics include contracts, sales, commercial paper, secured transactions, suretyship, bankruptcy, insurance, property, landlord/tenant, wills, estates, and trusts. Prerequisite: ABUS 312.

475 - SMALL BUSINESS INSTITUTE

4.00 Credits

A team is assigned to work with a small business under supervision of a faculty member. A confidential and professional relationship is maintained between the team and the client business. May be repeated for a maximum of 8 hours. Credit earned can be used only as general elective hours. SBI credit can not be used to satisfy either major or business elective requirements. Restricted enrollment. Prerequisite: Permission of Director. Graded S/U.

Subject - Accounting (ACCT)

211 - PRINCIPLES OF ACCOUNTING 1

4.00 Credits

Analysis and recording of business transactions and accumulating data on the results of economic activity, concepts and issues of financial reporting for business entities, including basic theory of the report writing model. Basic financial statement analysis. Prerequisite: Sophomore standing.

212 - PRINCIPLES OF ACCOUNTING 2

4.00 Credits

Continuation of ACCT 211. Uses of accounting data to support management decision-making and control of business operations, determination of costs and cost behavior. Specialized application areas of accounting. Prerequisite: Sophomore standing and ACCT 211.

292 - SPECIAL TOPICS IN ACCOUNTING

1.00 to 4.00 Credits

Can be repeated as the topic varies.

301 - INTERMEDIATE ACCOUNTING 1

4.00 Credits

Financial accounting functions and basic theory. Preparation of financial statements. Prerequisite: ACCT 212.

302 - INTERMEDIATE ACCOUNTING 2

4.00 Credits

Preparation of financial statements, working capital, operational assets, long-term liabilities, leases and owners equity. Prerequisite: ACCT 301.

303 - INTERMEDIATE ACCOUNTING 3

4.00 Credits

Preparation of financial statements. Pensions and post-retirement benefits, accounting changes, financial statement analysis, special topics and EPS. Prerequisite: ACCT 302.

314 - INTERMEDIATE MANAGERIAL ACCOUNTING 1

4.00 Credits

Emphasis on accounting information for decision making. Controls for material, labor and overhead cost. Cost-Volume-Profit analysis. Job order and process costing systems. Budgeting procedures. Standard costs and variance analysis. Variable costing and responsibility accounting for management reporting. Cost behavior pattern analysis. Decision models. Prerequisite: ACCT 212.

315 - INTERMEDIATE MANAGERIAL ACCOUNTING 2

4.00 Credits

Cost allocation: service department cost and joint cost. Process costing in depth and accounting for defective units and scrap. Capital budgeting techniques. Responsibility accounting for management reporting. Prerequisite: ACCT 314.

316 - ADVANCED MANAGERIAL ACCOUNTING

4.00 Credits

Advanced Corporate Budgeting procedures. An in-depth analysis of product costing techniques including activity based costing, analysis of cost drivers, total quality management. Topics in strategic cost management and current issues and techniques in management accounting. Offered alternate years. Prerequisite: ACCT 315.

387 - TAXATION 1

4.00 Credits

Tax concepts in the taxation of individuals and entities. The role of taxation in business decisions, how to conduct basic tax research, tax planning, and professional standards and ethics. Interrelationships and differences between financial and tax accounting. Prerequisite: ACCT 212.

388 - TAXATION 2

4.00 Credits

Continuation of Taxation 1 including business entity and multi-jurisdictional taxation, individual tax planning, fiduciary and tax-exempt accounting and tax preparation software. Prerequisite: ACCT 387.

392 - ADVANCED FINANCIAL ACCOUNTING

4.00 Credits

Various forms of business combinations and intercompany transactions, transactions denominated in foreign currencies, and government accounting. Offered alternate years. Prerequisite: ACCT 302.

402 - ACCOUNTING INFORMATION SYSTEMS

4.00 Credits

The use, evaluation, and design of accounting information systems with emphasis upon the interface of accounting systems and computer technology. Prerequisite: ACCT 302.

403 - AUDITING 1

4.00 Credits

Auditing procedures and practices relating to the independent verification of financial records, including assessment of the internal control system, audit evidence, issues of materiality and risk, and audit reports. Prerequisite: ACCT 402.

404 - AUDITING 2

4.00 Credits

Statistical sampling in auditing, auditor's professional ethics and legal liability, computer technology in auditing, and current issues and problems in auditing. Prerequisite: ACCT 403.

427 - INTERNSHIP IN ACCOUNTING

1.00 to 16.00 Credits

Field experience in accounting. Can be repeated for a maximum of 16 credit hours. Can be used only as general elective hours. Can not be used to satisfy either accounting or business elective requirements. Consult advisor. Graded S/U.

435 - INTERNATIONAL FINANCIAL ACCOUNTING

4.00 Credits

Financial accounting from a multinational viewpoint. Includes: financial accounting for international operations, comparative international accounting principles, and international financial reporting. Prerequisite: ACCT 302. (Also listed as IBEC 435.)

492 - SPECIAL TOPICS IN ACCOUNTING

1.00 to 4.00 Credits

Can be repeated as the topic varies.

499 - INDEPENDENT STUDY IN ACCOUNTING

1.00 to 4.00 Credits

An in-depth exploration of a subject of special interest. Can be repeated as topic varies. Permission must be obtained in writing from the faculty-mentor and the Dean of the College prior to registration. Restricted enrollment. Prerequisite: Junior standing.

Subject - Finance (FINC)

362 - MANAGERIAL FINANCE

4.00 Credits

The role of financial management in the firm, and the basic tools and concepts of the firm's investment, financing and dividend decisions including working capital management, capital budgeting and capital structure strategies. Prerequisites: MATH 144 and ACCT 212.

369 - INTERMEDIATE FINANCIAL MANAGEMENT

4.00 Credits

Advanced concepts and methods employed in financial management. Topics include financial analysis and planning, working capital management, risk analysis and valuation of long-term investments, and capital structure analysis. Case method and personal computer based spreadsheets will be used. Offered alternate years. Prerequisite: FINC 362.

421 - INTERNSHIP IN FINANCE

1.00 to 16.00 Credits

Field experience in finance. Internship experiences can be repeated for a maximum of sixteen credit hours. Can be used only as general elective hours and can not be used to satisfy either finance or business elective requirements. Consult advisor. Graded S/U.

461 - INVESTMENTS

4.00 Credits

The risk-return trade off and distinctive characteristics of different vehicles of financial investment including equities; debt and derivatives; portfolio management; the functioning and regulation of securities markets; the operation of mutual funds and other investment companies. The Efficient Markets Hypothesis receives special attention. Foundations for corporate as well as personal investment decisions. Computer simulations and applications. Offered alternate years. Prerequisite: FINC 362.

467 - INTERNATIONAL FINANCE

4.00 Credits

The unique financial challenges and opportunities faced by a multinational enterprise. Hedging as a pivotal tool of exchange rate risk management; the long-term and short-term financing opportunities available to a multinational enterprise; international cash management; and multinational capital budgeting. Prerequisites: FINC 362 and IBEC 300. (Also listed as IBEC 467.)

494 - SPECIAL TOPICS IN FINANCE

1.00 to 4.00 Credits

Can be repeated as the topic varies.

500 - INDEPENDENT STUDY IN FINANCE

1.00 to 4.00 Credits

An in-depth exploration of a subject of special interest. Can be repeated as topic varies. Permission to enroll must be obtained in writing from the faculty-mentor and the Dean of the College prior to registration. Restricted enrollment. Prerequisites: Junior standing.

Subject - International Business and Economics (IBEC)

100 - ECONOMICS

4.00 Credits

The origins, characteristics and functions of our economic organization, current institutional arrangements, the use of appropriate tools of economic analysis; relevant economic and social goals. A terminal course for non-business majors. May not be taken following a successful enrollment in IBEC 202 or IBEC 203. (Discipline: Economics)

202 - PRINCIPLES OF MICROECONOMICS

4.00 Credits

Economics of the individual firm in the free market economy; competitive and monopolistic markets. How prices ration goods and services to users, and the principles on which the total product is divided among the owners of the factors of production. Actual cases from business. No prerequisite. (Discipline: Economics)

203 - PRINCIPLES OF MACROECONOMICS

4.00 Credits

Forces that determine the behavior of national income and output, unemployment, and the price level. Rudiments of money and banking, monetary and fiscal policy, growth and development. Selected issues of contemporary social relevance. Prerequisite: IBEC 202. (Discipline: Economics)

290 - SPECIAL TOPICS IN INTERNATIONAL BUSINESS AND ECONOMICS

1.00 to 4.00 Credits

Can be repeated as the topic varies.

292 - CROSS-CULTURAL MANAGEMENT

4.00 Credits

An examination of the application of societal and corporate culture and its consequences in managerial and organizational settings in Western Europe. Convergency with and divergency from American corporate culture will be explored. Prerequisite: Participation in a college sponsored summer business tour. (Also listed as MGMT 292.)

300 - THE ENVIRONMENT OF INTERNATIONAL BUSINESS

4.00 Credits

The unique functional and environmental features of international business. Analysis of economic, cultural, legal and political forces affecting international business operations. Examination of organizational responses to the challenges of international business organizations. Prerequisite: IBEC 203.

352 - MONEY AND BANKING

4.00 Credits

Theories of money and credit; commercial banking practices; reserve banking; monetary and banking laws; money market; money and credit in the world economy. Prerequisite: IBEC 203. (Discipline: Economics)

383 - INTERMEDIATE MICROECONOMIC THEORY

4.00 Credits

Special problems of pricing, production, and distribution under perfect competition, monopoly, oligopoly, and duopoly in the American economy. Offered alternate years. Prerequisite: IBEC 203. (Discipline: Economics)

384 - INTERMEDIATE MACROECONOMIC THEORY

4.00 Credits

The principles, measurement, analysis, and control of aggregate economic activity; the role of consumption, investment, and saving in achieving full employment output, economic growth and price stability. Offered alternate years. Prerequisite: IBEC 203. (Discipline: Economics)

385 - INTERNATIONAL ECONOMICS

4.00 Credits

Theories and current problems of trade between nations; governmental restrictions and controls; the importance of multilateral trade, balance of payments; scarce resources; population, and employment trends. Prerequisite: IBEC 203. (Discipline: Economics)

390 - DEVELOPMENT ECONOMICS

4.00 Credits

Problems facing developing economies: poverty, environmental destruction, famine, inequality, unemployment and rural stagnation. The role of policy-related change in the context of the well-being of people living in developing countries. Sustainable human development versus growth-centered development. Prerequisite: IBEC 203. (Discipline: Economics)

411 - COMPARATIVE ECONOMIC SYSTEMS

4.00 Credits

Comparative study of capitalism, socialism, communism and mixed economies. Emphasis on the economics of pricing, production, and distribution under different systems. Comparative analysis of selected countries. Offered alternate years. Prerequisite: IBEC 203. (Discipline: Economics)

423 - ECONOMICS OF THE PUBLIC SECTOR

4.00 Credits

Fiscal institutions and decisions of the Public Sector; the federal budget; public good analysis, public debt issues; evaluation of tax sources for the federal, state, and local government levels; and intergovernmental fiscal relationships. Offered alternate years. Prerequisite: IBEC 203. (Discipline: Economics)

426 - INTERNSHIP IN INTERNATIONAL BUSINESS AND ECONOMICS

1.00 to 16.00 Credits

Field experience in international business and/or economics. Internship experience can be repeated for a maximum of sixteen credit hours. Can be used as general elective hours and cannot be used to satisfy either international business and economics or business elective requirements. Consult advisor. Graded S/U.

435 - INTERNATIONAL FINANCIAL ACCOUNTING

4.00 Credits

Financial accounting from a multinational viewpoint. Includes: financial accounting for international operations, comparative international accounting principles, and financial reporting. Prerequisite: ACCT 302. (Also listed as ACCT 435.)

442 - ECONOMIC HISTORY OF THE UNITED STATES

4.00 Credits

Economic life in colonial America and the east-west migration; the development of modern business and industry in the United States; the corporation and its part in the nation's growth; the causes and consequences of the Great Depression. Offered alternate years. Prerequisite: IBEC 203. (Discipline: Economics)

453 - INTERNATIONAL MARKETING

4.00 Credits

World markets, their respective consumers and environments, and the marketing management required to meet the demand of world markets in a dynamic and everchanging setting. Contrasting marketing in the United States with marketing in foreign countries. Case studies illustrate marketing problems faced by international marketers. Prerequisites: IBEC 300 and MRKT 351. (Also listed as MRKT 453.)

467 - INTERNATIONAL FINANCE

4.00 Credits

The unique financial challenges and opportunities faced by a multinational enterprise. Hedging as a pivotal tool of exchange rate risk management; the long-term and short-term financing opportunities available to a multinational enterprise; international cash management; and multinational capital budgeting. Prerequisites: FINC 362 and IBEC 300. (Also listed as FINC 467.)

486 - INTERNATIONAL MANAGEMENT

4.00 Credits

The application of management concepts and techniques in a multinational environment. The meaning of culture as it applies to international management. Issues in international human resource management. A focus on relevant business simulations and cases. Prerequisites: FINC 362, IBEC 300, MGMT 333 and MRKT 351. (Also listed as MGMT 486.)

490 - SPECIAL TOPICS IN INTERNATIONAL BUSINESS AND ECONOMICS

1.00 to 4.00 Credits

Can be repeated as the topic varies.

497 - INDEPENDENT STUDY IN INTERNATIONAL BUSINESS AND ECONOMICS

1.00 to 4.00 Credits

An in-depth exploration of a subject of special interest. Can be repeated as topic varies. Permission must be obtained in writing from the faculty-mentor and the Dean of the College prior to registration. Restricted enrollment. Prerequisites: Junior standing.

Subject - Management (MGMT)_____

240 - MANAGEMENT INFORMATION SYSTEMS

4.00 Credits

The development, design and implementation of management information systems with introduction to the terminology, concepts and trends in computer hardware and software. Prerequisite: ABUS 201.

291 - SPECIAL TOPICS IN MANAGEMENT

1.00 to 4.00 Credits

Can be repeated as the topic varies.

292 - CROSS-CULTURAL MANAGEMENT

4.00 Credits

An examination of the application of societal and corporate culture and its consequences in managerial and organizational settings in Western Europe. Convergency with and divergency from American corporate culture will be explored. Prerequisite: Participation in a college sponsored summer business tour. (Also listed as IBEC 292.)

325 - EMPLOYMENT LAW

4.00 Credits

The legal relationship between employers and employees. Topics include the basic laws regulating labor relations, employment discrimination, workers' compensation and disability payments, occupational safety and health, employment, and unemployment compensation, termination of employment, and retirement. Prerequisite: ABUS 312.

333 - MANAGEMENT AND ORGANIZATIONAL BEHAVIOR

4.00 Credits

Modern management concepts with emphasis on the human factors in organizations. Historical foundations of managerial problems, investigation of individual, group and organizational processes including current management issues. (Formerly offered as MGMT 330 and MGMT 335) Prerequisite: Junior standing.

334 - CASES AND EXERCISES IN ORGANIZATIONAL BEHAVIOR

4.00 Credits

Experiential and case-based approach to managing organizational behavior. Prerequisite: MGMT 333.

363 - HUMAN RESOURCE MANAGEMENT

4.00 Credits

Analysis of the role of human resources in contemporary organizations. Functions performed by the human resource practitioner in the areas of recruitment, training and development, compensation, employee relations, health and safety, and employee separation. The impact of government regulations. Prerequisite: MGMT 333.

364 - PRODUCTION AND OPERATIONS MANAGEMENT

4.00 Credits

Major issues and analytical problem solving techniques existing in the field of production and operations management. The design of production systems, operation, coordination and control of production activity in the context of minimum cost attainment. Prerequisites: STAT 146, MGMT 333 and junior standing.

400 - CURRENT LABOR RELATIONS

4.00 Credits

Managerial and organizational aspects arising out of employer/union relations. The evolution of labor relations, current labor law, negotiation and administration of labor agreements, and labor relations in the public sector as well as in foreign countries. Open to seniors only. Offered alternate years. Prerequisite: MGMT 363.

410 - BUSINESS AND SOCIETY

4.00 Credits

The complex and dynamic interrelationships between business and society: the social, cultural, legal, ethical, economic and technological issues, philosophies and points of view which influence business. Issues of corporate responsibility, individual rights and multi-national business. Prerequisite: MGMT 333.

425 - INTERNSHIP IN MANAGEMENT

1.00 to 16.00 Credits

Field experience in management. Internship experiences can be repeated for a maximum of sixteen credit hours. Can be used only as general elective hours and can not be used to satisfy either management or business elective requirements. Consult advisor. Graded S/U.

474 - SMALL BUSINESS MANAGEMENT

4.00 Credits

The importance of small business, its current status, problems encountered and requirements for successful operations. Emphasis on problem solving techniques for small businesses. Prerequisites: ABUS 312, MGMT 333, MRKT 351, FINC 362 and STAT 146.

477 - NONPROFIT MANAGEMENT

4.00 Credits

Special management issues in the nonprofit sector: governance, human resources, financial statements and resource seeking, performance assessment, and current issues of concern to nonprofit managers. Prerequisite: MGMT 333.

485 - BUSINESS POLICY AND STRATEGY

4.00 Credits

Integrative capstone course designed to provide students with an awareness of the roles and responsibilities of managers as they formulate and implement direction for their organizations in an ever changing environment. Case study is emphasized. Prerequisites: Senior standing and ABUS 312, MGMT 333, MRKT 351 and FINC 362.

486 - INTERNATIONAL MANAGEMENT

4.00 Credits

The application of management concepts and techniques in a multinational environment. The meaning of culture as it applies to international management. Issues in international human resource management. A focus on relevant simulations and cases. Prerequisites: FINC 362, IBEC 300, MGMT 333, and MRKT 351. (Also listed as IBEC 486.)

491 - SPECIAL TOPICS IN MANAGEMENT

1.00 to 4.00 Credits

Can be repeated as the topic varies.

498 - INDEPENDENT STUDY IN MANAGEMENT

1.00 to 4.00 Credits

An in-depth exploration of a subject of special interest. Can be repeated as topic varies. Permission to enroll must be obtained in writing from the faculty-mentor and the Dean of the College prior to registration. Restricted enrollment. Prerequisite: Junior standing.

Subject - Marketing (MRKT) _____

351 - PRINCIPLES OF MARKETING

4.00 Credits

Product design and planning, promotional activities, pricing strategy, aspects of physical distribution, retailing, market research and buyer behavior. Strategic marketing, planning and control, ethics and international marketing. Prerequisite: Junior standing.

360 - PROMOTION MANAGEMENT

4.00 Credits

Management of the promotion mix and how its elements can be integrated to solve marketing communication problems. Specific topics include: advertising, personal selling, sales promotion, direct marketing internet marketing and public relations. Prerequisite: MRKT 351.

370 - RETAILING

4.00 Credits

Retail store formats, trading area analysis, store location and design, inventory evaluation and management, pricing strategies, sales promotion, merchandise planning, procurement and selling functions. Prerequisite: MRKT 351.

371 - PERSONAL SELLING

4.00 Credits

Aspects of the behavioral approach to selling in the context of the marketing concept. Selling techniques which build long term customer relationships. Prospecting, ethics, qualifying,

presenting, product demonstrations, handling objections, closing and follow up techniques, and international selling. Prerequisite: MRKT 351.

372 - ADVERTISING

4.00 Credits

Advertising as an integral part of the marketing process. An overview of agency operation, media strategy, print and electronic media, and copy creation and concepts. Cases are used to illustrate how organizations develop advertising strategies. An advertising plan must be developed for an organization using the principles of the course. Offered alternate years. Prerequisite: MRKT 351.

373 - LOGISTICS

4.00 Credits

Move-storage activities that are necessary to deliver products to the right place, at the desired time, in the appropriate condition and at the lowest cost. Warehousing, transportation, order processing, inventory and material handling are key topics. Emphasis is given to the development of decision skills which will provide the best minimum total cost service to the customer. Offered alternate years. Prerequisites: MGMT 333 and MRKT 351.

376 - BUSINESS TO BUSINESS MARKETING

4.00 Credits

Basic business marketing systems as distinguished from consumer marketing. Characteristics of manufacturer's goods, channels of distribution, pricing, vendor and value analysis, commercial buying, advertising, and meeting product specifications. Prerequisite: MRKT 351.

380 - PRINCIPLES OF ELECTRONIC COMMERCE

4.00 Credits

Connection of business systems via the Internet directly to critical constituencies: customers, employees, vendors, and suppliers. Electronic commerce and its dimensions, benefits, limitations, and process. Electronic commerce infrastructure and major applications of electronic commerce. Prerequisites: MGMT 333 and MRKT 351. (Formerly MGMT 380)

420 - INTERNSHIP IN MARKETING

1.00 to 16.00 Credits

Field experience in marketing. Internship experience can be repeated for a maximum of sixteen credit hours. Up to four hours can be used to satisfy the marketing major requirements. Additional hours can be used as general elective hours and cannot be used to satisfy either marketing or business elective requirements. Consult advisor. Graded S/U.

434 - MARKETING RESEARCH

4.00 Credits

Research design, data collection methods, sampling techniques, tabulation, analysis and presentation of information concerning problems in marketing. Provides a working knowledge of the concepts and methods of marketing research. Offered alternate years. Prerequisite: MRKT 351 and STAT 142, or 146 or 156.

452 - CONSUMER BEHAVIOR

4.00 Credits

Determinants of behavior which influence the purchase of goods and services. Consumer characteristics, situation analysis and product attributes are key topics covered in this area of behavior. Sociological, cultural, psychological, economic and communication theories used to create unique marketing mixes for specialized target markets. Offered alternate years. Prerequisite: MRKT 351.

453 - INTERNATIONAL MARKETING

4.00 Credits

World markets, their respective consumers and environments, and the marketing management required to meet the demand of world markets in a dynamic and everchanging setting. Contrasting marketing in the United States with marketing in foreign countries. Case studies illustrate marketing problems faced by international marketers. Prerequisites: IBEC 300 and MRKT 351. (Also listed as IBEC 453.)

455 - ADVANCED MARKETING

4.00 Credits

Integrative capstone in marketing which brings together all of the functional areas of marketing and requires development of marketing strategies and their application to problem situations. A group case approach is used. Offered alternate years. Prerequisites: Senior Marketing majors only.

493 - SPECIAL TOPICS IN MARKETING

1.00 to 4.00 Credits

Can be repeated as the topic varies.

496 - INDEPENDENT STUDY IN MARKETING

1.00 to 4.00 Credits

An in-depth exploration of a subject of special interest. Can be repeated as the topic varies. Permission must be obtained in writing from the faculty-mentor and the Dean of the College prior to registration. Restricted enrollment. Prerequisite: Junior standing.

THE THOMAS JEFFERSON SMULL COLLEGE OF Engineering

Barry J. Farbrother, *Dean*

Accreditation and Association

Bachelors degree programs in civil, computer, electrical and mechanical engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). The College is a member of the American Society for Engineering Education and the Association for Computing Machinery and is recognized by the Ohio Board of Registration for Professional Engineers and Surveyors.

History and Tradition

In 1871 the first catalog of the University included a course in surveying. A department of Civil Engineering was organized in 1880 with its first graduate in 1882, Electrical Engineering in 1898, and Mechanical Engineering in 1904. The Electrical and Computer Engineering department was formed in 1998 and in 2001 the department of Electrical & Computer Engineering and Computer Science was established. Over 4,000 engineers have graduated from the Thomas Jefferson Smull College of Engineering. All programs continue to meet the highest standards of engineering excellence.

The tradition of the College is to treat each student as an individual, to keep class size small, and to maintain a close faculty- student relationship.

The following faculty chairs have been established to enhance the educational tradition of the college.

Herbert F. Alter Chair of Engineering Science

established in 1983 by Mrs. Alter in memory of her late husband, class of 1911 in mechanical engineering. The 2004-05 recipient is Dr. Srinivasa Vemuru, associate professor of electrical and computer engineering.

Engineering Alumni Chair

established in 1983 by donations from engineering alumni and friends in celebration of the college's centennial year. The 2004-05 recipient of the chair is Dr. Robert Ward, professor of civil engineering.

Leroy H. Lytle Distinguished Chair of Mechanical Engineering established in 1983 from the estate of Leroy H. Lytle, 1923 graduate of ONU. The 2004-05 recipient of the chair is Dr. Jed E. Marquart, professor of mechanical engineering.

Departments

There are three departments in the College of Engineering: **civil engineering, electrical & computer engineering and computer science, and mechanical engineering.**

Vision Statement

The vision of the T.J. Smull College of Engineering is to be recognized as a premier undergraduate engineering college.

Mission Statement

The mission of the College of Engineering of Ohio Northern University is to provide the highest quality undergraduate engineering programs in an environment that supports student endeavors, encourages faculty scholarship and provides for the personal growth of all community members.

We aspire to provide a teaching/learning environment that maximizes opportunities for student success. By instilling broad problem solving, design, and social skills, encouraging service to society, ethical behavior, and career-long learning, we prepare students for satisfying careers in which they can contribute to the betterment of society. We expect this preparation will enable graduates to become highly regarded throughout their professional careers, thereby bringing recognition to themselves and the institution. Toward this end we will:

- Maximize learning by incorporating new and effective pedagogical methods
- Develop leading edge curricula which are based on fundamentals
- Be responsive to technological advances
- Be adaptive to our industrial and student clients
- Prepare graduates who possess professional, technical and social skills
- Create a positive environment for the critical evaluation of new ideas

Guiding Principles

The College of Engineering is committed to the guiding principles below. Community members:

- will exhibit dignity, integrity, respect, and professionalism
- will assist all members of the College of Engineering - students, staff, and faculty to achieve their full potential
- will instill a spirit of pride, cooperation, and accountability
- believe that personal contact with, and concern for, our students are essential
- have a passion for the total development of the student
- recognize that in diversity there can be strength
- are committed to providing engineering programs of the highest quality, which provide breadth, and incorporate theoretical and experiential components
- are committed to career-long learning and service to society
- recognize that the College of Engineering is one component of the educational environment, and will offer support for other programs within the university.

Admission Standards

Early application is advisable. Students interested in engineering or computer science are encouraged to obtain advice on programs of study from the dean of the college and to request appropriate information and application materials from the Office of Admissions, Ohio Northern University, Ada, OH 45810.

In addition to the general requirements for admission to the University stated in this catalog, high school graduates must have 16 acceptable units of work. For engineering students, ten of these units are as follows: 4 units in English; 4 units in mathematics (2 units in algebra, 1 unit in geometry, and at least 0.5 units in trigonometry or its equivalent); and 2 units in science (1 unit in physics and preferably 1 unit in chemistry). For computer science students, fourteen of these units are as follows: 4 units in English; 4 units in mathematics as above; 6 units (in any combination) in history, social studies, languages or natural sciences. The college recommends but does not require that applicants have two units of a foreign language. The absolute minimum entry requirement is an ACT composite score of 20 with no individual score below 20.

Students entering the college of engineering should demonstrate strength in mathematics, preferably at or above the ACT 25 level.

Students who meet the admission standards of the University but are deficient in the mathematics or physics requirements of the college will be required to

make up their deficiency. The college requires that prospective students make up their high school deficiencies before entering as freshmen. Prospective students who do not meet the minimum requirement for admission to the college as freshmen may be admitted as General Science majors, and subsequently be admitted to the College of Engineering as sophomores providing they maintain a GPA of at least 2.00 during their freshman year.

Transfer students from other accredited universities or colleges may be admitted with advanced standing if they have an honorable dismissal and are eligible to return to the universities or colleges they previously attended. Transfer students who conceal their previous college attendance will have their admission to the college revoked. The college will accept transfer credits earned with a grade of C or better (C- is not acceptable). Transfer credit for engineering courses will normally only be accepted from an ABET accredited program. A maximum of 150 hours of transfer work will be accepted.

Degree Requirements

Bachelor of Science degree in civil, computer, electrical or mechanical engineering.

General Education Requirements

College faculty and staff are dedicated to educating the whole person and not simply producing technically competent graduates. Therefore our goal is to graduate engineers and computer scientists who will be able to:

- think and express themselves clearly;
- solve problems analytically and creatively;
- know and rely on themselves;
- listen, understand and work with others;
- demonstrate technological knowledge and skills;
- contribute to the good of humankind;
- practice truthful and ethical behaviors;
- demonstrate cultural understanding and an appreciation for diversity; and,
- demonstrate knowledge, skills and values related to a program of study or career.

All students are required to complete a general education requirement. The requirement includes specific courses and electives in the Humanities and Social Sciences: Writing 1 (ENGL 110), Ethics (PHIL 240), Religion Elective (1), Microeconomics (IBEC 202), and General Education Electives (3).

Each student should consider carefully the selection of electives for the general education requirements. While the student is given choices in this selection it is mandatory that these

choices be discussed and approved by the academic advisor.

Because the courses available change from year to year, they are not listed in this catalog.

An approved Honors Seminar may fulfill a requirement listed above. For specific information, see the office of the dean.

Bachelor of Science in Civil Engineering Curriculum

Freshman Year

Calculus 1, 2, 3 (MATH 163-64-65)	12 hours
Physics: Mech. & Lab (PHYS 231-34)	5 hours
Physics: H/L/S & Lab (PHYS 232-35)	5 hours
Freshman Enrichment (GE 100)	1 hour
Freshman Engineering 1,2,3 (GE 104,5,6)	9 hours
Writing 1 (ENGL 110)	4 hours
General Education	12 hours
TOTAL	48 hours

Sophomore Year

Calculus 4 (MATH 263)	4 hours
Differential Equations (MATH 275)	4 hours
Statistics for Scientists and Engineers (STAT 280)	4 hours
Science Elective	4 hours
Chemistry (CHEM 225-6)	8 hours
Lab for CHEM 226 (CHEM 227)	0 hours
Statics (GE 113)	4 hours
Dynamics (GE 214)	4 hours
Circuits 1 (GE 201)	4 hours
Strength of Materials (GE 223)	4 hours
Engineering Material Science (GE 243)	4 hours
Surveying (CE 203)	3 hours
TOTAL	47 hours

Junior Year

Environmental Science (CE 321)	4 hours
Water Treatment (CE 326)	4 hours
Geotechnical Engineering (CE 333)	4 hours
Structures 1,2 (CE 341-2)	8 hours
Reinforced Concrete Design (CE 343)	4 hours
Transportation 1,2 (CE 351-2)	8 hours
Fluid Mechanics (CE 362)	4 hours
Hydraulics (CE 363)	4 hours
General Education	8 hours
TOTAL	48 hours

Senior Year

CE Design Seminar 1 (CE 410)	2 hours
Project Management (CE 414)	4 hours
CE Design Project (CE 415)	4 hours
CE Design Seminar 2 (CE 417)	2 hours
Waste Water Treatment (CE 425)	4 hours
Soil Mechanics (CE 434)	4 hours
Steel Design (CE 444)	4 hours
Transportation 3 (CE 456)	4 hours
Hydrology (CE 464)	4 hours
CE Electives	9 hours
Ethics In Professional Life (PHIL 240)	4 hours

Elective	4 hours
TOTAL	49 hours

Bachelor of Science in Electrical Engineering Curriculum

A list of electives is available from the department office of Electrical & Computer Engineering and Computer Science.

Freshman Year 2005-2006

Calculus 1, 2, 3 (MATH 163-64-65)	12 hours
Physics: Mech. & Lab (PHYS 231-34)	5 hours
Physics: H/L/S and Lab (PHYS 232-35)	5 hours
Freshman Enrichment (GE 100)	1 hour
Freshman Engineering 1, 2, 3 (GE 104,5,6)	9 hours
Writing 1 (ENGL 110)	4 hours
General Education	12 hours
TOTAL	48 hours

Sophomore Year 2005-2006

Linear Algebra (MATH 272)	4 hours
Discrete Math (MATH 336)	4 hours
Differential Equations (MATH 275)	4 hours
Physics: E/M & Lab (PHYS 233-36)	5 hours
Circuits 1, 2 (GE 201-02)	8 hours
Ethics in Professional Life (PHIL 240)	4 hours
Programming 1 (ECCS 164)	4 hours
Calculus 4 (MATH 263)	4 hours
Statics (GE 113)	4 hours
Dynamics (GE 214)	4 hours
Digital Electronics (ECCS 261)	5 hours
TOTAL	50 hours

Junior Year 2005-2006

Chemistry 1 (CHEM 225)	4 hours
Chemistry 2 and Lab (CHEM 226-227)	4 hours
Signals and Systems 2 (ECCS 301)	4 hours
Filter Design (ECCS 323)	4 hours
Digital Electronics (ECCS 261)	5 hours
Microprocessors (ECCS 362)	4 hours
Analog Electronics 1, 2 (ECCS 321-22)	8 hours
Electromagnetics (ECCS 331)	5 hours
Energy Conversion (ECCS 335)	4 hours
Power Systems (ECCS 336)	4 hours
Humanities Elective	4 hours
TOTAL	50 hours

Senior Year 2005-2006

Statistics for Engineers (STAT 280)	4 hours
Senior Design Seminar (ECCS 404)	2 hours
Senior Design (ECCS 405)	3 hours
Engineering Tech. Comm. (ECCS 406)	3 hours
Digital Signal Processing (ECCS 411)	4 hours
Control Systems 1, 2 (ECCS 444-45)	8 hours
Commun. Systems 1, 2 (ECCS 458-59)	8 hours
Engineering Economy (ECCS 472)	4 hours
Technical Elective	4 hours
ECCS Elective	3 hours
Humanities/Social Sciences	8 hours
TOTAL	51 hours

Bachelor of Science in Computer Engineering Curriculum

A list of electives is available from the department office of Electrical & Computer Engineering and Computer Science.

Freshman Year 2005-2006

Calculus 1, 2, 3 (MATH 163-64-65)	12 hours
Physics: Mech. & Lab (PHYS 231-34)	5 hours
Physics: H/L/S and Lab (PHYS 232-35)	5 hours
Freshman Enrichment (GE 100)	1 hour
Freshman Engineering 1,2,3 (GE 104,5,6)	9 hours
Writing 1 (ENGL 110)	4 hours
Programming 1,2,3 (ECCS 164,5,6)	12 hours
TOTAL	48 hours

Sophomore Year 2005-2006

Linear Algebra (MATH 272)	4 hours
Discrete Math (MATH 336)	4 hours
Differential Equations (MATH 275)	4 hours
Physics: E/M & Lab (PHYS 233-36)	5 hours
Circuits 1, 2 (GE 201-02)	8 hours
Ethics in Professional Life (PHIL240)	4 hours
Data Structures 1, 2 (ECCS 268-69)	8 hours
Digital Electronics (ECCS 261)	5 hours
General Education Elective	8 hours
TOTAL	50 hours

Junior Year 2005-2006

Chemistry 1 (CHEM 225)	4 hours
Chemistry 2 and Lab (CHEM 226-227)	4 hours
Signals and Systems 2 (ECCS 301)	4 hours
Filter Design (ECCS 323)	4 hours
Digital Electronics (ECCS 261)	5 hours
Microprocessors (ECCS 362)	4 hours
Adv. Digital Electronics (ECCS 363)	4 hours
Data Structures 1 (ECCS 268)	4 hours
Computer Architecture (ECCS 365)	4 hours
Operating Systems (ECCS 466)	4 hours
Dynamics (GE 214)	4 hours
Social Science Elective	4 hours
TOTAL	49 hours

Senior Year 2005-2006

Statistics for Engineers (STAT 280)	4 hours
Senior Design Seminar (ECCS 404)	2 hours
Senior Design (ECCS 405)	3 hours
Engineering Tech. Comm. (ECCS 406)	3 hours
Digital Signal Processing (ECCS 411)	4 hours
Engineering Economy (ECCS 472)	4 hours
Compilers (ECCS 468)	4 hours
Networks and Data Comm. (ECCS 366)	4 hours
Software Engineering (ECCS 464)	4 hours
Computer Device Lab (ECCS 467)	4 hours
Software Elective	4 hours
Humanities/Social Sciences	12 hours
TOTAL	52 hours

Bachelor of Science in Mechanical Engineering Curriculum

Freshman Year 2005-2006

Calculus 1, 2, 3 (MATH 163-64-65)	12 hours
Physics: Mech. & Lab (PHYS 231-34)	5 hours
Physics: H/L/S & Lab (PHYS 232-35)	5 hours
Freshman Enrichment (GE 100)	1 hour
Freshman Engineering 1,2,3 (GE 104,5,6)	9 hours
Writing 1 (ENGL 110)	4 hours
General Education	12 hours
TOTAL	48 hours

Sophomore Year 2005-2006

Calculus 4 (MATH 263)	4 hours
Linear Algebra (MATH 272)	4 hours
Differential Equations (MATH 275)	4 hours
Physics: E/M & Lab (PHYS 233-36)	5 hours
Chemistry (CHEM 225-6)	8 hours
Lab for CHEM 226 (CHEM 227)	0 hours
Statics (GE 213)	4 hours
Dynamics (GE 214)	4 hours
Circuits 1 (GE 201)	4 hours
Circuits 2 (GE 202)	4 hours
Strength of Materials (GE 223)	4 hours
Engineering Material Science (GE 243)	4 hours
TOTAL	49 hours

Junior Year 2005-2006

Process of Mech. Design (ME 311)	4 hours
Adv. Strength of Materials (ME 319)	4 hours
Manufacturing Processes (ME 341)	4 hours
Mechanisms (ME 352)	5 hours
Thermodynamics (ME 362)	4 hours
Thermodynamics of Fluids (ME 363)	5 hours
Numerical Methods (ME 371)	4 hours
Engineering Analysis (ME 382)	4 hours
Finite Element Analysis (ME 383)	4 hours
Public Speaking (COMM 211)	4 hours
General Education	4 hours
Statistics for Scientists and Engineers (STAT 280)	4 hours
TOTAL	50 hours

Senior Year 2005-2006

Capstone 1, 2, 3, (ME 411-2-3)	4 hours
Mechanical Design of Components (ME 417)	4 hours
Fluid Mechanics (ME 464)	5 hours
Heat Transfer 1, 2 (ME 467-8)	9 hours
Technical Elective	4 hours
Control Systems (ME 419)	5 hours
Vibration Analysis (ME 418)	4 hours
Ethics in Prof. Life (PHIL 240)	4 hours
General Education	12 hours
TOTAL	51 hours

* A student must receive a passing grade in courses that are listed for graduation.

