Discover [Your] True North

- Arts & Sciences
- Business Administration
- Engineering
- Pharmacy
- Law
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.

Title IX Coordinator
Paul Fletcher
Lehr 159
(419) 772-2747

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

General University (419) 772-2000

President Kendall L. Baker 772-2031
Vice President for Academic Affairs Anne Lippert 772-2034
Vice President for Financial Affairs John W. Green 772-2022
Vice President and Dean of Enrollment Karen P. Condeni 772-2260
Vice President for Student Affairs Alice-Kay Hilderbrand 772-2431
Vice President for University Advancement Thomas R. Stevick 772-2036
Dean, College of Arts and Sciences Robert A. Manzer 772-2132
Dean, College of Business Administration James W. Fenton Jr. 772-2070
Dean, College of Engineering Eric T. Baumgartner 772-2372
Dean, College of Law David C. Crago 772-2205
Dean, College of Pharmacy Jon E. Sprague 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
Executive Director of Development Kenneth Block 772-2008
Director of Heterick Library Paul M. Logsdon 772-2182
Director of the Taggart Law Library Nancy A. Armstrong 772-2692
Director of Admissions Deborah Miller 772-2464
Director of Admissions (Law) Linda K. English 772-2211
Director of Alumni Affairs Ann E. Donnelly 772-2728
Director of Athletics Thomas E. Simmons 772-2450
Interim Director of Career Services Nancy Sheely 772-2145
Director of Communications and Marketing Carol S. Flax 772-2047
Director of Communication Skills Center Melanie Caw Woods 772-2186
Director of Counseling Center Michael D. Schafer 772-2190
Director of Engineering Corporate and Alumni Relations Laurie Laird 772-2421
Director of Financial Aid Services Melanie Weaver 772-2271
Director of Honors Program Patrick Croskery 772-2197
Director of Human Resources Paul D. Fletcher 772-2747
Director of Information Technology George E. Gulbis 772-3100
Director of Institutional Research Christy Cole 772-2529
Director of International Admissions Deanna Shine 772-3518
Director of McIntosh Center David L. Dellifield 772-2400
Director of Multicultural Development Clyde W. Pickett 772-3145
Director of Residence Life Justin F. Courtney 772-2401
Director of Summer Session Roger H. Goldberg 772-2032/Andrea N. Richardson 772-2024
Contents

University at a Glance ................................................................. 4
University Calendar, Undergraduate ...................................... 6
General Information ................................................................. 8
Admission .................................................................................. 13
Expenses ................................................................................. 16
Scholarships and Financial Aid ............................................. 21
Campus Student Life ............................................................... 24
Educational Program of the University ................................. 32
Getty College of Arts and Sciences ......................................... 49
Dicke College of Business Administration ............................ 199
Smull College of Engineering .................................................. 219
Raabe College of Pharmacy .................................................... 239
Pettit College of Law ................................................................. 254
Scholarships and Loan Programs ........................................... 260
The University Faculty ............................................................. 281
Board of Trustees .................................................................. 297
University Administration ...................................................... 298
Index ....................................................................................... 301
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 Athletic Training Education (CAATE)
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 Industrial Technology
National Association of Schools of Music
National Association for Sports & Physical Education
National Communication Association
Public Relations Society of America

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

DICKE 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)

Approved by
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. 9 — Nov. 21
Dec. 1 — Feb. 27
March 9 — May 22
Summer Sessions
June 1 — Aug. 21

College of Law — Two Semesters
Aug. 25 — Dec. 19
Jan. 12 — May 15
Summer Session
May 26 — July 23
Admissions Programs
Rolling Admissions
Advanced Placement
Transfer Students
Special, Audit, and Transient Students

Student Population (Fall 2007)
Men  1839
Women  1764
Total  3603

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
Juris Doctor
LL.M.- Democratic Governance and Rule of Law

MAJORS
Getty College of Arts and Sciences
Advertising Design
Art Education
Athletic Training
Biochemistry
Biology
Chemistry
Clinical Laboratory Science
Communication Arts, with concentrations in Broadcasting and Electronic Media
International Theatre Production
Musical Theatre
Organizational Communication
Public Relations
Theatre
Construction Management
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
Graphic Design
Health Education
History
International Studies
Journalism
Language Arts Education
Literature
Manufacturing Technology
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
Studio Arts
Technology Education
Youth Ministry

Dicke College of Business Administration
Accounting
Finance
International Business and Economics
Management
Marketing
Pharmaceutical Business

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, Adolescent - Young Adult, Multi-Age)
Technology Co-op Program
### Fall Quarter 2008

**August**
- 18: Last day for payment of fees (Mon.)
- 25: Last day to complete requirements for admission or readmission (Mon.)

**September**
- 6: Residence halls open, new students, 9 a.m. (Sat.)
- 6-8: New student orientation (Sat.– Mon.)
- 7: Residence halls open, returning students. (Sun.)
- 8: Late registration for new, re-entry, and continuing students. (Mon.)
- 9: Classes begin, 8 a.m. (Tues.)
- 15: Last day to add a class or section (Mon.)
- 23: Beginning of "W" period for withdrawals (Tues.)
- 28: Family Day (Sat.)

**October**
- 13-24: Registration for winter quarter
- 18: Homecoming (Sat.)
- 27: Last day to withdraw (Mon.)
- 31: Last day to remove "I" (Incomplete) mark (Fri.)

**November**
- 14: Last day for payment of fees (Fri.)
- 14: Last day to complete requirements for admission or readmission (Fri.)
- 17-21: Final exams (Mon.-Fri.)

### Winter Quarter 2008-09

**November**
- 30: Residence halls open, 9 a.m. (Sun.)

**December**
- 1: Late registration of new, re-entry and continuing students (Mon.)
- 1: Classes begin, 8 a.m. (Mon.)
- 5: Last day to add a course or section (Fri.)
- 15: Beginning of "W" period for withdrawals (Mon.)
- 20: Holiday Recess
- Jan. 4

---

### Dates

#### August - 2008

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

#### September

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### October

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

#### November

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### December

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>
January
4 Residence halls open, 9 a.m. (Sun.)
5 Classes resume (Mon.)
19 Martin Luther King, Jr. Day (Mon.);
classes recess
20-30 Registration for spring quarter

February
2 Last day to withdraw (Mon.)
6 Last day to remove “I” (Incomplete) mark (Fri.)
20 Last day for payment of fees (Fri.)
20 Last day to complete requirements for admission or readmission (Fri.)
23-27 Final exams (Mon.-Fri.)

Spring Quarter 2009
March
8 Residence halls open, 9 a.m. (Sun.)
9 Late registration for new, re-entry, and continuing students (Mon.)
9 Classes begin, 8 a.m. (Mon.)
13 Last day to add a class or section (Fri.)
23 Beginning of “W” period for withdrawals (Mon.)

April
1 Founders Day (Wed.)
10-13 Easter Recess
14-24 Registration for fall quarter
28 Last day to withdraw (Tues.)

May
1 Last day to remove “I” (Incomplete) mark (Fri.)
9 Honors Day (Sat.)
18-22 Final exams (Mon.-Fri.)
24 Commencement
29-30 Alumni Weekend

Summer Session 2009
First Session.............................June 1 to June 26
Second Session..........................June 29 to July 24
Third Session.............................July 27 to August 21

Bear Tracks 101 (Advising & Scheduling) 2009
dates to be announced.
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.
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 15 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 and design, music, and communication arts. Humanities programs are included within the departments of English, modern languages, history, politics and 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, politics and justice, and psychology and sociology. The Center for Teacher Education offers 18 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, 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. A five-year optional 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 [Dicke College of Business Administration](#) offers the degree of Bachelor of Science in Business Administration with majors in accounting; finance; international business and economics; management; marketing; and pharmaceutical business.

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 northwestern 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, politics, and 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 Cornetet 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.

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 production 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. In 2005, the Spar/Wintzer Music Media Center opened on the first floor.

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.


The Science Complex consists of four 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 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. Opened in 2006, the Hakes-Pierstorf Family Pharmacy Education Center offers state-of-the-art classroom, laboratory and office space for pharmacy students and faculty.

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, two 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.
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 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 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 an 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.
Transfer credit can be accepted from institutions lacking regional accreditation but having accreditation by an agency recognized by the Council for Higher Education Accreditation (CHEA). It is the applicant/student’s responsibility to provide the required documentation necessary for determination of the acceptability of the work for transfer credit at ONU. Credit may be accepted only upon the recommendation of the specific ONU department and/or college in which the coursework is appropriate. Before credit is awarded, previous coursework may be subject to validation by examination if recommended by the appropriate ONU college or department.

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

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 postgraduate 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 efforts 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 guidelines for the Student Right-to-Know Act, Ohio Northern University had a four-year average graduation rate of 68% for first-year students entering between 1997 and 2000.

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/78 Internet) in the Test of English as a Foreign Language (TOEFL); or a minimum score of 6.0 on the International English Language Testing System (IELTS); 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 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 Festival 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 academic affairs.
Students enrolled and attending classes between 4-1-03 and 3-31-09 except transient, postgraduate, and special students

### Tuition & General Fee Per Quarter:
- **Full-time student**: $10,185, $10,880, $11,450
- **Part-time student (less than 12 hrs.) per hour**: $850, $905, $955
- **Academic overload fee (per hour)**: $635, $675, $715

### 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**: $1,315, $1,315, $1,315
- **Residence hall per quarter, single occupancy if available**: $1,975, $1,975, $1,975
- **Campus Village Apts., double occupancy**: $1,960, $1,960, $1,960

### Board
- **Per quarter, 19 meals per week, plus $50 polar card**: $1,315, $1,315, $1,315
- **Per quarter, 14 meals per week, plus $100 polar card**: $1,275, $1,275, $1,275

### Total Per Quarter, Full-time student
Based on full tuition, technology fee, double occupancy room & 19-meal plan
- $12,885, $13,580, $14,150

### Total Per Academic Year, Full-time student
Based on full tuition, technology fee, double occupancy room & 19-meal plan
- $38,655, $40,740, $42,450

---

### Quarterly Due Dates for Fee Payment 2008-09
- **Fall**: August 18, 2008
- **Winter**: November 14, 2008
- **Spring**: February 20, 2009

---

### Doctor of Pharmacy Nontraditional Program 2008-09
- **Tuition**: $230 per credit hour
- **Technology Fee Per Quarter**: $20 (part-time)

---

### RN/BSN Nursing Completion Program 2008-09
- **Tuition**: $245 per credit hour
- **Technology Fee Per Term**: $35
- **Physical Assessment Test Out**: $300 (one time fee, first session only)

---

### Bachelor of Science in Clinical Laboratory Science (BSCLS) 2008-09
**West Central Ohio Clinical Laboratory Science Program**
(includes professional liability insurance, administrative costs)
- **Tuition**: $2285 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. Please contact the controller’s office for additional information on these plans.

Regular Billing Schedule For students selecting courses during the advance registration period, bills will be sent through the TouchNet Ebill System. Students will receive an e-mail at their ONU address when a bill is available for viewing. 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. A convenience fee may apply.

Payment Due Date for the Northern Commit-ment Option June 1, 2008 – for returning students

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 14 or 19 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 $27.00.
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 $75.00  
For music minors and non-music majors For each quarter hour $150.00  
Recital Charge: $250.00

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 and lock replacement $58.60  
Room key replacement $25.00

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
- Marching Band Uniform Maintenance Fee $45.00  
- Instrument Deposit (refundable to student account) $50.00  
- 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 2009**

**College Fees, per credit hour**
- Colleges of Arts & Sciences and Business Administration $578  
- College of Engineering $657  
- College of Pharmacy $682

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

**Apartment Rental**
- Double $325 per session

Students are entitled to a pro-rata refund calculation through the 60% point of each 4-week term. A 100% refund is granted on or before the first day of each session. After that, the percentage is based on the number of days in attendance for the session.

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**

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% refund is granted on or before the first day of class each quarter. After that, the percentage is based on the number of days in attendance for the quarter. The second day would be a 97% refund or 2 days out of 70 days in attendance. There is no refund 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 FASFA 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. Contact 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 $4731 for 2008-09). Based upon the FAFSA information, students will receive an ONU Award Notice indicating their Pell 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.