** Students need to take the courses listed for their class level for the 2005-06 academic year. They are subject to change in subsequent years.

Bachelor of Science - Computer Science Curriculum

General Education Requirements:

ENGL 110, 111 and 204, HIST 110 and 111, COMM 211 or 225, two additional social science **elective** courses, one fine arts **elective** course, one religion **elective** course, one philosophy **elective** course, four science **elective** courses, and one **elective** course in non-Western culture. A list of electives is available from the department office of Electrical & Computer Engineering and Computer Science. An approved Honors Seminar may fulfill a requirement listed above.

Freshman Year 2005-2006

Freshman Enrichment (GE 100)	1 hour
Programming 1,2,3 (ECCS 164-165-166)	12 hours
Calculus 1,2 (MATH 163-164)	8 hours
Writing 1,2 (ENGL 110-111)	8 hours
Western Civ. 1,2 (HIST 110-111)	8 hours
Religion Elective	4 hours
Fine Arts Elective	4 hours
TOTAL	45 hours

Sophomore Year 2005-2006

Programming Env. (ECCS 228)	4 hours
Assembly Language (ECCS 264)	4 hours
Data Structures 1, 2 (ECCS 268-69)	8 hours
Discrete Math (MATH 336)	4 hours
Linear Algebra (MATH 272)	4 hours
Great Works (ENGL 204)	4 hours
Science Elective 1,2,3	12 hours
Computer Science Elec (ECCS 2XX)	4 hours
General Electives	3 hours
TOTAL	47 hours

Junior Year 2005-2006

Foundations of CS (ECCS 448)	4 hours
Digital Logic (ECCS 360)	4 hours
Computer Architecture (ECCS 365)	4 hours
Operating Systems (ECCS 466)	4 hours
Computer Science Elec (ECCS 3XX)	8 hours
Statistics (STAT 280)	4 hours
Science Elective 4	4 hours
Social Science Elec 1,2	8 hours
General Electives	8 hours
TOTAL	48 hours

Senior Year 2005-2006

Compilers (ECCS 468)	4 hours
Software Engineering (ECCS 464)	4 hours
Org. Prog. Lang (ECCS 330)	4 hours
Sr. Design Sem. (ECCS 404)	2 hours
Senior Design (ECCS 405)	3 hours
Eng Tech Comm (ECCS 406)	3 hours
Communications (COMM 211 or 225)	4 hours
Philosophy Elective	4 hours
Non-Western Elective	4 hours
General Electives	8 hours
TOTAL	40 hours

Requirements for the Computer Science Minor

Programming 1,2,3 (ECCS 164-165-166)	12 hours
Data Structures and Algorithms 1 (ECCS 268)	4 hours
Computer Science Elec (ECCS 2XX)	4 hours

The student must also complete 8 additional hours in computer science, with at least one course taken at the 300 or 400 level.

Electrical Engineering students may count ECCS 361 and ECCS 362 as computer science electives.

Mechanical Engineering students may count ME 202 and ME 371 as computer science electives.

Graduation Requirements

A student qualifies for graduation by meeting specific course requirements as listed in the catalog year by year for the specific program at specific levels and by earning a minimum number of academic hours as defined by their particular program. In addition, a student must attain at least a 2.00 cumulative grade point average in all courses and at least a 2.00 cumulative grade point average in all engineering and computer science courses.

All degree candidates are required to spend their senior year in academic residence.

At commencement engineering students receive the Bachelor of Science degree in either civil, computer, electrical, or mechanical engineering. Computer science students receive the Bachelor of Science degree.

General Regulations

Each department in the college lists quarter by quarter the standard course load for a student. The normal maximum load is that which is listed by the department for that quarter at that level or 19 hours, whichever is larger. The dean, upon recommendation of the student's advisor, may permit a student to enroll for extra hours at an additional charge. See page 18 for overload charges beyond 19 credit hours. The normal requirement is a cumulative average of at least 3.00/4.00. Except where noted, credit hours earned in repeated courses can be counted only one time among the total hours required for graduation.

S/U Grade Option

Students in the College of Engineering are not permitted to register for courses on an S/U (Satisfactory/Unsatisfactory) basis if the course is offered on a graded basis.

Classification of Students

For purposes of classification, the minimum requirements for sophomore standing are 48 quarter credit hours (45 computer science program) of completed academic work; for junior standing, 96 quarter credit hours (90 computer science program); and for senior standing, 144 quarter credit hours (135 computer science program).

Academic Standing

A student is in good academic standing when the cumulative grade point average is equal to or greater than 2.00. When the cumulative grade point average falls below 2.00, a student is placed on probation. Normally, one quarter is given to raise the cumulative average to 2.00 or above. The status of probation may occur for two successive quarters if conditions and evidence indicate that the student is improving academically. Students on probation cannot participate in competitive activities of individuals, teams, or other groups officially designated as representing the University.

Any student on probation whose quarter grade point average for the following quarter is below a 2.00 will have his/her record reviewed by the appropriate department chairman and may be recommended to the dean for academic actions which may include suspension or dismissal. Unless otherwise indicated, suspension is for a period of three regular academic quarters. Students who have been suspended must petition the academic dean for lifting of the suspension.

Registration as a Professional Engineer

Registration as a Professional Engineer by the state, necessary for professional practice, requires licensing examinations and four years of experience after completing the Bachelor of Science degree. ONU senior engineering students are strongly encouraged to take the Fundamentals of Engineering (FE) exam which is offered in April each year. Typically 90%+ of graduating seniors take the exam and 90%+ pass the exam. The dean provides full information to students in their senior year. Students may also write the Secretary of the State Board of Registration for Professional Engineers and Surveyors, 77 South High Street, 16th Floor, Columbus, OH 43266-0314.

Engineering Graduates and Law School

Graduating seniors of the Smull College of Engineering interested in entering the Pettit College of Law at Ohio Northern should refer to the program description material on page 33 of this catalog.

Dual Degree Programs

Information concerning dual degree programs involving the College of Engineering appears on page 33 of this catalog. Students pursuing such a program are required to take advanced mathematics in the first year. Students may receive further details from the academic dean.

Cooperative Education Program

Cooperative education is a plan of educational development designed to integrate classroom study with planned and supervised work experiences. Engineering and computer science co-op students normally are employed in semiprofessional capacities in research, development, manufacturing, and engineering departments of industrial companies, consulting firms, and in federal and state agencies. The program also includes the opportunity for the students to work for an international firm in an international environment. The international co-op component is modified to include courses in the appropriate language and culture and a six-month overseas assignment during the junior year. The employment sessions begin in the summer following the sophomore year and include a contracted four to six terms of co-op experience. This five-year program is optional and currently available for civil, computer, electrical, and mechanical engineering students and computer science students.

In fall 2001, the college of engineering initiated the Engineer-in-Residence program. A professional engineering office located within the college of engineering and supervised by a practicing engineer allows students to obtain professional work experience throughout the academic year. Competition for these positions is high, since these remunerated appointments make it possible for students to complete the cooperative education program and graduate in four years.

Interdisciplinary Programs

In addition to the regular degree programs in civil, computer, electrical, and mechanical engineering and the computer science major, several interdisciplinary programs have been developed. They are a Business Administration Minor or Op-

tion, a Computer Science Minor, a Bio-Medical Option, a Bio-Medical Sciences Minor, and an Environmental Option, among others. The Business Administration Option may be taken with any of the college of engineering degree programs. The Computer Science Minor is available to all except Computer Engineering and Computer Science majors; the Bio-Medical Option is designed to be taken with either the electrical or computer engineering program; the Bio-Medical Sciences Minor is designed to be taken with the mechanical engineering program; and the Environmental Option complements the civil and mechanical engineering programs.

This is accomplished by proper planning and judicious use of social science and technical electives. Further, it is accomplished without a sacrifice in the engineering content of the four degree programs. In order to avoid scheduling conflicts, it is essential that the student follow the program as designated. A copy of each of the interdisciplinary programs may be obtained from the respective departmental offices. Any student may select one of the programs as an adjunct to the engineering degree program with the approval of the appropriate department chairman and the academic dean. In order for the student to continue in the program the cumulative average must be at least 2.50. Additional hours in the minor or option are required for graduation. Pursuit of an option or minor may involve several quarters where loads exceed 19 quarter hours and/or summer sessions. In such cases, a course overload fee is required for academic work in excess of 19 hours. (See page 18.) A minimum of 28 hours in the minor or option is required for graduation. The diploma does not indicate the minor or option; however, the transcript does show the appropriate program designation.

Courses required for the **Business Administration Option** are two courses in economics, two courses in accounting, one course in business law, and two business electives.

The **Bio-Medical Option** requires a three-course sequence in introductory biology, zoology, and anatomy; a two course intermediate level sequence in anatomy/physiology; and two technical electives chosen from a specific list of courses. (Contact the Electrical & Computer Engineering and Computer Science department office for the list of possible electives).

The **Bio-Medical Sciences Minor** requirements are determined by the Department of Biological and Allied Health Sciences.

The **Environmental Option** includes one course in the biological sciences, five courses in civil engineering, and two environmental option electives, which focus on various aspects of the environment.

GENERAL ENGINEERING COURSES

Subject - General Engineering (GE)

100 - FRESHMAN ENRICHMENT

1.00 Credit

The practices, methods, and procedures which are common to problems and designs encountered in engineering. To form a strong bond between the student and department and provide a forum for freshman advising. Graded S/U. Offered Fall Quarter.

104 - FRESHMAN ENGINEERING 1 (3+0)

3.00 Credits

First of three team-based design projects to be completed during the freshman year. Exposure to engineering tools and design methodology. Problem solving as well as written and oral reports will be stressed. Offered Fall Quarter.

105 - FRESHMAN ENGINEERING 2 (3+0)

3.00 Credits

Continuation of Freshman Engineering 1. Offered Winter Quarter. Prerequisite: GE 104.

106 - FRESHMAN ENGINEERING 3 (2+2)

3.00 Credits

Continuation of Freshman Engineering 2. Offered Spring Quarter. Prerequisite: GE 105.

113 - STATICS (4+0)

4.00 Credits

Fundamental principles of statics with vector methods. Emphasis on free body diagrams and equations of equilibrium. Topics include resultants of force systems, centroids, centers of gravity, moments of inertia, equilibrium, shear and moment diagrams, loads, trusses, and internal forces. Prerequisites: MATH 163 and PHYS 231. Offered Fall and Winter Quarter.

180 - SPECIAL TOPICS

1.00 to 4.00 Credits

Selected topics of current interest in general engineering. Prerequisite: Permission of instructor.

190 - INDEPENDENT STUDY

1.00 to 4.00 Credits

Individual study of topic of particular interest to the student in general engineering. Prerequisite: Permission of instructor.

201 - CIRCUITS 1 (3+2)

4.00 Credits

DC Circuit Analysis. Ohm's Law. Kirchoff's Laws. Dependent Sources. Nodal and Loop Analysis. Op-Amps. Network Theorems. Single-time constant circuits. P-Spice. Prerequisite: MATH 164. Offered Fall and Winter Quarter.

202 - CIRCUITS 2 (3+2)

4.00 Credits

Network Theorems (AC Applications). Power. Three-Phase Circuits. Fourier Analysis Techniques. P-Spice. Prerequisite: GE 201. Offered Winter Quarter.

214 - DYNAMICS (4+0)

4.00 Credits

Fundamental principles of mechanics with vector methods as applied to dynamics. Topics include: kinematics, absolute and relative motion, force, mass and acceleration, work and energy, and impulse and momentum. Prerequisites: MATH 164 and GE 113. Offered Winter and Spring Quarters.

223 - STRENGTH OF MATERIALS (4+0)

4.00 Credits

Elastic analysis of deformable bodies using concepts of stress and strain. Topics include: members subject to tension, compression, torsion, and flexure; development and application of Mohr's circle, determinate beam deflection, material properties, pressure vessels, and composite beams. Prerequisite: GE 113. Offered Winter Quarter.

243 - ENGINEERING MATERIAL SCIENCE (3+2)

4.00 Credits

Fundamental physical and microstructural characteristics of materials and how these relate to their mechanical behavior. Evaluation of these properties for material selection. Metallurgical aspects including equilibrium diagrams. Includes laboratory experiments in Material Science. Offered Spring Quarter.

250 - ORIENTATION FOR CO-OP STUDENTS (1+0)

.00 Credits

An introduction to the co-op program. Includes an introduction to industry, the industrial work environment, resume writing, interviewing and job search techniques. Designed to prepare the sophomore engineering student for the industrial experience. Prerequisite: Sophomore standing. Graded S/U. Offered Fall Quarter.

280 - SPECIAL TOPICS

1.00 to 4.00 Credits

Selected topics of current interest in general engineering. May be repeated for credit. Prerequisite: Permission of instructor.

290 - INDEPENDENT STUDY

1.00 to 4.00 Credits

Individual study of topic of particular interest to the student in general engineering. Prerequisite: Permission of instructor.

350 - PROFESSIONAL PRACTICE

1.00 Credit

Employment in a semi-professional capacity in a research, development, manufacturing, or engineering department of an industrial company, a consulting firm or a governmental agency. A student report on the assignment and an employer's evaluation are required. May be repeated up to a total of six hours. Prerequisites: Junior standing, successful completion of GE 250, and CUM GPA of 2.5 minimum. Graded S/U.

DEPARTMENT OF CIVIL ENGINEERING

Professors Smalley (*Chair*), Ward; Associate Professors Bazlamit, Berdanier; Assistant Professor Reza; Visiting Assistant Professor Boriboonsomsin

Mission Statement

The mission of the civil engineering department is to provide an overall scholarly, collegial, and professional atmosphere of undergraduate education by which students are prepared for careers in civil engineering.

To implement the mission, the department will:

- Provide a program that prepares students for entry-level professional employment or advanced studies at the graduate level by offering a curriculum based on a strong background in the fundamentals of engineering, science, and mathematics structured for breadth of coverage of civil engineering principles.
- Provide for areas of concentration, options, minors, and an opportunity for work experience through a cooperative education program.
- Provide for a student body of appropriate quality and size that is active in the community.
- Provide a faculty who excel in undergraduate scholarship and who are active in their profession.
- Provide state-of-the-practice physical facilities, including classrooms, laboratories, and support areas.
- Provide for institutional commitment for support in the areas of administration, financial resources, and institutional facilities.

Program Educational Objectives

Upon graduation, Civil Engineering students will have:

1. the knowledge and skills necessary for entry-

level professional employment in civil engineering or advanced study at the graduate level,

2. an awareness and understanding of their ethical, legal, and professional responsibilities and the impact of civil engineering on society, and a recognition of the need for career-long learning,
3. the ability to communicate effectively.

Program Outcomes

Each Civil Engineering graduate will:

1. be able to use an engineering methodology to formulate, analyze, and solve engineering problems in sub-discipline areas of civil engineering.
2. be able to use an engineering methodology to design a component, process, or system in sub-discipline areas of civil engineering.
3. demonstrate proficiency in the required mathematics, science, and basic engineering courses.
4. be able to conduct standard laboratory and field procedures, or to devise procedures when necessary, and to analyze and interpret the resulting data.
5. have experienced an academic environment that promotes professionalism.
6. demonstrate proficiency in required and elective social science and humanities courses.
7. attend meetings, seminars, or workshops of an appropriate professional organization.
8. be able to formulate, draft, and critique technical writing.
9. be able to develop, deliver, and critique oral technical presentations.
10. be able to produce, read, and interpret graphical presentations.

Subject - Civil Engineering (CE) _____

203 - SURVEYING (2+2)

3.00 Credits

Plane surveying; use of level, distance measurement devices, data collectors, and total stations; traversing, roadway applications, and topographic mapping. Prerequisite: MATH 163. Offered Fall Quarter.

313 - NUMERICAL AND STATISTICAL METHODS

3.00 Credits

Principles of numerical methods used in solving civil engineering problems. Topics include numerical solution of single variable equations, systems of nonlinear equations, integration,

differentiation, and differential and partial differential equations by finite differences. Prerequisite: MATH 275. Offered Spring Quarter.

321 - ENVIRONMENTAL SCIENCE (3+2)

4.00 Credits

Sources and characteristics of pollutants, their effects on the environment, humans, and animals. Emphasis placed on interdisciplinary approach to reduce and treat wastes. Prerequisites: CHEM 115 or 225. Offered Fall Quarter.

323 - SOLID AND HAZARDOUS WASTE MANAGEMENT

3.00 Credits

Sources and characteristics of solid and hazardous wastes: collection, transportation, disposal, and environmental laws. Selection of disposal sites and conceptual design of disposal facilities. Prerequisite: CE 321.

326 - WATER TREATMENT DESIGN

4.00 Credits

Physical, chemical, and biological processes in drinking water treatment systems. Prerequisite: CE 321. Offered Spring Quarter.

333 - GEOTECHNICAL ENGINEERING (3+2)

4.00 Credits

Principles of geologic processes and properties of earth materials pertinent to civil engineering. Terrain and site investigation techniques. Physical characteristics, index properties, classifications, and compaction of soils. Offered Spring Quarter.

341 - STRUCTURES 1 (3+2)

4.00 Credits

Analysis of determinate beams, trusses, and frames. Load distribution deflections, moving loads, influence lines, cables and arches. Prerequisite: GE 223. Offered Fall Quarter.

342 - STRUCTURES 2 (4+0)

4.00 Credits

Fundamentals of statically indeterminate structures using classical, approximate, and computer solutions. Prerequisite: CE 341. Offered Winter Quarter.

343 - REINFORCED CONCRETE DESIGN (3+2)

4.00 Credits

Strength design of beams, columns, slabs, and footings using reinforced concrete. Application of ACI code and specifications to design. Concrete properties. Laboratory on concrete testing. Offered Spring Quarter. Prerequisite: CE 341.

351 - TRANSPORTATION 1 (4+0)*4.00 Credits*

Components of transportation systems; traffic flow modeling, geometric design of highways, horizontal and vertical curves, drainage and surface runoff using AASHTO procedures. Prerequisite: CE 203. Offered Fall Quarter.

352 - TRANSPORTATION 2 (4+0)*4.00 Credits*

Principles of traffic engineering, capacity, and level of service. Capacity analysis of two-lane highways, multi-lane highways, and freeways. Emphasis on intersection analysis and design. Prerequisite: CE 351. Offered Winter Quarter.

362 - FLUID MECHANICS (3+2)*4.00 Credits*

Principles of the mechanics of fluids; engineering properties of fluids, fluid statics, fluid dynamics by continuity, momentum and energy principles; steady flow in pipes. Offered Winter Quarter.

363 - HYDRAULICS (3+2)*4.00 Credits*

Hydraulic analysis of piping systems and hydraulic structures: flow analysis and measurement, friction losses, minor losses, pump design, and water hammer; dimensional analysis and similitude. A water distribution system design is a term project. Prerequisite: CE 362.

371 - URBAN PLANNING*4.00 Credits*

Principles of city and regional planning; land use, zoning, subdivision regulations, metropolitan problems and urban development. Applications in transportation planning and the environmental areas. Prerequisite: Junior standing.

380 - SPECIAL TOPICS*1.00 to 4.00 Credits*

Selected topics of current interest in civil engineering. Prerequisite: Permission of instructor.

390 - INDEPENDENT STUDY*1.00 to 4.00 Credits*

Individual study of topic of particular interest to the student in civil engineering. Prerequisite: Permission of instructor.

410 - CE DESIGN SEMINAR 1*2.00 Credits*

Engineering design process; selection of senior design project; oral and written presentation of project proposal. Prerequisite: CE senior standing. Offered Fall Quarter.

414 - PROJECT MANAGEMENT (3+2)*4.00 Credits*

Principles of organization, management, and control of civil engineering projects. Topics include present and emerging legal and technical issues, critical path methods, and engineering economics. Prerequisite: Senior standing. Offered Fall Quarter.

415 - CIVIL ENGINEERING DESIGN PROJECT*4.00 Credits*

Capstone design project, under the specific guidance of a civil engineering faculty member. Prerequisite: CE 410. Offered Winter Quarter.

417 - CE DESIGN SEMINAR 2 (2+0)*2.00 Credits*

Continuation of civil engineering senior design project. Prerequisite: CE 415.

425 - WASTEWATER TREATMENT DESIGN*4.00 Credits*

Physical, chemical, and biological processes in water and wastewater treatment systems and their relationship to the environment. Prerequisite: CE 363. Offered Winter Quarter.

427 - WATERSHED WATER QUALITY ANALYSIS (2+2)*3.00 Credits*

An integrated lecture and field laboratory experience to delve more deeply into the mass balance and kinetic relationships in environmental processes presented in CE 321. Participation in laboratory and field experiences to determine common environmental water quality parameters and their impacts on surface water quality. Report preparation included. Prerequisite: CE 321.

434 - SOIL MECHANICS (3+2)*4.00 Credits*

Principles of the mechanics of soils, settlement, consolidation, shear strength, and two-dimensional seepage. Offered Fall Quarter. Prerequisite: CE 333.

438 - FOUNDATIONS*3.00 Credits*

Analysis and design of foundations, retaining structures and slopes. Offered Winter Quarter. Prerequisite: CE 434.

444 - STEEL DESIGN (3+2)*4.00 Credits*

Design of beams, columns, tension members, frames and connections using structured steel. Loads and material properties. Application of AISC code and specifications to design. Offered Fall Quarter. Prerequisite: CE 341.

446 - STRUCTURAL DESIGN (4+0)

4.00 Credits

Design of structural projects. Prerequisites: CE 343 and 444.

456 - TRANSPORTATION 3 (3+2)

4.00 Credits

Design of pavements for transportation facilities; material properties and their impact on pavement design. Prerequisite: CE 351. Offered Spring Quarter.

464 - HYDROLOGY (3+2)

4.00 Credits

Estimates of population, water usage, and wastewater generation; the hydrologic cycle, precipitation and streamflow data measurement and analysis; runoff prediction, hydrographs, flood routing, and open channel flow. A design term project is required. Prerequisite: CE 362. Offered Fall Quarter.

466 - WATER RESOURCES (3+2)

4.00 Credits

Continuation of open channel flow analysis with sewer design and modeling water surface profiles. Groundwater topics of confined and unconfined aquifers, steady and unsteady groundwater hydraulics, aquifer pumping tests, and mathematical groundwater modeling. Prerequisite: CE 464.

480 - SPECIAL TOPICS

1.00 to 4.00 Credits

Selected topics of current interest in civil engineering. Prerequisite: Permission of instructor.

490 - INDEPENDENT STUDY

1.00 to 4.00 Credits

Individual study of topic of particular interest to the student in civil engineering. Prerequisite: Permission of instructor.

DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING AND COMPUTER SCIENCE

Professors Farbrother (*Dean*), Thede; Associate Professors Al-Olimat, Estell (*Chair*), Herr, Hurtig (*Assistant Dean*), Retterer, Vemuru; Assistant Professors Chen, Luo

Mission and Purpose Statement

The mission of the electrical & computer engineering and computer science department is to develop graduates who are creative, productive, ethical, and contributing members of society.

It is the purpose of the department to provide:

- a professional and approachable faculty who are dedicated to mentoring students.
- accessible, hands-on, practical laboratory experiences using relevant equipment and disciplined practices.
- opportunities for students to develop and practice oral and written communications skills.
- a broad-based curriculum that stresses fundamentals and the development of a professional work ethic.
- an environment that will produce students who are creative problem solvers while considering ethical and societal implications.

COMPUTER SCIENCE

Program Educational Objectives

Graduates of the Computer Science program will:

1. be successful in their chosen career.
2. engage in career-long learning.
3. be effective communicators with those inside and outside of computer science.
4. understand the professional, ethical and moral responsibilities of computer scientists.
5. understand the impact that their solutions have on society, both locally and globally.
6. be motivated to accept challenging assignments and responsibilities.
7. be productive members of society.
8. act as mentors and role models to both junior members in the profession and to students of computer science.

Program Outcomes

1. Computer science graduates will have a broad understanding of the world around them and the variety of people in it. They will be able to communicate effectively, orally and in writing. Each graduate will:
 - 1.1 have broad exposure to topics in the arts, social sciences and history.
 - 1.2 have successfully demonstrated competence in reading comprehension and in writing.
 - 1.3 have exposure to topics in the physical sciences.
2. Graduates of the program will understand the abundance of languages and language types useful in the discipline and be able to design, build and use a wide variety of structures implemented in those languages. Each graduate will:
 - 2.1 have experience with mathematics as a language and be able to build mathematical models of real world entities.

- 2.2 understand the theory of languages and how that theory generates some of the core ideas of the discipline of computer science.
- 2.3 see the relationship between the theory of computing and the practice of computing in concrete ways.
- 2.4 learn multiple programming languages and multiple operating systems and demonstrate competence in their use.
- 2.5 be able to create mathematical structures (commonly called classes) using a variety of languages.
- 2.6 will recognize the Fundamental Theorem of Control Structures and know its implications in programming language design.

3. Graduates of the program will understand the theory of computing and know the process and algorithms appropriate for the discipline so they will be able to make judgements regarding the fitness of automated solutions to various problems and to use generally accepted methods to produce those solutions.

Each graduate will:

- 3.1 be able to describe a Turing machine.
- 3.2 understand the implications of the main theorems in the theory of computing.
- 3.3 be able to build and use the fundamental data structures.
- 3.4 understand the object-oriented paradigm.
- 3.5 know the fundamental algorithms that are used in computer science.

4. Graduates will be familiar with and be able to select and use the tools and devices available to build solutions to problems and have the skills to carry out the design and implementation of the same.

Each graduate will:

- 4.1 have experience with an integrated development environment.
- 4.2 have experience with a collection of software development components and their relationship to each other (in the context of a command line environment).
- 4.3 have participated in an integral way in the design and implementation of a hardware and/or software system.

5. Graduates of the program will know the importance of creating solutions that clients want and that users can use.

Each graduate will:

- 5.1 have experience with writing code to both written and oral specifications.
- 5.2 have experience with testing interfaces and with non-technical people who test the interfaces build by the graduate.

6. Graduates of the program will be aware of ethical issues involved in producing solutions to problems. In particular, they will be aware of the sensitive nature of the processes and data that must be revealed to them during design, implementation and testing of problem solutions and they will be prepared to follow the ethical standards of the computing profession throughout their careers.

Each graduate will:

- 6.1 have been exposed to discussion and evaluation about the ethical issues related to proprietary data, systems and processes. Some graduates may get additional exposure through senior design projects.
- 6.2 be exposed to the various ethical standards of the computing profession through speakers and classroom discussions.

COMPUTER ENGINEERING

Program Educational Objectives

Graduates of the Computer Engineering program will:

- 1. be successful in their chosen career.
- 2. engage in career-long learning.
- 3. be effective communicators with those inside and outside of computer engineering.
- 4. understand the professional, ethical, and moral responsibilities of engineers.
- 5. understand the impact that their solutions have on society, both locally and globally.
- 6. be motivated to accept challenging assignments and responsibilities.
- 7. be productive members of society.
- 8. act as mentors and role models to junior engineers and students of engineering.

Program Outcomes

Those students who are about to graduate with a degree in Computer Engineering will:

- 1. be able to apply their knowledge of math, science and engineering in combination with the use of appropriate techniques, skills and engineering tools to identify, formulate and solve computer engineering problems.
- 2. be able to use engineering design methodology to produce a component, process or system either independently or in a team environment.
- 3. have the ability to function in an engineering environment requiring communication between team members possessing separate skills and responsibilities yet working toward a common goal.
- 4. be able to conduct engineering experiments, and analyze, interpret, and communicate the results in an effective manner in both written and oral form.

5. recognize the need to continue learning in order to maintain an awareness of current technical challenges.
6. understand the professional, ethical and moral responsibilities of engineers and the impact that their solutions have on society, both locally and globally.

ELECTRICAL ENGINEERING

Program Educational Objectives

Graduates of the Electrical Engineering program will:

1. be successful in their chosen career.
2. engage in career-long learning.
3. be effective communicators with those inside and outside of electrical engineering.
4. understand the professional, ethical, and moral responsibilities of engineers.
5. understand the impact that their solutions have on society, both locally and globally.
6. be motivated to accept challenging assignments and responsibilities.
7. be productive members of society.
8. act as mentors and role models to junior engineers and students of engineering.

Program Outcomes

Those students who are about to graduate with a degree in Electrical Engineering will:

1. be able to apply their knowledge of math, science, and engineering in combination with the use of appropriate techniques, skills, and engineering tools to identify, formulate, and solve electrical engineering problems.
2. be able to use engineering design methodology to produce an electrical component, process, or system either independently or in a team environment.
3. be able to function in an engineering environment requiring communications between separate skills and responsibilities yet working toward a common goal.
4. be able to conduct electrical engineering experiments, and analyze, interpret, and communicate the results in an effective manner in both written and oral form.
5. be able to continue learning in order to maintain an awareness of current technical challenges in electrical engineering and therefore be able to accept increasing professional responsibility.
6. understand the professional, ethical, and moral responsibilities of engineers and the impact that their solutions have on society, both locally and globally.

Subject - Electrical & Computer Engineering and Computer Science (ECCS)

133 - PROGRAMMING IN VISUAL BASIC

4.00 Credits

Simple event-driven programming using the Visual Basic language. Simple data types, expressions, conditionals and iteration. THIS COURSE DOES NOT SATISFY ANY REQUIREMENTS FOR THE MAJOR IN COMPUTER ENGINEERING OR COMPUTER SCIENCE. (Formerly CS 133) Offered Winter Quarter.

164 - PROGRAMMING 1 (4+0)

4.00 Credits

Basic programming techniques, simple data types, expressions, functions, conditionals, iteration, and arrays. The use of a high-level programming language with a focus on simple algorithm development and writing programs that meet specifications. Recommended background: MATH 120. (Formerly CS 164 and ECE 164)

165 - PROGRAMMING 2 (4+0)

4.00 Credits

Continuation of ECCS 164 including dynamic memory allocation and the object-oriented programming paradigm (classes, objects, methods, inheritance, polymorphism, information hiding). Prerequisite: ECCS 164. (Formerly CS 165 and ECE 165) Offered Winter Quarter.

166 - PROGRAMMING 3 (4+0)

4.00 Credits

Continuation of topics from ECCS 165 with the possible introduction of a second programming language. Usage of libraries, components, and the graphical user interface. Prerequisite: ECCS 165. (Formerly CS 166 or ECE 166) Offered Spring Quarter.

182 - ECE CONCEPTS 1 (1+0)

1.00 Credit

Construction, measurement, and testing of electronic circuits and systems. Laboratory practices. Advanced registration. Observation and evaluation of design process as applied to the current projects. Graded S/U. Offered Winter Quarter. Restricted to students in the College of Engineering.

183 - ECE CONCEPTS 2 (1+0)

1.00 Credit

Continuation of ECCS 182. Prerequisite: ECCS 182. Graded S/U. Offered Spring Quarter. Restricted to students in the College of Engineering.

203 - SIGNALS AND SYSTEMS 1 (4+0)*4.00 Credits*

Linear time domain analysis techniques including impulse response and the superposition integral. Frequency domain analysis including Laplace transform and Fourier series. Prerequisite: MATH 275 and GE 202. (Formerly ECE 203) Offered Spring Quarter.

228 - PROGRAMMING ENVIRONMENTS (4+0)*4.00 Credits*

Software development environments with integrated compiler, linker, debugger, editor, browser and project management. Development of an application with a graphical user interface (GUI). Additional study of object-oriented programming, inheritance and polymorphism. Prerequisite: ECCS 166. (Formerly CS 228) Offered Fall Quarter.

231 - INTRODUCTION TO COBOL (4+0)*4.00 Credits*

Programming in COBOL with business applications. Offered alternate years. (Formerly CS 231)

241 - WEB-ENABLED PROGRAMMING (4+0)*4.00 Credits*

The World Wide Web as a programming platform. Exploration of client-side and server-side technologies and related human-computer interaction issues as applied to web site design. Persistence of state and its ethical implications. Course assumes basic knowledge of web page design and related authoring tools. Offered alternate years. Prerequisite: ECCS 166. (Formerly CS 241)

261 - DIGITAL ELECTRONICS (4+3)*5.00 Credits*

Combinational logic and synchronous sequential system analysis and design. Definition and characterization of logic gates at the transistor level; Karnaugh maps; Moore and Mealy structures; state diagrams and state tables, application of software design tools. Characterization and synthesis with PLD and FPGA devices. Design projects. Integrated laboratory experimental activities. Prerequisites: MATH 336, GE 201 and ECCS 164. (Formerly ECE 361 and ECCS 361) Offered Spring Quarter.

264 - ASSEMBLY LANGUAGE AND COMPUTER ORGANIZATION (4+0)*4.00 Credits*

Computer structure and machine language, assembly language programming, macros, program segmentation and linkage. Prerequisite: ECCS 166. (Formerly CS 264 and ECE 264) Offered Spring Quarter.

268 - DATA STRUCTURES AND ALGORITHMS 1 (4+0)*4.00 Credits*

Emphasis on data abstraction as a primary tool in software construction. Use of modern programming language abstraction features to implement classical data structures: linear structures (lists, stacks, queues), tree structures (BTrees, AVL Trees, Splay Trees), hash tables and graphs. Introduction to space and time complexity analysis. Prerequisites: MATH 336 and ECCS 166. (Formerly CS 268 and ECE 268) Offered Winter Quarter.

269 - DATA STRUCTURES AND ALGORITHMS 2 (4+0)*4.00 Credits*

Continuation of ECCS 268. Performance analysis. Advanced data structures (graphs, heaps, trees). Divide-and-conquer, greedy, backtracking, and parallel algorithms. NP-Hard and NP-Complete problems. Data models of database systems. Prerequisite: ECCS 268. Offered Spring Quarter.

292 – EXTERNAL RESEARCH EXPERIENCE*1.00 to 4.00 Credits*

A planned learning experience involving participation in an approved off-campus research program. A paper and an oral presentation regarding the research experience are required. Department approval required prior to research experience. Graded S/U. Prerequisite: Permission of instructor.

301 - SIGNALS AND SYSTEMS 2 (4+0)*4.00 Credits*

Continuous frequency domain analysis using the Fourier transform. Analysis of multiple input/output systems using state variables. Discrete time analysis using the Z-Transform. Prerequisite: ECCS 203. (Formerly ECE 301) Offered Fall Quarter.

321 - ANALOG ELECTRONICS 1 (3+3)*4.00 Credits*

Analysis and design of analog electronic circuits using semiconductor diodes, transistors and integrated circuits. Computer techniques will be combined with laboratory work for several projects during the quarter. Prerequisite: ECCS 203. (Formerly ECE 321) Offered Fall Quarter.

322 - ANALOG ELECTRONICS 2 (3+3)*4.00 Credits*

Continuation of ECCS 321. Prerequisite: ECCS 321. (Formerly ECE 322) Offered Winter Quarter.

323 - FILTER DESIGN (3+2)

4.00 Credits

Analysis and design of electronic filters including Butterworth and Chebyshev lowpass, highpass, bandpass and bandstop examples. Filters will be designed using several computer applications and evaluated via computer and laboratory measurements. Prerequisite: ECCS 301. (Formerly ECE 323) Offered Spring Quarter.

330 - ORGANIZATION OF PROGRAMMING LANGUAGES (4+0)

4.00 Credits

Theoretical investigation of programming language constructs; illustration of construct implementation in popular programming languages. Prerequisite: ECCS 264. (Formerly CS 330) Offered Fall Quarter.

331 - ELECTROMAGNETICS (5+0)

5.00 Credits

An axiomatic approach to static electric fields, static magnetic fields, and time varying fields leading to Maxwell's equations. Fundamentals of analysis in electromagnetism with engineering application to transmission lines. Prerequisites: MATH 263 and PHYS 233. (Formerly ECE 331) Offered Fall Quarter.

332 - OPERATIONS RESEARCH (4+0)

4.00 Credits

Optimal decision making in deterministic systems; linear programming model, simplex method and algorithms, primal and dual problem, sensitivity analysis, transportation and transshipment, assignment, shortest route, minimal spanning tree, maximal flow, PERT, game theory, and non-linear programming. Prerequisite: MATH 272. (Formerly CS 332) (Also listed as MATH 332)

335 - ENERGY CONVERSION (3+3)

4.00 Credits

Analysis and design of electrical energy conversion systems emphasizing electromechanical devices, system representation, system analysis and system design. Prerequisites: GE 202 and ECCS 331. (Formerly ECE 332) Offered Winter Quarter.

336 - POWER SYSTEMS (3+3)

4.00 Credits

Single line diagrams and per unit calculations, modeling of transmission lines. Load flow techniques, economic dispatch, fault studies. Prerequisite: ECCS 335. (Formerly ECE 333) Offered Spring Quarter.

341 - ARTIFICIAL INTELLIGENCE (4+0)

4.00 Credits

Artificial intelligence problems and techniques for their solution. Includes use of LISP, search algorithms, knowledge representation, expert systems, parsing language and language comprehension, learning. Prerequisite: ECCS 268. Offered alternate years. (Formerly CS 341)

348 - DATABASES (4+0)

4.00 Credits

Overview of data models (Entity-Related, Relational, Object-Oriented) and applications of database systems. Relational algebra. Structured Query Language (SQL). Security issues. Prerequisite: ECCS 268. Offered Winter Quarter. (Formerly CS 348)

360 - DIGITAL LOGIC (3+3)

4.00 Credits

Specification, analysis and implementation of combinational circuits. Two-level and multi-level gate networks. Specification, analysis and design of sequential systems. Standard logic modules and programmable logic arrays. Application of VHDL and Xilinx software design tools. Verification of digital systems in FPGAs or CPLDs. Prerequisite: MATH 336. Offered Fall Quarter.

362 - MICROPROCESSORS (3+3)

4.00 Credits

Microprocessors and embedded microprocessor system design. Microprocessor structure, registers, RAM and ROM addressing. Machine cycles and timing relationships. Input and output ports and addressing. Assembly level programming. Microcontroller structure, instruction set and programming. Use of development systems and design simulators. Embedded microcontroller design projects. Integrated laboratory experimental activities. Prerequisite: ECCS 361 or ECCS 261. (Formerly ECE 362) Offered Winter Quarter.