Ohio College Opportunity Grant (OCOG) (New students) Awarded to Ohio residents based upon need. Students must file the Free Application for Federal Student Aid no later than October 1 of the award year and attend an Ohio Public, Private, or Career School. The Expected Family Contribution (EFC) will be the index number for awarding OCOG and the eligibility range is from 0000-2190 with an income of < $75,000.

The Ohio Instructional Grant (OIG) (Returning students) 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 2008-09 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 FAFSA form 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 Recognition Scholarship, Trustee, Trustee Recognition, Academic Honor Scholarship, and Honor Scholarship are renewable each year provided the student maintains a 3.00 GPA after each year of study 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, the student must maintain a 3.00 GPA at the end of each year.

The Distinguished Achievement Award, Meritorious Service Award and Achievement Awards are renewable each year provided a 3.00 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 3.50 accumulative GPA at the end of Spring term to be considered for a scholarship.

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 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 2008-09, students will receive $660 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 $1,000 (first-time freshman entering 2007-08 and after; $300 for eligible students enrolled prior to 2007-08) 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.

National Science and Mathematics Access to Retain Talent Grant (National SMART Grant) To be eligible for a SMART Grant a student must:

- Be a U.S. citizen;
- Be Pell Grant eligible;
- Be enrolled full-time in a degree program;
- Be enrolled in the third or fourth year of the program;
- Major in Computer, Life or Physical Science, Mathematics, Technology or a Critical Foreign Language;
- Have at least a cumulative 3.00 grade point average on a 4.00 scale at the end of the term just prior to receive a SMART Grant.
Academic Competitiveness Grant (ACG) To be eligible for an ACG Grant a student must:
• Be a U.S. citizen;
• Be Pell Grant eligible;
• Be enrolled full-time in a degree program;
• Be enrolled in the first or second academic year of a program at a degree-granting institution;
• Have completed a rigorous high school program of study as defined by the U.S. Department of Education;
• If a first-year student, not have been previously enrolled as a regular student in an undergraduate program; and
• If a second-year student, have at least a 3.00 cumulative G.P.A. on a 4.00 scale for the first academic year.

Federal Unsubsidized Stafford Loan (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 $12,000 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 an 8.5% fixed interest rate. 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.

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. 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. A 15-hour week is the work limitation and paychecks are issued directly to students once a month.
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, affinity housing, apartments, and Greek housing on and off campus.

Priority for apartments and affinity housing is granted based on credit hour status. There are two, three 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 and another is primarily for law and graduate students.

The university has a total of 22 residential buildings. All residence hall rooms are furnished with window treatments, beds, mattresses, desks, book shelves, clothes closets, ONU cable television hookup, and wireless or high speed computer connection capability. Coin operated washers and dryers, recreation equipment and cleaning materials are available. Some living spaces include fitness centers.

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 primary residence of a parent, grandparent, or sibling, within 30 driving miles 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, apartments or affinity housing to off-campus housing or Greek housing at any time during the academic year.

Because of the need for maximum security during break periods, access to halls is very limited. All residence halls and affinity housing are closed between terms with the exception of apartment housing.

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

Requests for particular roommates should be submitted simultaneously by both parties. There is no guarantee that all requests will be honored. New students will receive room assignments via email after the summer orientations have been completed.

The room selection process for returning students begins in spring term. Assignments will be available on-line.
University Food Service

All students living in university residence halls and affinity housing must purchase a dining plan. Other students may purchase meals in the dining room either singly or by the quarter or semester. Some 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 Commons Building in the Affinity Village and Northern On Main all provide dining options. The University Dining Service operates these facilities and hosts all banquets held on campus. The dining services are designed to provide variety, quality, and a pleasurable dining experience for all who participate.

Student Health Service

The University Physician and a Nurse Practitioner hold regular office hours Monday through Friday in the Student Health Service building. A registered nurse is on duty M-F 7:30 a.m. - 12:00 midnight and on call weekends. During summer quarter a registered nurse is on duty two hours a day and on call for the remaining hours of the day (Monday-Friday). A Nurse Practitioner or physician is in the office 28 hours per week during summer sessions. 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, this 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 a student medical plan available that provides health care benefits at a low cost. Coverage is in effect from August 2008 – August 2009. 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’s staff provide students with professional help for personal, educational, and career concerns. The staff is available for personal counseling as well as to help students clarify their educational and career plans.

Students 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.

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 an academic course called Job and Graduate School Search Strategies, job fairs, individual consultation and coaching, seminars, classroom presentations and a credential service. Current resource information, as well as employment announcements and graduate school scholarship information, are maintained online through the office’s webpage. 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, as well as strategies geared to resulting in acceptance to preferred graduate/professional school. A separate career services office is maintained by the College of Law.
Office of Multicultural Development

The primary mission and objective of the Office of Multicultural Development is to foster the matriculation, retention, and graduation of diverse students at Ohio Northern University. The office is not satisfied with simply discussing the recruitment and retention of minority students, but is intensely committed to an action-oriented approach to building a campus community that fosters academic excellence, diversity, equity, and cultural pluralism. Special emphasis is placed on promoting student retention by sponsoring programs that address the needs of students on a personal, academic, social and cultural level. Staff’s role is equally critical in promoting an environment conducive to academic success where appreciation, respect and understanding of cultural diversity are encouraged.

The Office sponsors a number of programs and services that are designed to cultivate retention, scholarship, intellectual engagement, and cultural awareness. Program efforts include, but are not limited to:

• Opening the Way Multicultural Reception
• First Year Focus Initiative
• Harambe Festival
• Ethnic Heritage Month Celebrations
• New Dimensions in Diversity Film Series
• New Dimensions Lecture Series
• Cultural Conversation Hour Series
• Rites of Passage Graduation Celebration

The entire Ohio Northern family is encouraged to actively engage in our endeavors to reach the goal and mission of a truly diverse University Community.

Religious Life Program

As a church-affiliated 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 the Religious Affairs Committee, composed of students and faculty.

In the midst of west campus is Wesley Center, which houses English Chapel, the academic department of philosophy and religion, the office of the University Chaplain, the Chapel of Prayer and the Multifaith room. Lounges, conference and classrooms plus work areas are provided for students who desire to practice their private devotional life and to share in various religious groups. 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.