363 - ADVANCED DIGITAL ELECTRONICS (3+3)

4.00 Credits

VLSI Fabrication Process, MOS transistor and SPICE modeling, MOS inverters; static and dynamic characteristics, interconnect effects, CMOS static logic families, CMOS dynamic logic circuits, semiconductor memories and implementations, I/O Circuits, System Design Topics on Design for Manufacturability and Testability; Use of industry-standard computer-aided design tools to simulate, design and verify CMOS integrated circuits. Prerequisites: ECCS 361 or ECCS 261 and ECCS 365 is recommended. (Formerly ECE 363) Offered Spring Quarter.

365 - COMPUTER ARCHITECTURE (3+3)

4.00 Credits

Aspects of computer hardware; computer arithmetic, microarchitecture design (both datapath and control unit), instruction sets, storage hierarchies. Introduction to system organization. Current families of microprocessors illustrating design tradeoffs. Prerequisites: ECCS 264 and 360 or 361 or 261. (Formerly CS 365 and ECE 365) Offered Winter Quarter.

366 - NETWORKS AND DATA COMMUNICATION (4+0)

4.00 Credits

Networking using the internet protocol stack-application, transport, network, link and physical layers. Detailed study of many of the widely used protocols (IP, TCP, UDP, HTTP, etc.) and of widely deployed devices (hubs, bridges, switches, routers, etc.). Issues of ethical behavior of network users. Prerequisite: ECCS 268. (Formerly CS 346, CS 366 and ECE 366) Offered Winter Quarter.

380 - SPECIAL TOPICS

1.00 to 4.00 Credits

Selected topics in electrical or computer engineering or computer science of current interest. May be repeated for credit. Prerequisite: Permission of instructor. (Formerly ECE 380)

390 - INDEPENDENT STUDY

1.00 to 4.00 Credits

Individual study of topic in electrical or computer engineering or computer science of particular interest to the ECCS student. Prerequisite: Permission of instructor. (Formerly ECE 390)

392 – EXTERNAL RESEARCH EXPERIENCE

1.00 to 4.00 Credits

A planned learning experience involving participation in an approved off-campus research program. A paper and an oral presentation regarding the research experience are required. Department approval required prior to research experience. Prerequisite: Permission of instructor. Graded S/U.

404 - SENIOR DESIGN SEMINAR (2+0)

2.00 Credits

Characteristics of engineering design projects. Topics include research, project planning, reliability, safety, economics, design methodology, and liability. Formal project proposals and plans are written. Prerequisite: senior standing. (Formerly ECE 404) Offered Fall Quarter.

405 - SENIOR DESIGN (3+0)

3.00 Credits

A comprehensive project relevant to electrical or computer engineering, or to computer science. Application of the engineering design principles studied in ECCS 404. Students are expected to spend a minimum of 12 hours per week directed exclusively to project activities. Prerequisite: ECCS 404. (Formerly ECE 405) Offered Winter Quarter.

406 - ENGINEERING TECHNICAL COMMUNICATION (3+0)

3.00 Credits

The presentation of technical information in both written and oral formats. Students will use projects of ECCS 405 as sources of material for presentations. Prerequisite: ECCS 405. (Formerly ECE 406) Offered Spring Quarter.

411 - DIGITAL SIGNAL PROCESSING (3+2)

4.00 Credits

Analysis and design of discrete systems including FIR and IIR digital filters. Discrete time systems will be evaluated using several computer applications as well as dedicated hardware systems. Prerequisite: ECCS 323. (Formerly ECE 411) Offered Fall Quarter.

416 - ADVANCED TOPICS IN DSP (2+2)

3.00 Credits

Application of digital signal processing to speech and image data using a variety of computer tools and hardware systems. Projects requiring the design of processing systems for speech and/or image data will be required. Prerequisite: ECCS 411. (Formerly ECE 416)

433 - ADVANCED TOPICS IN ENERGY CONVERSION (3+0)

3.00 Credits

Selected advanced topics in energy conversion. Prerequisite: ECCS 335. (Formerly ECE 433)

444 - CONTROL SYSTEMS 1 (3+3)

4.00 Credits

Classical feedback control systems. Mathematical modeling of systems. Second-order system performance. Routh stability criteria. Steady-state error analysis. Computer simulation. Integrated laboratory experience. Prerequisites: ECCS 301 and ECCS 335. (Formerly ECE 444) Offered Fall Quarter.

445 - CONTROL SYSTEMS 2 (3+3)

4.00 Credits

Design of feedback control systems. Root-locus. Frequency response. Stability in frequency domain. Cascade compensation (lag, lead, PID). Computer simulation. Integrated laboratory experience. Prerequisite: ECCS 444. (Formerly ECE 445) Offered Winter Quarter.

446 - ADVANCED TOPICS IN CONTROL SYSTEMS (3+0)

3.00 Credits

Selected advanced topics in control systems. Prerequisite: ECCS 445. (Formerly ECE 446)

448 - FOUNDATIONS OF COMPUTING (4+0)

4.00 Credits

Analysis of algorithms. Computability and complexity theory. The halting problem; P and NP classes of algorithms; NP-completeness. Prerequisite: MATH 336. (Formerly CS 448) Offered Fall Quarter.

458 - COMMUNICATION SYSTEMS 1 (3+3)

4.00 Credits

Analysis and design of Analog Communication Circuits. Prerequisites: ECCS 301 and ECCS 322. (Formerly ECE 458) Offered Winter Quarter.

459 - COMMUNICATION SYSTEMS 2 (3+3)

4.00 Credits

Performance measures for analog systems with noise. Analysis and design of Digital Communications Systems using statistical methods. Prerequisite: ECCS 458. (Formerly ECE 459) Offered Spring Quarter.

461 - NUMERICAL ANALYSIS 1 (4+0)

4.00 Credits

Matlab is used as a programming language to numerically solve problems in algebra and calculus involving linear and nonlinear equations. Real and complex roots, interpolation, fixed point recursion, accuracy and precision. Matrix inversion, ill-conditioned systems of linear equations and eigenvalues. Chebyshev polynomials and economized power series. Offered alternate years. Prerequisites: MATH 165 and MATH 272. (Formerly CS 461) (Also listed as MATH 461)

462 - NUMERICAL ANALYSIS 2 (3+0)

3.00 Credits

Matlab is used as a programming language to numerically solve programs in calculus and differential equations. Finite and divided differences, curve fitting, orthogonal polynomials, numerical differentiation and integration, numerical solutions of ordinary differential equations by series, Runga-Kutta and predictor-corrector methods. Numerical Analysis 1 (ECCS 461) is not a prerequisite. Offered alternate years. Prerequisites: MATH 272 and MATH 275. (Formerly CS 462) (Also listed as MATH 462)

464 - SOFTWARE ENGINEERING (4+0)

4.00 Credits

The methodologies used to design, create, evaluate, and maintain software systems, including coverage of several modern methodologies with emphasis on one. A project written in a modern software development environment will be developed. Prerequisite: ECCS 268. (Formerly CS 464 and ECE 464) Offered Spring Quarter.

465 - EMBEDDED COMPUTING SYSTEMS (3+3)

4.00 Credits

Embedded computing; Instruction sets and CPUs, Embedded Computing Platform, Program Design and Analysis, Processes and Operating Systems, Hardware Accelerators, Networks and Distributed Embedded Architectures, and Systems Design Techniques. Prerequisite: ECCS 362 or 365. Offered Spring Quarter.

466 - OPERATING SYSTEMS (4+0)

4.00 Credits

Operating system principles; multi-programming, virtual memory, client-server models for operating systems. Prerequisite: ECCS 268. (Formerly CS 466 and ECE 466) Offered Spring Quarter.

468 - COMPILERS (4+0)

4.00 Credits

Scanning; parsing; type checking for strongly typed languages; symbol table generation and maintenance; code generation for simple instruction sets. Prerequisite: ECCS 268. (Formerly CS 468 and ECE 468) Offered Fall Quarter.

472 - ENGINEERING ECONOMY (4+0)

4.00 Credits

Decision making based on criteria of economic factors including present worth, final worth, internal rate of return, cost benefit ratio, depreciation, taxes and others. Prerequisite: ECCS senior standing. (Formerly ECE 472) Offered Winter Quarter.

480 - SPECIAL TOPICS

1.00 to 4.00 Credits

Selected topics in electrical or computer engineering or computer science of current interest. May be repeated for credit. Prerequisite: Permission of instructor. (Formerly ECE 480)

490 - INDEPENDENT STUDY

1.00 to 4.00 Credits

Individual study of topic in electrical or computer engineering or computer science, of particular interest to the ECCS student. Prerequisite: Permission of instructor. (Formerly ECE 490)

492 - EXTERNAL RESEARCH EXPERIENCE

1.00 to 4.00 Credits

A planned learning experience involving participation in an approved off-campus research program. A paper and an oral presentation regarding the research experience are required. Department approval required prior to research experience. Prerequisite: Permission of instructor. Graded S/U.

DEPARTMENT OF MECHANICAL ENGINEERING

Professors Rider, Marquart; Associate Professors Goswami (*Chair*), Yoder; Assistant Professors Laird, Sawyers

Vision Statement

To be a premier undergraduate mechanical engineering department preparing graduates for post-graduate studies and successful life-long careers in the service of society.

Mission Statement

The mission of the mechanical engineering department is to provide a quality mechanical engineering education founded in science and mathematics. Students will benefit from excellent teaching methods, facilities, and technologies. Graduates will have the ability to work logically, accurately, and efficiently, and will be able to continue their professional development through life-long learning. They will be inspired to contribute positively to humanity and the environment.

Program Education Objectives

Upon graduation, Mechanical Engineering students will:

1. understand the principles of mechanical engineering.
2. be able to communicate effectively to a variety of audiences.
3. understand the role and impact of mechanical engineering in society.

Program Outcomes

Each Mechanical Engineering graduate will:

1. be able to apply their knowledge of mathematics, science, and engineering fundamentals to solve engineering problems.
2. be able to use a variety of tools (e.g. software packages, analysis tools, manufacturing tools) found in the professional workplace.
3. have a broad understanding of mechanical design principles, thermal and fluid principles, and manufacturing principles.

4. be able to apply the mechanical design process and understand its role in the product realization process.
5. be prepared for professional practice, further studies, and graduate school.
6. have completed at least one detailed, in-depth team design project.
7. be able to design, set up, and conduct experiments, then analyze and draw conclusions from the resultant experimental data.
8. demonstrate effective professional communication skills including technical writing, oral presentation, technical drawing, and listening skills.
9. have participated as an active member of an engineering design team. When applicable, the team may include various disciplinary backgrounds.
10. be prepared for career-long learning.
11. be prepared to work ethically, professionally, and responsibly.
12. have a knowledge of contemporary issues and an understanding of how mechanical engineering relates to society.
13. have gained knowledge of engineering research/industrial practices.
14. understand and accept that their actions and decisions are to be directed outward for the good of society, rather than inward to their own benefit.

Subject - Mechanical Engineering (ME)

202 - COMPUTER APPLICATIONS AND DESIGN (3+2)

4.00 Credits

The techniques involved in designing, implementing and testing computer programs and data acquisition systems. An introduction to the instruments and software used in data acquisition will be included. Prerequisite: GE 102. Offered Spring Quarter.

311 - PROCESS OF MECHANICAL DESIGN (4+0)

4.00 Credits

The process of design is covered, focusing on problem-solving methodology and project management. Teamwork tools are taught and used on a team design project. Formal design tools such as QFD, DOE, and FMEA are covered. Prerequisite: GE 223. Offered Fall Quarter.

319 - ADVANCED STRENGTH OF MATERIALS (4+0)

4.00 Credits

Mechanics of materials such as linear elastic fracture mechanics, behavior of materials, and initially-curved beams. Prerequisite: GE 223. Offered Spring Quarter.

341 - MANUFACTURING PROCESSES (3+2)

4.00 Credits

Manufacturing engineering and technology including casting, rolling, forging, extrusion, drawing, sheet forming, power metallurgy, machining, welding, SPC, etc. The basic theories of casting, forming processing and machining. Laboratory work includes operating basic process machines (mill, drill, lathe, welding, etc.) and SPC. Manufacturing plant tours are included. Prerequisite: GE 243. Offered Fall Quarter.

352 - MECHANISMS (4+3)

5.00 Credits

Kinematics and kinetics of mechanisms, analysis and synthesis of linkages, cams and gears. Prerequisites: MATH 272 and GE 214. Offered Winter Quarter.

362 - THERMODYNAMICS (4+0)

4.00 Credits

Fundamentals of classical thermodynamics. Heat transfer, work and properties of pure substances. The First and Second Laws of Thermodynamics. Irreversibility factors of energy and work. Analysis of gas and vapor mixtures. Prerequisites: CHEM 226 and PHYS 232. Offered Winter Quarter.

363 - THERMODYNAMICS OF FLUIDS (4+2)

5.00 Credits

Analysis and design of refrigeration, heat pump, and power cycles. Behavior of reacting gas mixtures and combustion. Fundamentals of hydrostatics and fluid dynamics. Prerequisites: ME 362. Offered Spring Quarter.

371 - NUMERICAL METHODS (4+0)

4.00 Credits

Numerical methods applicable to problems arising in engineering practice: roots of equations, linear and nonlinear algebraic equations, optimization, numerical differentiation and integration, and ordinary and partial differentiation. Prerequisites: MATH 272 and 275, and ME 202. Offered Fall Quarter.

380 - SPECIAL TOPICS

1.00 to 5.00 Credits

Selected topics of current interest in mechanical engineering. Prerequisite: Permission of instructor.

382 - ENGINEERING ANALYSIS (4+0)

4.00 Credits

Solution of open-ended engineering problems (engineering design) using professional method. Emphasis placed on learning to deal with new situations in terms of fundamental mathematics, science, and engineering principles. Prerequisites: MATH 275 and GE 214. Offered Winter Quarter.

383 - FINITE ELEMENT ANALYSIS (3+2)

4.00 Credits

The finite element method techniques are studied. These techniques are used to solve engineering continuum problems, both "by hand" and using the general purpose FEA package, ANSYS. Applications to engineering design of static and dynamic structures, as well as thermal systems. Prerequisites: GE 223 and ME 371. Offered Spring Quarter.

390 - INDEPENDENT STUDY

1.00 to 5.00 Credits

Individual study of topic of particular interest to the student in mechanical engineering. Prerequisite: Permission of instructor.

411 - CAPSTONE 1 (0+3)

1.00 Credit

Initiation of capstone design project as a team effort. Prerequisite: ME 311. Offered Fall Quarter.

412 - CAPSTONE 2 (0+3)

1.00 Credit

Continuation of capstone design project as a team effort. Prerequisite: ME 411. Offered Winter Quarter.

413 - CAPSTONE 3 (0+6)

2.00 Credits

Completion of capstone design project as a team effort. Prerequisite: ME 412. Offered Spring Quarter.

417 - MECHANICAL DESIGN OF COMPONENTS (4+0)

4.00 Credits

Design and selection of various machine elements. Design teams work on projects. Prerequisite: ME 319. Offered Fall Quarter.

418 - VIBRATION ANALYSIS

4.00 Credits

Fundamentals of linear vibration includes damped and undamped systems, single and multi-degree of freedom systems, and free or forced vibration. Prerequisites: MATH 275 or MATH 361, GE 214 and ME 202. Offered Spring Quarter.

419 - CONTROL SYSTEMS (4+2)

5.00 Credits

Modeling, analysis and design of linear feedback control systems. Laplace transforms, transfer functions and frequency response. Introduction to digital controls and logic. Laboratory work in digital logic design, and performance studies of real systems. Prerequisite: Math 275, GE 214 and ME 202. Offered Winter Quarter.

429 - APPLICATIONS IN CONTROL SYSTEMS (3+2)

4.00 Credits

Applications in control systems concentrating on PLCs and ladder logic. Advanced control theory explored. Laboratory work concentrates on PLC applications. Prerequisite: ME 419.

442 - MANUFACTURING SYSTEMS (3+2)

4.00 Credits

The problems associated with manufacturing and solutions to some of these problems. Includes planning for system change and the application of computer integrated manufacturing. Prerequisite: ME 341.

449 - INTELLIGENT SYSTEMS

4.00 Credits

Modeling and controlling actual systems. Systems from a variety of disciplines will be used. A variety of algorithms to control and test these systems in a laboratory setting. Prerequisite: ME 419 or ECCS 444; minimum grade of C. Offered Spring Quarter.

462 - COMPUTATIONAL FLUID DYNAMICS (3+2)

4.00 Credits

The theory and methods of computational fluid dynamics, including grid generation, flow solution, and postprocessing analysis. Implicit and explicit methods are studied, as well as direct and iterative solution techniques, and stability criteria. Students develop their own computer programs, as well as working with StarCD, Gridgen, Cobalt, and Fieldview. Prerequisites: ME 371 and 464.

464 - FLUID MECHANICS (4+2)

5.00 Credits

Fundamentals of incompressible and compressible, viscous and inviscid flows. Application to external and internal flow configurations in the fields of fluid mechanics and aerodynamics. Analysis and design of piping systems, pump design and selection. Concurrent laboratory experience with flow and property measurement, pumps and piping systems. Prerequisites: MATH 275 and ME 363. Offered Fall Quarter.

467 - HEAT TRANSFER 1 (4+0)

4.00 Credits

Steady and unsteady heat conduction in one and two dimensions. Thermal radiation concepts. Graphical, numerical and electrical analog methods of solutions. Applications to heating and cooling of buildings. Prerequisites: MATH 275 and PHYS 232. Offered Fall Quarter.

468 - HEAT TRANSFER 2 (4+2)

5.00 Credits

Fundamentals of free and forced convection. Analytical and empirical convection correlations for internal and external flows. Condensation and boiling theories and their effects on heat transfer. Heat exchanger design and analysis. Application to cooling of electronics. Laboratory reinforced study of conduction, convection, radiation and design. Prerequisite: ME 467. Offered Winter Quarter.

480 - SPECIAL TOPICS

1.00 to 5.00 Credits

Selected topics of current interest in mechanical engineering. Prerequisite: Permission of instructor.

490 - INDEPENDENT STUDY

1.00 to 5.00 Credits

Individual study of a topic of a particular interest to a student in mechanical engineering. Prerequisite: Permission of instructor.



THE RUDOLPH H. RAABE COLLEGE OF Pharmacy

Bobby G. Bryant, *Dean*

The Raabe College of Pharmacy at Ohio Northern University endeavors today to meet the high standards of education demanded by the health professions. The college occupies a modern building designed and equipped to provide the facilities required for programs in the health sciences.

Throughout its more than 120-year history, the Ohio Northern University College of Pharmacy has played an important role in pharmaceutical education. Its position in Ohio is particularly significant. Over 7300 pharmacists have been graduated by this institution and its graduates are particularly active in local, state, and national health-related organizations.

The Pharmacy Alumni Endowed Chair was established in 1984 through the generosity of pharmacy alumni and friends in celebration of the centennial of the College.

Accreditation and Affiliations

The Raabe College of Pharmacy's Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education (ACPE). The degree is recognized by the Board of Pharmacy of the State of Ohio as meeting the educational requirement for licensure examination. The College of Pharmacy is a member of the American Association of Colleges of Pharmacy, and the Council of Ohio Colleges of Pharmacy.

Departments

Department of Pharmacy Practice (PHPR)
Department of Pharmaceutical and Biomedical Sciences (PHBS)

Mission Statement

The Ohio Northern University Raabe College of Pharmacy is committed to:

- Preparing students to enter the practice of pharmacy so that they are capable of providing pharmacist delivered patient care and contributing effectively to their profession. Inherent in this commitment is the need to provide activities

that develop problem-solving skills, prepare the student for life-long learning, and allow for scholarly achievement. As an entry level program, this commitment also includes assuring the quality of the basic science curriculum and providing a general education program that facilitates the development of well-rounded individuals with the values necessary to serve society.

- Contributing to the knowledge base of the practice of pharmacy, pharmacy education, and the scientific disciplines represented by its faculty. It will further encourage, and provide opportunities for student participation in this endeavor.
 - Providing information, support and services to students, colleagues, the profession of pharmacy, other health care disciplines, and the community at large consistent with the expertise of its faculty. It will further encourage and provide opportunities for students to perform similar services.
-

Admission Standards

Persons seeking admission to the College must provide the necessary information and meet the general requirements for admission to the University as listed in that section of this catalog. Students who qualify under those standards are reviewed for final approval for admission by the dean of the college or his designate.

High School Graduates. It is recommended that high school graduates should have completed the college preparatory course including four units of English, four units of mathematics (algebra I and II, plane geometry, trigonometry or precalculus, or calculus) and four units of science (biology, chemistry, and physics) and six units of history, social studies, languages or any combination thereof. Priority may be granted to students with additional credits. Students found to be deficient in these areas may be required to pursue additional work prior to being scheduled in the regular course of study.

Transfer Students. A student desiring to transfer from another accredited college or university must present authenticated academic transcripts from all institutions attended. Credit will be allowed for any course in which a grade of

C or better was received provided such work is parallel to the requirements for graduation from this institution (grades of C- are not transferable).

Grades of P (passing) or S (satisfactory) are accepted when the academic institution certifies their equivalence to a C or better. Approval for admission and advanced placement will be determined upon review of the student's previous record. Students entitled to advanced standing may enter at the time approved by the dean of the College of Pharmacy.

Doctor of Pharmacy Degree Requirements

The Doctor of Pharmacy degree is an advanced professional program that provides a foundation in the basic sciences of pharmacy as well as a comprehensive understanding of health care settings. Specifically, the graduate will have training in clinical skills which will allow entry into advanced practice settings. The program of study leading to the degree of Doctor of Pharmacy is a combination of general education courses, basic sciences, professional pharmacy courses, and electives.

This program requires a minimum of 324 quarter hours of study divided according to the following:

General education courses	48 hours
Basic science courses	70 hours
Professional courses	184 hours
Electives	22 hours

General Education Requirements. The liberal studies component of the pharmacy degree curriculum consists of 48 quarter hours and intends to contribute significantly to the student's becoming an educated professional and a responsible citizen. These foundation courses provide the background for advanced education and are listed under the common discipline areas of communication competence, culture and society, aesthetic sensibility, and human values.

Communication Competence

- Writing 110
- Writing 111
- Public Speaking 211 or
- Interpersonal Communication 225

Culture and Society

- Great Works of Literature 204
- Western Civilization 110 or 111
- Psychology 100
- Sociology 105

- Economics 100
- One course in non-Western culture

Aesthetic Sensibility

- Art 100 or Music 100 or Theatre 105

Human Values

- Religions East and West 107 or Religion 105 or Religious Experience 231*

- Ethics 238 or Ethics in Professional Life 240

*RELG 231 can be utilized to satisfy either the non-Western culture requirement or the religion requirement but will NOT satisfy both.

An approved Honors Seminar may fulfill a requirement listed above. For specific information, see the office of the dean.

Basic Science Requirements. Basic sciences are needed in the pharmacy curriculum to provide not only the background required for professional pharmacy courses but also to contribute to developing a scientific literacy necessary to function in an increasingly complex and technical world.

- Introductory Chemistry 171, 172, 173
- Organic Chemistry 251, 252, 253
- General Biology 121
- Introduction to Zoology 122
- Introduction to Human Anatomy and Histology 124
- Physiology 331, 332, 333
- Biosciences Laboratory 322, 323
- Medical Microbiology 313
- Calculus for Life Sciences 1 154
- Biostatistics 1 156
- Biostatistics 2 256
- Physics 120

Professional Pharmacy Requirements.

Courses offered by the departments of Pharmaceutical and Biomedical Sciences and Pharmacy Practice as well as the collaborative efforts demonstrated in the area of Biomedical Science and Patient Care, are designed to meet the intellectual standards that are expected of the modern pharmacist, including the high ethical behavior American society envisions of its pharmacists.

Pharmaceutical and Biomedical Sciences

- Biochemistry 1, 2 341, 342
- Immunology 375
- Pharmaceutical Sciences Modules 1, 2 431, 432
- Biomedical Sciences Modules 1, 2 443, 444

Pharmacy Practice

- The Profession of Pharmacy 1, 2, 3 101, 102, 103
- The Profession of Pharmacy 4, 5, 6 201, 202, 203
- The Profession of Pharmacy 7, 8, 9 301, 302, 303
- Introduction to OTC Products 331
- Patient Care Assessment Modules 1,2 401, 402
- Pharmaceutical Administration Module 550
- Advanced Practice Rotations 650

Biomedical Science and Patient Care
 Cardiovascular System Module 441
 Infectious Disease Module 442
 Central Nervous System Module 543
 Endocrine System Module 544
 Oncology Module 545
 Capstone 546

Electives

Elective course hours for the pharmacy program may be selected from courses in Arts and Sciences, Business Administration, and the College of Pharmacy. Students may plan elective courses for personal enrichment or to satisfy a minor or a second major.

Patient Care Assessment Modules 1, 2
 401, 402 4 hours
 Cardiovascular System Module 441 9 hours
 Infectious Disease Module 442 9 hours
 TOTAL 54 hours

Fifth Year

Central Nervous System Module 543 9 hours
 Endocrine System Module 544 9 hours
 Oncology Module 545 9 hours
 Pharmaceutical Admin. Module 550 9 hours
 Capstone 546 9 hours
 Electives 9 hours
 TOTAL 54 hours

Sixth Year

Advanced Practice Rotations 650 54 hours

Doctor of Pharmacy Degree Curriculum

First Year

Introductory Chemistry 1, 2, 3
 171, 172, 173 15 hours
 General Biology 121 4 hours
 Introduction to Zoology 122 4 hours
 Introduction to Human Anatomy
 and Histology 124 4 hours
 Calculus for Life Sciences 1 154 4 hours
 The Profession of Pharmacy 1, 2, 3
 101, 102, 103 3 hours
 General Education/Electives 20 hours
 TOTAL 54 hours

Second Year

The Profession of Pharmacy 4, 5, 6
 201, 202, 203 6 hours
 Organic Chemistry 1, 2, 3
 251, 252, 253 12 hours
 Physics 120 4 hours
 Biostatistics 1 156 4 hours
 Biostatistics 2 256 4 hours
 General Education/Electives 24 hours
 TOTAL 54 hours

Third Year

The Profession of Pharmacy 7, 8, 9
 301, 302, 303 6 hours
 Biochemistry 1, 2 341, 342 8 hours
 Medical Microbiology 313 4 hours
 Introduction to OTC Products 331 4 hours
 Immunology 375 4 hours
 Physiology 1, 2, 3 331, 332, 333 9 hours
 Biosciences Laboratory 1, 2
 322, 323 2 hours
 General Education/Electives 17 hours
 TOTAL 54 hours

Fourth Year

Pharmaceutical Sciences Modules 1, 2
 431, 432 16 hours
 Biomedical Sciences Modules 1, 2
 443, 444 16 hours

Doctor of Pharmacy (Non-Traditional) Admission Requirements

Applicants seeking admission to the non-traditional Doctor of Pharmacy program must meet the following criteria:

1. Hold a baccalaureate degree in pharmacy.
2. Have a minimum of two years of practical experience as a pharmacist.
3. Hold a current, valid pharmacist license.
4. Have no disciplinary actions taken against the pharmacist's license.

Each applicant must submit an application form accompanied by a photocopy of a current valid pharmacist license, three letters of recommendation, and current résumé. Non-ONU graduates or those having completed academic work at another institution must also include an official transcript issued directly to the registrar's office.

Doctor of Pharmacy (Non-Traditional) Degree Requirements

The non-traditional Doctor of Pharmacy degree has been developed to meet the needs of pharmacists who are unable to return to campus as fulltime students. The program of study is comprised of 39 quarter hours of didactic course work and 30 hours of advanced practice rotations (6) for a total of 69 hours. A pharmacist, enrolled in the program, will have a maximum of three years to complete the didactic courses and a maximum of five years to complete the program.

Non-Traditional Doctor of Pharmacy Degree Curriculum

Orientation to Doctor of Pharmacy 701	0 hours
Biostatistics 710	3 hours
Drug Literature Evaluation 720	3 hours
Pharmacokinetics 730	3 hours
Physical Assessment 740	3 hours
Pathophysiology and Therapeutics	
Cardiology 750	3 hours
Renal 755	3 hours
Infectious Disease 760	3 hours
Central Nervous System/ Psychiatric 765	3 hours
Respiratory 770	3 hours
Endocrine 775	3 hours
GI Tract/Nutrition 780	3 hours
Oncology 785	3 hours
Dermatology/Ophthalmic 790	3 hours
Advanced Practice Rotations 800	30 hours
TOTAL	69 hours

Requirements for Graduation

Each candidate for a Doctor of Pharmacy degree must:

1. be of good moral character.
2. have completed the required curriculum of 324 credit hours.
3. have earned a cumulative grade point average of at least 2.00 in all course work.
4. have successfully completed (based on the General Administrative and Academic Regulations) the Pharm. D. curriculum as outlined on page 225.
5. satisfy a minimum residency requirement as established by the dean of the college.
6. be recommended for the degree by a majority vote of the faculty of the university.
7. meet other such qualifications as the faculty of the college may determine.

Each candidate for a Doctor of Pharmacy (non-traditional) degree must:

1. be of good moral character.
2. have completed the required curriculum of 69 quarter hours.
3. have earned a cumulative grade point average of 2.00 in all required courses. Previous cumulative grade point average from prior degree will not be included.
4. be recommended for the degree by a majority vote of the faculty of the university.

Doctor of Pharmacy (Non-traditional) Degree for ONU Bachelor of Pharmacy Graduates (May 2000-2004)

This non-traditional Doctor of Pharmacy degree has been developed to meet the needs of ONU Bachelor of Pharmacy graduates, between May 2000 and May 2004, who return to complete the entry level Pharm.D. degree requirements. The program of study is comprised of up to an additional 15 didactic hours, on campus, and 54 hours of advanced practice rotations (9) for a combined total of 324 quarter hours. A licensed pharmacist, enrolled in the program, will have a maximum of five (5) years to complete the program.

A pharmacist accepted into the program:

1. must have completed the modular didactic curriculum and graduated from Ohio Northern University with a Bachelor of Science in Pharmacy between May 2000 and May 2004.
 2. must successfully complete (grade of "C" or better) the on campus Spring quarter Capstone 546 module (9 hours) and electives (up to 6 hours) to equal a total of 270 quarter hours.
 3. must successfully complete the prescribed full-time advanced practice (PHPR 650) rotations over a time period not to exceed five (5) years from the starting date.
 4. may challenge out of a maximum of two advanced practice rotations by following the University/College guidelines for course challenge.
 5. meet the criteria for graduation as outlined below:
 - a. be of good moral character;
 - b. have completed the required curriculum as described in 2 and 3 above.
 - c. have earned a cumulative grade point average of 2.00 in all courses. Previous grade point average is not included.
 - d. be recommended for the degree by a majority vote of the faculty of the university.
-

General Administrative and Academic Regulations

General administrative and academic regulations for the College of Pharmacy are established by the dean and faculty of the college to assist students as they select courses and attempt to fulfill graduation requirements. Additional regulations may be adopted during the academic year or changes may be made to the following:

1. Students who wish to register for more than 19 hours of academic studies in a single quarter need the written permission of the dean of the College of Pharmacy.

2. A pharmacy student may take no more than eight quarter hours in any summer term with a maximum of twenty quarter hours, total, for all three summer terms.
3. A prerequisite for the advanced practice rotations (PHPR 650) and the Profession of Pharmacy 9 (PHPR 303) is a certificate of registration as an Ohio pharmacy intern. The Ohio Board of Pharmacy may deny the issuance of the certificate if an individual has been convicted of a felony, has been convicted of violating any state or federal pharmacy or drug law, is not of good moral character and habits, is addicted to or abusing liquor or drugs, has been disciplined by the Ohio Board of Pharmacy pursuant to section 4729.16 of the revised code, or has been disciplined by any board of pharmacy (OAC 4729-5-04).
4. Students registered for an advanced practice rotation (PHPR 650) who wish to register for any additional elective courses need the written permission of both experiential instructors, the department chair (of PHPR), and the dean of the College of Pharmacy prior to registering for the additional courses.
5. Students should not expect to register for courses that have conflicting time schedules. On rare occasions a student may be allowed to do so. The student will need the written permission of both the faculty members and the dean of the College of Pharmacy. Permission is never given to allow a student to recover from a bad grade, whether the need for a time conflict is created directly or indirectly.
6. Students are encouraged to register for activity courses in art, music, theatre, and health and physical education. There is no maximum number of activity course credits that may be used for fulfilling elective graduation requirements.
7. All pharmacy students in the Lower Division (P1 to P3 Ranking) must have a cumulative GPA of 2.00 or higher and a letter grade of "C" or better in all required BIOL, CHEM, MATH, STAT, PHYS, PHPR and PHBS courses prior to entering the P4 year. Those students not meeting this requirement will maintain the class rank of P3 and may not take any P4 level course work until all stated requirements are met.
8. The following regulations pertain to students in the Upper Division (P4 to P6 Ranking):
 - 8.1 All students earning an "F" grade in any module may not progress beyond that quarter. That module must be repeated and the grade replaced with a "C" or better. A student earning a second "F" grade (in the same or different module) will be dismissed from the College of Pharmacy.
 - 8.2 All students earning their first "D" grade in any module will be allowed to progress and will not be required to repeat that module. An exception to this rule is the Capstone Module (BSPC 546) wherein all students must earn a grade of "C" or better to progress.
 - 8.3 All students earning another deficient grade ("D" or "F") in another module may not progress and must repeat **both** modules in which they received the deficient grades.
 - 8.4 All students who receive their second deficient grade during the first part of a quarter (e.g. the first BSPC module of two normally taken in succession in a single quarter) are permitted to take the subsequent module in that quarter. However, they are not permitted to progress beyond that quarter until each of the deficient grades has been successfully replaced with a "C" or better.
 - 8.5 All students whose college academic record for required Upper Division modules includes three deficient grades that have not been successfully replaced with a "C" or better, will be dismissed from the College of Pharmacy.
9. The following regulations pertain to students in both the Lower Division and Upper Divisions (P1 to P6 Ranking):
 - 9.1 All students who are repeating courses or modules because of earned "D" or "F" grades as specified in Section 7 or 8 above, will have a maximum of three (3) opportunities (two repeat attempts) to earn a grade of "C" or better in those courses. Failure to earn a "C" or better grade after the second repeat attempt (third time total) will result in the student's dismissal from the College of Pharmacy (see "Academic Standing," below).
 - 9.2 All grades earned in the repeated BSPC, PHPR and PHBS courses/modules will be averaged with the initial grades in those courses for calculation of the students's cumulative grade point average (GPA).
 - 9.3 Except where noted, credit hours earned in repeated courses can be counted only one time among the total hours required for graduation.
10. All students enrolled in either the first or second of two sequential modules offered in the same quarter may drop either module before, but no later than the 20th day of class in that module.

Academic Policies for the Non-Traditional Doctor of Pharmacy Degree Program

The standard University guidelines are applicable to all non-traditional students with the following additions.

1. A pharmacist will have a maximum of three years to complete the didactic courses and a maximum of five years to complete the program.
2. Pharmacists must maintain a cumulative grade point average (GPA) of 2.00. The GPA will be calculated only from courses taken while enrolled in the non-traditional Doctor of Pharmacy program.
3. Pharmacists must maintain a current valid pharmacist's license, without disciplinary sanctions from any board of pharmacy, throughout the time enrolled in the program.
4. Non-traditional doctor of pharmacy courses may be taken only while enrolled in the non-

- traditional Doctor of Pharmacy program.
- Credit earned while enrolled in the non-traditional Doctor of Pharmacy program cannot be transferred into the entry-level Doctor of Pharmacy program.

S/U Grade Option

Students may utilize the S/U grade option only as noted in the College of Pharmacy catalog course descriptions. Otherwise, students are not permitted to register for courses on an S/U basis if the course is offered on a graded basis.

Classification of Students

Students may be advanced to the following classifications upon meeting the stated requirements.

P-2: a minimum of 54 quarter hours of credit including completion of the following courses or their articulated equivalent: Chemistry 171, 172, and 173; Biology 121, 122; and Math 154.

P-3: a minimum of 108 quarter hours of credit including completion of the following courses or their articulated equivalent: Chemistry 251, 252, 253; Physics 120; and Biostatistics 156.

P-4: a minimum of 162 quarter hours of credit including completion of the following courses or their articulated equivalent: Biostatistics 256; Biology 124, 322 and 323; Biochemistry 341 and 342; Immunology 375; Microbiology 313; Physiology 331, 332 and 333; OTC's 331; Profession of Pharmacy 101, 102, 103, 201, 202, 203, 301, 302, 303*; plus completion of all general education requirements.

*The Profession of Pharmacy 203 must be completed prior to the start of PPHR 301. The Profession of Pharmacy 301, 302 and 303 sequence CAN NOT be taken concurrently with another Profession of Pharmacy course.

P-5: a minimum of 216 quarter hours of credit. A cumulative GPA of 2.00 or higher and have successfully completed Biomedical Science and Patient Care (BSPC) 441, 442; PHBS 432, 444; and PPHR 401, 402 modules.

P-6: a minimum of 270 quarter hours of credit. A cumulative GPA of 2.00 or higher and have successfully completed Biomedical Science and Patient Care (BSPC) 543, 544, 545; PPHR 550 modules and received a letter grade of "C" or better in BSPC 546.

Other information relative to the requirements for reclassification of standing may be obtained in the office of Pharmacy Student Services of the College of Pharmacy.

Academic Standing

A student who fails to maintain the prescribed standards of scholarship will be subject to one of the following actions, namely: 1) probation, 2) continued probation, 3) suspension from the college, or 4) dismissal from the college.

Following the first quarter a student's cumulative grade point average (GPA) falls below 2.00, the student will be placed on probation. If a student on probation fails to obtain good academic standing (cumulative GPA 2.00 or higher) after the following quarter, the student will be placed on continued probation. If good academic standing is not achieved by the end of the following quarter, the student should expect to be suspended. Any student with a quarterly GPA of less than 1.00 may be placed on probation or suspended. When a student is on probation, the college may impose special conditions for continued enrollment. Students on probation cannot participate in competitive activities of individuals, teams, or other groups officially designated as representing the University.

When action is taken to suspend a student, the suspension will be for a specified period of time after which the student will be eligible to apply for readmission. Readmission is not automatic. If readmission is granted, the faculty will establish specific conditions of academic performance expected of the student. A quarterly GPA of less than 2.00 in any of the first three quarters after readmission may lead to dismissal. Dismissal is a terminal action and the student is not eligible to apply for readmission to the College of Pharmacy at any time thereafter.

Pharmacy/ Law Dual Degrees Program

The pharmacy/law dual degrees program is a seven-year curriculum that provides for substantial educational, practice and research experiences in both pharmacy and law. The Doctor of Pharmacy degree and the Juris Doctor degree are awarded upon completion of the program of study. A more detailed description about this program is available from the Office of Student Services in the College of Pharmacy or the College of Law Office.

Pharmacy/Biology Dual Degrees Program

The pharmacy/biology dual degrees program is a six-year curriculum that provides for educational, practice and research experiences in both pharmacy and biology. The Doctor of Pharmacy degree and the biology degree are awarded upon completion of the program of study. A more detailed description about this program is available from the Office of Student Services in the College of Pharmacy or the Department of Biological and Allied Health Sciences Office.

Dual Degree Programs

Information concerning other undergraduate dual degree programs involving the College of Pharmacy appears on page 33 of this catalog. Students may receive further details in the Office of Pharmacy Student Services.

Student Services

The College of Pharmacy provides specialized services to students and alumni through the staff of the Office of Pharmacy Student Services, including college admissions, academic advising, personal counseling, career counseling, and job placement. The staff of the office also coordinates professional organization functions, student group activities, and serves as the focus for special project planning and implementation.

Student Conduct

Students enrolled in the College of Pharmacy are expected to uphold high professional standards. The use or possession of narcotics, stimulants, or hallucinogens without the supervision of his/her own physician is unacceptable conduct and can subject the student to dismissal. A student who has been convicted of a felony or who has violated any state or federal pharmacy or drug law can be dismissed from the college.

Special Notice

Because of rapid developments in the health professions, the curriculum and academic standards of the College of Pharmacy are constantly being reviewed by the faculty. The faculty of the college reserves the right, without advance notice, to change the content, duration

and sequence of any course included in the curriculum, or to increase or decrease the number of credit hours leading to the degree. The faculty also reserves the right without advance notice to change the academic standards of the college.

Subject - Biomedical Science and Patient Care (BSPC)

310 - SMOKING CESSATION

1.00 Credit

An overview of the complexities of smoking behavior. Discussion of the types of nicotine replacement therapies and skills enhancement that will allow students to counsel patients on smoking cessation and develop a comprehensive plan to help patients quit. Prerequisite: P2 or permission of the instructor.

441 - BIOMEDICAL SCIENCE AND PATIENT CARE MODULE 1: CARDIOVASCULAR SYSTEM

9.00 Credits

Cardiovascular disease states and the therapeutic agents used in the diagnosis, treatment, and prevention of such diseases. Emphasis is placed on an understanding of the pharmacological rationale for the therapeutic treatment of cardiovascular disease. Individual agents are explained based on pharmacology and chemical properties and how these characteristics influence their therapeutic utility in the treatment of cardiovascular disease. Prerequisites: PHBS 432, PHBS 444 and PHPR 402.

442 - BIOMEDICAL SCIENCE AND PATIENT CARE MODULE 2: INFECTIOUS DISEASES

9.00 Credits

An interdisciplinary course focusing on antibiotics and other chemicals used in the prophylaxis and treatment of infectious diseases. Antibacterial agents, antifungal agents, antiviral agents and antiparasitic agents will be covered. Individual drugs are discussed in terms of basic chemistry, mechanism of action, structure-activity relationships, modes of resistance, microbial susceptibility, therapeutic applications, pharmacokinetic properties, drug interactions and adverse effects. In-depth analysis of the pathophysiology of disease and treatment related to infectious disease covered in a standard medically related systems approach. Students are required to compare findings of current literature to standard text material, focus on problem solving/decision making based on case examples, calculate a drug dose and make necessary adjustments for unique disease states or special patient circumstances and select an appropriate regimen of choice based on cost

effectiveness and ethical consideration. Investigational modes of therapy will also be covered for selected infectious diseases. Prerequisites: PHBS 432, PHBS 444, PHPR 402 and current CPR certification.

510 - HIV / AIDS TREATMENT

3.00 Credits

A web-based presentation of the epidemiology, pathophysiology, and treatment of the complex syndromes associated with HIV-1 viral infection utilizing the treatment approach known as "highly active anti-retroviral therapy" (HAART). A clinical focus is used to discuss treatment of HIV and AIDS related opportunistic infection utilizing the application of pharmacologic and pharmacokinetic concepts. The objective is that students improve their ability to individualize, optimize and assess therapy for HIV positive patients.

520 - PEDIATRIC THERAPEUTICS

1.00 Credit

The normal and abnormal development of children and the treatment of common pediatric problems. Stresses the opportunities and responsibilities of the pharmacist in pediatric pharmacy practice. Prerequisite: P4 or permission of the instructor.

530 - GERIATRIC PHARMACOTHERAPY

3.00 Credits

An introduction to the principles regarding population specific alterations in pharmacokinetics drug interactions, mental status, disease state presentation, and pharmacotherapy in the elderly. Social and psychological issues will also be addressed.

543 - BIOMEDICAL SCIENCE AND PATIENT CARE MODULE 3: THE CENTRAL NERVOUS SYSTEM AND SPECIAL SENSES

9.00 Credits

An integrated approach to disease states primarily affecting the central nervous system and special senses, and the therapeutic agents used in the diagnosis, treatment, and prevention of such diseases. Emphasis is placed on an understanding of the pathophysiology of the disorders and the pharmacological rationale for their treatment. Individual agents are explained based on pharmacodynamic, pharmacokinetic and chemical properties and how these characteristics influence the therapeutic utility of these agents. Format includes case studies, student reports and traditional discussion sessions. Prerequisites: BSPC 441 and 442.

544 - BIOMEDICAL SCIENCE AND PATIENT CARE MODULE 4: THE ENDOCRINE AND MUSCULOSKELETAL SYSTEM

9.00 Credits

An integrated approach to endocrine and musculoskeletal disorders, including the rational use of pharmacological agents to treat them. Comprehensive discussion of drug design and structure activity relationships is integrated with the therapeutic and toxicologic actions of the drugs. Basic concepts and principles of the pharmacodynamic and pharmacokinetic properties of the drugs used in these disease states will be discussed as they pertain to the endocrine and musculoskeletal systems. Prerequisites: BSPC 441 and 442.

545 - BIOMEDICAL SCIENCE AND PATIENT CARE MODULE 5: ONCOLOGY AND GASTROINTESTINAL SYSTEM

9.00 Credits

The oncology and gastrointestinal components of this module are integrated approaches to the study of neoplastic and gastrointestinal diseases and the therapeutic agents used in the diagnosis, treatment, and prevention of such diseases. Emphasis is placed on an understanding of the pharmacological rationale for the therapeutic treatment of cancer and gastrointestinal disease. Individual diagnostic, therapeutic and preventive agents are characterized by their pharmacological and chemical properties and how these properties influence the therapeutic utility of these agents in the treatment of neoplastic and gastrointestinal diseases. Prerequisites: BSPC 543 and 544.

546 - BIOMEDICAL SCIENCE AND PATIENT CARE MODULE 6: CAPSTONE IN PHARMACY PRACTICE

9.00 Credits

The module requires the student to utilize accumulated pharmaceutical education and apply learned principles to organize and synthesize relevant information to describe, optimize and critique drug therapy in unique and classic diseases. Information will be presented in written and oral, formal and informal formats. Activities include case presentations, reviews of "the literature", literature critiques and other formats that allow demonstration of proficiency in effective, safe, and "patient specific" application of drug therapy. Students work in small groups when possible to demonstrate interpersonal skills. Culminates with an encompassing final exam which is a prerequisite for clinical rotations. Prerequisites include admission to the Pharm.D. program and successful completion of BSPC 543, 544, 545 and PHPR 550 modules.

590 – SPECIAL TOPICS IN BIOMEDICAL SCIENCE AND PATIENT CARE

1.00 to 3.00 Credits

Can be repeated as the topic varies.

Prerequisite: Permission of the instructor.

600 - SENIOR THESIS

1.00 to 4.00 Credits

Students enrolled in the course will develop a research proposal containing a review of the relevant literature, a hypothesis, and a protocol for methodology to test the hypothesis. Research will be conducted and culminate in a written thesis and formal presentation. Prerequisite: Permission of instructor.

DEPARTMENT OF PHARMACEUTICAL & BIOMEDICAL SCIENCES

Professors Faulkner, Kinder, Milks (*Chair*), L.Smith; Associate Professors Christoff, Hrometz; Assistant Professors Boner, De, Kuykendall, Murthy, Rorabaugh; Lecturer Myers

Subject - Pharmaceutical and Biomedical Sciences (PHBS)

First number in parentheses is lecture hours per week; second number is laboratory hours per week.

200 - SPIRITUALITY AND HEALTH

2.00 Credits

Implications of spiritual outlook and practice on patient compliance, coping skills and other aspects of health care. Prerequisite: Permission of instructor.

210 - PHARMACEUTICAL SCIENCE TECHNIQUES

2.00 Credits

Laboratory techniques employed in research in the pharmaceutical sciences. Preparation for graduate studies in any of the related sciences. Prerequisites: P-2 status and permission of the instructor.

302 - MEDICAL TERMINOLOGY (3+0)

3.00 Credits

Medical terminology specifically, and scientific terminology in general. Emphasis on root words and affixes which have general and frequent occurrence in the communication of medicine, pharmacy, biology, chemistry, and related areas.

310 - DRUG ABUSE EDUCATION (2+0)

2.00 Credits

Development of skills in educating community groups regarding drugs and drug abuse. Emphasis on the development, mastery and delivery of concept-oriented lectures, and the effective use of learning materials in providing drug abuse education to various community groups, especially middle school and high school students. Background information, presentation techniques and approaches, and various current topics relating to drug abuse and chemical dependency. Prerequisite: BIOL 124

311 - SERVICE LEARNING IN DRUG ABUSE EDUCATION

1.00 Credit

Community service-oriented presentation of drug abuse education talks to various community groups, including middle school and high school students. Opportunity to further develop skills in conveying health information to the public, focusing on issues relating to drug abuse and chemical dependency. Can be repeated indefinitely. Prerequisite: PHBS 310 or concurrent enrollment in PHBS 310.

330 - ALTERNATIVE HEALTH CARE

3.00 Credits

Selected principles and practices of alternative (complementary) health care, including homeopathy, herbals, energy and touch therapies. Emphasis on implications for pharmacists. Prerequisite: Permission of the instructor.

341 - BIOCHEMISTRY 1 (4+0)

4.00 Credits

The chemistry of living organisms with emphasis on the human system. Topics include acid-base balance, buffers, chemistry of amino acids, proteins, enzymes, carbohydrates, lipids, vitamins, nucleic acids and porphyrins. Prerequisites: A "C" of better in CHEM 251, CHEM 252 and CHEM 253.

342 - BIOCHEMISTRY 2 (4+0)

4.00 Credits

The major metabolic processes that are essential for human life, including biochemical energetics, the electron transport system, Kreb's cycle, the metabolism of carbohydrates, lipids and amino acids, and the biosynthesis of purines, pyrimidines, nucleic acids and proteins. Biochemical genetics and genetic disorders are also covered. Prerequisite: PHBS 341.

350 - BASIC NUTRITION (3+0)

3.00 Credits

Basic principles of nutrition for pharmacy and nonpharmacy students. Topics include a description of essential nutrients, methods of evaluating individual dietary adequacy, and dietary methods for weight control.

351 - DIAGNOSTIC TESTS (3+0)

3.00 Credits

The use of biochemical tests as agents for the diagnosis of human disease states. The theory, methodology, utility, significance, and reliability of such tests are discussed. Prerequisite: PHBS 342 or permission of instructor.

370 - COLLOQUIUM IN BIOMEDICAL AND PHARMACEUTICAL SCIENCES

1.00 Credit

Student-presented seminars which review research topics of interest in the pharmaceutical and biomedical sciences or which review specific papers in the scientific literature. Preparation for graduate study in the pharmaceutical and biomedical sciences. Prerequisite: Permission of the instructor.

375 - IMMUNOLOGY (4+0)

4.00 Credits

Modern immunology and immunotherapy. The principles of basic and clinical immunology, historical background, host defense mechanisms, types of immune responses, nature of antigens and antibodies, antigen-antibody interactions leading to immunological disease, and transplantation and cancer immunology. The use of immunobiologicals currently available in the USA for prevention and treatment of most common infections and immunologic diseases. The role of biotechnology as a source of immunobiologicals will be discussed. Prerequisite: PHBS 341.

381 - NATURAL PRODUCTS 1 (4+0)

4.00 Credits

Medicinal constituents found in terrestrial and marine plant origin. Brief history and sources of selected major plant constituents, the chemical, biological properties and category of uses are presented. Prerequisite: Grade of "C" or better in PHBS 341 or equivalent.

431 - PHARMACEUTICAL SCIENCES MODULE 1

8.00 Credits

The physical pharmacy, pharmaceutical and biopharmaceutical aspects of a variety of drug delivery systems, predominantly peroral solution and solid dosage forms. The time-course of drug substances in various body compartments (pharmacokinetics) will be treated in a quantitative manner, and delivery system formulation factors which may affect drug pharmacokinetics (biopharmaceutics) will be discussed. Laboratory exercises introduce the basic pharmaceutical concepts and techniques necessary to prepare extemporaneous dosage forms, including solution, capsules, lotions and suspensions. The chemical, physical and biological properties of the ingredients used and their relationship to the final product will be discussed in order to facilitate preparation of elegant, stable, safe and effective products. Prerequisite: P-4 standing.

432 - PHARMACEUTICAL SCIENCES MODULE 2

8.00 Credits

A continuation of Pharmaceutical Sciences 1. The pharmaceutical, biopharmaceutical and pharmacokinetic aspects of a variety of drug delivery systems, predominantly suspensions, emulsions, aerosols, semisolids, transdermal, and controlled release dosage forms. Novel and experimental drug delivery systems also will be examined. The bioavailability and bio-and generic equivalence of peroral products. The basic principles, equipment and techniques involved in the preparation and administration of parenteral sterile dosage forms will be discussed. Laboratory exercises introduce the basic pharmaceutical concepts and techniques necessary to prepare extemporaneous dosage forms, including ointments, suppositories, and parenteral sterile dosage forms. The chemical, physical and biological properties of the ingredients used and their relationship to the final product will be discussed in order to facilitate preparation of elegant, stable, safe and effective products. Prerequisites: P-4 standing, PHBS 431, PHBS 443 and PHPR 401.

441 - MEDICINAL PLANT PROPAGATION AND CULTIVATION (2+3)

3.00 Credits

The economic, geographic, commercial, and biological aspects of plants as sources of drugs, spices and various natural chemical products. Common poisonous plants and potentially harmful toxic constituents of plant foodstuffs are discussed. Field trips and cultivation of medicinal plants. Required research of literature, writing and presentation of reports. Prerequisite: Permission of instructor.

443 - BIOMEDICAL SCIENCES MODULE 1

8.00 Credits

An interdisciplinary focus on the mechanisms by which diseases, drugs and chemicals alter normal biochemical and physiological processes. The sciences of pathophysiology, pharmacology, toxicology, and medicinal chemistry are integrated to provide an in-depth understanding of these mechanisms. The course progresses from factors affecting sub-cellular mechanisms to those of whole organ systems. Includes small group recitation and student-presented seminar sections in order to introduce the basic and clinical scientific literature and provide activities which illustrate the pharmacotherapeutic applications of the material. Prerequisite: P-4 status.

444 - BIOMEDICAL SCIENCES MODULE 2

8.00 Credits

Continuation of PHBS 443. Prerequisites: PHBS 431 and 443, and PHPR 401.

530 - MANUFACTURING PHARMACY (1+6)

3.00 Credits

The formulation and fabrication by mechanized methods of a variety of pharmaceutical dosage forms. Graded S/U. Prerequisite: Permission of the instructor.

545 - DRUGS OF ABUSE (2+0)

2.00 Credits

Major issues regarding drug abuse, with special emphasis on the specific agents of abuse, their sources, common distribution modes, patterns of substance abuse, pharmacological effects and mechanisms, toxicologic concerns, treatment modalities and approaches to drug abuse education. Prerequisite: BSPC 543.

562 - SURVEY OF RESEARCH AREAS IN THE PHARMACEUTICAL SCIENCES 1

1.00 Credit

The research areas in the pharmaceutical, biomedical and pharmacy administration areas, and opportunities in these areas are defined. Team taught by pharmacy faculty and designed for Pharmacy and Arts and Sciences students interested in research careers. Graded S/U. Prerequisites: P-2 or sophomore standing.

563 - SURVEY OF RESEARCH AREAS IN THE PHARMACEUTICAL SCIENCES 2

1.00 Credit

Continuation of PHBS 562 with emphasis on the particular research interests of the faculty and presentations by outside speakers from academia, government, and industry. Graded S/U. Prerequisites: P-2 or sophomore standing.

564 - SURVEY OF RESEARCH AREAS IN THE PHARMACEUTICAL SCIENCES 3

1.00 Credit

Continuation of PHBS 563 with emphasis on the particular research interests of the faculty and presentations by outside speakers from academia, government and industry. Graded S/U. Prerequisite: P-2 or sophomore standing.

565 - RESEARCH IN THE PHARMACEUTICAL AND BIOMEDICAL SCIENCES(0+2)

2.00 Credits

For students who intend to pursue graduate study in pharmacology, toxicology or related biomedical areas. Participation in all aspects of the design, implementation, model preparation, instrumentation, and reporting of specific research problems. Can be repeated for a maximum of 12 hours.

571 – SEMINAR IN PSYCHOPHARMACOLOGY (2+0)

2.00 Credits

Presentation of papers and discussions of topics of interest. Current papers in mental illness. Psychedelic drug effects and pharmacological research are discussed. Prerequisite: BSPC 543.

572 – SEMINAR IN TOXICOLOGY (2+0)

2.00 Credits

Presentation of papers and discussion of topics: Current events and relevant topics in clinical, occupational, industrial, and environmental toxicology are discussed. Prerequisite: PHBS 444.

573 – SEMINAR IN PEDIATRIC PHARMACOLOGY (2+0)

2.00 Credits

Common pediatric medical disorders and their management with special reference to the pharmacologic basis of pediatric medicine. Prerequisite: Permission of the instructor.

575 - SEMINAR IN PROBLEMS OF DRUG ABUSE (2+0)

2.00 Credits

Adverse effects of illicit drugs, particularly the long-term consequences of drug abuse. The problems of drug abuse from pharmacologic and biomedical aspects are discussed. This course may be repeated an indefinite number of times. Prerequisite: Permission of the instructor.

590 - SPECIAL TOPICS IN PHARMACEUTICAL AND BIOMEDICAL SCIENCES

1.00 to 3.00 Credits

Can be repeated as the subject varies. Prerequisite: Permission of the instructor.

594 - SEMINAR IN PHARMACEUTICAL AND BIOMEDICAL SCIENCES

1.00 to 3.00 Credits

Can be repeated as the subject varies. Prerequisite: Permission of the instructor.

597 - INDEPENDENT STUDY- PHARMACEUTICAL AND BIOMEDICAL SCIENCES

1.00 to 3.00 Credits

Can be repeated as the subject varies. Prerequisite: Permission of department chairman and accumulative grade point average of 2.50.

DEPARTMENT OF PHARMACY PRACTICE

Professors Broedel-Zaugg, Bryant, K. Kier, Previte, L. Savino; Associate Professors Allison, Jones, Kisor, Lucas (part-time), Parteleno, Reiselman (*Chair*), Sullivan, Sweeney; Assistant Professors Kahaleh, Roecker, Shields, Stanovich; Clinical Professors Blumer (shared), Reed (shared), P. Smith (shared); Associate Clinical Professor Hulisz (shared); Assistant Clinical Professors Ballentine (shared), Castle (shared), Caudill (shared), Chang (shared), Crea (shared), Gearheart (shared), Gibson (shared), Goldman (shared), Harrell (shared), Kauflin (shared), Letting (shared), Longstreth (shared), Parker (shared), Pierce (shared), Plogsted (shared), Schlanz (shared), Stockman (shared), Yahl (shared); Instructor T. Kier; Assistant Instructor M. Turner

Subject - Pharmacy Practice (PHPR)

101 - THE PROFESSION OF PHARMACY 1

1.00 Credit

The profession of pharmacy, the delivery of patient care, and the operation of the University and College of Pharmacy. Traditional classroom presentations reinforced through structured experiential rotations in a variety of health care and community service sites.

102 - THE PROFESSION OF PHARMACY 2

1.00 Credit

Continuation of PHPR 101. Prerequisite: PHPR 101.

103 - THE PROFESSION OF PHARMACY 3

1.00 Credit

Continuation of PHPR 102. Prerequisite: PHPR 102.

201 - THE PROFESSION OF PHARMACY 4

2.00 Credits

Continuation of professional development and understanding of pharmacy services and patient care delivery. Addresses issues relevant to the preparation for pharmacy internship and advanced pharmacy course work. Prerequisite: PHPR 103.

202 - THE PROFESSION OF PHARMACY 5

2.00 Credits

Continuation of PHPR 201. Prerequisite: PHPR 201.

203 - THE PROFESSION OF PHARMACY 6

2.00 Credits

Continuation of PHPR 202. Prerequisite: PHPR 202.

225 - PHARMABRIDGE

1.00 Credit

A service-oriented program focusing on making relationships with pharmacists in developing countries and providing those pharmacists with needed reference materials for their practices. Research on the chosen country, assessment of the practice of pharmacy standards in that country, communication with the pharmacist noted, and provision of reference materials, if needed. May be repeated indefinitely. Prerequisite: Permission of instructor.

230 - ETHICS IN PROFESSIONAL PRACTICE (2+0)

2.00 Credits

Guided discussions show that there are ethical problems in life and that there are better and worse ways of dealing with those problems.

241 - CONTEMPORARY PHARMACY PRACTICE

2.00 Credits

Multiple practice settings including retail, institutional, manufacturing, distribution, association, government and how each is implementing a pharmaceutical care mission. May be repeated for up to 6 credit hours.

251 - PREVENTIVE MEDICINE: ISSUES AND EDUCATION

3.00 Credits

Important health issues in the United States and the applications that these disease states have on individual health, health care costs, and productivity. Special emphasis on learning teaching methods that can be effective in increasing public awareness and modifying behavior in order to prevent disease.

301 - THE PROFESSION OF PHARMACY 7

2.00 Credits

Continued professional development, understanding, and reinforcement of pharmacy services and patient care delivery. The functional practice of pharmacy, including product (medication and information) distribution systems and evaluation of their quality and impact on professional, legal, patient care. Prerequisite: PHPR 203.

302 - THE PROFESSION OF PHARMACY 8

2.00 Credits

Continuation of PHPR 301. Prerequisite: PHPR 301.

303 - THE PROFESSION OF PHARMACY 9

2.00 Credits

Sixty documented experiential contact-hours providing skills development in pharmaceutical patient care. Credit given upon successful completion of a comprehensive final examination. Prerequisite: PHPR 302 and a valid pharmacy internship license.

320 - DRUG LITERATURE EVALUATION

3.00 Credits

A web based approach to strengthen reading, understanding, and applying information from published literature to solve patient-specific pharmacotherapy problems. Emphasis placed on developing skills sufficient to answer questions about the literature and application of research methodology to create a research proposal.

331 - INTRODUCTION TO OTC PRODUCTS

4.00 Credits

Development of appropriate counseling and guidance to patients who desire to conduct self-medication or self-therapy with non-prescription drug products/ devices. Prerequisite: PHPR 302.

401 - PATIENT CARE ASSESSMENT

MODULE 1

2.00 Credits

Preparation for subsequent therapeutic oriented modules. Development and enhancement of analytical and communicative skills required to prepare a drug therapy problem list. Prerequisite: PHPR 303.

402 - PATIENT CARE ASSESSMENT

MODULE 2

2.00 Credits

Various aspects of physical assessment as they pertain to the delivery of pharmaceutical care. Prerequisite: PHPR 401.

478 - OUTPATIENT PHARMACY SERVICE (0+3)

1.00 Credit

A laboratory to serve the needs of the Health Center through the operation of the Student Health Pharmacy. Specific components include: the dispensing of prescriptions, patient counseling and patient profile maintenance. For students with limited or no internship experience. Prerequisites: Valid Ohio intern license. May be repeated for up to four credit hours.

550 - PHARMACY ADMINISTRATION MODULE

9.00 Credits

An interdisciplinary approach to the practice of pharmacy as it fits into the contemporary healthcare system and the business environment. Includes theoretical concepts as well as practical methodology techniques to assess the external and internal economic, social, philosophical, ethical, and legal influences on the practice. Planning, evaluating, and decision making through financial report analysis and case study is stressed. Prerequisites: BSPC 543 and 544.

590 - SPECIAL TOPICS IN PHARMACY PRACTICE

1.00 to 16.00 Credits

Can be repeated as the topic varies.

Prerequisite: Permission of the instructor.

594 - SEMINAR IN PHARMACY PRACTICE

1.00 to 3.00 Credits

Can be repeated as the topic varies.

Prerequisite: Permission of the instructor.

597 - INDEPENDENT STUDY-PHARMACY PRACTICE

1.00 to 16.00 Credits

Can be repeated as the topic varies.

Prerequisites: Permission of department chair and 2.50 accumulative grade point average.

650 - ADVANCED PRACTICE ROTATION

6.00 Credits

Full-time experiential program emphasizing delivery of pharmaceutical care in primary, secondary and tertiary patient care settings, as well as a means of integrating facts and principles received from antecedent courses. The process will occur in both institutional and ambulatory settings. At each practice setting, the student is expected to become a functioning component of the ongoing pharmaceutical care services through faculty instruction, self-learning, and by observing the modeling of attendant faculty members. Prerequisites: BSPC 543, 544, 545, 546 and PHPR 550. Students must register for the course nine times for a total of 54 credits.

701 - ORIENTATION TO DOCTOR OF PHARMACY (NON-TRADITIONAL)

.00 Credits

Orientation to the non-traditional Doctor of Pharmacy program and completion of a prior learning assessment (PLA) portfolio (documentation of the pharmacist's experience and accomplishments). The portfolio is a requirement for continuation in the program. Prerequisite: Admission to the non-traditional Doctor of Pharmacy program.

702 - SEMINAR IN ACADEMIC PROGRAMS DEVELOPMENT

.00 Credits

For NTDP students not in a didactic course or clinical rotation to ensure continuous enrollment tracking. May be repeated a maximum of three consecutive quarters per academic year.

710 - BIOSTATISTICS

3.00 Credits

Basic statistical procedures and more advanced statistical methods used in the pharmaceutical and medical sciences. Application of statistical methods in the development of research design and evaluation of clinical studies. Corequisite: PPHR 701.

715 - SPECIAL TOPICS IN PHARMACY PRACTICE

1.00 to 3.00 Credits

Internet based course clinically or disease oriented. Can be repeated as the topic varies. Prerequisites: PPHR 701. DOES NOT COUNT TOWARD GRADUATION.

720 - DRUG LITERATURE EVALUATION

3.00 Credits

Drug information sources (including the primary scientific literature). Processes used to make authoritative judgements based on information provided from principles of research methodology. Application of epidemiologic methods to the characteristics and events of drug use. Corequisite: PPHR 701.

730 - PHARMACOKINETICS

3.00 Credits

Use of mathematical and computer modeling to explore the derivation of principles. Specific pharmacokinetic parameters of a group of drugs is discussed by investigating pharmacokinetic research literature. Application of concepts to dosing patients is emphasized and specific case studies are included. Prerequisite: PPHR 701.

740 - PHYSICAL ASSESSMENT

3.00 Credits

Preparation for advanced practice rotations. Experiences in various aspects of physical assessment. Prerequisite: PPHR 701.

750 - PATHOPHYSIOLOGY AND THERAPEUTICS: CARDIOLOGY

3.00 Credits

Physiology and pathophysiology of the cardiovascular disease process covered in a standard medically related systems approach and in depth treatment of available therapeutic modalities. Findings of current literature and comparison to standard text material; focus on problem solving/decision making based on case examples; drug dosing; treatments of choice and investigational modes of therapy. Prerequisites: PPHR 701.

755 - PATHOPHYSIOLOGY AND THERAPEUTICS: RENAL

3.00 Credits

Physiology and pathophysiology of the renal disease process covered in standard medically related systems approach and in depth treatment of available therapeutic modalities. Findings of current literature and comparison to standard text material; focus on problem solving/decision making based on case examples; drug dosing; treatments of choice and investigational modes of therapy. Prerequisites: PPHR 701.

760 - PATHOPHYSIOLOGY AND THERAPEUTICS: INFECTIOUS DISEASE

3.00 Credits

Physiology and pathophysiology of the infectious disease process in a standard medically related systems approach and in depth treatment of available therapeutic modalities. Findings of current literature and comparison to standard text material; focus on problem solving/decision making based on case examples; drug dosing; treatments of choice and investigational modes of therapy. Prerequisites: PPHR 701.

765 - PATHOPHYSIOLOGY AND THERAPEUTICS: CENTRAL NERVOUS SYSTEM

3.00 Credits

Physiology and pathophysiology of the central nervous system and psychiatric disease process covered in a standard medically related systems approach and in depth treatment of available therapeutics modalities. Findings of current literature and comparison to standard test material; focus on problem solving/decision making based on case examples; drug dosing; treatments of choice and investigational modes of therapy. Prerequisites: PPHR 701.

770 - PATHOPHYSIOLOGY AND THERAPEUTICS: RESPIRATORY

3.00 Credits

Physiology and pathophysiology of the respiratory process covered in a standard medically related systems approach and in depth treatment of available therapeutic modalities. Findings of current literature and comparison to standard text material; focus on problem solving/ decision making based on case examples; drug dosing; treatments of choice and investigational modes of therapy. Prerequisites: PHPR 701.

775 - PATHOPHYSIOLOGY AND THERAPEUTICS: ENDOCRINE

3.00 Credits

Physiology and pathophysiology of the endocrine system disease process covered in a standard medically related systems approach and in depth treatment of available therapeutic modalities. Findings of current literature and comparison to standard test material; focus on problem solving/decision making based on case examples; drug dosing; treatments of choice and investigational modes of therapy. Prerequisites: PHPR 701.

780 - PATHOPHYSIOLOGY AND THERAPEUTICS: GI TRACT/NUTRITION

3.00 Credits

Physiology and pathophysiology of the gastrointestinal tract disease process and nutritional support covered in a standard medically related systems approach and in depth treatment of available therapeutic modalities. Findings of current literature and comparison to standard text material; focus on problem solving/decision making based on case examples; drug dosing; treatments of choice and investigational modes of therapy. Prerequisites: PHPR 701.

785 - PATHOPHYSIOLOGY AND THERAPEUTICS: ONCOLOGY

3.00 Credits

Physiology and pathophysiology of the cancer disease process covered in a standard medically related systems approach and in depth treatment of available therapeutic modalities. Findings of current literature and comparison to standard text material; focus on problem solving/ decision making based on case examples; drug dosing; treatment of choice and investigational modes of therapy. Prerequisites: PHPR 701.

790 - PATHOPHYSIOLOGY AND THERAPEUTICS: DERMATOLOGY/OPHTHALMIC

3.00 Credits

Physiology and pathophysiology of disease processes, including dermatology, soft tissue, and ophthalmic, covered in standard medically related systems approach and in depth treatment of available therapeutic modalities. Findings of current literature and comparison to standard text examples; drug dosing; treatments of choice and investigational modes of therapy. Prerequisite: PHPR 701.

800 - ADVANCED PRACTICE ROTATIONS

5.00 to 6.00 Credits

Experiential program emphasizing delivery of pharmaceutical care in primary, secondary and tertiary care settings. At each practice setting, the pharmacist is expected to become a functioning component of the ongoing pharmaceutical care services through faculty instruction and self-learning. Prerequisites: PHPR 701, 710, 720, 730, 740, 750, 755, 760, 765, 770, 775, 780, 785 and 790.

THE CLAUDE W. PETTIT COLLEGE OF

Law

David C. Crago, Dean

Professors Brant, Christoff (*Associate Dean*), Fenton, French, Haight, Hill, Lobenhofer, Raack, Streib, Traster, Veltri, Young; Associate Professors Clarke, Gerber; Assistant Professors Litowitz, O'Melinn, Sabol, Ward; Instructors Crider, Easterday, Mittendorf; Taggart Library: Associate Professors Armstrong, Siebesma; Assistant Professor Miller; Instructor Fetrow

Founded in 1885, the College of Law of Ohio Northern University is accredited by the American Bar Association and is a member of the Association of American Law Schools.

Ohio Northern University offers a unique blend of the elements necessary for a successful legal education. These elements include courses and programs, faculty, library and facilities, location, organizations and activities, student body, and placement.

Ella A. and Ernest H. Fisher Chair in Law. Established in 1984 from the estate of Ella A. and Ernest H. Fisher. The 2004-2005 recipient of the chair is Stephen C. Veltri, professor of law.

Dr. Steven W. and Helen E. Kormendy Law Lecture Fund. Established by Mrs. Helen Kormendy and family in memory of her husband, Dr. Steven W. Kormendy, '28, LL.D. '85. The income from the fund is used to bring a prominent legal figure to the campus to address matters of law in public forum and in class settings.

Laurence N. Woodworth Endowed Lectureship in United States Tax Law and Policy. Laurence Neal Woodworth, a 1940 graduate, devoted his entire professional career to the formulation and implementation of tax law and policy at the highest level. The university and the College of Law established the lectureship in 1995 in his honor as a preeminent forum for the articulation of new ideas and new directions in tax policy in the United States. The lecture is given annually by a nationally prominent figure in the tax field.

Mission Statement

The mission of the College of Law is to provide an excellent legal education emphasizing service to a diverse community and profession.

Faculty and Facilities

The College of Law is located in Tilton Hall, built in 1973 and expanded and remodeled in 1983 and again in 1998. The law college contains faculty and student activity offices, two courtrooms, two student lounges, and the library. The Taggart Law Library houses more than 350,000 volumes in both hard copy and microform and offers computerized legal research services including LEXIS, WESTLAW, and a growing number of Internet subscription services. The library is a federal depository and contains a significant collection of government-related materials. Students are taught to use library materials and computers in their first year, and individualized instruction is available thereafter. A free, statewide, resource-sharing network (OhioLINK) provides faculty and students with direct online borrowing privileges at more than 80 college and university libraries. The library offers ample study carrels and tables and a large computer lab. Additional network and power connections are available for notebook computers in the library and at several other locations in the law building. The law college has attracted an outstanding faculty. As publishing scholars and experienced practitioners who continue to develop their skills and abilities, the faculty contributes both professionally and personally to the student body and to the enhancement of the quality of student life.

Program of Instruction

The basic program of study leads to the awarding of the Juris Doctor (J.D.) degree. This program requires three years of full-time study. Each academic year consists of two semesters. There are no part-time or evening programs.

Over one-half of the 87 semester hours needed to receive the J.D. degree consists of required courses, providing a solid foundation in all traditional legal subjects from a national perspective. A wide range of electives is available to the student to round out the program of study and develop an individual focus, including courses from the following areas: commercial and business law, taxation, international and comparative law,

environmental law, government regulatory law, employer-employee relationship law, civil liability law, and property law.

Well-established clinical and legal extern programs and a judicial externship also play an important role in the curriculum. The College of Law offers a program of clinical legal studies and extern placement for academic credit that incorporates both classroom instruction and actual law office and courtroom experience.

Each semester those students receiving a minimum grade point average of 3.50 are named to the Dean's List of the College of Law. They are recognized with a certificate at the annual awards ceremony.

Pharmacy/Law Dual Degrees Program

The pharmacy/law dual degrees program is a seven-year curriculum that provides for substantial educational, practice, and research experiences in both pharmacy and law. The Doctor of Pharmacy degree and Juris Doctor degree are awarded upon completion of the program of study. A more detailed description of the program is available from the Office of Student Services in the College of Pharmacy or the College of Law office.

Student Activities

Many student organizations complement the academic life of the law college and provide an opportunity for further professional and personal development.

Among those organizations are the American Constitution Society, Black Law Students Association (BLSA), Cardozo Jewish Law Student Association, Christian Legal Society, Criminal Law Society, Environmental Law Society, Federalist Society, Icelandic Exchange Program, International Law Society, Lambda Law Students' Association, Legal Association of Women, Sports Law Society, Street Law, Student Bar Association (SBA), and Volunteer Income Tax Assistance (VITA). The law college also offers Phi Alpha Delta, a legal fraternity.

The law college's strong Moot Court program sends teams to national and international competitions. In addition, three internal competitions are conducted. These competitions offer students ample opportunity to hone their research, writing and speaking skills.

The *Ohio Northern University Law Review*, a highly respected and award-winning law journal, is edited and published by law

students. Published three times a year, the Law Review consists of leading articles on current legal topics, student comments on cases and legislation, and selected symposia presentations on varied legal topics.

Student Body

The student body is comprised of men and women who represent a wide range of ages, cultures, interests, abilities, and accomplishments. Nearly 200 undergraduate institutions are represented by the law college's enrollment of approximately 295 students.

Admissions Process

The College of Law endeavors to select a first-year class which reflects the geographical and cultural diversity of the United States and in which women, persons with disabilities, and minorities are fairly represented. Applicants must have a bachelor's degree from an accredited college or university. First-year students are admitted for the fall semester only, but transfer students may enter during either spring or fall semesters. Under some circumstances part-time programs in compliance with the regulations of the American Bar Association may be approved by the Associate Dean for Academic Affairs.

Registration with the Law School Data Assembly Service (LSDAS) is required to provide the Admissions Committee with an official copy of the applicant's score report, an analysis of the undergraduate transcripts(s), and a copy of the applicant's LSAT writing sample.

Although there is no deadline for applying to the College of Law, students are encouraged to apply as early as possible to avail themselves of the most consideration for admission and financial aid awards. The Admissions Committee will review files beginning in late fall and will make decisions until the entering class is filled. Two seat deposits are required for accepted students by April 1 and mid-June.

While LSAT score and undergraduate academic record are given considerable weight in the admissions process, other factors may be considered by the committee. These factors may include the applicant's intellectual growth as exhibited by the completion of other advanced degrees, work experience that has increased the applicant's analytical and communication skills, and ethnic, racial and /or socioeconomic barriers that had to be overcome by the applicant.