RELIigious ORGANIZATIONS

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

Worship
Chapel Band
Worship Design Team
Northern Christian Fellowship

Fellowship and Service
Christian Pharmacy Fellowship International
Fellowship of Christian Athletes
Kappa Phi
Muslim Student Association
Pre-seminarians Club
Sigma Theta Epsilon

Outreach
Clowns
Gospel Choir
Northern Chimes
Orange Noses Clown Troupe
People of Worship
Son’s Rays
Unlimited Sharing
Wesley Players

Service
Ada Friends
Christian Technology Ministry
Habitat for Humanity
HELPs - Helping Everyone Learn Personal Service
VIM - Volunteers In Mission
OFFICE OF GREEK LIFE, STUDENT ACTIVITIES AND LEADERSHIP

Greek Life
Ohio Northern University has six national social fraternities and four national social sororities. The Interfraternity Council is the governing body for social fraternities, and the Panhellenic Council is the governing body for social sororities.

The six 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 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 and sororities 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).

Student Activities
The Student Planning Committee develops and implements social, cultural, and recreational programs throughout the school year, primarily in McIntosh Center, for the university community.

Ohio Northern University has over 160 approved student organizations of a wide variety of interests.

Leadership
Leadership development training workshops are held throughout the year to further strengthen the leadership skills of students elected or appointed as campus organizational leaders.

Annually, the Leadership Office and Omicron Delta Kappa, 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, as well as The Alice-Kay Hilderbrand Student Organization of the Year Awards, are announced at this event.

Other services include maintaining a Leadership Library of resources and training materials.
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 3.50 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 3.00 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 3.50 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. 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 Iota Epsilon, the national honorary and professional fraternity for management. Its purpose is to encourage and recognize scholastic excellence and to promote cooperation between the academic and practical aspects of management.

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; T.J. Smull College of Engineering: American Society of Civil Engineers (ASCE); 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 (CPFII); Drug Abuse Awareness Team; National Community Pharmacists Association; Pharmacy Student Council; Student National Pharmaceutical Association; Student Society of Health System Pharmacists; Dicke College of Business Administration: American Marketing Association; Dean’s Advisory Council; Institute of Management Accountants; Student Investment Group; International Business Club; Society for the Advancement of Management; Students in Free Enterprise; Pettit College of Law: Agricultural Law Society; American Constitution Society; Black Law Students Association (BSLA); Cardozo Jewish Law Student Association; Christian Legal Society; Criminal Law Society; Environmental Law Society; Federalist Society; Icelandic Legal Exchange Program; International Law Society; LAMBDRA Law Students’ Association; Law Review; Legal Association of Women; Media and Entertainment Society; Moot Court; Phi Alpha Delta; Public Interest Law Association; Sports Law Society; Street Law Society; 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 Northernairens are select ensembles which offer students a wide variety of performing experiences. The Chorus, Men’s Chorus, and Women’s Chorus 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 non-commercial broadcast station. Professionally managed and student operated, WONB is a part of the Department of Communication Arts. WONB provides student opportunities in music programming, news, public affairs and sports announcing, production and programming.

The Freed Center for the Performing Arts also houses ONU Cable, Ohio Northern’s campus cable system and local origination channel. ONU Cable provides over 70 channels of educational and entertainment programming. Local campus programming is produced and scheduled over ONU Cable 3.

The Broadcasting and Electronic media program utilizes a modern facility with the latest
equipment including audio and video production studios and editing suites; a master control room and TV production studio; and remote production equipment. Students in production classes work with Final Cut Pro; AVID; and, Audition software.

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, 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.


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 advised 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, women’s soccer, fencing, lacrosse, men and women’s 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 Bachelor of Science 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 Dicke 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; finance; international business and economics; management; marketing; and pharmaceutical business.

University General Learning Objectives
As a result of their general education experience, Ohio Northern University students will be able to:
• Think and express themselves clearly;
• Solve problems analytically and creatively.

As a result of their overall educational experience, Ohio Northern University students will graduate from the University being able to:
• Demonstrate knowledge, skill and values for a program of study or career.

In addition, Ohio Northern University students will graduate from the University prepared to:
• Know and rely on themselves;
• Listen, understand and work with others;
• Demonstrate technological knowledge and skill;
• Contribute to the good of humankind;
• Practice truthful and ethical behaviors;
• Demonstrate cultural understanding and an appreciation for diversity.

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, 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 com-
pany abroad. Student teaching abroad is available by application through limited international sites.

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; Amhem Business School in the Netherlands; Brandenburg Technical University, Cottbus, Germany; University of Iceland, Reykjavik, Iceland; University of Debrecen, Debrecen, Hungary; Instituto Tecnologico y de Estudios Superiores de Monterrey, Campus Queretaro in Queretaro, Mexico; Universidad Antonio de Nebrija, Madrid, Spain; Kansai Gaidai University, Hirakata City, Japan; Hanyang University, Seoul, Korea; Da-Yeh University, Changhua, Taiwan; Ming Chuan University, Taipei, Taiwan; and the Plekhanov Economic Academy, Moscow, Russia. Additional study abroad opportunities are provided through the university’s affiliation with GlobaLinks (AustriaLearn/AsiaLearn/EuroLearn) and the Semester at Sea program.

The university also has program agreements with Studio Art Centers International, Florence, Italy, Burren College of Art in Ireland and Middlesex University, London. 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. Some internships take place in international locales. 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 must be registered in one of those colleges as their primary degree program 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 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. The Spar/Wintzer Music Media Lab provides computer facilities for music students. 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 200 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 residence hall room and apartment. In addition, wireless networks are installed in academic buildings, libraries and many residence facilities. 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. All machines are connected to the
Internet and use the Windows 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 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 Windows 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 personal computers. Many popular Windows applications and numerous professional quality engineering software applications are available. The building is wireless compatible, enabling wireless internet connectivity. Twelve Unix workstations support instruction in computational fluid dynamics and finite element analysis. Laboratory computers support computer applications and design, control systems, heat transfer, and fluid mechanics. 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 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 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 installed with Microsoft Windows and Office. 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 Blackboard CE (WebCT), a program that facilitates the creation of distance learning 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 reference materials, 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 communication professionals and student speech 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.
100 - HONORS SEMINAR: DISCIPLINE OF REASON
4 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 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 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.