Financial Aid

Scholarships, grants and loans are awarded by the College of Law to qualified applicants. The **Legal Scholar Program** recognizes students who have excelled academically. Awards range from \$5,000 to \$22,000. Students who meet these criteria will be automatically notified of their awards, and no separate application is required. Scholarships are renewable in the second and third years of law school as long as the student meets the grade point average requirement stated in the acceptance form. Additional scholarship awards, which are also renewable, are made to students who distinguish themselves academically during their first year.

A limited number of grants are awarded on the basis of student need. A student must complete a separate financial aid application which indicates that the student's personal and, if a dependent, parental resources do not cover the cost of tuition and living expenses. Students will be awarded grants subject to funding availability. Generally, grants are renewable if the student's financial statement, which is filed annually, continues to show need.

Financial aid is also made available in the form of federally-insured student loans and student loans from private sources. An ONU financial aid application as well as a FAFSA application is required for student loans. Applications and additional information about loan programs may be obtained from the Ohio Northern University Financial Aid Office.

LAW COLLEGE UNIVERSITY CALENDAR 2005-06

Fall Semester 2005

August

- 8 Last day for payment of fees (Mon.)
- 17 Law students arrive; check-in residence halls
- 18-19 New law student orientation
- 22 Late registration
- 22 Law classes begin

September

- 2 Last day to add a course
- 5 Labor Day - No classes
- 6 Classes resume
- 12 Beginning of "W" period for withdrawals

October

- 20-21 Classes recess
- 24 Last day to withdraw

November

- 14 Last day to remove "incomplete"
- 24-27 Thanksgiving recess
- 28 Classes resume (Mon.)

December

- 2 Fall semester classes end
- 3-5 Reading days
- 6-16 Law finals
- 17-
- Jan. 8 Semester recess
- 30 Last day for payment of spring semester fees

Spring Semester 2006

January

- 8 Law students arrive, check-in residence halls (Sun.)
- 9 Spring semester begins; late registration
- 16 Martin Luther King Jr. Day (Mon.); classes recess
- 20 Last day to add a course
- 30 Beginning of "W" period for withdrawals

February

- 25-
- Mar. 5 Spring recess

March

- 6 Classes resume
- 17 Last day to withdraw

April

- 3 Last day to remove "incomplete"
- 14-17 Easter recess
- 18 Classes resume
- 28 Spring semester classes end
- 29-
- May 1 Reading Days

May

- 2-12 Law finals
- 14 Commencement (Sun.)

Summer Session 2006

- Classes: May 30-July 21
- Final exams: July 24-27

TUITION, FEES, AND OTHER CHARGES

2005-06

College of Law

Students enrolled and attending classes
between 4/1/02 and 3/31/06

Tuition & General Fee

Per Semester

•Full-time student	\$11,885
•Part-time student (less than 12 hrs.) (per hour)	\$ 990
•Academic overload fee (per hour)	\$ 745

Technology Fee

Per Semester

•Full-time student	\$ 105
•Part-time student	\$ 30

Room

•Stambaugh	\$1860
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Board

•Per semester, 15 meals per week	\$1725
•Per semester, 21 meals per week	\$1785

Total Per Semester

Based on full tuition, technology fee, Stambaugh & 15 - meal plan	\$15,575
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Total Per Academic Year

Based on full tuition, technology fee, room & 15 - meal plan	\$31,150
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Additional funds are needed for books, supplies, and incidentals. A minimum of \$500 per term should be budgeted for these purposes. Books and supplies are sold at the ONU Bookstore on a cash basis or by VISA/MasterCard/Discover/American Express.

Tuition and fees cover use of the library, laboratories, Health Center, Sports Center, McIntosh Center, cultural activities, co-curricular programs, and admission to athletic events and most other events on campus, the student newspaper, literary magazine, and yearbook if full-time during the two semesters of the academic year.

PAYMENT PLANS

The university makes available to parents and students a variety of plans which can be used to make fee payments. Following is a summary of the various plans from which you may choose.

Discount for Advance Payment Ohio Northern University offers a discount for advance payment of full tuition or full tuition, room and board if received in a single payment

by June 15, 2005. For 2005-06 the discount will be 1.5% of the amount due; this approximates 4.0% interest based on the amount due from June 1 to each of the regular due dates.

Monthly Payment Plan This plan allows you to pay tuition, room, and board over a ten-month period starting April 15, 2005, and allows you to have each semester's fees paid by the time the fees would regularly be due. The monthly payment will be individualized by allowing for any financial aid that has been accepted. An annual convenience fee of \$25 will apply.

Regular Billing Schedule For students selecting courses during the advance registration period, the fall semester billing will be sent to the permanent address on file with the registrar's office. Spring semester billings will be sent to the student's billing or local address. Full payment of all charges due is required to complete registration. Failure to do so will result in the cancellation of the registration. Any arrangements for loans or financial aid should be made well in advance of each semester so that all fees are paid by the date they are due.

For students registering at the beginning of the semester, full payment is required as a part of the registration process.

VISA/MasterCard/Discover/American

Express Payment of fees may be made by VISA, MasterCard, Discover, or American Express for the three plans outlined above. A convenience fee may apply.

Educational loans are available through a variety of loan firms and financial institutions. Many offer monthly payments which can be spread over a variety of repayment times. Information regarding these loans may be obtained from the financial aid office.

DUE DATES FOR FEE PAYMENT FOR 2005-06

Fall Semester	August 8, 2005
Spring Semester	December 30, 2005

OTHER CHARGES

- Auditing Fee**, per semester hour (when permitted) \$15.00
- Academic Overload Fees**
 - Maximum hours which can be taken per semester without overload charge
Law - 18 hours
 - For each credit hour over maximum, 75% of credit hour charges assessed part-time students

3. Applied Music Lessons

For music minors and non-music majors-for each quarter hour \$100.00

4. Late Registration Fee

The late registration fee is assessed if course registration is not completed at the established time each semester or if re-registration is required. \$50.00

5. Late Payment Fee

If fees are not paid in full when due, a \$10.00 charge is assessed. If fees are then not paid by the first day of class, a charge of 1 1/2% of the unpaid balance will be made. Thereafter, interest at 1 1/2% per month (18% annual rate) will be charged on any unpaid account balance at the end of each month.

6. Student Bar Dues

(full-time law students only) per semester \$20.00

7. Law Review Fee (all law students)

fall semester only \$20.00

8. Application Fee, non-refundable, payable with application for admission \$40.00

9. Advance Deposit

Upon receiving an offer of admission to Ohio Northern, an advance deposit is required from all students within 30 days. The amount of the deposit is \$150.

An additional \$400 deposit is required by June 15, 2005. No portion of the deposit is refundable.

All international students will be required to make a deposit with the university for funds in an amount not less than one semester's tuition, fees, room and board.

10. Transcript Fee

- There is no charge for ONU transcripts, with the limitation of three free transcripts issued per day.
- Transcripts are processed within two working days, depending upon the time within a term, after receipt of the request. Transcripts are sent via regular U.S. mail.
- For special handling: more than three in one day or priority processing, there is a charge of \$20 per transcript.

11. Lost/stolen/damaged ID Card Fee \$25.00

12. Returned Check Fee \$25.00

13. Residence Halls

- a. Improper check-out \$25.00
- b. Room key/Lock replacement \$58.60

14. Motor Vehicles

On-Campus Parking Permit

Full Year \$45.00
Per Semester \$30.00

Schedule of Fines

Improper parking \$10.00
 Driving or parking on grass \$25.00
 Driving on sidewalks \$25.00
 Reckless operation of a motor vehicle .. \$30.00
 Parking without parking permit \$45.00
 Registration decal improperly displayed \$ 2.00
 Stop sign \$10.00
 Parking in fire lanes \$30.00
 Falsification of information \$25.00
 Parking longer than posted time \$10.00
 Parking in restricted area \$20.00
 Parking in handicapped space (not an appeal-able fine) \$30.00

If fines are not paid or an appeal filed in three working days, a late fee of \$1 per day is added up to a maximum of \$25.

Motor vehicle regulations are designed to protect the safety and welfare of the campus community and promote good order. Violations are issued by security officers. Cited violators may appeal to an appeals committee within three working days of the violation.

15. Other Deposits

Sports Center Lock Deposit (\$1.50 refundable) \$ 5.00

16. Library Fines

Non-return of an item from Heterick Library or Taggart Library (other than reserve materials) after past due is \$2.00; after two weeks, \$3.00; and after three weeks, \$5.00. If the item is not returned, the replacement cost plus a processing charge is assessed. Taggart Law Library assesses a fine of \$.25 per hour for overdue reserve materials. Borrowing privileges are suspended when a student has accrued fines of \$20 or more but are restored once the item is returned and the fine is paid.

Summer Session 2006

1. College Fees, per credit hour

College of Law \$983

2. Apartment Rental

Double \$105 per week

3. Dining Hall Board

21 meals per week, \$140 per week

Charges for Damages to University Property

Students will be billed for any damages to university equipment or property. The charges include the estimated cost of replacement parts or materials, labor for repair or replacements, and overhead expenses associated with the clean-up, repair, or replacement.

Payment of University Accounts

Students should pay all financial obligations to the university promptly. Registration for a succeeding semester and issuance of a diploma or transcript are dependent upon the student's paying all financial obligations to the university.

Student Identification Cards

The first student ID card is issued to registered students without charge. Replacement will be charged for lost, stolen or damaged ID cards. The ID card allows free admission to athletic events, reduced admission to theatre productions, and the artist series. This card is also required for library checkout, meal contract registration, and resale of textbooks at the university bookstore. ID cards are also required for some labs and entrance to residence halls.

Refunds

Tuition and General Fee If a student withdraws from the university or is suspended for disciplinary reasons, refunds of tuition will be made on the basis shown below. Withdrawal date is the date the withdrawal slip is processed through the office of the registrar, **NOT** the date the student may cease going to class.

Withdrawal within the first 10 calendar days of classes 75% refund.

Withdrawal within the second 10 calendar days of classes 50% refund.

Withdrawal within the third 10 calendar days of classes 25% refund.

Board Refunds for board are determined proportionately by the week for each full instructional week remaining in the semester after return to the office of the controller of the student identification card and withdrawal form.

Room No refund is made for room rental.

Also, keep in mind, students who drop from full-time to less than full-time during the first 60% of the semester will have adjustments made to their financial aid and tuition.

Housing

The university makes available well-maintained living facilities at a moderate cost for both male and female students. Off-campus apartments, rooms, and houses are available in the village of Ada. The university publishes lists of off-campus housing throughout the year.

Career Strategies

The Law Career Strategies Office provides counseling in the job application and interviewing process, as well as serving as a career opportunity and information resource for students and alumni. The director coordinates workshops, speakers, and on-campus recruitment. As a member of the Ohio Law Placement Consortium and the National Association of Law Placement, the College of Law also participates in the placement activities of the OLPC and NALP.

Correspondence

Inquiries should be directed to Law Admissions, Claude W. Pettit College of Law, Ohio Northern University, Ada, Ohio 45810. Phone 419/772-2211 or 1-877-452-9668.

Scholarships and Loan Funds

General Scholarships

The scholarships and loans listed below are made possible through gifts to the university in the names of generous donors who wish to assist students. This list is intended to recognize their generosity. Special applications for a specific scholarship or loan are not required. (If a student is eligible for one of these named scholarships or loans the Student Financial Aid Office will place his/her name on the list of possible recipients for such awards.)

- The David and Catherine Kegerreis Albright Scholarship is an unrestricted scholarship.

- The Allen-Auglaize County ONU Women Scholarship was established to provide annual scholarship assistance for a female resident of Allen-Auglaize Counties who has attained at least her third year of progress at the university and has declared her major.

- The Andrews Student Aid Fund was established by Mrs. Mabel Andrews Beachler of Celina, Ohio in honor of her brothers and sisters who attended Ohio Northern University. Income from the fund shall each year be awarded to a worthy student with financial need. Members of the family who attended Ohio Northern included Charles, Ralph, James, Mabel, Louise and Alice Andrews.

- The Gertrude Andrews Scholarship, established through the will of Mrs. Gertrude Andrews, is awarded to students with demonstrated financial need.

- The Clyde and Frances Augsburger Scholarship Fund was established by Robert R. Augsburger and his wife, Jean Ann, as a memorial to his mother, Frances Russell Augsburger, AA 1888, and his father, Clyde Augsburger, BSCE 1921, for an arts and/or engineering student selected in accordance with university policy.

- The Woodrow W. Bailey Scholarship was established by Mary Banfield Bailey to honor her husband, Woodrow "Woody" Bailey, BSEd 1937. Mr. Bailey was an excellent student athlete and was inducted into the ONU Hall of Fame in 1996. The scholarship assists an academically worthy student athlete.

- The Dr. Byron Evans Baker Scholarship is presented to a qualified student with recognized financial need.

- The John Banyas Scholarship was established by Mr. Banyas to assist student(s) from Belmont County in Ohio with preference being given to Martins Ferry High School graduates.

- The Richard Wellington Barnes, Class of 1892, Scholarship was established by a trust from his daughter, Florence Barnes Hartman, to assist general university students.

- The E.J. Brookhart Scholarship, established by Mrs. Dora M. Brookhart in memory of her husband, a graduate in 1903 and a trustee of ONU, is provided to students with recognized financial need.

- The Brubaker Endowed Student Aid Fund was established by the estate of Ralph E. Brubaker, in memory of his wife, Thelma Hughey Brubaker, and is restricted to students from Defiance, Fulton, Henry, Lucas, Putnam or Wood Counties. The Brubakers were active members of the United Methodist Church.
- The John S. Canterbury Memorial Scholarship was established by Pauline Canterbury in honor of her husband. The scholarship is awarded to students with financial need.
- The Kathryn Reese Canterbury Memorial Scholarship, established by Dr. John S. Canterbury in memory of his wife, is presented to students with recognized financial need.
- The Sally Jo Carlton Scholarship was established by Mr. and Mrs. William H. Carlton of Lima in memory of their daughter, Sally Jo, BA 1968. Awards are to be made to qualified undergraduate students.
- The Robert and LaVelva Chandler Scholarship was established through the generosity of Mrs. LaVelva Chandler to assist academically worthy students with financial need. To be eligible for the scholarship, the recipient must have graduated from Ada High School.
- The Paul Chenoweth Scholarship Fund was established through the will of Paul L. Chenoweth for students selected in accordance with university financial aid policy.
- The Raymond and Leola V. Clark Scholarship was established by a gift from Mr. Clark, BSCE 1927, of Willoughby, Ohio. Award to go to a qualified student(s) in any of the four undergraduate colleges.
- The Class of 1933 Scholarship Fund, established by members of the Class of 1933 during their 50th year reunion, is presented to qualified students with financial need.
- The Class of 1939 Scholarship was established by members of the Class of 1939 during their 50th reunion year.
- The Class of 1949 Reunion Scholarship was established by the members of this class during their 40th and 50th reunion years for a student with financial need.
- The Class of 1961 Scholarship was established in honor of the Class of 1961 35th reunion to help support a deserving, qualified student.
- The Class of 1990 Scholarship was established to provide support for a student during his or her senior or P5 year.
- The Class of 1991 Scholarship provides two annual scholarships to students in their final undergraduate year.
- The Class of 1992 Scholarship provides two annual scholarships to students in their final undergraduate year.
- The Class of 1993 Scholarship provides one annual scholarship to students in their final undergraduate year.
- The Class of 1994 Scholarship provides two scholarships to students who are in their final undergraduate year. One merit-based and one need-based scholarship are awarded.
- The Clevenger Financial Aid Fund was established by Millard and Rowena O. Clevenger of Lima, Ohio. The award is to be made to any worthy, qualified student with financial need with preference given to students in Allen County.
- The Columbia Gas of Ohio Scholarship was established by Columbia Gas Foundation and is awarded to a qualified undergraduate student who is a graduate of an Ohio high school.
- The Frank Cooper Financial Aid Fund, established by Mrs. Frances Brown Cooper as a memorial to her husband, Dr. Frank B. Cooper, is awarded to students from Hardin or adjacent counties.
- The Richard Cooper Memorial Award was established for an outstanding fraternity man.
- The Helen I. Craig Memorial Scholarship was established through a bequest of Helen I. Craig, BSEd 1966. Recipients are selected on the basis of university financial aid policy.
- The Thomas L. and Warren J. Cremean Scholarship was established by Dr. and Mrs. Ken Cooper.
- The William W. Crumling Scholarship Fund was established by the estate of Isabel M. Thomas in memory of her husband, who received a BSCE from ONU in 1925. Student awardees are selected according to institutional financial aid policy.
- The Bertha Dicus Dickason and Oren Dickason, Sr. Scholarship Fund was established to provide for the continuing assistance of ONU from three generations of its supporters.

- The Dicke Financial Aid Fund was established by Mrs. Lula T. Dicke in memory of her husband, Oscar H. Dicke, BSEE 1911. It is awarded to students from New Bremen or Auglaize County who have financial need.
- The Louis P. Diefenbach Scholarship Fund is awarded to needy students from the Middletown area.
- The Dobbins Family Memorial Scholarship is given to worthy students with financial need from the College of Arts and Sciences and the College of Engineering. There is a long history between the Dobbins family and Ohio Northern University.
- The David F. Domizi Scholarship Fund, established through the will of David F. Domizi, supports a student with a demonstrated work ethic and strong academic background, or high academic potential, having financial need. Holder of the scholarship must maintain a 3.00 gpa. Scholarships from the fund shall be considered gifts to the recipient. However, it is the donor's hope that the recipient(s) will be successful and, in appreciation, will reimburse the fund if he or she is able to do so.
- The Helen (Lowrie) Downing and Roger L. Downing Scholarship Fund was provided under the will of Helen Marie Downing. This endowment shall be used for scholarships for students who are from Roundhead Township, Hardin County, Ohio, or Goshen Township, Auglaize County, Ohio, or if there are no students from these townships, then for students who are from the closest areas to these two townships.
- The Robert L. Dunipace and Grace B. Shantz Dunipace Scholarship was established by the estate of Marjorie Dunipace Shipley in memory of her parents, Robert L. and Grace B. Shantz Dunipace. Robert Dunipace was a former student of Ohio Northern. The award is to be made to any qualified student in the University.
- The Education Incentive Scholarship for Minority Students was established by alumni and friends of the University and is awarded to a qualified minority student.
- The Joe S. and Theresa B. Edwards, Jr. Fund was established by Joe and Theresa Edwards to augment the Serge F. Edwards Family Scholarship. Joe has been a trustee of the University since 1986. The income from the fund will be added to the Serge F. Edwards Family Scholarship each year.
- The Serge F. Edwards Family Scholarship is awarded first to students from Leipsic, Ohio; second, students from Putnam County, Ohio; finally, students from the State of Ohio.
- The Eley-Crouse Student Aid Fund was presented by Mrs. Gladys Eley Crouse, AA 1924, BSEd 1955, in memory of her husband, Daniel H. Crouse. Available to students from Wyandot County who have financial need.
- The Elmer L. Faber Perpetual Scholarship was established through the generosity of Dr. Elmer L. Faber to assist academically worthy students at the University, with a preference for student athletes. Dr. Faber was an outstanding athlete as an undergraduate. He served the University in numerous ways as an alumnus, including as a member of the board of trustees and as president of the "N" Men's Association.
- The Floyd Student Aid Fund, in memory of Roy C. Floyd and his wife, Hettie Studebaker Floyd, Verona, Ohio, was presented by their son and daughter-in-law, Loren R. and Leona Floyd. It is awarded to students who are graduates of Twin Valley High School or reside in Darke or Preble County.
- The Reverend E. Eugene and Mary Jane Frazer Scholarship was instituted by the members of the Trinity United Methodist Church of Columbus, Ohio, in honor of their outstanding commitment to the church and community. The award is for pre-ministerial students enrolled at the University.
- The DeBow Freed Leadership Award. Given each year to the senior male and female chosen as the outstanding campus leader.
- The Ethel L. Frost Scholarship Fund was established by a bequest from Miss Frost.
- The G.A.R. Foundation Scholarship was established by the G.A.R. Foundation of Akron. Scholarships are awarded to qualified students from the state of Ohio.
- The Mozelle Coles Gamber and Ralph J. Gamber Scholarship was established in loving memory of Mozelle O. Coles (AA 1931) by her husband, Ralph J. Gamber (BSME 1931), and family. Students needing financial assistance are eligible for the annual award.
- The Ernest R. Genovese Scholarship, established by Mr. (XLLB 1929) and Mrs. Ernest R. Genovese of Cuyahoga Falls, Ohio, is to be awarded to a qualified student in one of the four undergraduate colleges of the University.
- The Ginder Student Aid Fund, established by Clyde O. Ginder of Lima, Ohio, is to be awarded to a worthy student with financial need, with preference given to students from Allen County; also with special preference given to students

from the First Baptist Church of Lima (Cable Road, Lima).

- The Grand Lodge of Free and Accepted Masons of Ohio Scholarship is awarded to Ohio residents with both academic ability and financial need.
- The Frederick Earhart and Mildred Howard Guthery Scholarship was established by the estate of Robert B. Mautz, son-in-law of the Guthery family. Frederick Guthery was a well-known attorney and bank president in Marion, Ohio.
- The Helena R. Hall Scholarship was established by a bequest from Helena Ruth McCrea Hall, a friend of Ohio Northern University whose mother, Mrs. Trella McCrea, graduated from Ohio Northern in 1920. Income from the fund will be used to assist Ohio Northern students, including entering freshmen, who are deemed worthy of financial assistance as judged by appropriate college officials, and are United States citizens, and are legal residents of the State of Ohio.
- The J. Jay Hampson Memorial Scholarship Fund was established by a gift from the estate of J. Jay Hampson, BA 1973, JD 1976, for students from Lancaster and/or Fairfield County, Ohio.
- The Jennette Cochrun Hapner Award is granted to students from Spencerville with financial need.
- The George and Faye Harris Scholarship was established by the late Mr. and Mrs. Harris of Polson, Montana, for qualified undergraduate students. Mr. Harris was a 1912 ONU graduate.
- The Robert Sanders Hegele and Nova Focht Hegele Scholarship Fund was established by a bequest in the will of Nova Irene (Focht) Hegele, BA 1913, in the name of herself and her husband, Robert Sanders Hegele, who also attended Ohio Northern, for deserving students who wish to attend Ohio Northern University.
- The Dr. George W. Herd Scholarship was established by the members of the First United Methodist Church, Lancaster, Ohio, for students selected by the church.
- The Frances and Robert Heterick Memorial Scholarship is awarded to worthy students with financial need.
- The Alice and Robert H. Hilliard Scholarship was provided by the estate of Robert H. Hilliard, professor of history from 1947-74. It awards two annual scholarships for students having fi-

nancial need. Deserving students from Hocking and Ross Counties of Ohio are given preference.

- The Robert E. Hillier Family Scholarship Fund was established by the Robert E. Hillier Family Foundation of Akron, Ohio--Colon C., Ruth E. and Pleadis A. Hillier, founders--to honor the memory of their father, Robert E. Hillier. It is awarded to high school students with outstanding academic records.
- The Harold C. Hodson Scholarship will assist deserving students in all of the undergraduate colleges who are eligible to receive the award.
- The Jonas Elias and Nellie Hosler Scholarship Fund was established through the generosity of J.E. (Bob) Hosler in honor of his parents, Nellie and Jonas Elias Hosler.
- The Merrill and Frances Insley Scholarship Fund, was established by Dr. Susan Insley, JD 1977, and her brother, Thomas Insley, to honor their father and mother, Merrill, BSPH 1936, DS 1970, and Frances Insley, AA 1933, BSEd 1935.
- The Donald C. Kinsey Memorial Scholarship was established through the will of Mr. Kinsey, XBSME 1933, to provide scholarship assistance for deserving students at the University.
- The A.E. Knowlton Scholarship was established by Mr. Knowlton, whose construction company built several university buildings. Gift was made in memory of Mrs. F. Bringle McIntosh and is presented to worthy students.
- The Dr. John G. and Alice C. Koontz Scholarship Fund was established by the estate of John G. Koontz, DD 1965, to assist students preparing for the Christian ministry.
- The Herbert W. and Winifred Leicy Scholarship was established in memory of Dr. Leicy, BSPH 1934, DS 1971, trustee of the university, 1965-1999, and Mrs. Leicy by the family and friends for a qualified student from the Stuebenville area.
- The Nathan Lindabury and Lindabury Family Scholarship was established by Mr. and Mrs. Nathan Lindabury and their daughter and son-in-law, Richard and Jena Lindabury-Hoxie.
- The Cleo R. and Dorothy Ludwig Scholarship was presented by Dr. Cleo Ludwig to students with high academic achievement and demonstrated financial need.

- The Lybarger Student Aid Fund, established by Sadie Lybarger, LA 1905, in memory of her family, longtime residents of Nevada, Ohio, for students with financial need.
- The Everett L. and Mary E. Maffett Scholarship is established as a general university scholarship to provide financial assistance for Native Americans to attend Ohio Northern University.
- The Jane Ann McBeth Matteson Scholarship Fund was established by a bequest from Ellen E. Matteson, BA 1924, for worthy and deserving students. Graduates of Upper Sandusky High School, Upper Sandusky, Ohio, receive first preference.
- The Maynard-Bulen Fund awards scholarships to worthy students with recognized financial need.
- The Donald L. Mays Scholarship was established through the generosity of Dr. Donald L. Mays, who served as Vice President for Development at Ohio Northern from 1987 through 1999. The scholarship provides aid to any student pursuing a career in public service.
- The Methodist Crusade Fund was established by the Methodists of Ohio in a campaign for higher education conducted in 1964-65 among Methodists throughout the state. Income from the fund is used each year for scholarships for Ohio United Methodists enrolled in one of Northern's four undergraduate colleges.
- The Samuel L. and Martha R. Meyer Scholarship, was established by Walter and Marian English in recognition of Dr. Meyer's twelve year tenure as president of Ohio Northern University. This award is made available to worthy students with high academic abilities and recognized financial need.
- The Oscar J., BA 1972, and Judith D. (Jacobs), BS 1970, Mifsud Emergency Financial Aid Fund was established to provide financial aid to students who, without assistance, would not be able to continue attending Ohio Northern University.
- The Dean Keith Miller Scholarship was established by former students and friends of Dean Miller in his honor.
- The Wilbur and Ethel Mitchell Scholarship Fund was established by a bequest from Ethel Mitchell and designated for worthy and deserving students from Hardin County high schools.
- The James L. and Dolores W. Moore Family Memorial Scholarship was established by Dolores Moore to provide financial assistance to undergraduate students in good standing who are graduates of a West Virginia high school.
- The Mortar Board Scholarship is provided by the Aurora Chapter at Ohio Northern University to a student selected by them.
- The National Lime and Stone Scholarship was established for worthy students with financial need.
- The National Methodist Scholarships are provided by The General Conference from Methodist Student Day annual offerings for students with established financial need.
- The Lou Ann Neubert Memorial Scholarship was presented by James and Louella Neubert in memory of their daughter, Lou Ann Neubert, alumna of Ohio Northern University.
- The Oborn Scholarship was established by George K. Oborn in memory of his wife, Pauline (Polly). It is presented to students with both superior academic abilities and financial need.
- The ONU License Plate Scholarship was established through the voluntary annual contribution fees from alumni and friends who participate in the State of Ohio collegiate license plate program. The fees provide general scholarship funds.
- The ONU Women Scholarship is awarded to students with recognized financial need.
- The Ohio Northern University Secretarial Association Scholarship is given to a deserving student.
- The PNC Bank Scholarship was established through the generosity of the PNC Bank of Ohio to assist worthy students at the University to receive a quality education. A preference is given to students from southwest Ohio, as well as locations of PNC Bank of Ohio operations.
- The Lucille Palmer Scholarship was established as a general university scholarship, with preference given to students from Williams and adjoining counties and Logan County, but not limited to these students.
- The Pepsi-Cola Scholarship was established by the Pepsi-Cola Bottling Company to assist deserving students.
- The Harlan D. and Sara G. Pickett Memorial Scholarship was established through the Pickett estate for students from the city of Marion and Marion County.

- The Ezra and Mary Place Scholarship is awarded to graduates of Elida, Lima, Perry or Shawnee High Schools.
- The Raymond I. and Ruth C. Gallant Potter Scholarship was established by Mr. Raymond Potter and his wife, Mrs. Ruth Gallant Potter, in remembrance of their undergraduate years at ONU.
- The Avery and Elizabeth Powell Scholarship was established by Dr. Avery, BA 1924, and Mrs. Powell of Tiffin. Award is to go to qualified undergraduate students.
- The Brigadier General Harrison Jackson Price Scholarship was established by a bequest from the estate of his daughter, Lucille Price Jessup, in memory of her father, who graduated from ONU in 1891 and who taught Military Science and Tactics here. Preference is given to a male student enrolled in ROTC.
- The Julia M. Reeder Scholarship Fund was established through the will of Mrs. Homer F. (Julia M.) Reeder for worthy students from Allen or Hancock Counties.
- The Ritchie Family Scholarship was established by Helen M. Maddock to honor her grandmother, Anna M. Ritchie, who attended ONU; her mother, Doris Ritchie Maddock, Ped. Grad. 1918; her great uncle, Tom Hall Ritchie, BSEd 1921; and her grand nephew, Troy A. Essex, BS 1997, for a qualified student with financial need with preference given to students from Paulding and surrounding counties in northwestern Ohio.
- “The Robby” fund, was established by friends of Bill Robinson, BSEd 1961, to be used at Mr. Robinson’s discretion to aid students as deemed necessary.
- The Robertson Financial Aid Fund was presented by Howard N. (Jim) Robertson, PhG 1924 and his wife, Edith, for qualified and worthy students with financial need.
- The Robuck Memorial Scholarship was established in memory of Dr. and Mrs. O.S. Robuck by their family.
- The Karl and Kay Roider Scholarship was established at Karl’s passing by his family—wife, Kay; son, Karl, Jr.; and daughter, Ruth—to assist worthy undergraduates at Ohio Northern University. Karl Roider was on the music department faculty for 31 years, served as chair of the department for 24 years, and was given an honorary doctorate from the University in 1985. Kay Roider was a member of the mathematics department for 18 years.
- The Rothrock Student Aid Fund was established by George B. Rothrock, BSME 1923, a native of Ada, Ohio, in memory of his father, George B. Rothrock, Ada businessman for forty years. The scholarship is awarded to either a graduate of Ada or Hardin Northern High Schools or to graduates of Upper Scioto Valley, Allen East, Bluffton or Cory-Rawson High Schools who have financial need.
- The Richard W. Routh Scholarship was created through a bequest from Helen W. Routh of Cuyahoga Falls, Ohio, in memory of her deceased son.
- The Arthur and Marian Rudd Scholarship was established by the estate of Mrs. Rudd to assist deserving, undergraduate students, with preference to those from Allen and Auglaize Counties of Ohio.
- The Phillip W. Russell Scholarship was established by Gregg E. Russell, BA 1975, Phillip’s brother, and other family members and friends. It is awarded each year to a student athlete graduate of Triad High School, Champaign County, Ohio.
- The Jacob G. Schmidlapp Scholarship establishes a loan fund for students and was created by the Fifth Third Bank of Cincinnati.
- The Lucile Grappy Schneider Scholarship was established by the estate of Lucile Grappy Schneider, a retired Lima school teacher, who received an education degree from ONU in 1926.
- The Ralph Sealand Scholarship was established by Mrs. Arabella Canfield Sealand in memory of her son. The scholarship is awarded to a worthy student with recognized financial need.
- The Seiler Student Aid Fund was presented by Dr. M.S. Seiler, LLB 1910, in memory of his wife, Marie, for a student with financial need in the health professions.
- The Shanely Scholarship is given in memory of Fred D. Shanely, BSEE 1925, by his family. It is awarded to academically qualified students with preference given to students participating in athletics.
- The Yousef K. Shuhaibar Scholarship for International Students was established by Dr. Shuhaibar, BSCE 1964, D. Engr. 1988, prominent engineer, businessman, and consultant in his homeland of Kuwait.

- The Isabel Sloan Award was established by Isabel Sloan, BA 1929, for a worthy female student who graduated from Kenton High School.
- The Albert and Harriet Smith Scholarship is given to a student in accordance with university financial aid policy.
- The Marjorie Detrick Snyder and John M. Snyder Scholarship Fund was established by the estate of John M. Snyder in memory of his wife (AA 1928) to aid in defraying tuition costs for worthy and needy students of the University.
- The Snyder Scholarship, in memory of M.L. and Ola Fiess Snyder, 1894 and 1895, was established by Mr. and Mrs. Barton Snyder and Ralph Snyder for students selected in accordance with university financial aid policy.
- The Danford Spence Scholarship Fund was created by a gift from the estate of Danford Spence for students from Noble County.
- The Avaneil Stambaugh Scholarship is awarded to worthy graduates of Ada High School.
- The John and Rhea Stambaugh Scholarship was established by a bequest of Mrs. Rhea Stambaugh of Plymouth, Ohio, for general university scholarships.
- The Dr. and Mrs. David L. Steiner Scholarship Fund was established through the generosity of Dr. and Mrs. Steiner to assist academically worthy students with financial need at Ohio Northern.
- The Reba Stemen Scholarship Fund was established by a bequest from the will of Reba Harriett Stemen, AA 1934, BA 1936, to assist worthy students attending the University.
- The Stansloski-Romans Scholarship was established by Donald W. Stansloski and Patricia A. Stansloski née Romans to support an undergraduate Native American student.
- The Glenna and Lucille Stout Scholarship Fund is awarded by a Lancaster church to a student selected by them.
- The Weir-Gray Family Scholarship was established through the generosity and efforts of David Weir, BSCE 1959, and Judy Reed Weir, BSEd 1960, and the Weir and Gray families to assist academically worthy engineering and psychology students with financial need and who are active in campus activities.
- The Dana and Gladys B. Welsh Scholarship Award was established by a bequest from the will of Gladys Blair Welsh.
- The Whirlpool Corporation Scholarship, to assist academically eligible students at ONU, was established through the generosity of the Whirlpool Foundation. It was established to honor the service of several ONU graduates working for the Whirlpool Corporation.
- The David V. Wisner Scholarship was established by the estate of David and Helen Wisner to provide financial assistance for two students from the Spencerville, Ohio school district enrolled in the fields of law, engineering or pharmaceutical studies at Ohio Northern University. Mrs. Wisner obtained the AA degree in 1937 and a BSEd degree in 1942.
- The Helen E. Wisner Scholarship was established by the estate of David and Helen Wisner to provide financial assistance for two students from the Spencerville, Ohio school district enrolled in the fields of law, engineering or pharmaceutical studies at Ohio Northern University. Mrs. Wisner obtained the AA degree in 1937 and a BSEd degree in 1942.
- The Geraldine Wright Wilkinson Fund was established by bequest of Charlotte Wilkinson to honor the memory of her sister. The award is made annually to a worthy student.
- The President and Mrs. Robert Williams Scholarship Fund was established by their daughter, Mrs. Larry (Florence) Zehner, XBA 1944. Dr. Williams was president of Ohio Northern University 1930-43.
- The Moston and Opal Wood Student Aid Fund was established by a bequest from the estate of Opal M. Wood, widow of Moston W. Wood, BA 1932, to assist worthy students to attain a college education.
- The Ronald L. Woofter Scholarship was established by Mr. and Mrs. Stanley Woofter in honor of their son, Ronald, BA 1961, who was president of the ONU Alumni Association, 1985-87.
- The D. Carl Yoder Scholarship was established by a bequest from his daughter, Dorothy L. Yoder.

Arts and Sciences Scholarships

- The Ada Community Theatre Award was provided by the former Ada Community Theatre group for Ada area students who contributed most to theatre.
- The Jean and Walter Armes Scholarship was established by Walter, BSEd 1961, and Jean Armes for students preparing for a teaching career in the public school system.
- The Arts and Sciences Scholarship is given in accordance with university policy.
- The Edith Rhoten Banyas Scholarship was established by John W. Banyas, BSEd 1939, family and friends in memory of his wife, Edith Rhoten Banyas, BA 1939. Preference is to be given to high school graduates with financial need from Highland and Ross Counties of Ohio.
- The Beachler Scholarship Fund was established by Mrs. Mabel Andrews Beachler, AA 1930, for a deserving, qualified student in the College of Arts and Sciences.
- The John W. and Marvel Bielstein Scholarship was established by a bequest from John W. Bielstein in memory of his wife, Marvel, BSEd 1959. Mrs. Bielstein, for whom teaching was a second career, taught in the Bath Township School District. Preference for the scholarship to be given to a student majoring in elementary education.
- The Wilfred E. Binkley Scholarship was established by Robert J. Huffman, BA 1959, JD 1960; Raymond L. Landis, BA 1964, JD 1967; and Gary L. Weaks, BA 1967, JD 1970; alumni and partners in the law firm of Huffman, Landis, Weaks and Lopez of West Milton, Ohio. The scholarship is in memory of Professor Binkley, long-time professor of political science at Ohio Northern University.
- The Black Box Grant was started by a small group of alumni who were involved in student-directed productions while attending Ohio Northern. The group was comprised of Laurie Hoffman, BA 1978; Tom, BSpH 1980, and Sandy Mack; Phil Martin, BA 1980; Cor, BA 1979, and Ron Michaels; JoAnn Trionfo, BSpH 1980; Jill VanAmburg, BSpH, BA 1979; Paul Weimer, BS 1982; and Don, BA 1977, and Joni, BSpH 1979, Wright. The grant is intended to help student directors with the cost of mounting their productions.
- The Robert L. Bowden Scholarship was established in memory of Professor Robert L. Bowden by his widow, Mary Stambaugh Bowden, and family and friends of the late Dr. Bowden, who, for many years, was professor of biology and department chair from 1952-1979.
- The Okla Deming Brooks and Cliffe Deming Scholarship is presented to worthy fine arts students with financial need.
- The Erika Jane and Andra Elaine Brubaker Memorial Scholarship in Chemistry was established through the generosity of Dr. Inara Mencis Brubaker in memory of her daughters Erika Jane and Andra Elaine Brubaker. The scholarship is for worthy students in the College of Arts & Sciences pursuing a chemistry major.
- The Joanne Carman Award was established by Joanne Carman, BSEd 1971, to provide assistance to a graduate of a Hardin County, Ohio high school who has completed his/her junior year in teacher education and who has the highest grade point average among the eligible education majors.
- The Chemistry Alumni Scholarship was established by the Chemistry Alumni under the leadership of Dr. Jerry L. Franz, 1965.
- The Clausing/Cotsamire Scholarship was established by Mrs. Persis Clausing, AA 1927, and her daughter and son-in-law, Mr. and Mrs. Harold Cotsamire. Mr. Cotsamire was controller of the University for 33 years, 1957-1990. It is presented to a student majoring in elementary education.
- The Wilbur R. Cornetet Scholarship was established by a bequest from his daughter, Lucile Cornetet, to benefit students pursuing studies in education, foreign languages, and English. Mr. Cornetet graduated from Ohio Northern University (Ohio Normal School) in 1901.
- The Helen Crafts Memorial Scholarship is awarded to worthy students with financial need.
- The Leslie and Marie Cribley Scholarship was established through the generosity of Mrs. Marie Cribley to assist academically worthy music students with financial need, preference for piano, violin, and guitar. Preference shall be given to Ada, Ohio, high school students. Mrs. Cribley established this scholarship in honor of the memory of her husband, Leslie, BA 1930.
- The Harlow H. Crooks Student Aid Fund was established by the late Dr. Crooks, BSEE 1923, D. Engr. 1976, and his wife, Melvene. Dr. Crooks was a prominent industrialist in Grand Rapids, Michigan.
- The Clifford and Thelma Dickson Scholarship is awarded to worthy students with financial need.

- The Clyde Dornbusch/Charles "Todd" Oliver English Scholarship shall be awarded on a yearly basis to a senior who shows a vital understanding of, and increased appreciation for, the place of great literature in the English-speaking world.
- The Mrs. J.H. Edwards Scholarship was organized for students preparing for ministry or church work.
- The Elbert F. and Else C. Eibling Scholarship was established through the will of Mr. and Mrs. Eibling to assist needy students. Mr. Eibling was a 1925 A.B. graduate of the University.
- The Clista M. and Hugo L. Fahncke Scholarship Fund was established by Mrs. Clista M. Fahncke to assist a qualified undergraduate student preparing for church work.
- The Sophia Felker Memorial Scholarship was established by Mr. and Mrs. Robert Heterick for students with scholarship ability.
- The Josephine Royon Feth Scholarship was established through a bequest from her husband Mr. William J. Feth, BSEE 1940, to honor his wife, BSEd 1940, and to support a deserving student working toward a teaching career in secondary education (junior or senior high school); second choice would be any deserving student working towards a career in teaching.
- The Roland R. Foley Scholarship Fund was established in 1985 by the will of Roland R. Foley, BS 1912 and BSpH 1912, for students in the arts and sciences and pharmacy colleges.
- The Warren E. Gates Award is given to a senior Spanish or French major.
- The Geraldine Park Geist Scholarship was established in memory of Geraldine Park Geist, BA 1928, by her husband, Donald E. Geist, BA 1929. Preference is given to a student majoring in languages or music.
- The Mr. and Mrs. C. H. Ginn and Mr. and Mrs. Robert M. Peters Scholarship was established by Miss Vera DoLean Ginn, AA 1928, BSEd 1954, in memory of her mother and father, Martha Boyle Ginn and Cecil H. Ginn, and sister and brother-in-law, DeLores B. and Robert M. Peters, for a student in financial need from Shelby County, Ohio, who is majoring in elementary education.
- The Rev. Dr. and Mrs. L. Mark George Scholarship was established through the generosity of the East Ohio Conference of the United Methodist Church and the Rev. Dr. Mark and his wife, Gaynalee George on his retirement as administrative assistant to the Bishop of the East Ohio Conference. Rev. Dr. George also served as a member of the Board of Trustees of Ohio Northern University from 1990-1998. The income from the fund will provide financial aid for a worthy student preparing for a career in the ministry.
- The Frederick R. and Geneva Heifner Scholarship was established by Mr. and Mrs. Heifner for a student(s) majoring in biology or the environmental sciences in the Getty College of Arts and Sciences.
- The Mildred Lowman Henning Memorial Music Fund was provided by Mrs. Mildred Lowman Henning, XBA 1923 in music, Ada, Ohio, in recognition of Mrs. Henning's interest and accomplishments in the field of music. The scholarship funds music majors with preference given to voice majors.
- The Dr. Thomas and Maxine Hoffman Scholarship was established by family and friends of Dr. Hoffman in honor of his 75th birthday on August 22, 2003. The scholarship is for a junior or senior student preparing for the ministry.
- The C. M. Huber Music Scholarship was established by Mr. Clair M. Huber, BA 1915, of Findlay, Ohio.
- The Dean Harvey Evert Huber Award by the Rogoff Foundation aids worthy physiology or pre-medical students.
- The Glen Hughes and Gay Hughes Young Memorial Scholarship Fund was established by Ruth Hughes Dickey, BA 1930, family, and friends in memory of Dr. G. Glen Hughes, BA 1929, DD 1951, and ONU trustee, and his daughter, Mrs. Gay Hughes Young, BSED 1955. Annual awards shall be made to an industrious student in the College of Arts and Sciences who has financial need, high ideals, and is of at least average academic standing.
- The Mr. and Mrs. Torrey A. Kaatz Scholarship is to be awarded to any deserving student in the College of Arts and Sciences. Mr. Kaatz was a member of the Board of Trustees 1971-1976.
- The Richard D. Kain Honorary Scholarships are given to industrial technology students who exhibit both substantial scholarship and financial need.
- The M. A. Purpus Kehoe Scholarship was established to provide funds for a student in Arts and Sciences.
- The Clona E. Kinzey Memorial Scholarship was established by a bequest from Mrs. Kinzey.
- The Helen M. Kopf Scholarship was established by Helen M. Kopf, XBA 1917, to be awarded each year to a student or students in the College of Arts and Sciences preparing for a career in teaching or full-time Christian service.

- The Dr. James H. Kritzler Memorial Premedical Scholarship was established through a gift from the Community Hospital Foundation of Houston, Texas. Dr. Kritzler, BA 1940, a Hardin County native, had a distinguished career in radiology in the Houston, Texas area. The award is made annually to a rising senior chemistry or biochemistry major who has good character and is likely to establish a career of significant service to medicine.
- The Lacey Family Scholarships were established by the estate of Zelma C. Lacey in memory of Mr. and Mrs. John W. Lacey, Warren D. and Zelma C. Lacey of Liberty Township, Ada, Ohio, for worthy students.
- The Clyde A. Lamb Memorial Scholarship is awarded to one worthy male and one worthy female student majoring in physical education.
- The Marian M. Laybourne Art Scholarship Award is given annually to a freshman art major in memory of Marian Laybourne and her appreciation of the talent of young artists.
- The Vance B. and Iva A. Leonard Scholarship was presented by Vance B. Leonard, and Fred G. and Lucienne O. Sprang. Preference is given to a Hardin County student in the College of Arts and Sciences.
- The Lima News Scholarship Fund was established by a gift from The Lima News, a division of Freedom Newspapers, Inc., for a qualified student majoring in English with a minor in journalism.
- The Lima Symphony Orchestra Award is given to a music major who is a first time matriculant at ONU.
- The Helen Spar Ludwig Scholarship is bestowed upon a worthy health and physical education student who has financial need.
- The Mary Alice Lyon Scholarship was established through the will of Mary Alice Hickman Lyon, BSEd 1957. Mrs. Lyon was a retired school teacher and member of the United Methodist Church.
- The Peggy Joyce Lyon Scholarship was established through the will of Mary Alice Hickman Lyon, BSEd 1957. Mrs. Lyon was a retired school teacher and member of the United Methodist Church.
- The Ray Lyon Scholarship was established through the will of Mary Alice Hickman Lyon, BSEd 1957, for a male student in a science-related field. Mrs. Lyon was a retired school teacher and member of the United Methodist Church.
- The Ray and Margaret McCleary Scholarship was established by Dr. Ray L. McCleary, BA 1929, and Mrs. Margaret McCleary, to aid a qualified student in the Getty College of Arts and Sciences.
- The McElroy-Landon Scholarship Fund was established by Mrs. H. Lelrma McElroy as a memorial to her husband, George W. McElroy, her father, Clifford F. Landon, and her grandfather, Luzerne E. Landon. Awards are made based upon university financial aid policy.
- The George W. and Ada A. McGilliard Scholarship was established by Dr. Stanley H. and Mildred I. McGilliard for students preparing for ministerial service.
- The Dr. and Mrs. John V. Melick Scholarship is awarded to a student in preministry or church work.
- The Merle H. and Muriel Neuman Mertz Scholarship was established by a bequest from Mrs. Muriel Mertz to assist worthy and deserving Ohio Northern University students who are United States citizens and who are history majors in the University's College of Arts and Sciences.
- The Henry L. and Geraldine D. Metzger Scholarship was established in 1985 by Mr. Henry L., BSEd 1941, and Mrs. Metzger for worthy students.
- The Samuel L. and Martha R. Meyer Student Aid Fund, was established by Dr. and Mrs. Samuel Lewis Meyer as an appropriate expression of their continued support for the educational concept available through church-related, private higher education. The award is presented to a worthy student who has demonstrated financial need and a preferential interest in oratory and debate.
- The Mitchell Award for Botanical Research was established by Lois Mitchell Seaton to assist a student engaged in botanical research.
- The Norman-Davis Student Aid Fund was established through a bequest from Mrs. Blanche A. Norman, BSEd 1925, in memory of her husband, William A. Norman, her parents, Charles and Euphie Davis, and her sister, Mae E. Davis. Awardees are selected on the basis of university financial aid policy.
- The Osmon Award, in memory of Alton, Asa, and Frank Osmon, was provided by their niece, Mildred Osmon Smith, BA 1924, Piano 1925, and her husband, Paul P. Smith, BSEE 1924. The award is given to music majors in compliance with university financial aid policy.
- The Florence Overmire Scholarship was established by Florence F. Overmire of Arcadia to assist a qualified student in the Getty College of Arts and Sciences.

- The Lois Cook DuBois Pavlik Scholarship was established in 1999 by Linda Hoffman in memory of her late mother, a 1935 graduate of Ohio Northern University. The award shall be given to students pursuing a career in music education. Preference shall be given to students from Allen County in the State of Ohio.
- The Shelley C. Petrillo Musical Theatre Scholarship was presented by Mr. and Mrs. Orlando Petrillo in memory of their daughter, Shelley. It is awarded to a junior majoring in musical theatre upon recommendation by the faculty of the department of communication arts.
- The Shelley C. Petrillo Theatre Scholarship is presented by Mr. and Mrs. Orlando Petrillo in memory of their daughter, Shelley.
- The Shelley C. Petrillo Scholarship is presented to a senior art student by Mr. and Mrs. Orlando Petrillo in memory of their daughter, Shelley.
- The Shelley C. Petrillo Junior Art Award was presented by Mr. and Mrs. Orlando Petrillo in memory of their daughter, Shelley.
- The Willis F. Porter Scholarship Fund is provided by a bequest from the estate of Mildred E. Porter in memory of her husband, Willis F. Porter, BSEd 1935, for a student majoring in education who has high academic ability and financial need.
- The Mary Hughes Reames Scholarship was provided through the will of Mary Hughes Reames, an alumna and friend of ONU. Awards are made to deserving students.
- The Walter Pingrey Rogers Award provides scholarships to outstanding students.
- The Linda S. Scheuerman Scholarship Fund is awarded to a senior chemistry major selected by the department chairman. This scholarship is awarded in honor of Dr. Bryon Hawbecker.
- The Mary Jane and E. Meredith Schwartz Scholarship in Biology is awarded to a worthy student demonstrating need.
- The James Banning Smith and Helen Miriam Crider Smith Memorial Scholarship Fund was established by Mr. and Mrs. Thomas Smith, in memory of his parents, to assist a freshman pursuing a degree in education.
- The Mildred Osmon Smith, BA 1924, Piano 1925, and Paul P. Smith, BSSE 1924, Fund was organized for chemistry majors.
- The Thurman H. and Margaret R. Smith Scholarship was established by the estate of Mr. Smith and shall be awarded to a student majoring in education from the Lima, Ohio area.
- The Dorothy Enid Kinnard Snedden Memorial Scholarship Fund was established by Dr. Harold E. Snedden, BA 1937, and family in loving memory of their wife and mother. The scholarship is awarded annually to a senior who is majoring in English and/or journalism and is in good academic standing.
- The Snyder Scholarship was established in memory of Martin Luther Snyder, BA 1894, and Ola Fiess Snyder, BS 1895, by Mr. and Mrs. Barton Snyder and Mr. Ralph Snyder.
- The Beall Snyder Student Aid Fund was provided by Ada native, Mrs. Augustus Beall, BA 1901, (Orchie Snyder), in memory of her parents, Sam and Margaret Stemple Snyder, for a music student with financial need.
- The Dorothy and Lowell Snyder Music Scholarships were established by Mr. Snyder to honor the memory of his wife.
- The Dorothy Ames Snyder Piano Scholar of the Year Award is awarded annually to the piano student chosen by the Music Department Faculty as having made the most progress during the year.
- The C. Austin and Mary Bess (Hauman) Sprang Scholarship was established in honor of C. Austin Sprang, BSEd 1936, and in memory of his wife, Mary Bess (Hauman) Sprang, BA 1933. It is awarded annually, with preference given to a student in the teacher education curriculum of the College of Arts and Sciences.
- The F. G. and Amy Sprang Scholarship was established by their children and spouses: Fred G., BA 1943, and Lucienne O. Sprang; C. Austin, BSEd 1936, and Mary Bess Hauman, BA 1933, Sprang; Vance B., BA 1931, and Ira Rilla Sprang Leonard. F. G. Sprang attended Ohio Normal School in 1902. Scholarship is to be awarded each year with preference given to a student in the College of Arts and Sciences from Hardin County, Ohio.
- The Fred G. and Lucienne O. Sprang Scholarship was established by Fred G., BA 1943, and Lucienne O. Sprang to be awarded annually with preference to be given to students in the College of Arts and Sciences from Hardin County, Ohio.
- The Sprint/United Telephone Scholarship is to be used to support students in the department of education, College of Arts and Sciences.

•The A. and B. Stambaugh Scholarship was established through a bequest from Mrs. Beatrice (Snyder) Stambaugh. Mr. Stambaugh received an AB degree in 1905 and Mrs. Stambaugh received an honorary arts and sciences degree in 1911 from ONU.

•The Easter Straker Scholarship Fund was established by the community and her friends. It is intended to be an annual award given to a communication arts student, preferably one pursuing a career in broadcasting.

•The Joseph S. Uhl, BSEd 1933, Scholarship was established in 1973 by his wife, Rosemary Mohler Uhl, and family for a physical education major who has financial need, personal character, scholastic ability, and athletic ability.

•The Martha Gesling Weber Award is given to chemistry majors.

•The Victor and LaDona (Church) Wellman Scholarship Fund was established to assist one student in the College of Arts and Sciences and one student in the College of Engineering.

•The A. G. Welshimer Student Financial Aid Fund was established by Pauline Welshimer in memory of her father, Class of 1908, longtime educator and superintendent of schools in Champaign and Logan Counties of Ohio. The annual income is to be given to a worthy student, with preference given to those students interested in the field of education.

•The Dr. S. Lee Whiteman Scholarship was established by the United Methodist Laymen of the Ohio Conference in memory of the late trustee and alumnus for pre-ministerial students.

•The Valerie Wilson Piano Award is presented at Honors Day.

•Willis H. and Mignon Winkler Memorial Scholarship was established through the estate of Willis H. Winkler, BA 1927.

•The Dr. Laurence N. Woodworth Scholarship was established by his family and friends in memory of Laurence N. Woodworth for history and political science students with demonstrated financial need.

•The Yinger Memorial Scholarship was presented by Dr. Mary Yinger, D.O., as a memorial to her husband, Dr. Elmer Yinger, D.O. It is awarded to a student in the department of art.

•The J. Otis Young Student Aid Fund was provided by his family and friends in memory of Dr. Young, former chair of the board of trustees of ONU.

•The Mary J. Young Memorial Scholarship was established by a bequest from Mary T. Hugentugler, a friend of Miss Young. Miss Young started her career as a librarian in the Cleveland Public Schools. She retired from the Los Angeles County Library System.

Business Administration Scholarships

•The Richard W. Allen Memorial Scholarship Fund was established by the United Telephone Company, Mansfield, Ohio. The award is based on university scholarship guidelines.

•The William D. Atteberry Scholarship, established by Dr. William Atteberry of Cincinnati, is for a student in the College of Business Administration.

•The Ethyl and Ernest S. Bartram Scholarship Fund was established by a gift from the estate of Mrs. Ethyl Bartram.

•The Business College Scholarship was established to provide funds for a student in the College of Business Administration.

•The Dr. Charles F. Conklin Memorial Scholarship was established by the estate of Dr. Charles F. Conklin, professor of economics at Ohio Northern University from 1966-1985, to provide assistance to an economics student.

•The Earl V. Dye Scholarship was established by Elizabeth W. Dye, his wife, in memory of her husband, a graduate of 1904. Scholarships are awarded to qualified students in economics and business law.

•The Kenneth R. and Lea A. Elshoff and The Ohio League of Financial Institutions Scholarship Fund was established to honor the outstanding service of Dr. Elshoff to his business profession, as well as his devotion to the community, including service to Ohio Northern University as a trustee. Mrs. Elshoff is also being honored for her extraordinary commitment to community service. Both have been active in many community charitable organizations.

•The Leona and Andrew C. Griffing Scholarship was established by A.C. Griffing, BA 1912, in memory of his wife, for students with above average ability who demonstrate financial need.

•The Hamilton Student Aid Fund was established by Julia Harmon Hamilton, in memory of her husband, Royce R. Hamilton, BS 1904. The income from this fund shall be awarded each year to a worthy student with financial need. Preference shall be given to a student in the College of Business Administration.

•The Hampson-Skinner Award is made available to a junior accounting major.

•The Hillier Trust College of Business Administration Invested Scholarship was made possible by the Hillier Family Foundation. Scholarships from the fund are to be awarded annually to outstanding ONU undergraduate students who are graduates of Evart (Mich.) High School or of high schools in Ohio's Summit or Medina counties. The foundation was established by the children of Robert E. Hillier.

•The George C. Hindall Scholarship was established through the generosity of Mrs. George "Billie" Hindall and sons, Geo, Steven, and William Bradley, to assist academically worthy business students with financial need. A preference is given to students from Hardin County, Ohio, in consultation with ONU's athletic director.

•The Taffy Howard, BSBA 1988, and Brenda Johnson, X1989, Award is presented to a business student annually in their memory by Dr. William D. Atteberry.

•The Taffy Howard-Brenda Johnson Scholarship is awarded to deserving students in the College of Business Administration by family, friends and alumni in memory of Taffy Howard, BSBA 1988, and Brenda Johnson, X1989.

•The Brenda Johnson Memorial Scholarship was endowed by the Doyle Johnson family in honor of their daughter and sister, to be used by the College of Business Administration, preferably for accounting and/or marketing majors.

•The Marion K. and Alma B. McKay Fund is presented to an economics student who has financial need.

•The Janice Graeser Mitchell Memorial Scholarship was established in Mrs. Mitchell's memory, XBSEd 1950, by her husband, James R. Mitchell, BSEE 1949, to benefit advanced students in the College of Business Administration.

•The National City Bank Scholarship provides financial assistance for undergraduate students enrolled at the University in the College of Business Administration.

•The Henry (Harry) C. and Frances L. Richards Scholarship fund was established by Henry C. Richards, Jr. and Susan J. Richards of Toledo in honor of Mr. Richards' parents, Henry C. Richards and Frances L. Richards. The scholarship is to be awarded to students enrolled in the College of Business Administration with preference given to residents of Lorain County, Ohio.

•The C. William Verity Junior Award is presented to a College of Business Administration student with excellent academic achievement.

•The Dr. Ronald G. Weber Scholarship was established by Mr. and Mrs. Henry L. Metzger to honor Dr. Weber, consultant in the ONU Development Office, 1984-2003. The scholarship is granted to an outstanding student in economics upon recommendation of the faculty of the College of Business Administration.

Engineering Scholarships

•The Norman D. Ackley Electrical Engineering Scholarship Endowment Fund was established by Mr. Ackley through a bequest in his will to assist worthy electrical engineering students at the University.

•The Frank J. Aimutis Scholarship was established in memory of Mr. Aimutis (BSEE 1917) by his wife, Neva Thomas Aimutis (AA 1920) to assist students majoring in engineering or law.

•The Joseph W. Alspaugh and Stella M. Alspaugh Memorial Fund was established by a gift from the estate of Stella M. Alspaugh for needy and deserving students in engineering.

•The Russell J. and Maybelle L. Anspach Scholarship was established by a trust distribution from Maybelle L. Anspach to benefit junior or senior engineering students.

•The Dean Lawrence H. Archer Scholarship is given to an academically worthy student who has financial need.

•The Jacob H. Beach Scholarship has been established by Mrs. Carl (Anna A.) Weber for a worthy student.

•The Beene Student Aid Fund was established by Herbert K. Beene, BSCE 1925, in memory of his wife, Adella Margaret Beene, for a worthy student with financial need.

•The Max J. and Viola C. Bielenberg Memorial Scholarship was established by Mrs. Marlene Bielenberg Barr in honor of her parents. It is awarded to civil engineering students.

•The Braun Financial Aid Fund was established by Karl Braun, BSCE 1919, for an engineering student with financial need.

•The Ralph W. Briggs Scholarship has been established for engineering students from the South.

•The Leif Clayton Brown Scholarship Fund was established in memory of Leif Clayton Brown, ME 1916, by Mrs. Audine Stearns, his sister. It is awarded to a qualified and deserving student.

- The Bruce and Jane Burton Scholarship was established through the generosity of Dean and Mrs. Bruce Burton to assist academically worthy engineering students with financial need. A preference is given to mechanical engineering majors.
- The Ivor S. and Ethel E. Campbell Merit Scholarship was established anonymously in memory of Mr. Campbell, BSCE 1916, D.Eng. 1972, and Mrs. Campbell, AA 1917. Scholarship is to be given annually to four undergraduate students, one in each class. Dr. Campbell was a professor in the College of Engineering, 1921-1937.
- The Ivor S. and Ethel E. Campbell Student Aid Fund was established through the maturation of a part of a trust set up by Dr. Campbell, BSCE 1916, D.Eng. 1972, and Mrs. Campbell, AA 1917. Award is to be made to a qualified undergraduate student with financial need in the College of Engineering. Dr. Campbell was a professor in the College of Engineering, 1921-1937.
- The Case Scholarship in Engineering was established by C. Robert Case, BSCE 1932, and his wife, Barbara, to be awarded to a qualified and needy student who has completed more than one year toward his degree in engineering. Mr. Case was an engineer with the Goodyear Tire and Rubber Company in Akron.
- The David F. and Lucille M. Chambers Scholarship was established by the estate of Lucille M. Chambers. Her husband, David F. Chambers, was a 1922 graduate of the College of Engineering.
- The Carl and Jane Clay Scholarship was established through the generosity of Dr. and Mrs. Carl Clay to assist academically worthy engineering students. A preference for the award(s) is given to mechanical engineering majors. The recipient(s) must be United States citizen(s).
- The Bruce J. Cleavenger Scholarship was established by the estate of Mrs. Ellen C. Cleavenger to aid engineering students who are partially or wholly self-supporting themselves while attending Ohio Northern University.
- The Harlow H. Crooks Engineering Fund was established by Harlow Crooks, BSEE 1923, and his wife, Melvene.
- The DIFCO, Inc. Scholarship was established through the generosity of Mr. Wayne Westlake, president, and Mr. John Murray, executive vice president of DIFCO, Inc. of Findlay, Ohio. The scholarship is for worthy mechanical engineering students with financial need.
- The Donald E. Dome Scholarship was established by Mrs. Dome and friends of Donald E. Dome, BSEE 1949.
- The Duff Student Aid Fund was established by Raymond E. Duff, BSEE 1922, as a memorial to his wife, Coradell Duff, and to his mother, Anna M. Duff. The award is made to a worthy student with financial need.
- The James K. Dunn Scholarship Fund was established in memory of James K. Dunn, BSCE 1921, by a bequest from the estate of Mrs. Dunn for an engineering student in conformity with university guidelines.
- The G. Walter Eighmy Scholarship was established to provide assistance for third and fourth year civil engineering students with financial need.
- The Engineering Deans' Scholarship was established to honor deans of the Engineering College.
- The Engineering Scholarship was established as a general scholarship fund for engineering students.
- The William J. Feth Scholarship was established through a bequest from Mr. William J. Feth, BSEE 1940, to support a deserving student specializing in electronics or the electrical field in the College of Engineering; second choice would be a deserving student in the College of Engineering.
- The Fisher Student Aid Fund was established for a worthy student with financial need by Ernest H. Fisher, BSME 1915, and his wife, Ella A. Fisher, JD 1921.
- The Joseph and Lucille Foster Scholarship was established in the name of Mr. and Mrs. Joseph Foster to provide financial aid for engineering students.
- The Maurice H. Freas Engineering Scholarship was established by a bequest from Mr. Maurice Freas, BSCE 1927, for the purpose of providing engineering scholarships to young men and women of outstanding ability and character, who need financial assistance.
- The Fred Fry Engineering Scholarship was established by Fred Fry, BSChE 1933.
- The Leona and Andrew C. Griffing Scholarship was established for engineering students with financial need and above average ability by A.C. Griffing, BS 1912, in memory of his wife.
- The Gerald A. Harris Scholarship was established for engineering students by Mrs. Alice Harris and her children in memory of their husband and father.

- The William J. Hazeltine Fund was established in his memory by his wife, Thurza D. Hazeltine, for engineering students.
- The Lee R. Henning Financial Aid Fund was provided as an appropriate memorial by Mr. Lee R. Henning, BSCE 1922, and his wife, Mildred Lowman Henning. It is given to a civil engineering student who is worthy and qualified.
- The James Herendeen Engineering Scholarship was established by James H. Herendeen, BSCE 1929, and his wife, Mary. Each year the income from this endowed fund is to be given to a deserving student in the College of Engineering.
- The Hoag Scholarship was established by Mr. Ken Hoag of San Jose, California. The award is to go to a "well-rounded" student studying electrical engineering.
- The Henry C. and Marjorie L. Hollinger Scholarship was established by Mrs. Marjorie Hollinger and son, Bruce, for a deserving student(s) in the engineering college from the Lima, Ohio area.
- The Professor Henry and Mary Horltd Scholarship was established by former students, friends and alumni in honor of Professor Horltd and in memory of his wife, Mary, for qualified engineering students. Dr. Horltd was professor of mechanical engineering from 1958-72.
- The Johnston-Jansen Scholarship is provided for engineering students by Mrs. Pansy V. Jansen in memory of her father, Charles Wesley Johnston, who attended ONU, and her husband, T. Carl Jansen.
- The James L. Klingenberger Scholarship was established by former students, friends, and colleagues to honor Professor Klingenberger, BSEE 1949, A. Cit. 1982, D. Engr. 1995, Professor at ONU, 1949-1994.
- The Robert H. Lee Scholarship in Engineering was given by Mr. Lee in memory of his mother and is awarded to a freshman engineering student from Seneca County.
- The Lima Society of Professional Engineers Scholarship is awarded in accordance with university financial aid policy.
- The Ralph E. Long Scholarship Fund was established through the will of Ralph E. Long, BSEE 1920.
- The Robert J. Lyman Memorial Scholarship, awarded to a qualified civil engineering student, was established in memory of Robert J. Lyman, BSCE 1941, by his friends at the Prestressed Concrete Institute.
- The LeRoy H. Lytle Award is made available to a worthy engineering student.
- The Howard D. McKinley Scholarship Fund was established in 1985 by Mrs. Eloise H. McKinley in memory of her husband, Howard, BSChE 1930, for deserving engineering students.
- The Robert B. and Frances Eileen Mertz Scholarship was established by a bequest from Frances E. Mertz, who received a teaching degree from Ohio Northern in 1931. Her husband, Robert B. Mertz graduated in 1930 with a BSEE degree. Income from the fund is to assist academically worthy engineering students with financial need. A preference is given for electrical engineering majors.
- The Mikel Messick Scholarship was established by Mrs. Linda Messick in honor of her husband. It is awarded to engineering students with financial need from Allen, Auglaize and Hardin counties of Ohio.
- The MetoKote Corporation Scholarship was established to provide scholarship assistance to students in the College of Engineering.
- The Morgan Foundation Scholarship, for a qualified civil engineering student from Butler, Montgomery, Preble or Warren Counties, was established by B.D. Morgan & Co. of Middletown.
- The Morrison Student Aid Fund, awarded to engineering students with financial need, was established through the will of Mrs. Agatha A. Morrison, CE 1910.
- The William F.D. Neiheiser Scholarship was established by the Reliance Mechanical Corporation of Cleveland, William F.D. Neiheiser, BSME 1942, Chairman. Mr. Neiheiser was a member of the University Board of Trustees from 1977-87 and a former member of the College of Engineering Advisory Board. The lake at fraternity circle is named for Mr. Neiheiser.
- The Warder and Mary B. Page Engineering Scholarship Fund was established as a gift annuity by alumnus Warder Page, BSCE 1922, for a deserving student in the College of Engineering.
- The Dr. Donald S. Pearson Scholarship Fund was established in his honor as Professor of Electrical Engineering at the University. Scholarship is awarded to a qualified, deserving student in the T.J. Smull College of Engineering.

- The Paul H. Reid Engineering Scholarship is given to a worthy and qualified student with financial need by Paul H. Reid, BSME 1912, and his wife, Mildred G. Reid.
- The Harold E. Remsburg Scholarship is provided to an engineering student who is pursuing a career in public service work. The scholarship was provided by Mr. and Mrs. Harold Remsburg. Mr. Remsburg received the BSCE degree in 1949.
- The Singleton Remsburg Memorial was established by Mr. and Mrs. Harold Remsburg in memory of their son, Singleton, BSEE 1977, to fund an annual "Creativity Award."
- The Captain William D. Robinson Scholarship was established by Alice Ruth Robinson as a memorial to her husband, Captain William D. "Cap" Robinson, BSCE 1916, for an engineering student in accordance with university financial aid policy.
- The Samrad Engineering Scholarship Fund was established for students by Dr. Cyrus Samrad, BSCE 1957, in compliance with university financial aid policy.
- The John S. Sawvel, Sr. Scholarship Fund was established by Mr. Sawvel through the maturation of a trust, for qualified students in the College of Engineering. Mr. Sawvel, friend of the University, was a registered engineer whose company represented numerous municipalities in their rate negotiations with public utilities serving the municipalities.
- The T.J. Smull Memorial Engineering Scholarship was established by Mr. and Mrs. Morrell H. Blesh. The award will be given annually to a qualified engineering student, with preference to applicants with a physical handicap. Dr. Smull was dean of the Engineering College from 1905-1918.
- The Floyd D. Spar Scholarship. Established in memory of Floyd D. Spar, BSChE 1936, from his estate and family. The scholarship is awarded annually with preference given to a student from Ada High School enrolled in the College of Engineering.
- The Stimmel Financial Aid Fund, established by Clayton H. Stimmel, BSCE 1960, and his wife, Harriett, is awarded to a civil engineering student with exceptional motivation, moral integrity and financial need.
- The Sundstrand Corporation Scholarship was established by Sundstrand Corporation to be awarded annually to qualified, deserving students majoring in electrical engineering.
- The Superior Metal Products Scholarship was established by the Superior Metal Products Company of Lima for a qualified student(s) in the College of Engineering.
- The Taylor Aid Fund is given to a worthy engineering student with financial need in memory of Willard Thompson Taylor, ME 1930, by his sister and brother-in-law, Frances and Park D. Rogers.
- The Alton D. Taylor Student Aid Fund was established by Mrs. Alton D. Taylor in memory of her husband, Professor Alton D. Taylor, who served on the civil engineering faculty from 1954 until his death in October 1959. The award is made available to a worthy student with financial need.
- The Thevenet Scholarship is awarded to a qualified student with financial need by Edward H. Thevenet, BSCE 1916, and his wife, Grace.
- The Joseph E. and Dorothy Turney Student Aid Fund was established by a bequest from Joseph E. Turney, BSCE 1949, to make annual awards to needy and deserving students in the College of Engineering.
- The Charles I. Van Dusen Memorial Scholarship was established by Nelva E. Van Dusen in memory of her husband, Charles, and in honor of her grandson, Elliott M. Metzger, a student at Ohio Northern. Income from the fund will be awarded to a computer/electrical engineering student(s), who have at least a 3.00 G.P.A. or above with a sincere commitment to the field of computer/electrical engineering, an outstanding work ethic and a high standard of personal integrity and character.
- The Miller H. Ward Memorial Scholarship is to be awarded annually to a needy student or students majoring in the study of engineering science.
- The Wander Scholarship, established by Ronald W. (Soc) Wander, BSCE 1924, and his wife, Shirley, is for worthy civil engineering students with financial need.
- The Victor and LaDonna (Church) Wellman Scholarship Fund was established to assist one student in the College of Arts and Sciences and one student in the College of Engineering.
- The Thomas W. Westerbeck Electrical Engineering Scholarship was established by his parents, Wilson A. and Ethel B. Westerbeck, in honor of their son.
- The B. David and Mabel Williams and Ernest L. and Evelyn Dustman Scholarship was established by Mr. and Mrs. David J. Williams in honor of the memory of their parents. The

scholarship is for worthy students in the College of Engineering.

- The Mete Yalcin Engineering Scholarship was established through the generosity of Mr. Mete Yalcin to assist academically worthy engineering students with financial need.

Pharmacy Scholarships

- The Albert T. Awad Award for Immunology was established by Dr. Albert Awad for a fourth year pharmacy student who will pursue at least a master's degree after graduation and who has excelled in immunology class in his/her third year of pharmacy.

- The Classes of 1968/69/70 Scholarship was established by the Pharmacy College Classes of 1968, 1969, and 1970 to provide funds for a student in the College of Pharmacy.

- The CVS Scholarship was established to provide funds for a student in the College of Pharmacy.

- The Dr. Leasure Kline Darbaker Scholarship Award is presented to pharmacy students with financial need.

- The John W. Dargavel Foundation Scholarships are sponsored by the National Association of Retail Druggists.

- The Cloyce M. (PhG 1929) and Aretha R. Durliat Scholarship was established by Mr. and Mrs. Cloyce M. Durliat.

- The Eckerd Drug Company Scholarship is awarded to a third, fourth, or fifth-year pharmacy student planning a community pharmacy career.

- The Thomas J. Evans (PhG 1894) Memorial is awarded to qualified students from Licking County.

- The Waldo B. Finney Scholarship was established by a bequest from Margaret R. Finney to honor her father, Waldo, a 1918 pharmacy graduate.

- The Fischelis Scholarship Fund is given to qualified students in concert with university financial aid policy by gifts from the estate of Dr. Robert P. Fischelis and appreciative alumni and friends. Dr. Fischelis was Dean of the College of Pharmacy, 1963-66.

- The Roland R. Foley Scholarship Fund was established in 1985 by the will of Roland R. Foley, BS 1912 and BSPH 1912, for students in the arts and sciences and pharmacy colleges.

- The Garrett Scholarship Fund was established by Mr. Gary L. Garrett, BSPH 1969, to be awarded to an upper division pharmacy student.

- The Thomas A. and Phyllis J. Gossel Scholarship Fund is awarded to students enrolled in the College of Pharmacy, based on financial need and the recommendation of the dean of the college.

- The Richard Lynn Green Memorial Award is provided through an endowment established by Mr. and Mrs. Richard Clark Green, family and friends.

- The Meredith and Geraldine Guider Scholarship is awarded to a third, fourth or fifth-year pharmacy student.

- The Hakes Memorial Scholarship is awarded to a qualified and worthy student with financial need by Vern H. Hakes, PhC 1933, and his wife Evie. Established in memory of their late son, Robert H. Hakes, BSPH 1955.

- The Harry Lee Hamsher Scholarship was established through the general pharmacy memorial endowment fund by faculty of the College of Pharmacy, alumni, and friends of Mr. Hamsher, BSPH 1918, who was Professor of Pharmacology from 1920-1939.

- The Edwin C. and Kathryn C. Hart Endowed Scholarship Fund was established by Mr., BSPH 1942, and Mrs. Hart, and shall be awarded on academic ability, without regard to financial need, to a student whose elementary and/or secondary education was primarily obtained as a resident of Carroll or Stark counties of Ohio, and is a full-time student in the College of Pharmacy.

- The Anne E. Hartford and James E. Hartford Scholarship, established by the estate of Anne E. Hartford, provides tuition money for pharmacy students. Mr. Hartford's father, uncle, and two cousins graduated from the ONU College of Pharmacy.

- The Kmart Endowed Scholarship is awarded annually to a student in their 3rd, 4th, or 5th year and currently employed in community pharmacy.

- The Kroger Foundation Scholarship is to be awarded to a third, fourth or fifth-year pharmacy student planning a retail practice of pharmacy.

- The Dr. C. O. Lee Award was provided through an endowment established by Dr. C. O. Lee.

- The Joseph E. Marmon Memorial Scholarship was established by Dr. Marmon's widow, Margaret, family, friends, and alumni in memory of Joseph E. Marmon, BSPH 1938, D.Sc. 1970. Awarded to

deserving pharmacy students. Dr. Marmon was a trustee of the University from 1961-81.

- The McElroy-McCleery Student Aid Fund was established by Mrs. Ethel McElroy McCleery, BSEd 1917, in memory of her husband, Charles D. McCleery, PhG 1917, for students with exceptional ability who also have financial need.

- The Charles McCleery and Ethel M. McCleery Scholarship Fund was established from the estate of Ethel M. McCleery with preference given to graduates of Fairfield County high schools.

- The Meijer, Inc. Scholarship is awarded to an upper division pharmacy student planning a retail practice of pharmacy.

- The W. H. Meyer Scholarship is awarded to students without regard to financial need by Mrs. Glenna Schafer Meyer, AA 1933, in memory of her husband, Walter H. Meyer, PhC 1933.

- The Roy B. Odenkirk Scholarship was established in memory of Mr. Obenkirk, PhG 1925, a well-known pharmacist, drugstore owner and businessman in Sugarcreek, Ohio.

- The Pharmacy Scholarship was established to provide funds for a student in the College of Pharmacy.

- The Phar-Mor and Victor LaMarco Scholarship is presented to third, fourth or fifth-year pharmacy students, who have financial need and plan to enter the retail practice of pharmacy.