204 - HONORS SEMINAR: CONVERSATION ANALYSIS AND LITERATURE
4 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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.

228 - HONORS SEMINAR: ENERGY SYSTEMS  
4 Credits  
Current technologies for the extraction, storage, transmission and end use of energy. Comparison of traditional and alternative sources of energy. Technical, political, environmental, and social issues relating to the use of energy resources. Prerequisites: HONR 100.

229 - HONORS SEMINAR: CRYPTOGRAPHY  
4 Credits  
The historical development of the fundamental concepts of cryptography and secure communication systems from Caesar’s cipher and affine encryption to contemporary cryptosystems such as RSA, Elgamal, One-Time Pad, and Elliptic Curve Cryptosystems. Prerequisite: HONR 100.

230 - HONORS SEMINAR: NONVERBAL COMMUNICATION  
4 Credits  
The multiple facets of communication that involve things other than actual words. How people communicate using the eyes, touch, the environment, time, space, color, smell and other nonverbal codes. 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 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.

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 tuition remission, books, and other university fees.
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.

ESL Bridging Program for International Students
Ohio Northern University has established an academic year-long Bridging Program for International Students which allows students with TOEFL scores between 480-550 (paper-based), 185-213 (computer-based), or 54-78 (internet-based) to begin taking selected college courses for credit while also taking required English language courses. When Bridging Program students satisfy ONU’s English language proficiency requirement, they may enter into full-time study in their academic majors.

Subject - ESL Program (ESL)

100 - BRIDGING PROGRAM FOR INTERNATIONAL STUDENTS 1
8 Credits
English for Academic Purposes: Reading, Listening, Speaking, Pronunciation. CREDIT EARNED DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY.

101 - BRIDGING PROGRAM FOR INTERNATIONAL STUDENTS 2
1 to 8 Credits
Continuation of ESL 100: Reading, Listening, Speaking, Pronunciation. CREDIT EARNED DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY. Prerequisite: ESL 100 or permission of the instructor.

102 - BRIDGING PROGRAM FOR INTERNATIONAL STUDENTS 3
1 to 8 Credits
Continuation of ESL 101: Reading, Listening, Speaking, Pronunciation. CREDIT EARNED DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY. Prerequisite: ESL 101 or permission of the instructor.
**Registration Procedure**

Registration is completed 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. Unless otherwise specified, a grade of “D” or better will satisfy a course prerequisite. 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 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 only 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 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. The change of major form must be processed in the office of the registrar to be official.

**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.

**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 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 academic 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. If a student exceeds the credit allowed in a course with a repeat credit limit, the most recent credit and grade are 'Included' in GPA calculation, and beginning with the earliest enrollment, hours and grades in the course(s) are 'Excluded' until the student's credit is at the repeat credit limit. 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.

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 faculty member teaching 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 transcript sent to the address of choice 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 faculty member 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 faculty member.

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.
Regardless of the reasons for absence, it is the student's responsibility 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.

Minimum standards of academic conduct ensure fairness, honesty, and integrity in the evaluation of student performance. Faculty should be confident that their evaluation methods will not be willfully invalidated by students intending or attempting to misrepresented 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.

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

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 must first discuss the grade with the faculty member(s) who assigned the grade no later than the fifth/second (if College of Pharmacy module course) class day after the final grade for the course was assigned/posted. 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 two class days. A response will be provided to the student within two class days. If the matter has not been resolved by the department chair to the student's satisfaction, the student must appeal within two days to the dean of the college in which the course is offered. Upon receipt of the written appeal, the dean will inform the Grade Appeals Committee that a grade appeal procedure has been initiated.

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.

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, the second number the average hours in laboratory per week, and the third number the average hours in clinical per week.

Eligibility for Intercollegiate Athletics
Ohio Northern is a member of the National Collegiate Athletic Association and the Ohio Athletic Conference. Ohio Northern follows the Constitution and Bylaws of the NCAA and OAC in determining the eligibility of students to participate in intercollegiate athletics unless the student is restricted from doing so by the action of the dean of his/her college for academic reasons or by the vice president for student affairs or the director of athletics 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 under 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 approval 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 one course (up to five credits), only an administrative fee is charged; there is no credit fee. For 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. 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 one course (up to five credits), there is no credit fee. For 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 P6 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, individual colleges, and academic programs. Data collection and analysis procedures employed ensure the confidentiality and privacy of individual participants and results are only provided in aggregate form. Participation in student outcome assessment assists Ohio Northern University in the continuous improvement of academic programming and student development.

**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. Graduates from the previous summer, fall, and winter terms 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 be completed on the campus.

To receive a degree a student must meet all requirements which the faculty of the 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 appropriate academic department or college dean’s office.

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. Written 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 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 2007-08 recipient is Dr. John Lomax.

The Irene Casteel Chair in Education, Professional and Social Sciences, was established in 1992 and funded by a bequest from Irene Casteel in 1998. The 2007-08 recipient is Dr. Tena Roepke.

The Mary Reichelderfer Chair in Mathematical Sciences was established in 1983 with funds from the estate of Mary K. Werkman. Dr. Mihai Caragiu is the 2007-08 recipient.

The Sara A. Ridenour Chair of Humanities was established in 1983 from funds provided by her daughter. The recipient for 2007-08 is Dr. Pat Croskery.

The Kernan Robson Chair of Government, inaugurated in 1972, has been made possible by a trust established by the late Kernan Robson. The 2007-08 recipient is Dr. Robert Alexander.

Mission Statement
The Getty College of Arts and Sciences is a community of students and faculty committed to academic, moral, and spiritual development. The rich diversity of studies available in the college challenges community members to develop personal goals and to discover means of achieving them.

The educational program of the college provides a coherent framework that equips each student 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 contemporary culture, effective communication based on logical thinking, competence in quantitative reasoning, a rational approach to the physical and biological 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 ethical and religious ideals that are vital for humanity.
The effectiveness of student learning is demonstrated through an assessment plan which measures 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 foundation courses conform to the general education learning objectives as previously stated on page 32. 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 53). 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
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 on page 53);

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 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 53). 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)
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 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.

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 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 on page 53);

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 advertising design, graphic design, studio arts, and communication arts. The degree is applicable to concentrations in international theatre production and musical theater. 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 (6 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.

ART 200 Non-Western Art- Thematic Explorations
CHNS 101 Elementary Chinese 1
CHNS 102 Elementary Chinese 2
CHNS 103 Elementary Chinese 3
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 French Civilization: Francophone Cultures
FREN 418 Francophone Literature of the Twentieth Century
GEOG 226 World Regional Geography
HIST 311 Pre-Modern Japan
HIST 312 Modern Japan
HIST 313 East Asian History to 1800
HIST 314 East Asian History Since 1800
HIST 405 The Great Divergence
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
NURS 323  Transcultural Health Care
PHIL 243  Asian Philosophies
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 a bachelor’s degree who expect to teach in the public school are required to satisfy professional education requirements.

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:

<table>
<thead>
<tr>
<th>Major, Concentration</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising Design</td>
<td>BA, BFA</td>
</tr>
<tr>
<td>Art Education</td>
<td>BA</td>
</tr>
<tr>
<td>Athletic Training</td>
<td>BA, BS</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>BS</td>
</tr>
<tr>
<td>Biology</td>
<td>BA, BS</td>
</tr>
<tr>
<td>Chemistry</td>
<td>BA, BS</td>
</tr>
<tr>
<td>Clinical Laboratory Science</td>
<td>BSCLS</td>
</tr>
<tr>
<td>Communication Arts</td>
<td>BA</td>
</tr>
<tr>
<td>Broadcasting and Electronic Media</td>
<td></td>
</tr>
<tr>
<td>International Theatre Production</td>
<td>BFA</td>
</tr>
<tr>
<td>Musical Theatre</td>
<td>BFA</td>
</tr>
<tr>
<td>Organizational Communication</td>
<td>BA</td>
</tr>
<tr>
<td>Public Relations</td>
<td>BA</td>
</tr>
<tr>
<td>Theatre</td>
<td>BA</td>
</tr>
<tr>
<td>Construction Management</td>
<td>BA, BS</td>
</tr>
<tr>
<td>Creative Writing</td>
<td>BA</td>
</tr>
<tr>
<td>Criminal Justice</td>
<td>BA</td>
</tr>
<tr>
<td>Administration of Justice</td>
<td>BA</td>
</tr>
<tr>
<td>Behavioral Science</td>
<td>BA</td>
</tr>
<tr>
<td>Education-Early Childhood</td>
<td>BA</td>
</tr>
<tr>
<td>Education-Middle Childhood</td>
<td>BA</td>
</tr>
<tr>
<td>Environmental Studies</td>
<td>BS</td>
</tr>
<tr>
<td>Exercise Physiology</td>
<td>BA, BS</td>
</tr>
<tr>
<td>Forensic Biology</td>
<td>BS</td>
</tr>
<tr>
<td>French</td>
<td>BA</td>
</tr>
<tr>
<td>German</td>
<td>BA</td>
</tr>
<tr>
<td>Graphic Design</td>
<td>BA, BFA</td>
</tr>
<tr>
<td>Health Education</td>
<td>BA, BS</td>
</tr>
<tr>
<td>History</td>
<td>BA</td>
</tr>
<tr>
<td>International Studies</td>
<td>BA</td>
</tr>
<tr>
<td>Journalism</td>
<td>BA</td>
</tr>
<tr>
<td>Language Arts Education</td>
<td>BA</td>
</tr>
<tr>
<td>Literature</td>
<td>BA</td>
</tr>
<tr>
<td>Manufacturing Technology</td>
<td>BA, BS</td>
</tr>
<tr>
<td>Mathematics</td>
<td>BA, BS</td>
</tr>
<tr>
<td>Mathematics/Statistics</td>
<td>BA, BS</td>
</tr>
<tr>
<td>Medicinal Chemistry</td>
<td>BS</td>
</tr>
<tr>
<td>Molecular Biology</td>
<td>BS</td>
</tr>
<tr>
<td>Music</td>
<td>BA</td>
</tr>
<tr>
<td>Music Composition</td>
<td>BM</td>
</tr>
<tr>
<td>Music Education</td>
<td>BM</td>
</tr>
<tr>
<td>Music Performance</td>
<td>BM</td>
</tr>
<tr>
<td>Music with Elective Studies</td>
<td>BM</td>
</tr>
</tbody>
</table>

In Business
Nursing
Philosophy
Philosophy and Religion
Physical Education
Physics
Political Science
Professional Writing
Psychology
Religion
Social Studies
Sociology
Spanish
Sport Management
Studio Arts
Technology Education
Youth Ministry

BSN
BA
BA
BA, BS
BA, BS
BA
BA
BA
BA
BA
BA
BA, BS
BA, BS
BA, BA, BFA

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. 165). 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. 75). A candidate for the Bachelor of Science in Nursing degree must complete the Service Learning component as well as the Clinical Capstone (see p. 70).

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, 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: 8 hrs
ACCT 301/302 Intermediate Accounting 1 & 2
ACCT 314/315 Intermediate Managerial Accounting 1 & 2
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: 4 hrs
MGMT 333 Management and Organizational Behavior
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

Economics Option
IBEC 202 Prin. of Microeconomics 4 hrs
IBEC 203 Prin. of Macroeconomics 4 hrs
IBEC 383 Interm. Microecon. Theory 4 hrs
IBEC 384 Interm. 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.

Undergraduate students preparing to teach are expected to make formal application for admission into the teacher education program during the sophomore year. The exact quarter of application depends on the licensure area. 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, achieve passing scores on PRAXIS I, and meet other program requirements. The Center establishes additional policies for admission into the teacher education program 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 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 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 admission 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 are: microbiology, immunology, genetics, 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 34.

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

For students enrolled prior to the Fall of the 2008-09 Academic Year: 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.