- The Dr. Clarence H. Pierstorf Scholarship was established by Dr. Clarence H. Pierstorf for a student in the College of Pharmacy.

- The Dr. and Mrs. Ervin W. Pierstorf Scholarship was established by a gift from the Pierstorfs for a worthy student in the College of Pharmacy.

- The Harold Resnick Scholarship is awarded to a qualified pharmacy student.

- The R. Larry Richey Memorial Scholarship was established by the estate of Mr. Richey, BSPH 1959. It is awarded to deserving students in the College of Pharmacy.

- The Rite Aid Scholarship is to be awarded to a deserving student to complete the final year of pharmacy school.

- The Dr. Julius Rogoff Foundation Award is presented to an outstanding student.

- The Carol C. Roy Memorial Scholarship was established by the Class of 1975 in memory of their classmate, Carol C. Roy. The award is given to a third, fourth, or fifth-year student with both financial need and good academic standing.

- The Janet and Albert Sebok Scholarship award is given annually to a pharmacy student in their last three years of study.

- The L.C. Slesman Scholarship was established through the general pharmacy memorial endowment fund by faculty of the College of Pharmacy, alumni, and friends of Mr. Slesman, PhG 1905, who was Professor of Chemistry and Organic Chemistry from 1905-1930.

- The Bernard Smarsley Scholarship was established by the Smarsley family in memory of Bernard Smarsley, BSPH 1953, for a qualified and deserving student.

- The Dr. A.C. Smith Memorial Award is presented to a fourth-year pharmacy student with an excellent academic record by the family and friends of Dr. Smith to commemorate his many years of dedicated service to the Raabe College of Pharmacy.

- The Charles G. Swartz, Sr., PhG 1897, Scholarship was established from personal and family gifts for pharmacy students from the Pittsburgh area.

- The Walgreen Endowed Scholarship is awarded annually to a student planning community pharmacy practice.

- The Dana and Gladys B. Welsh Scholarship Award was established by a bequest from the will of Gladys Blair Welsh.

- The Virgil J. "Tom" Wiechart Memorial Fund was established by the Drug Emporium Foundation, David L. Kriegel, Trustee, in memory of Mr. Wiechart, BSpH 1950, A.Cit. 1978. Mr. Wiechart was President of Wiechart Pharmacies, Lima, Ohio.

- The Volney L. Wright Scholarship was established by a bequest from Mr. Wright, PhC 1932, for a qualified student in the College of Pharmacy. Preference to be given to a student with financial need from one of the several counties in Ohio-Wood, Sandusky, Erie, Seneca, Huron, Auglaize, or Logan. Mr. Wright was, for many years, a pharmacist in Bowling Green.

Law Scholarships

•The Frank J. Aimutis Scholarship was established in memory of Mr. Aimutis, BSEE 1917, by his wife, Neva Thomas Aimutis, AA 1920, to assist students majoring in engineering or law.

•Judge Anthony A. Alaimo, Class of 1940, Scholarship. A scholarship fund was established to honor the judge by W. C. Killgallon, J. W. McSwiney, and other friends and alumni.

•The H.E. Ashcraft Memorial Grants are awarded to law students with financial need.

•The Mary Emma Askew Scholarship Fund was established in the name of Mary Emma Askew by her family.

•The Albert A. Baillis Scholarship was established by alumni, faculty and friends to honor Professor Albert A. Baillis, professor of law from 1957 to 1991. The award is made in accordance with university policy with preference given to an Ohio resident.

•The Bashor-Yinger Financial Aid Fund was established by Dr. Mary B. Yinger, D.O., as a memorial to her husband, Dr. Elmer L. Yinger, D.O. The award is made to a qualified and worthy student with financial need.

•The John E. Bauknecht Scholarship Fund was established by John E. Bauknecht, JD 1922, of East Palestine, Ohio, for students with both high academic ability and financial need.

•The Peter B. Betras Law Scholarship was established in memory of Dr. Betras, JD 1928, by his friends, Mr. Anthony G. Rossi and Mr. Anthony G. Rossi III, JD 1991, attorneys in Warren, Ohio. The award is to go to a qualified student in the Pettit College of Law. Dr. Betras was a well-known Youngstown attorney.

•The William H. Blackford Award was presented by Mr. and Mrs. W. Vincent Rakestraw in honor of Mrs. Rakestraw's father, William H. Blackford, JD 1936.

•The Judge Blase A. Bonapane Scholarship is given to a worthy student with demonstrated financial need.

•The Dr. George D. and Evelyn B. Brabson Scholarship was established by Dr. and Mrs. Brabson for a law student with outstanding academic scholarship.

•The Benjamin Brafman Scholarship is awarded each year to an eligible second year Jewish law student who is a member of the Ohio Northern

University Cardozo Jewish Law Student Association. This scholarship is made possible by a gift from Mr. Benjamin Brafman, a 1974 graduate of the Pettit College of Law.

•The William J. Brown Memorial Scholarship was established by friends and colleagues to honor the memory of Mr. Brown, JD 1967, LLD 1980, and to support a student generously by providing distinctive opportunities for learning the law, and to cultivate a culture of sophistication and high aspirations in the College of Law through the collective qualities of William J. Brown Scholars. Bill Brown was the youngest man elected to the position of Ohio Attorney General and the longest to serve in office, from 1971-1983. He was a senior partner in the firm of Kegler, Brown, Hill & Ritter, taught at Franklin and Ohio Northern Universities and was active in numerous charitable, civic, professional and political organizations.

•The Burns Trust was established to provide funds for a student in the College of Law.

•The Erwin L. and Effie Clemens Scholarship Fund was established in 2000 through a bequest from the estate of Erwin L. Clemens, of Defiance, Ohio, to support scholarships to second and third-year law students with superior academic performance and substantial financial need.

•The George Ray Craig Scholarship was established by Mrs. Janet E. Henderson to honor the memory of her father, George Ray Craig, BS 1888, for law students selected in accordance with law college financial aid policy.

•The Harvey and Marilyn Creighton Law Scholarship was established through a bequest by Mrs. Marilyn E. Creighton of Canton, Ohio, as a memorial for her husband, Dr. Harvey H. Creighton, LLB 1928, Hon. LLD 1976. Dr. Creighton was a partner in the Canton law firm of Creighton and Sickafoose for 58 years. The award will go to a worthy student demonstrating financial need, pursuing a degree in law.

•The E. A. Fisher Student Aid Fund was established by Ernest H. Fisher, BSME 1915, and his wife, Ella A. Fisher, JD 1921, for a worthy student with financial need.

•The Murray Flom Memorial is awarded to a qualified third-year student with financial need. The scholarship was established in 1974 by the parents and friends of Murray Flom, a student of the College of Law who died in 1974.

•The Ernest R. Genovese Scholarship was established by Mr. Ernest R. Genovese, XLLB 1929, of Cuyahoga Falls, Ohio, to provide funds for a student in the College of Law.

- The Daniel and Eleanor B. Guy Scholarship was established by Daniel, JD 1952, professor of law, and his wife, Eleanor Guy. Dr. Guy retired in 1998. He joined the faculty in 1959 and was dean of the College of Law from 1978 to 1983. The scholarship is to be awarded annually to a second or third year Ohio Northern University law student in good standing academically and in need of financial assistance.
- The William Clark Foster Scholarship was established by the estate of William Clark Foster, JD 1941, for worthy students of the Claude W. Pettit College of Law, entering or continuing, who have excellent academic credentials represented by approximately a “B” average.
- The Eugene N. Hanson Scholarship Fund was established by the parents of a graduate of the Pettit College of Law.
- The David C. and Edna L. Haynes Memorial Scholarship Fund was established by David C. Haynes through a will bequest. Mr. Haynes attended ONU for two years and earned his LLB in 1926. The income from the fund shall be used for tuition, room and board, and books for students attending the College of Law without regard to race, creed, ethnic background, sex or religious preference.
- The Margaret Schwartz Hodges Memorial Scholarship Fund is provided to deserving students through the will of Margaret Schwartz Hodges, a friend of the Pettit College of Law from Findlay, Ohio.
- The Jerome L. and Margery Holub Scholarship was established by Jerome L. Holub, JD 1951, of Akron, for a qualified student in the Pettit College of Law.
- The John Hughes Memorial was established in 1970 in memory of John Hughes for a worthy law student with financial need.
- The Carl Frederick, Clara E. Berry Klein and Robert W. Summers, M.D. Scholarship. Established by Mrs. Mariann Klein Summers of Canton in memory of her parents and husband. Mr. Klein, LLB 1925, practiced law many years in Canton and was at one time mayor of the city. Dr. Summers practiced medicine in Canton for many years.
- The Robert and Iola Koch Student Aid Fund for the College of Law was established by C. Robert Koch, JD 1941, A. Cit. 1986.
- The Lacey Law Scholarship was established by the estate of Zelma C. Lacey, in memory of William H. Guyton, Sr., and William H. Guyton, Jr., for a worthy student.
- The Law Alumni Scholarship is a general scholarship for law students, established by alumni and friends.
- The Law Class of 1964 Scholarship was established by the Law College Class of 1964 to provide funds for a student in the College of Law.
- The Law College Scholarship was established to provide funds for a student in the College of Law.
- The Law Deans' Scholarship was established by alumni and friends over the years to honor deans of the law school.
- The August J. and Ruth P. Leagre Memorial Fund was established by Mr. and Mrs. Richard M. Leagre of Indianapolis, Indiana, in memory of his parents. Richard Leagre received the BA degree in 1959.
- The John C. Markey Charitable Trust Scholarship was established by the Markey Charitable Trust of Bryan for a qualified student in the Pettit College of Law.
- The Marsh Scholarship Fund was established by John Marsh, Jr., JD 1934, and his wife, Mary C. Marsh, for students with demonstrated ability and financial need.
- The Dr. and Mrs. Julius Matz Scholarship Fund awards a scholarship to a College of Law student without regard to financial need.
- The Harold and Irene Meredith Scholarship is awarded to a student with financial need who has merit.
- The Evan W. Morris Law Scholarship was established by Evan M. Morris, JD 1965, in memory of his father, Evan W. Morris, a well-known Alliance, Ohio attorney.
- The Robin R. Obetz Scholarship was established through the generosity of Dr. Robin Obetz to assist academically worthy students with financial need.
- The Claude W. Pettit Memorial Fund was established by his friends in memory of the late Dean of the College of Law, Claude W. Pettit.
- The Rutter-Taggart Scholarship is awarded to a student with both high scholastic ability and financial need.
- The T. Eric Spellerberg Memorial was established in 1978 by the parents and friends of Eric Spellerberg, who died in 1978 while a student at the College of Law.
- The John S. Stuckey Scholarship Fund is awarded to a worthy third-year student in

memory of John S. Stuckey, JD 1953, by his family and friends.

- The Tudor Scholarship was established by members of the Hardin County Bar and other friends in memory of Judge Arthur R. Tudor, LLB 1924. Mr. Tudor for many years was Judge of the Hardin County Common Pleas Court.

- The Mary S. Wetherill Scholarship Fund was established by her estate for students in the College of Law.

- The Frank R. Willis Memorial Student Aid Fund provides assistance to an Ohio resident in good academic standing with financial need. The award is made in recognition of Frank B. Willis, law faculty member, U.S. Congressman, Ohio Governor and United States Senator, and was established through the will of his only child, Miss Helen Willis.

- The Leander P. Zwick III Scholarship was established by Dr. Leander P. "Pepper" Zwick III, JD 1975, of Canton, Ohio, for qualified students in the College of Law.

Loan Funds

GENERAL UNIVERSITY

The following loan funds have been established for loans to students enrolled in all colleges of the University:

- University General Loan Fund.

- The Kathleen C. McIntosh Student Aid Fund; a living memorial to Kathleen Crowder McIntosh, wife of the sixth president of Ohio Northern University by the generosity of her many friends.

- The Charles E. Schell Foundation provided four \$25,000 grants which are to be used for interest-free educational loans to students from Ohio and neighboring states. Loans will be awarded to students in good standing who have demonstrated need. Juniors and seniors will be given preference.

- The Schmidlapp Foundation Loan Fund was established for undergraduate women from Ohio.

- Dr. H. A. and Grace Skidmore Loan Fund.

- John Charles Terriance Scholarship Loan Fund

- The United Methodist Student Loan Fund. A limited number of worthy students who are members of the United Methodist Church may

secure loans from the Student Loan fund administered by the Board of Education of the Church.

ARTS AND SCIENCES

- College of Arts and Sciences Loan Fund.

- William Otto Elzay Loan Fund.

- A. J. Martin Pre-Med Loan Fund.

BUSINESS ADMINISTRATION

- College of Business Administration Loan Fund.

- OSCPA Loan Fund.

ENGINEERING

- College of Engineering Loan Fund.

- Harry B. Raison Engineering Loan Fund is to provide an additional source of financial assistance (in the form of loan money) to eligible engineering students (as defined by the conditions of the fund) during the junior or senior year, and would also apply to co-op students who would be in the fifth year.

PHARMACY

- College of Pharmacy Loan Fund. Established by gifts to the University from various sources, including the family of W. C. Timblin, PhG 1923, Port Clinton, Ohio, the friends of Arthur D. Broa, and the friends of Otto W. Haneberg.

- Richard and Ronald Bonfiglio and George Schertzer Student Loan Fund, established and maintained by Richard and Ronald Bonfiglio.

- The Pierstorff Scholarship Loan Fund, established by Ervin and Clarence Pierstorff as a memorial to the Pierstorff family.

- The Burroughs-Wellcome Loan Fund.

LAW

- The Law College Emergency Loan Fund.

- Benefactor's Loan Fund.

- The Hattie M. Strong Foundation College Loan Program.

- The Phi Alpha Delta Law Fraternity.

- The Earl D. Haefner Loan Fund was established in the memory of her husband by Leona K. Smith to benefit needy law students.

Faculty are listed with position and rank for the 2004-05 academic year. The year refers to the time of initial service to the university.

University Faculty

2004-05

Julie A. Adams, B.S. (Illinois), Ph.D. (Bowling Green), 2004. *Visiting Assistant Professor of Biological Sciences*

Robert M. Alexander, B.A. (Ohio Northern), M.A., Ph.D. (Tennessee), 2002. *Assistant Professor of Political Science*

Anas F. Alhajji, B.Econ. (IUIMIS, Saudi Arabia), M.A., Ph.D. (Oklahoma), 2001. *Associate Professor of Economics*

Jeffery Allison, B.S. Pharm., Pharm. D. (Ohio Northern), 1994. *Associate Professor of Pharmacy Practice*

Khalid Al-Olimat, B.S. (Far Eastern U.), M.S.(Bradley), Ph.D. (Toledo), 1999. *Associate Professor of Electrical and Computer Engineering*

Rodney P. Anderson, B.S. (Sioux Falls College), Ph.D. (Univ. of Iowa), 1987. *Professor of Biological Sciences*

Nancy A. Armstrong, A.B. (Vassar), J.D. (Boston College), M.S. (Drexel), 2001. *Director of the Taggart Law Library; Associate Professor of Law*

Mark F. Asman, B.S.B.A., M.B.A. (Bowling Green), Ph.D. (Missouri), 2004. *Visiting Professor of Accounting*

William C. Asman, B.A. (Capital), M.E.Ad. (Wright State), 2002. *Visiting Instructor in Communication Arts*

Amy L. Aulthouse, B.S. (Shippensburg), Ph. D. (South Dakota), 1997. *Associate Professor of Biological Sciences*

Kendall L. Baker, B.A. (Maryland), M.A., Ph.D. (Georgetown), 1999. *President of the University; Professor of Political Science*

Peter Banfe, B.A. (California-Santa Barbara), M.B.A. (San Francisco St.), M.S. (London School of Economics), Ph.D. (George Washington), 1997. *Associate Professor of International Business*

Charles Bates, B.S. (Virginia State), M.Ed., M.A. (Minnesota), Ph.D. (Ohio State), 1993. *Associate Professor of Music; Director of Bands*

Susan E. Bates, B.A. (Rockford), A.M., Ph.D. (Washington U.-Mo.), 1996. *Associate Professor of Chemistry*

Mark J. Batman, B.S. (Wilmington), M.A. (Loras College), 2004. *Instructor in Physical Education*

Subhi M. Bazlamit, B.S.C.E. (U. of Jordan), M.S.C.E., Ph.D. (Toledo), 1994. *Associate Professor of Civil Engineering (Sabbatical, Academic Year)*

Ronald E. Beanblossom, B.A. (Morningside), M. Div. (Union Theological), M.A., Ph.D. (Rochester), 1979. *Professor of Philosophy and Religion*

Ronald E. Beaschler, B.S.B.A. (Ohio Northern), M.Ed. (Bowling Green), 1988. *Assistant Professor of Health and Physical Education; Chair, Department of Human Performance and Sport Sciences*

Robert Behrens, B.A., M.A. (Akron), M.F.A. (Ohio), 2003. *Assistant Professor of Communication Arts; Director of Musical Theatre*

Laurie Bell, B.S.Ed. (Ohio State), B.D. (Toledo), M.S. (James Madison), Ph.D. (Toledo) 1992. *Associate Professor of Dance and Resident Artist*

Danny Benbassat, B.A., M.A. (Slippery Rock), M.S., Ph.D. (Oklahoma State), 2003. *Assistant Professor of Psychology*

Paul E. Bender, B.A., M.A. (Western Illinois), Ph.D. (Syracuse), 2002. *Assistant Professor of English*

Bruce W. Berdanier, B.S.C.E. (Ohio State), M.S.C.E. (Purdue), Ph.D. (Ohio State), 2000. *Associate Professor of Civil Engineering (Leave, Spring Quarter)*

John A. Berg, B.A. (Findlay), M.A. (Akron), Ph.D. (Ohio State), 1992. *Associate Professor*

Pamela Boner, B.S.Pharm. (Purdue), Ph.D. (Ohio State), 2005. *Assistant Professor of Toxicology*

Kanok Boriboonsomsin, B.Eng. (Chulalongkorn U.), M.Eng. (Asian Inst. of Technology), Ph.D. (Mississippi), 2004. *Visiting Assistant Professor of Civil Engineering*

- Christopher P. Bowers**, B.A. (Kenyon), Ph.D. (Ohio State), 2003. *Assistant Professor of Chemistry*
- Khristo N. Boyadzhiev**, M.S., Ph.D. (U. of Sofia), 1990. *Professor of Mathematics*
- Joanne C. Brant**, A.B. (Cornell), J.D. (Case Western Reserve), 1991. *Professor of Law*
- Heidi M. Braunschweig**, B.A. (Temple), M.A. (Arcadia), Ph.D. (Case Western Reserve), 2004. *Visiting Assistant Professor of Psychology*
- Kimberly Broedel-Zaugg**, B.S. Pharm. (Ohio Northern), M.B.A. (Ashland U.), Ph.D. (Ohio State), 1994. *Professor of Pharmacy Practice*
- Kimberly Broekemeier**, B.A. (St. Olaf), Ph.D. (Minnesota), 1998. *Associate Professor of Biochemistry*
- Bobby G. Bryant**, B.S., Pharm D. (Tennessee), M.S. (Michigan), 1999. *Professor of Pharmacy; Dean, Raabe College of Pharmacy*
- David K. Burden**, B.A. (Ohio Northern), M.A. (Cincinnati), 2004. *Visiting Instructor in History*
- Charles L. Busch**, B.S.E.E. (Ohio Northern), P.E. (Ohio), 1963. *Director of Administrative Computing Services with rank of Assistant Professor*
- Joseph F. Campoli**, B.S. (Rhode Island), M.S. (Ithaca), 1975. *Associate Professor of Health and Physical Education*
- Indra Canagaratna**, B.Sc. (U. of Ceylon), M.S. (Loughborough U. of Technology, U.K.), 1987. *Acquisitions/Systems Librarian with rank of Professor*
- Sebastian G. Canagaratna**, B.S. (U. of Colombo), Ph.D. (U. of Liverpool, U.K.), 1986. *Professor of Chemistry*
- Mellita Caragiu**, M.S. (Babes-Bolyai, Romania), Ph.D. (Penn State), 2000. *Associate Professor of Physics*
- Mihai Caragiu**, B.S., M.S. (U. of Bucharest), Ph.D. (Penn State), 2000. *Associate Professor of Mathematics*
- Richard G. Carpenter**, A.B. (Hiram), M.S. (Ohio State), 1968-74, 1977-84, 1991. *Registrar with rank of Associate Professor*
- Rebecca L. Casey**, B.M. (Ohio Northern), M.M. D.M.A., (Cincinnati Conservatory of Music), 1994. *Assistant Professor of Music*
- Wei Kian Chen**, B.S., M.S. (Southwestern Louisiana), Ph.D. (Louisiana-Lafayette), 2003. *Assistant Professor of Computer Science/Computer Engineering*
- Jeffrey Christoff**, B.S. Pharm. (Duquesne), Ph.D. (Ohio State), 1998. *Associate Professor of Medicinal Chemistry*
- John P. Christoff**, B.A. (St. Alphonsus), M.A. (Notre Dame), J.D. (Ohio Northern), 1981. *Professor of Law; Associate Dean, College of Law*
- Jill R. Christopher**, B.S.B.A. (Ohio Northern), M.Acc. (Case Western Reserve), D.B.A. (Cleveland State), 1988. *Associate Professor of Accounting*
- C. Antoinette Clarke**, B.S. (Rochester Institute of Technology), J.D. (Toledo), 2001. *Associate Professor of Law*
- Alfred E. Cohoe**, B.A. (Albion), M.A. (Bowling Green), 1962. *Professor of Psychology and Sociology*
- Jeffrey T. Coleman**, B.A. (Ohio Northern), M.H.S. (Georgia Southern), 1992. *Assistant Professor of Health and Physical Education*
- David C. Crago**, A.B. (Duke), J.D. (U. of Michigan), 1991. *Professor of Law; Dean, Pettit College of Law*
- Cecily Crider**, B.A., J.D. (Ohio Northern), 1998. *Director and Instructor in Legal Writing*
- Margaret C. Croskery**, B.A., M.A., Ph.D. (Virginia), 1999. *Assistant Professor of English*
- Patrick Croskery**, B.A. (Virginia), Ph.D. (Chicago), 1999. *Associate Professor of Philosophy; Director of Honors Program*
- Sandra Crosser**, B.S.Ed. (Ohio State), M.A. (Kent), Ph.D. (Bowling Green), 1989. *Professor of Education*
- Margaret E. Cullen**, B.A. (SUNY at Buffalo), M.A. (San Francisco State), Ph.D. (Tennessee), 1992. *Associate Professor of English*
- Robert Cupp**, B.A., J.D. (Ohio Northern), 2000. *Visiting Professor of Applied Politics and Consultant in Applied Politics.*
- Denise D'Arca**, B.M. (Culver-Stockton), M.A. (Northeast Missouri), Ph.D. (Missouri), 1988. *Professor of Music*
- Cara L. Davies**, B.A. (Heidelberg), Ph.D. (Medical College of Ohio), 2003. *Visiting Assistant Professor of Biological Sciences*
- Sinjan De**, B.Pharm. (Birla Institute of Technology-India), M.Tech. (Jadavpur U.-India), Ph.D. (Nebraska Medical Center), 2003. *Assistant Professor of Pharmaceutics*

- Dennis J. De Luca**, B.A. (Upsala), Ph.D. (Cleveland State), 2003. *Associate Professor of Biological Sciences*
- Mark H. Dixon**, B.A. (Indiana), M.A. (Tennessee), Ph.D. (Purdue), 1999, 2003. *Visiting Assistant Professor of Philosophy*
- Roseanna L. Dufault**, B.A. (Colorado Women's Col.), M.A. (Middlebury), Ph.D. (U. of Colorado), 1989. *Professor of French; Chair, Department of Modern Languages*
- Michele Durand**, B.A. (Bluffton), M.Ed. (Bowling Green), 2001. *Assistant Professor of Health and Physical Education*
- Keith F. Durkin**, B.A. (Marywood), M.S., Ph.D. (Virginia Polytechnic Institute), 1999. *Associate Professor of Sociology*
- Jennifer Easterday**, B.S. (Rochester), J.D. (Ohio Northern), 2002. *Staff Attorney with rank of Instructor in Law*
- Melissa Eddings**, B.F.A. (Ohio U.), M.F.A. (Edinboro-PA), 1997. *Assistant Professor of Art (Leave, Academic Year)*
- Alice M. Essinger**, B.Phil. (Miami), M.L.S. (Kent State), 2005. *Catalog Librarian with rank of Instructor in Heterick Library*
- John K. Estell**, B.S.C.S.E. (Toledo), M.S., Ph.D. (Illinois), 2001. *Associate Professor of Computer Engineering & Computer Science; Chair, Department of Electrical & Computer Engineering and Computer Science*
- Randall L. Ewing**, B.S.B.A., M.B.A. (Bowling Green), 1979. *Associate Professor of Marketing*
- Barry J. Farbrother**, B.S., Ph.D. (Hertfordshire, UK), 2000. *Professor of Electrical and Computer Engineering; Dean, Smull College of Engineering*
- Thomas P. Faulkner**, B.S. Pharm. Ph.D. (Purdue), 1978. *Professor of Pharmacology*
- Howard N. Fenton**, B.S., J.D. (Texas), 1988. *Professor of Law*
- David J. Fetrow**, B.A. (Albion), M.L.S. (Emporia State), 2004. *Reference Librarian with rank of Instructor in the Law Library*
- Thomas P. Finn**, B.A. (Marquette), M.A. (Notre Dame), Ph.D. (Wisconsin), 1999. *Associate Professor of French and Spanish*
- Patricia J. Freeman**, B.S. (Bluffton), M.A. (Michigan State), Ed.D. (Sarasota), 1990. *Associate Professor of Education*
- Bruce C. French**, B.A., M.A. (American), J.D. (Antioch), 1983. *Professor of Law*
- William R. Fuller**, B.A. (Trinity College), M.S., M.A., Ph.D. (Indiana), 2002. *Associate Professor of Mathematics; Chair, Department of Mathematics*
- G. Richard Gainey**, B.S. (Jones College), M.M.C. (U. of South Carolina), 1988. *Associate Professor of Communication Arts and Director of Broadcasting*
- Diana Garver**, B.S., M.A. (Ohio State), Ph.D. (Bowling Green), 2001. *Assistant Professor of Education*
- Scott D. Gerber**, B.A. (William and Mary), J.D., Ph.D. (Virginia), 2001. *Associate Professor of Law*
- Michelle A. Glon**, B.S. (East Stroudsburg), M.S. (Marshall U.), 1991. *Associate Professor of Health and Physical Education; Athletic Trainer*
- Roger H. Goldberg**, A.B. (Cornell), M.A., Ph.D. (Indiana), 1969. *Professor of Economics; Associate Vice President for Academic Affairs*
- Tarun K. Goswami**, B.M.E., M.M.E (U. of Roorkee-India), M.E. (Hon.) (U. of Wollongong), D.Sc. (Helsinki U. of Technology), 2003. *Associate Professor of Mechanical Engineering; Chair, Department of Mechanical Engineering*
- Michele Govekar**, B.S. (Loyola), M.B.A. (St. Bonaventure), Ph. D. (Minnesota), 1997. *Associate Professor of Management*
- Paul Govekar**, B.B.A. (Loyola, Chicago), M.B.A. (DePaul), D.B.A. (Nova Southeastern), 2004. *Assistant Professor of Management*
- Jeffrey A. Gray**, B.S. (Pennsylvania State), Ph.D. (M.I.T.), 1993. *Professor of Chemistry*
- Judith D. Greavu**, B.S. (Ball State), M.F.A. (Bowling Green), 1989. *Associate Professor of Art*
- Richard L. Haight**, A.B. (Boston U.), J.D. (Suffolk), LL.M. (Boston U.), 1984. *Professor of Law*
- Mary J. Haynes-Spoon**, B.S.Ed. (Bluffton), M.Ed. (Bowling Green), Ed.D. (Toledo), 1974. *Professor of Education*
- Jeffrey M. Heinfeldt**, B.S.B.A., M.B.A. (Bowling Green), Ph.D. (Kent State), 2002. *Associate Professor of Finance*
- Dennis W. Herr**, B.S.E.E. (Ohio Northern), M.S. (Ohio State), P.E. (Ohio) 1979. *Associate Professor of Electrical and Computer Engineering*

- Sharon Herr**, B.A. (St. Benedict), A.M.L.S. (Michigan), 1974. *Catalog Librarian with rank of Professor*
- Kevin D. Hill**, B.S. (U. of Kentucky), J.D. (Northern Kentucky U.), LL.M. (Temple), 1985. *Professor of Law*
- Carl W. Hoagstrom**, B.S. (Kearney), M.S. (Purdue), Ph.D. (Arizona), 1975. *Professor of Biological Sciences*
- Brian Hofman**, B.B.A. (Iowa State), M.Ed. (Bowling Green), Ph.D. (Toledo), 1998. *Associate Professor of Health and Physical Education*
- Debra L. Hoover**, B.A. (Graceland College), M.A. (Eastern New Mexico), 2004. *Visiting Instructor in Communication Arts*
- Robert A. Hovis**, B.S. (Youngstown), M.S. (Case Western Reserve), Ph.D. (Ohio State), 1975. *Professor of Mathematics*
- Sandra L. Hrometz**, B.S. Pharm. (Ohio Northern), Ph.D. (Kentucky), 2000. *Associate Professor of Pharmacology*
- Steven F. Hundersmarck**, B.S. (Madonna University), M.A. (Central Michigan), Ph.D. (Michigan State), 2004. *Visiting Assistant Professor of Psychology*
- Donald A. Hunt**, B.S. (Baldwin-Wallace), M.S. (Case Western Reserve), M.S., Ph.D. (Ohio State), 1999. *Associate Professor of Mathematics*
- Juliet K. Hurtig**, B.S.E.E. (Ohio Northern), M.S.E.E., Ph.D. (Ohio State), 2000. *Associate Professor of Electrical and Computer Engineering; Assistant Dean, Smull College of Engineering*
- Stephen Iseman**, B.F.A. (Ohio U.), M.Ed. (Xavier U.), Ph.D. (Ohio State), 1993. *Professor of Communication Arts/Public Relations*
- Feng Jao**, B.S. (Sheng-te Christian College), M.S. (Fort Hays State), Ph.D. (Toledo), 2000. *Assistant Professor of Educational Technology*
- Ronald A. Johns**, B.S. (U. of N. Carolina), M.A., Ph.D. (Indiana), 1990. *Associate Professor of Mathematics*
- Ronald J. Jones**, B.S. Pharm. (Purdue U.), Pharm.D. (U. of Cincinnati), 1986. *Associate Professor of Clinical Pharmacy*
- Abby A. Kahaleh**, B.S. (U. of Damascus), M.S. (Toledo), M.P.H., Ph.D. (Michigan), 2003. *Assistant Professor of Pharmacy Practice; Director of Experiential Programs*
- Beth L. Kaskel**, B.S. (Marietta), N.D. (Case Western Reserve), 2004. *Associate Professor of Biological Sciences and Director of the Nursing Program*
- Errol G. Katayama**, B.A., M.A., Ph.D. (U. of Toronto), 2000. *Associate Professor of Philosophy*
- Donna Kauffman**, B.A. (Ohio Northern), M.A., Ph.D. (Bowling Green), 1992, 1998. *Associate Professor of Sociology*
- Brian E. Keas**, B.S. (Hope), M.S. (Wake Forest), Ph.D. (Michigan State), 2000. *Assistant Professor of Biological Sciences*
- Terry D. Keiser**, B.S.Ed. (Ohio Northern), M.A. (Bowling Green), 1967. *Professor of Biological Sciences; Chair, Department of Biological and Allied Health Sciences; Chair, Division of Mathematics and Natural Sciences*
- Owen J. Keller**, B.S. (Ohio U.), M.A. (Western Michigan U.), 1984. *Associate Professor of Health and Physical Education; Athletic Trainer*
- Robert J. Kemp**, B.A. (Creighton), Ph.D. (Nebraska), 2004. *Assistant Professor of Economics*
- Karen L. Kier**, B.S. Pharm. (Ohio Northern) M.Sc., Ph.D. (Ohio State), 1986. *Professor of Clinical Pharmacy*
- Thomas L. Kier**, B.S. Pharm. (Ohio Northern), M.A., Ph.D. (Bowling Green), 1986. *Associate Dean, Raabe College of Pharmacy, with rank of Instructor of Pharmacy*
- David Kinder**, B.S. (Purdue), M.S. (Indiana), Ph.D. (Illinois), 1993. *Professor of Medicinal Chemistry*
- David Kisor**, B.S. Pharm. (Toledo), Pharm.D. (Ohio State), 1998. *Associate Professor of Pharmacy Practice*
- Robert E. Kleine, III**, B.S. (New Hampshire), Ph.D. (Cincinnati), 2002. *Associate Professor of Marketing*
- Dennis L. Kratzer**, B.M., M.M. (Bowling Green), 1979. *Professor of Music*
- David W. Kurtz**, B.S. (Houghton), Ph.D. (Syracuse), 1973. *Professor of Chemistry; Chair, Department of Chemistry and Biochemistry*
- Jim R. Kuykendall**, B.S. (Virginia Polytechnic), Ph.D. (Tennessee-Memphis), Pharm.D. (Idaho State), 2003. *Assistant Professor of Pharmacy Medicinal Chemistry*

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Robert E. Lamb, B.A., B.S. (St. Louis), M.S., Ph.D. (Illinois), 1978. *Professor of Chemistry*

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Anne Lippert, B.A. (Holy Names), M.A. (Washington), Ph.D. (Indiana U.), 1971. *Professor of French; Vice President for Academic Affairs*

Douglas E. Litowitz, B.A. (Oberlin), J.D. (Northwestern), Ph.D. (Loyola-Chicago), 2003. *Assistant Professor of Law*

Louis F. Lobenhofer, A.B. (William and Mary), J.D. (Colorado), LL.M. (Denver), 1979. *Professor of Law*

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John Lomax, B.A. (Nebraska Wesleyan), M.A. (Chicago), Ph.D. (Kansas), 1988. *Professor of History*

Michael B. Loughlin, B.A., M.A., Ph.D. (Indiana), 1988. *Professor of History*

Andrew Ludanyi, B.A. (Elmhurst), M.A., Ph.D. (Louisiana State), 1968. *Professor of Political Science*

Jun Luo, B.S. (Beijing Polytechnic U.), M.S. (Tsinghua U.), Ph.D. (Florida), 2002. *Assistant Professor of Computer Science*

William J. Mancuso, B.S. (SUNY-Brockport), M.F.A. (Buffalo), 1998. *Assistant Professor of Art*

Robert A. Manzer, B.A. (Carleton), M.A., Ph.D. (Chicago), 2004. *Professor; Dean, Getty College of Arts and Sciences*

Miriam A. Mara, B.A. (Jacksonville), M.A. (N. Carolina-Greensboro), Ph.D. (New Mexico), 2003. *Assistant Professor of English*

Terry L. Maris, B.G.S., M.B.A., Ph.D. (U. of Nebraska), 1990. *Dean, College of Business Administration; Professor of Management*

Jed E. Marquart, B.S.M.E. (Ohio Northern), M.S.A.E., Ph.D. (Dayton), P.E. (Ohio), 1991. *Professor of Mechanical Engineering*

John M. Mativo, B.I.T. (U. of Eastern Africa, Baraton), B.M.E. (Auburn), M.Ed., D.Ed. (Georgia), 2002. *Assistant Professor of Technology*

Vivian V. Mativo, B.A. (Oberlin), M.S., Ph.D. (North Carolina), 2002. *Visiting Assistant Professor of Chemistry*

Marta R. McCullough, B.Ed. (Toledo), M.A.Ed. (Concordia Teachers College), 2002. *Visiting Instructor in Education*

Eva B. McManus, B.A. (Madison), M.A. (James Madison), Ph.D. (Tennessee), 1988. *Professor of English; Chair, Department of English*

Richard P. Meininger, B.A. (Duquesne), M.A. (Pittsburgh), Ph.D. (Ohio U.), 1973. *Professor of Economics; Associate Dean, College of Business Administration*

Michael M. Milks, B.S.Pharm. (Ohio Northern), Ph.D. (Ohio State), 1985. *Professor of Pharmacology; Chair, Department of Pharmaceutical and Biomedical Sciences*

Steven R. Miller, B.S. (Lebanon Valley), M.L.I.S. (Dominican University), M.I.T. (Northwestern), J.D. (John Marshall), 2002. *Public Services Law Librarian with rank of Assistant Professor*

Allison A. Mittendorf, B.A., J.D. (Toledo), 2004. *Instructor in Legal Writing*

Thomas Monaco, B.F.A. (Arizona), M.F.A. (Missouri), 1996. *Technical Director in Communication Arts and Assistant Professor of Communication Arts*

Abelardo C. Moncayo, B.S., M.S. (Ohio), Ph.D. (Massachusetts), 2002. *Assistant Professor of Biological Sciences*

Traci W. Moritz, B.A. (Bluffton), M.L.S. (Indiana), 2004. *Public Services Librarian with rank of Instructor in Heterick Library*

Suzanne Morrison, B.A. (Wake Forest), M.Div. (Princeton Theological Seminary), Ph.D. (Graduate Theological Union), 1994. *Associate Professor of Religion (Sabbatical, Fall Quarter)*

Sathyanarayana Murthy, B.Pharm., M.Pharm., Ph.D. (Bangalore University), 2005. *Assistant Professor of Pharmaceutical Sciences*

Brian J. Myers, B.A. (Hiram), Ph.D. (Indiana), 2002. *Assistant Professor of Chemistry*

Valerie M. Myers, B.S. Ed. (Bowling Green), M.A. Ed. (Heidelberg), Ph.D. (Purdue), 2002. *Associate Professor of Education; Assistant Director, Center for Teacher Education*

Paul Nutter, B.S., M.B.A. (Ohio), 2000. *Assistant Professor of Technology*

William O'Connell, B.A. (Marshall), M.S. (West Virginia), Ph.D. (Ohio), 1998. *Assistant Professor of English/Journalism*

Liam O'Melinn, B.A. (California, Santa Cruz), Ph.D. (Yale), J.D. (Columbia), 2001. *Associate Professor of Law*

Patricia A. Partelano, B.S.Pharm., Pharm.D. (Ohio Northern), 1996. *Associate Professor of Pharmacy Practice*

Raymond F. Person, Jr., B.A., M.Div. (Phillips U.), Ph.D. (Duke), 1993. *Professor of Religion; Chair, Department of Philosophy and Religion; Chair, Division of Humanities*