Students entering or readmitted to Ohio Northern University in the Fall of 2008 or later:
1. who have earned fewer than 37 credit hours must maintain at least a 1.80 cumulative grade point average to participate in competitive activities of individuals, team, or other groups officially designated as representing the University.
2. who have earned 37 or more credit hours must maintain at least a 2.00 cumulative grade point average to 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 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 the 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 Core Courses, and successfully complete ALL clinical rotations to meet eligibility requirements for a Professional Pre-licensure Nursing Education 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.
Subject - General Arts and Sciences (AASG)

001 - MEDICAL SCIENCES ORIENTATION
1 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 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 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 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
2 Credits
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 Credits
To increase student reading efficiency of college textbooks by emphasizing improvement in student reading comprehension, reading speed and vocabulary. In addition to the weekly class meeting, this course includes two weekly reading labs. CREDIT EARNED IN THIS COURSE DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY.

012 - STRESS MANAGEMENT AND EFFECTIVE LIVING
1 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 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.

110 - PUBLICATION ACTIVITIES PRACTICUM
1 Credit
Participation in design, photography, writing, and producing the Ohio Northern yearbook. May be repeated to a maximum of 12 hours. Graded S/U.

121 - CAREER EXPLORATION THROUGH PERSONAL ANALYSIS
1 Credit
Principles, methods and practice in career development with emphasis on self analysis, career information, exploration of careers and career opportunities. For freshmen and sophomores who are uncertain about their college major or their career plans.

190 - SPECIAL TOPICS
1 to 4 Credits
Can be repeated as the topic varies. May be graded S/U as appropriate to the topic.

200 - TRANSFER STUDENT SEMINAR
1 Credit
Orientation to the academic, professional, personal, cultural and social opportunities available at ONU while simultaneously providing support and encouragement to this group. 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 to 4 Credits
Can be repeated as the topic varies. May be graded S/U as appropriate to the topic.

297 - INDEPENDENT STUDY
1 to 4 Credits
Can be repeated as the topic varies.

300 - JOB AND GRADUATE SCHOOL SEARCH STRATEGIES
1 Credit
An experiential environment facilitating learning skills that enable development and implementation of personalized and successful career search strategies. Open to juniors/P-4’s and seniors/P-5’s.

390 - SPECIAL TOPICS
1 to 4 Credits
Can be repeated as the topic varies. May be graded S/U

490 - SPECIAL TOPICS
1 to 4 Credits

497 - INDEPENDENT STUDY
1 to 4 Credits

DEPARTMENT OF AEROSPACE 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 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 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 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 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 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 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 to 6 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 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 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.
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 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 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 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 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 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 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 to 6 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 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 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 to 3 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 AND DESIGN

Associate Professor Eddings; Assistant Professors Mancuso, Rowe (Chair); Instructor Sheets

Mission Statement
The visual arts program integrates traditional and contemporary approaches to the creation of art and design. Our goal is to develop students as creative, productive and intellectually curious artists and designers capable of historical insight, critical thinking and technical proficiency in their area of emphasis. Students are educated comprehensively through a program combining professional training and broad study in the liberal arts. It is on this premise that students majoring in art/design receive as broad an understanding of art and design as possible; become cognizant of historical and cultural knowledge of the past and present; and develop competence in the use of tools, materials and processes in their profession.

Admission
Candidates seeking admission are required to meet the general requirements for admission to the University. During the admission process, all prospective art & design majors must submit a portfolio demonstrating ability in compositional, conceptual and technical skills. Portfolios should consist of at least 10 pieces of original work. Students may bring three-dimensional work to an interview, but are not accepted via mail.

All students enter the art and design program as BA candidates during the first year of study. The Foundations Program provides students with a basis for critical and creative thinking and a common, broad range of experiences. Students may elect the BFA degree program after passing the sophomore assessment. For other students changing a major to art and design, please contact the department at 419-772-2160.

Transfer Applicant Procedure
Transfer applicants must comply with all university requirements and procedures. In addition, a portfolio review by the department is required for all studio courses. Transfer credit is granted only when faculty assess that the quality of the work in the studio is equivalent to that which would earn a grade of C (2.00) or better in a comparable course at Ohio Northern. Failure to submit a portfolio results in loss of opportunity to transfer studio credit. A maximum of 28 credit hours in art/design may be transferred to Ohio Northern. The final 32 credit hours in art/design must be earned at Ohio Northern. Students must also complete the Sophomore Review and Senior Capstone Experience.

Department Activities and Memberships
Beyond the traditional classroom experiences, students are encouraged to become involved in a variety of art and design activities. AIGA/The Professional Association for Design gives students professional learning experiences through networking, workshops, design exposure and service. The National Art Education Association (NAEA) provides students a transition from art education preparation to professional practice. The Student Art League is open to any student at ONU with interests in art and design. Students plan field trips, exhibits, the film series and other events for the department. The Art Student Admissions Committee is a selected group of majors interested in the communications, professional engagement and admissions service for the department.

The department is an active member of Kappa Pi International Art Honorary Fraternity. All art and design majors are eligible by maintaining high academic standards. The department and faculty hold additional memberships in the following professional organizations: UCDA (University and College Designers Association), NCECA (National Council on Education of Ceramic Arts), FATE (Foundations in Art: Theory and Education), CAA (College Art Association), NASAD (National Association of Schools of Art and Design), OAEA (Ohio Art Education Association), and MAPC (Mid-American Print Council).

Departmental Requirements
Art and design majors with sophomore standing must participate in Sophomore Review. This assessment gauges student learning based on the department’s program objectives. All students graduating from the College of Arts and Sciences participate in a senior capstone experience which allows students to integrate many concepts and theories from their major course of study into a final project or activity. For graduating majors, the following are required: a research/scholarship project, a portfolio, three public exhibitions, supporting documentation, and a public slide lecture presented during the department’s “Brown Bag” senior lecture series.

Exhibiting is an important component of the student’s educational experience. Exhibition requirements for majors in the department include: the Foundations Honors Exhibit, Junior BA/BFA Exhibit, Works-in-Progress Exhibit, Senior BA/BFA Exhibit (capstone), and the Annual Juried Exhibit. All art and design majors are required to enter work in the juried exhibit held each spring. Majors with sophomore standing are responsible for the organization and preparation of this show. As part of the senior thesis experience, all majors are required to submit work to a professional (external) juried exhibit, competition or scholarship.