Ronald C. Peterson, B.S. (Northern Illinois U.), Ph.D. (U. of Chicago), 1987. *Professor of Biochemistry*

Jason C. Pinkney, B.A. (Macalester), Ph.D. (New Mexico State), 2002. *Assistant Professor of Physics*

Jonathan D. Pitts, B.A., M.A. (Idaho), M.A., Ph.D. (SUNY-Buffalo), 2000. *Associate Professor of English*

Peter A. Previte, B.S. (Philadelphia Col. of Pharm. & Sci.), M.S. (Wayne), J.D. (Ohio Northern), 1968. *Professor of Pharmaceutical Administration*

Harold L. Putt, B.S. (Clarion), M.A., Ph.D. (Bowling Green), 1983. *Professor of Mathematics*

David W. Raack, B.A. (U. of Kansas), J.D. (U. of Missouri), LL.M. (Temple), 1984. *Professor of Law*

Rachel Rader, B.S., M.A.T. (Bowling Green), 2000. *Visiting Instructor in Mathematics*

Maria Raiti, B.S. (SUNY at Stony Brook), Ph.D. (Michigan), 1997. *Associate Professor of Mathematics (Sabbatical, Spring Quarter)*

Milan Rasic, B.A.S. (College of the Southwest), M.Ed. (Sul Ross State), 2002. *Instructor in Health and Physical Education*

James B. Reiselman, B.S. Pharm. (Nebraska), M.B.A. (Dayton), 1973. *Associate Professor of Clinical Pharmacy; Chair, Department of Pharmacy Practice*

David A. Retterer, B.S. (David Lipscomb), M.S. (Vanderbilt), 1979. *Associate Professor of Mathematics and Computer Science*

Farhad Reza, B.S.C.E. (Iowa), M.E., Ph.D. (Clarkson), 2001. *Assistant Professor of Civil Engineering*

Brent Ridenour, B.S.B.A. (Ohio Northern), M.Ed. (Bowling Green), 2002. *Instructor in Health and Physical Education*

Michael J. Rider, B.S.M.E. (Ohio Northern), M.E.M.E. (Texas A & M), Ph.D. (Purdue), E.I.T. (Ohio), 1979. *Professor of Mechanical Engineering*

Nils Riess, B.A. (Valparaiso), M.A. (Northern Illinois), 1975. *Professor of Communication Arts; Chair, Department of Communication Arts; Chair, Division of Fine Arts*

Herbert J. Rieth, B.A. (Indiana-Southeast), 2004. *Visiting Instructor in Art*

Lisa G. Robeson, B.A. (Maryland), M.A. (Georgetown), Ph.D. (Catholic University), 2002. *Associate Professor of English*

Laurence D. Robinson, B.S. (Michigan), M.A., Ph.D. (California-Berkeley), 2002. *Assistant Professor of Statistics*

Maria Cruz Rodriguez, B.A. (University of Deusto, Spain), M.A. (Florida State), Ph.D. (Kentucky), 2004. *Assistant Professor of Spanish*

Andrew M. Roecker, Pharm.D. (Ohio Northern), 2002. *Assistant Professor of Pharmacy Practice*

Tena L. Roepke, B.S., M.Ed., M.A., (Bowling Green), Ed.D. (Toledo), 1984. *Associate Professor of Mathematics; Director, Center for Teacher Education*

Robert C. Rohan, B.S. (Maryland), M.E. (Frostburg State), 2004. *Instructor in Human Performance and Sport Sciences*

- Michael Romanowski**, B.S. (Indiana University of Pennsylvania), M.S. (Indiana), Ph.D. (Miami), 1993. *Professor of Education (Sabbatical, Academic Year)*
- Boyd Rorabaugh**, B.S. (Mount Vernon Nazarene), M.S. (Bowling Green), Ph.D. (Creighton), 2004. *Assistant Professor of Pharmacology and Cell Biology*
- David L. Rouch**, B.S. (Ball State), M.S. Ed. (Eastern Illinois), Ph.D. (Ohio State), 1988. *Professor of Technology; Chair, Department of Technological Studies*
- William Britton Rowe**, B.F.A. (Ohio Northern), M.F.A. (Michigan), 1999. *Assistant Professor of Art; Chair, Department of Art*
- Nancy Paine Sabol**, B.A. (Ohio), J.D. (Ohio State), 2001. *Assistant Professor of Law; Director of Academic Support*
- E. Alan Sadurski**, B.S. (Oakland), Ph.D. (Wayne), 1980. *Professor of Chemistry*
- David M. Savino**, B.S.B.A., M.B.A. (Youngstown), 1979. *Associate Professor of Management*
- Lee B. Savino**, B.S. (SUNY at Buffalo), Pharm. D. (Ohio State), 1986. *Professor of Clinical Pharmacy*
- David R. Sawyers**, B.S.M.E. (Rose-Hulman), M.S.M.E., Ph.D. (Notre Dame), 2003. *Assistant Professor of Mechanical Engineering*
- Sandra J. Schroeder**, B.S., M.A., Ph.D. (Ohio State), 2004. *Visiting Instructor in Mathematics*
- Raymond F. Schuck**, B.A. (Defiance), M.A. (Wright State), 1996. *Visiting Assistant Professor of History and Archival Specialist*
- JoAnn M. Scott**, B.A. (San Francisco State U.), M.A., Ph.D. (U. of California), 1987. *Professor of Political Science*
- Robert Scott**, B.A. (Michigan), M.A. (Chicago), Ph.D. (Michigan State), 1994. *Associate Professor of English*
- Kanishka Sen**, B.A., M.A. (Jawaharlal Nehru), M.A., Ph.D. (Arizona State), 2003. *Assistant Professor of Spanish*
- Terrence E. Sheridan**, B.A. (Hiram), Ph.D. (Dartmouth), 2002. *Assistant Professor of Physics*
- Kelly M. Shields**, Pharm.D. (Butler), 2003. *Assistant Professor of Pharmacy Practice*
- Marcia K. Siebesma**, B.A. (Hope), A.M.L.S. (U. of Michigan), 1975. *Associate Law Librarian with rank of Associate Professor*
- Thomas Simmons**, B.S.B.A., B.A. (Ohio Northern), M.S. (Ohio University), 1999. *Athletic Director; Assistant Professor of Physical Education and Sport Sciences*
- Arif Sirinterlikci**, B.S., M.S. (Istanbul Technical University), Ph.D. (Ohio State), 2002. *Assistant Professor of Technology*
- Seigei V. Slobodzian**, B.S., M.S. (Kharkov Pharmaceutical Institute, Ukraine), Ph.D. (Maine), 2000. *Assistant Professor of Chemistry and Coordinator of Organic Laboratories*
- Jonathan S. Smalley**, B.S.C.E. (Ohio Northern), M.S., Ph.D. (Ohio State), P.E. (Ohio), 1978. *Professor of Civil Engineering; Chair, Department of Civil Engineering*
- Claude C. Smith**, B.A. (Wesleyan U.), M.A.T. (Yale U.), M.F.A. (U. of Iowa), D.A. (Carnegie-Mellon U.), 1986. *Professor of English*
- David Smith**, B.A. (Kent State), M.A., Ph.D. (Chicago), 1998. *Associate Professor of Geography*
- Lewis K. Smith**, B.S. Pharm., Ph.D. (Texas), 1977. *Professor of Biochemistry*
- John E. Stanovich, Jr.**, B.S. Pharmacy (Ohio Northern), 1974. *Assistant Professor of Clinical Pharmacy; Assistant Dean, Raabe College of Pharmacy*
- Rory W. Stauber**, B.S.Ed. (Indiana), M.Div. (Christian Theological Seminary), M.Phil., Ph.D. (Drew University), 2002. *Visiting Assistant Professor of Religion*
- Charles E. Steele, Jr.**, B.S. (Millsaps), M.A. (Denver), M.S. (Mississippi State), 1978. *Science Librarian with rank of Professor*
- Victor L. Streib**, B.I.E. (Auburn), J.D. (Indiana), 1996. *Professor of Law*
- Nathaniel J. Stricker**, B.S. (Dayton), M.S. (Ohio State), 2003. *Visiting Instructor in Biological Sciences*
- Donald Sullivan**, B.S. Pharm., M.S., Ph. D. (Ohio State), 1997. *Associate Professor of Pharmacy Practice*
- Rema Suniga**, B.S., M.S. (Univ. of Santo Tomas, Manila), Ph.D. (Clemson), 1994. *Associate Professor of Biological Sciences*

Scott Swanson, B.S. (Alma), M.S. (Kent State), Ph.D. (Ohio State), 1996. *Associate Professor of Biological Sciences and Health Studies*

Marc Sweeney, B.S. Pharm. (Ohio Northern), Pharm.D. (Ohio State), 2000. *Associate Professor of Clinical Pharmacy and Director of Experiential Education*

Sara L. Terrell, B.A. (Adrian), M.S. (Eastern Michigan), 2002. *Assistant Professor of Exercise Physiology*

Leslie D. Thede, B.S.E.E., M.S.E.E., (U. of Iowa), Ph.D. (U. of Toledo), 1984. *Professor of Electrical and Computer Engineering*

William Theisen, B.S., M.S., Ph.D. (Iowa), 1995. *Associate Professor of Physics; Chair, Department of Physics and Astronomy*

Richard D. Torres, B.S. (Brigham Young), M.S. (California State), Ph.D. (Idaho State), 2002. *Assistant Professor of Biological Sciences*

Terri B. Torres, B.S. (Brigham Young), M.S. (Idaho State), 2003. *Visiting Instructor in Mathematics*

Vernon Traster, B.S. J.D. (Drake), 1975. *Professor of Law*

Stephen C. Veltri, B.A. (U. of Pittsburgh), J.D. (Georgetown), LL.M. (Columbia), 1986. *Professor of Law*

Srinivasa Vemuru, B. Tech., M.Tech. (Indian Institute of Technology), Ph.D. (Toledo), 2001. *Associate Professor of Electrical and Computer Engineering*

Robert Verb, B.S. (University of Findlay), Ph.D. (Ohio), 2001. *Associate Professor of Biology*

Barbara Vivian, B.A. (Toledo), M.A., Ph.D. (Bowling Green), 1993. *Associate Professor of Communication Arts*

James K. Walter, B.A. (Indiana U. of Pennsylvania), M.A., M.A., Ph.D. (Wisconsin), 1988. *Associate Professor of Modern Languages*

Bryan Ward, B.A. (Ohio Northern), Ph.D. (Ohio State), J.D. (North Carolina), 1999. *Director of Law Clinics with rank of Assistant Professor of Law*

Robert L. Ward, B.S., M.S. (U. of Missouri-Rolla), Ph.D. (U. of Arkansas), 1989. *Professor of Civil Engineering*

Jennifer M. Wearly, B.S., M.S. (Bowling Green), 2004. *Visiting Instructor in Biological Sciences*

Chandalar West, B.S. (Wilmington), M.H. Ed. (East Carolina), 2001. *Assistant Professor of Health and Physical Education; Athletic Trainer*

Edwin L. Williams, B.M. (DePauw), M.M. (Indiana), D.M.A. (Cincinnati), 1973. *Professor of Music; Chair, Department of Music*

Ellen S. Wilson, B.A. (Angelo), M.A., Ph.D. (Miami), 1979. *Associate Professor of History; Chair, Department of History, Political Science, and Criminal Justice; Chair, Division of Social Sciences*

Kurt Wilson, B.S. (Manchester), M.A. (Western Michigan), 1999. *Assistant Professor of Health and Physical Education; Head Athletic Trainer*

Kate J. Witte, B.A. (U. of Northern Iowa), M.S. (Indiana U.), 1991. *Assistant Professor of Health and Physical Education; Senior Women's Administrator*

Nancy Woodley, Hon.B. Sc., Ph. D. (Guelph) 1997. *Associate Professor of Biological Sciences*

Dexter R. Woods, B.A., J.D. (Ohio Northern), LL.M. (U. of Florida), 1987. *Professor of Business Administration*

John-David S. Yoder, B.S.M.E., M.S.M.E., Ph.D (Notre Dame), 2001. *Associate Professor of Mechanical Engineering*

Linda M. Young, B.A. (Wittenberg), M.S., Ph.D. (Ohio State), 1988. *Professor of Biological Sciences*

Sherry Young, B.A. (Michigan State), J.D. (Harvard), 1987. *Professor of Law*

Margaret J. Zank, B.A., M.A. (Oregon), D.A. (Northern Colorado), 1993. *Professor of Music*

Kay Zekany, B.S., M.S. (Miami), Ph.D. (South Carolina), 1998. *Associate Professor of Accounting*

PART-TIME FACULTY

Wayne Albertson, B.A. (Michigan State), M.Div. (Methodist Theological School-Ohio), Ph.D. (Princeton Theological Seminary), 1999. *Lecturer in Religion and History*

Dean Altstaetter, B.A. (Goshen), M.A. (Ohio State) 1999. *Lecturer in Music*

Lucinda J. Altstaetter, B.M., M.M. (Bowling Green), 1977. *Lecturer in Music*

Aramis Angulo-Valera, B.A., M.T.F.L. (National U. of Trujillo, Peru), M.A. (Ohio State), 2003. *Lecturer in Modern Languages*

Mitchell Arnold, B.A. (Ohio State), M. Div. (United Theological Seminary), Ph.D. (Ohio), 2002. *Lecturer in Philosophy*

Pamela Ashmore, B.M. (Wisconsin-Eau Claire), M.M. (Bowling Green), 1999. *Lecturer in Music*

Peter Lance Ashmore, B.M., M.M. (Bowling Green), 1997. *Lecturer in Music*

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Robert Bailey, B.F.A. (Ohio), 2003. *Lecturer in Art*

John E. Ballentine, B.S. Pharm., Pharm.D. (U. of Houston), 1992. *Assistant Clinical Professor of Pharmacy*

Thomas Barnhart, B.S., M.A.T. (Purdue), 2001. *Lecturer in Mathematics*

Thomas G. Beery, B.S., M.A. (Bowling Green), 1998. *Lecturer in Writing*

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Jeffrey L. Blumer, B.S. (Pennsylvania), Ph.D. (Northwestern Med.), M.D. (Case Western), 1996. *Clinical Professor of Pharmacy*

John W. Bowers, B.A., M.A. (Northwestern), J.D. (Mercer), LL. M. (Georgetown), 2001. *Adjunct Professor of Law*

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Anthony Brothers, B.A., M.A., M.Phil. (Oxford), 2004. *Lecturer in History*

Joyce Buetner, B.S.Ed. (Ohio State), M.S.Ed. (Dayton), 2002. *Lecturer in English*

Cara Calvo, B.S. (Portland State), B.S.M.T. (Oregon Health Sciences University), M.S.M.T. (Vermont), 2002. *Clinical Assistant Professor of Clinical Laboratory Science*

Michael T. Carrig, B.S. (Bowling Green), 2002. *Lecturer in Technology*

Thomas G. Carrig, 1996. *Communication Technology Specialist*

John Carver, B.S.Ed. (Bowling Green), M.A.Ed. (Bluffton), 2002. *Lecturer in History*

Sharon Castle, B.S. Pharm., Pharm.D. (Kentucky), 1995. *Assistant Clinical Professor of Pharmacy*

Jo-Ann L. Caudill, B.S. Pharm. (North Carolina), 1999. *Assistant Clinical Professor of Pharmacy*

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Bruce Chesser, B.F.A., M.F.A. (Ohio), 1970. *Lecturer in Art*

Brian Cole, B.A.(Methodist), 1997. *Lecturer in Health, Physical Education, and Sport Sciences*

Daniel Collette, B.A., J.D. (Ohio Northern), 1997. *Adjunct Professor of Law*

Jacqueline Connour, B.A., B.S. (Iowa State), Ph.D. (John Hopkins), 2001. *Lecturer in Biology*

Ken Cooper, B.S. (Bowling Green), M.B.A. (Miami), Ph.D. (Minnesota), 2003. *Lecturer in Philosophy*

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Douglas Degen, B.S.C.E. (Ohio Northern), 1999. *Lecturer in Engineering and Technology*

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William J. Doyle, B.S. (Maryland), M.S., Ph.D. (Alabama), 2002. *Lecturer in Engineering*

Danny Drotos, B.A. (George Mason), M.F.A. (Virginia Commonwealth), 2002. *Lecturer in Arts*

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- Beth Fenton**, B.A. (Cleveland St.), J.D. (Ohio Northern), 2004. *Lecturer in Communication Arts and Lecturer in History, Political Science and Criminal Justice*
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- David J. Fickel**, B.A. (Gettysburg), J.D. (Toledo), 1986. *Adjunct Professor of Law*
- Craig M. Fielding**, B.A. (North Carolina-Greensboro), 2003. *Lecturer in Art*
- Geraldine Finn**, B.S. (Findlay), M.A. (Cleveland St.), Ph.D. (Union Institute), 1998. *Lecturer in History*
- Steven Fisher**, 1999. *Robotics Technology Specialist*
- Thomas Fourman**, B.A. (Earlham), M.Ed. (Wright State), 1996. *Lecturer in Chemistry*
- Amy Fox**, B.S.A.S. (Youngstown State), J.D. (Dayton), 2001. *Lecturer in Political Science*
- James Fox**, B.S.A.S., M.O.D. (Bowling Green), 2002. *Lecturer in Communication Arts*
- Michelle Gearhart**, Pharm.D. (Ohio Northern), 2003. *Assistant Clinical Professor of Pharmacy*
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- Stephanie Gibson**, Pharm. D. (Duquesne), 2001. *Assistant Clinical Professor of Pharmacy*
- John Gilligan**, B.S. (Ohio State), M.A. (Bowling Green), 2001. *Lecturer in Chemistry*
- Mort Goldman**, B.S. Pharm. (Pittsburgh), Pharm.D. (Cincinnati), 2004. *Assistant Clinical Professor of Pharmacy*
- Carol J. Gramm**, B.A. (Ohio Northern), M.Ed. (Miami), 1986. *Lecturer in Music*
- Kathleen Grant**, B.A.Ed. (Wayne State), M.A.(California State-Los Angeles), Ph.D. (Akron), 2004 *Lecturer in Sociology*
- Brian Grim**, B.M. (Capital), 1995. *Lecturer in Music*
- Lawrence Grove**, B.S.Ed., M.Ed. (Bowling Green), 2004. *Lecturer in Mathematics*
- Rhonda Grubbs**, B.F.A (Columbus College of Art and Design), M.F.A. (Bowling Green), 2003. *Lecturer in Art*
- David Haines**, B.S., M.Sc. (U. of Witwatersrand), 2003. *Lecturer in Biological Sciences*
- Stacey Hairston**, B.S. (Ohio Northern), 2002. *Lecturer in Human Performance and Sport Sciences*
- Kevin Hawley**, B.A. (Syracuse), J.D. (Duke), 2003. *Adjunct Professor of Law*
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- Annette Hunt- Shepherd**, B.S. (Maryland), M.S. (Frostburg State), 2001. *Lecturer in Human Performance and Sport Sciences*
- Todd Ignarski**, B.S. (Ohio Northern), M.D. (Cincinnati), 2004. *Lecturer in Human Performance and Sport Studies*
- Rita L. Inman**, B.A., M.B.A. (U. of Findlay), 2003. *Lecturer in English*
- A. Sue Iseman**, A.B. (Wilmington), M.A. (Ohio State), 2000. *Lecturer in English*
- Bruce Johansen**, B.E.S. (Cleveland), M.S. (Pittsburgh), Ph.D. (Worcester Polytechnic Institute), 1967. *Lecturer in Physics and Engineering*
- Charles L. Johnson**, B.A., M.A. (California State-Long Beach), Ph.D. (Purdue), 1977. *Lecturer in Communication Arts*
- Scott Johnson**, B.S., M.S. (Brigham Young), 2001. *Lecturer in Physics*
- Daniel Jones**, B.M. (West Virginia), M.S. (Wright State), 2004. *Lecturer in Music*
- Matthew Kauflin**, B.S. Pharm. (Ohio Northern), Pharm.D. (Toledo), 2001. *Assistant Clinical Professor of Pharmacy*
- James C. King**, B.S.Ed., J.D. (Ohio Northern), 1999. *Lecturer in History, Political Science and Criminal Justice*
- Kathryn Knecht**, B.S. (Philadelphia College of Pharmacy and Sciences), Ph.D. (North Carolina), 1993. *Lecturer in Toxicology*
- Terri Kohlreiser**, B.S. (Toledo), J.D. (Ohio Northern), 2001. *Adjunct Professor of Law*

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- James G. Laird**, B.S. (Ohio Northern), 2001. *Lecturer in Human Performance and Sport Sciences*
- Vernon F. LaSala**, B.S.E.E. (NJ Institute of Technology), M.Div. (United Theological Seminary), 1997. *Lecturer in Religion*
- Dale Laukhuf**, B.M.Ed. (Bowling Green), 1972. *Lecturer in Music*
- John Leach**, B.A. (U. of Findlay), M.A., Ph.D. (Bowling Green), 2003. *Lecturer in Psychology*
- James Leaman**, B.M.Ed. (Eastern Kentucky), M.M. (Bowling Green), 2000. *Lecturer in Music*
- Kathleen S. Leis Grine**, B.S. (Ohio Northern), M.S. (Bowling Green), 1996. *Lecturer in Chemistry*
- Dorcas Letting**, B.Sc. (Philadelphia College), Pharm.D. (SUNY at Buffalo), 1993. *Assistant Clinical Professor of Pharmacy*
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- Kristen L. Longstreth**, B.S., Pharm.D. (Duquesne), 2004. *Assistant Clinical Professor of Pharmacy*
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- David E. Lusk**, B.S. (Ohio Northern), 1991. *Lecturer in Chemistry*
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- John Magee**, B.A., M.A. (Oregon), Ph.D. (Ball State), 1976. *Lecturer in English*
- Catherine A. Manghelli**, B.S. (St. Francis), M.A. (Indiana), 2001. *Lecturer in Humanities*
- Kirsten E. Osburn Manley**, B.M. (Bowling Green), 1988. *Resident Artist and Lecturer in Music*
- John S. Mason**, B.S. (Ohio State), M.A.T. (Ohio Wesleyan), 2001. *Lecturer in Physics*
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- Martha Meza**, B.A. (Taylor), 2003. *Lecturer in Modern Languages*
- James Miglia**, B.A., M.M. (North Texas), 2004. *Lecturer in Music*
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- Virginia L. Moore**, B.A. (Mount Mary College), M.A.T. (Indiana), 2001. *Lecturer in History*
- Thomas Morrison**, B.A. (San Francisco State), M.A. (California-Berkeley), M.Div. (Pacific Lutheran Theological Seminary), M.S.W. (Nevada), 2002. *Lecturer in Mathematics*
- Marshal A. Moser**, B.S. Ed., M.S. (Ohio State), 1992. *Lecturer in Biological Sciences*
- Deidre Myers**, B.S. Pharm. (Ohio Northern), 2000. *Lecturer in Pharmacy*
- Anthony Okuley**, B.A. (Bluffton), M.B.A. (Findlay), 2002. *Lecturer in Accounting*
- Timothy Opp**, B.S. (South Carolina), B.A., M.A. (Findlay), 2001. *Lecturer in Physics*
- Jan L. Osborn**, B.S. (Ohio State), M.Ed., Ph.D. (Bowling Green), 1998. *Lecturer in Education*
- Debra Parker**, Pharm.D. (Ohio Northern), 2000. *Assistant Clinical Professor of Pharmacy*
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- Rachel A. Pinkney**, B.M. (Oberlin Conservatory), M.M. (Minnesota), 2002. *Lecturer in Music*
- Majorie Pitts**, B.A. (Massachusetts), M.A. (Idaho), 2000. *Lecturer in English*
- Stephen Plogsted**, B.S. Pharm., Pharm. D. (Cincinnati), 2001. *Assistant Clinical Professor of Pharmacy*
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- Susan Putt**, B.S. (Bowling Green), M.S. (Akron), 2004. *Lecturer in English*
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- Betsy Reed**, B.A. (Gettysburg), M.Ed. (North Carolina State), 2002. *Lecturer in Health, Physical Education and Sport Sciences*
- Kristine H. Reed**, B.A. (Miami), J.D. (Ohio Northern), 2001. *Adjunct Professor of Law*
- Michael Reed**, B.S., Pharm.D. (Cincinnati), 1995. *Regional Director for Experiential Education for Northeastern Ohio; Clinical Professor of Pharmacy*
- Joan Robbins**, B.A. (Boston College), M.F.A., D.F.A. (Yale School of Drama), 2001. *Lecturer in Communication Arts*
- Janet Roll**, B.A. (Otterbein), M.S., Ph.D. (Bowling Green), 2003. *Lecturer in Mathematics*
- Rand Russel**, B.S., M.Ed. (Bowling Green), 1994. *Lecturer in Education*
- Thomas Russell**, B.M.Ed. (Evansville), 1998. *Lecturer in Music*
- Wendi Sanders-Bechtol**, B.M., M.M. (Bowling Green), 2003. *Lecturer in Music*
- Maria Santo**, B.A. (Seton Hall), J.D. (Ohio Northern), 2001. *Adjunct Professor of Law*
- Charles Saylor**, A.A., B.A. (Miami), 1997. *Lecturer in Technology*
- Karen Schlanz**, B.S.Pharm. (Ohio Northern), Pharm.D. (Cincinnati), 2004. *Assistant Clinical Professor of Pharmacy*
- John A. Schwemer**, B.B.A. (Ohio), J.D. (Ohio Northern), 2004. *Adjunct Professor of Law*
- Laura Segna**, B.A. (Miami), M.A. (Louisiana State), 1999. *Lecturer in Sociology*
- Michael Shaffer**, B.S.M.E. (Case Western Reserve), 2003. *Lecturer in Engineering*
- Christina Sheridan**, B.S. (Bucharest), M.S. (West Virginia), 2004. *Lecturer in Physics and Astronomy*
- Cathy Smalley**, B.A. (Ohio Northern), 1999, 2002. *Lecturer in Communication Arts*
- Paul G. Smith**, B.A. (Anderson), D.O. (Kirksville), 1997. *Clinical Professor of Pharmacy*
- Jon E. Sprague**, B.S. (Ferris State), Ph.D. (Purdue), 1995. *Lecturer in Pharmacology*
- Nathan P. Stockman**, Pharm.D. (Ohio Northern), 2000. *Assistant Clinical Professor of Pharmacy*
- Robert G. Sunderhaus**, B.S.M.E. (Cincinnati), M.S.M.E. (Ohio State), 2001. *Lecturer in Physics*
- Linda Sycks**, B.M.E. (Capital), 1998. *Lecturer in Music*
- Melissa L. Taylor–Austin**, B.A. (Ohio Northern), 2005. *Lecturer in History*
- Elizabeth Theisen**, M.A.T., B.S. (Iowa), 1996. *Lecturer in Education*
- Joe M. Thomas**, B.S. (University of Kerala), M.Div. (Covenant Theological Seminary), M.W.S. (Institute for Christian Studies), Ph.D. (Toronto), 2002. *Lecturer in Religion*
- Mary Ann Turner**, B.S.Pharm. (Ohio Northern), 1977. *Assistant Instructor in Pharmacy and Director of the Student Health Pharmacy*
- Melissa Verb**, B.A. (Albion), M.S. (Ohio), 2002. *Lecturer in Biology*
- Roy E. Vivian**, B.Ed. (Toledo), M.A. (Midwestern), 2002. *Lecturer in English*
- Juergen A. Waldick**, A.A. (Montgomery College), B.A. (American), J.D. (Ohio Northern), 1989. *Adjunct Professor of Law*
- Thomas Webb**, B.S.Ed., M.A. (Bowling Green), 2003. *Lecturer in Education*
- Daniel Wessner**, B.A. (Stanford), J.D. (Virginia), M.Div. (Princeton Theological Seminary), Ph.D. (Denver), 2001. *Adjunct Professor of Law*
- Gina Wiley**, B.F.A. (Ohio State), 1992. *Lecturer in Communication Arts*
- Rosemary T. Williams**, B.M. (Indiana), M.M. (Cincinnati), 1973. *Resident Artist in Music and Lecturer in Music*
- Donna Woltz-Dyer**, B.S. (Ohio Northern), M.S.W. (Ohio State), 2004. *Lecturer in Psychology and Sociology*
- Vincent L. Yahl**, Pharm. D. (Ohio Northern), 2002. *Assistant Clinical Professor of Pharmacy*
- Jennifer Yost**, B.M., M.E. (Bowling Green), 2003. *Lecturer in Music*
- Edward F. Zickafoose**, B.A. (Ohio Northern), 1992. *Lecturer in Music*

ADJUNCT FACULTY

- Nadia Amruso**, Pharm.D. (Butler), 2002. *Adjunct Professor of Pharmacy*
- Steven D. Baker**, B.S.Pharm., Pharm.D. (Texas), 2004. *Adjunct Professor of Pharmacy*

- Todd Banks**, B.S., B.S.Pharm. (Cincinnati), 2004. *Adjunct Professor of Pharmacy*
- Jennifer Blanchard**, B.A., Pharm.D. (Kentucky), 2004. *Adjunct Professor of Pharmacy*
- William Burke**, B.A. (Capital), D.O. (Ohio), 1998. *Adjunct Professor of Pharmacy*
- Alan Cadesky**, B.S., M.D. (U of Toronto), 2001. *Adjunct Professor of Pharmacy*
- Richard G. Carmichael**, B.A. (Cornell) M.S. (Texas Tech), 2002. *Adjunct Professor of Clinical Laboratory Science*
- Miriam Chan**, B.S. Pharm., Pharm.D. (Ohio State), 1999. *Adjunct Professor of Pharmacy*
- Maurice Chung**, M.D. (Tufts), 1993. *Adjunct Professor of Pharmacy*
- Renee Cox**, B.S. Pharm., Pharm.D. (Cincinnati), 2003. *Adjunct Professor of Pharmacy*
- Melissa Crawford**, B.S., Pharm.D. (Pittsburgh), 2004. *Adjunct Professor of Pharmacy*
- Ginny L. Creasman**, B.S. (Morehead State), B.S. Pharm., Pharm D. (Kentucky), 1999. *Adjunct Professor of Pharmacy*
- Rogelio Decanio**, M.B.A. (Charleston), M.D. (Central University of Venezuela), 2002. *Adjunct Professor of Clinical Laboratory Science*
- Robert Dowd**, B.S. Pharm. (Iowa), Pharm.D. (Kentucky), 2002. *Adjunct Professor of Pharmacy*
- Christine F. Edie**, B.S. Pharm., Pharm.D. (South Carolina), 1999. *Adjunct Professor of Pharmacy*
- Carl Fossaceca**, B.S. Pharm. (Ohio State), Pharm.D. (Florida), 2004. *Adjunct Professor of Pharmacy*
- Elaine M. Fought**, B.S.M.T. (Bowling Green), M.B.A. (Ashland), 2002. *Adjunct Professor of Clinical Laboratory Science*
- Jenny Francis**, B.S.M.T. (Wright State), 2003. *Adjunct Professor of Clinical Laboratory Science*
- Donald Furci**, B.S. Pharm., (St. John's), D.O. (Phila. College of Osteopathic Medicine), 1998. *Adjunct Professor of Pharmacy*
- Michael C. Ganio**, B.S. Pharm., Pharm.D. (Rutgers), 2004. *Adjunct Professor of Pharmacy*
- Ryan R. Garst**, Pharm.D. (Ohio Northern), 2004. *Adjunct Professor of Pharmacy*
- Martin R. Giannamore**, B.S. Pharm., Pharm.D. (Purdue), 2002. *Adjunct Professor of Pharmacy*
- N. Bradly Glazer**, B.S. Pharm. (Ohio Northern), Pharm. D. (Purdue), 1998. *Adjunct Professor of Pharmacy*
- Emmett K. Hammond**, B.S. Pharm. (Auburn), M.S. Pharm. (Florida), Pharm. D. (Michigan), 1999. *Adjunct Professor of Pharmacy*
- John C. Hammons**, Pharm.D. (Kentucky), 2004. *Adjunct Professor of Pharmacy*
- Tamara M. Hammons**, Pharm.D. (Kentucky), 2001. *Adjunct Professor of Pharmacy*
- Stephen Hanson**, Pharm.D. (Ohio Northern), 2002. *Adjunct Professor of Pharmacy*
- Judy Harrer**, B.S. (Murray State), B.S. Pharm. (Kentucky), M.S., Ph.D. (Cincinnati), 1999. *Adjunct Professor of Pharmacy*
- Jason D. Hiett**, Pharm.D. (Ohio Northern), 1999. *Adjunct Professor of Pharmacy*
- Katherine Hiett**, Pharm.D. (Ohio Northern), 2004. *Adjunct Professor of Pharmacy*
- Teresa K. Hoffman**, Pharm. D. (Ohio Northern), 2003. *Adjunct Professor of Pharmacy*
- Yen Hua**, B.A. (Virginia), Pharm. D. (Virginia Commonwealth), 2003. *Adjunct Professor of Pharmacy*
- Thomas Hutson**, B.S. Pharm., Pharm.D. (Ohio Northern), D.O. (Ohio), 2003. *Adjunct Professor of Pharmacy*
- Margaret Huwer**, B.S. (Ohio Northern), Pharm.D. (Ohio State), 1996. *Adjunct Professor of Pharmacy*
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- George E. Kikano**, B.S., M.D. (American University of Beirut), 2000. *Adjunct Professor of Pharmacy*
- Ronda Lehman**, B.S. Pharm. (Ohio Northern), Pharm.D. (Ohio State), 2002. *Adjunct Professor of Pharmacy*
- Kristen E. Locke**, Pharm. D. (Samford), 2001. *Adjunct Professor of Pharmacy*
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Monica Messmer, Pharm.D. (Kentucky), 2004. *Adjunct Professor of Pharmacy*

Tracy L. Morris, B.S. Pharm. (Ohio Northern), 2005. *Adjunct Professor of Pharmacy*

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Rebecca Riley, B.A. (Thomas More), B.S. Pharm., Pharm. D. (Cincinnati), 2001. *Adjunct Professor of Pharmacy*

Rebecca Roman, Pharm.D. (Ohio Northern), 2004. *Adjunct Professor of Pharmacy*

Gary Rutherford, B.S. Pharm. (Ohio Northern), 2000. *Adjunct Professor of Pharmacy*

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Susanne L. Sutherland, Pharm.D. (Arizona), 1999. *Adjunct Professor of Pharmacy*

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James Wertz, B.S., Pharm. (Pittsburgh), Pharm.D. (Duquesne), 2004. *Adjunct Professor of Pharmacy*

Michelle Wiss, B.S. (Dayton), B.S.A.H.P. (Ohio State), 2004. *Adjunct Professor of Clinical Laboratory Science*

Jennifer Wright, B.S. Pharm., Pharm.D. (Kentucky), 1999. *Adjunct Assistant Professor of Pharmacy*

Matthew Zimmerman, Pharm.D. (Ohio Northern), 2004. *Adjunct Professor of Pharmacy*

EMERITI

DeBow Freed, B.S. (U.S. Military Academy), M.S. (Kansas), Ph.D. (New Mexico), D.Lett. (Ohio Northern), 1979-99. *President Emeritus*

Oscar G. Darlington, A.B., A.M. (Penn State), Ph.D. (Pennsylvania), 1955-75. *Professor of History, Emeritus*

George A. Sagonowsky, Baccalaureate (State Lyceum, Rovno, Poland), Mag. Phil. (State University of Lvov), 1967-79. *Associate Professor of Foreign Languages, Emeritus*

Eugene N. Hanson, B.A. (Luther), M.A., J.D. (Wisconsin), LL.M. (Michigan), LL.D. (Ohio Northern U.), 1947-84. *Professor of Law, Emeritus*

Richard D. Kain, B.S. (Ohio Northern), M.A. (Ohio State) 1953-84. *Professor of Industrial Technology, Emeritus*

Jane Weimer, A.B. (Transylvania), M.A. (Union Theological), M.A. (Columbia). M.A.L.S. (Denver), 1969-87. *Associate Professor, Emerita*

John R. Smith, B.S.M.E., M.S.M.E. (Carnegie Mellon), P.E. (Ohio), 1973-88. *Associate Professor of Mechanical Engineering, Emeritus*

- Elizabeth Miller**, B.A. (Ohio Northern), M.A. (Bowling Green), 1965-1986. *Associate Professor of English, Emerita*
- David M. Stuart**, B.S. (Utah), Ph.D. (Wisconsin), 1964-1987. *Professor of Pharmaceutical Chemistry, Emeritus*
- David Weimer**, B.S., M.S. (Ohio State), 1964-1990. *Professor of Physics, Emeritus*
- Cora A. Layou**, A.B. (Ohio U.), M.L.S. (Carnegie Library School), 1969-89. *Associate Professor, Emerita*
- Albert A. Baillis**, A.B., J.D. (Western Reserve), LL.M. (New York), 1957-91. *Professor of Law, Emeritus*
- Clyde A. Painter**, B.B.A. (Northeastern), M.A. (Northern Colorado), Ed.D. (Penn State), 1978-91. *Professor of Management, Emeritus*
- Dale L. Wilhelm**, B.S. (Illinois), M.S., Ph.D. (Tennessee), 1966-91. *Professor of Chemistry, Emeritus and Vice President for Academic Affairs, Emeritus*
- Clyde W. Dornbusch**, B.A. (DePauw), M.A., Ph.D. (Duke), 1962-92. *Professor of English, Emeritus*
- Charles M. Oliver**, B.S. (Western Kentucky), A.M. (Missouri), Ph.D. (Bowling Green), 1965-92. *Professor of English, Emeritus*
- Thomas G. Stewart**, B.S., B.S. Pharmacy, Ph.D. (Florida), 1970-92. *Professor of Medicinal Chemistry, Emeritus*
- Louis D. Vottero**, B.S. Pharm. (Duquesne), M.S. (Ohio State), 1966-92. *Professor of Pharmacy, Emeritus*
- Dolores W. Moore**, A.B. (Marshall), M.B.A. (Ohio U.), CMA, 1974-91. *Associate Professor of Accounting, Emerita*
- John P. Stahl**, B.S.E.E. (Ohio Northern), M.S.E.E. (Case Institute), Ph.D. (Toledo), P.E. (Ohio), 1966-93. *Professor of Electrical Engineering, Emeritus*
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