Foundations and Core Requirements (47 credits)
Required of all department majors, the foundations program and other core classes at Ohio Northern immerse students in the study of form, theory and practice. Faculty design courses to engage students in visual and critical thinking, technical skills, historical context, and to provide students a broad, common range of experiences.
Foundations Program (25 credits)
ART 000 Orientation
ART 150 Studio Foundations 1
ART 160 Studio Foundations 2
ART 170 Drawing/Illustration
ART 155 3D Design 1
ART 165 3D Design 2
ART 255 Ceramics 1 or
ART 240 Photography and Communication

Core Department Requirements (22 credits)
ART 110 Contemporary Issues in Art and Design (3 credits)
ART 200 Non-Western Art: Thematic Explorations
ART 310 Art History 1
ART 320 Art History 2
ART 330 Art History 3
ART 489 Senior Thesis (3 credits)

Art Education Major
The art education major is an intensive full-time teacher preparation program that enables students to earn a preK-12 licensure as a teacher.

BA Degree Requirements (122 credits)
Foundations/Core Requirements (47 credits)
ART 210 Figure Drawing
ART 240 Photography and Communication
Choose one:
ART 221 Small Metals
ART 260 Modeling
ART 265 Carving
ART 360 Mold Making

Choose one:
ART 250 Painting 1
ART 355 Watercolor

Choose one:
ART 375 Printmaking–Intaglio
ART 377 Printmaking–Relief
ART 379 Printmaking–Silkscreen
ART 385 Printmaking–Lithography

Professional Education Requirements (55 credits)
Ohio Northern’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, requirements and courses are listed under the Center for Teacher Education.

Studio Arts Major (BA and BFA degree)
The studio arts major primarily integrates art & design courses with liberal arts studies. Candidates pursue one of two degree programs. The BFA degree program is a rigorous study in the visual arts with two concentration options. The BA degree program is designed for intense study with the option of a major or minor in another discipline.
ART 420 Advanced Painting
ART 425 Advanced Illustration
ART 430 Advanced Figure Drawing

Art Minor (32 credits)
A minor is available only to non-art and design majors.

ART 100: Art Appreciation
ART 150: Studio Foundations
ART 160: Studio Foundations
ART 170: Drawing/Illustration
ART 155: 3D Design 1
ART 165: 3D Design 2
2 electives at the 200 level or above

Graphic Design Major (BA and BFA degree)
The graphic design major provides students broad knowledge of the principles, theories, and skills of visual communication. Courses during the second and third year engage students in the concentration and development. The fourth year combines design transformation and integration with advanced study. Candidates may choose the BFA degree program with a rigorous study in graphic design or the BA degree program with intense study and a major or minor in another discipline.

BFA Degree Requirements (111 credits)
Foundations/Core courses (47 credits)
ART 100: Art Appreciation
ART 150: Studio Foundations
ART 160: Studio Foundations
ART 170: Drawing/Illustration
ART 155: 3D Design 1
ART 165: 3D Design 2
2 electives at the 200 level or above

ART 230 Graphic Design History
ART 345 Design Research Methods
ART 222 Graphic Design 1: Intro. Visual Communications
ART 223 Graphic Design 2: Typography
ART 340 Graphic Design 3: Narrative
ART 341 Graphic Design 4: Identity
ART 440 Graphic Design 5: Persuasion
ART 470 Graphic Design Production Workshop
ART 445 Advanced Graphic Design (8 credits)
ART 471 Internship

Choose one:
ART 375 Printmaking: Intaglio
ART 377 Printmaking: Relief
ART 379 Printmaking: Silkscreen
ART 385 Printmaking: Lithography

Choose one:
ART 250 Painting 1
ART 355 Watercolor

BA Degree Requirements (83 credits)
Foundations/Core courses (47 credits)
ART 345 Design Research Methods
ART 222 Graphic Design 1: Intro. Visual Communications
ART 223 Graphic Design 2: Typography
ART 340 Graphic Design 3: Narrative
ART 341 Graphic Design 4: Identity
ART 440 Graphic Design 5: Persuasion
ART 470 Graphic Design Production Workshop

Choose one:
ART 375 Printmaking: Intaglio
ART 377 Printmaking: Relief
ART 379 Printmaking: Silkscreen
ART 385 Printmaking: Lithography

Choose one:
ART 250 Painting 1
ART 355 Watercolor

Advertising Design Major
This interdisciplinary program integrates liberal arts studies and art and design with marketing courses from the business college. The major provides students broad knowledge of the principles, theories, and skills of visual communication. Courses during the second and third year engage students in the concentration and development within advertising design. The fourth year involves integration with advanced study. Candidates may choose the BFA degree program with a rigorous study in advertising design or the BA degree program with intense study and a major or minor in another discipline.

BFA Degree Requirements (119 credits)
Foundations/Core courses (47 credits)
ART 230 Graphic Design History
ART 345 Design Research Methods or MRKT 434 Marketing Research
MRKT 351 Principles of Marketing
MRKT 360 Promotion Management
MRKT 452 Consumer Behavior
ART 222 Graphic Design 1: Intro. Visual Communications
ART 223 Graphic Design 2: Typography
ART 340 Graphic Design 3: Narrative
ART 341 Graphic Design 4: Identity
ART 440 Graphic Design 5: Persuasion
ART 472 Advertising Design Internship
ART 343 Advertising Design 2
ART 472 Advertising Design Internship

Choose one: General education requirement
STAT 142 Introduction to Statistics
STAT 146 Business Statistics
STAT 156 Biostatistics 1

Choose one:
ART 375 Printmaking: Intaglio
ART 377 Printmaking: Relief
ART 379 Printmaking: Silkscreen
ART 385 Printmaking: Lithography

Choose one:
ART 250 Painting 1
ART 355 Watercolor

BA Degree Requirements (87 credits)
Foundations/Core courses (47 credits)
ART 345 Design Research Methods or MRKT 434 Marketing Research
MRKT 351 Principles of Marketing
MRKT 452 Consumer Behavior
ART 222 Graphic Design 1: Intro. Visual Communications
ART 223 Graphic Design 2: Typography
ART 340 Graphic Design 3: Narrative
ART 341 Graphic Design 4: Identity
ART 342 Advertising Design 1
ART 343 Advertising Design 2

Choose one:
ART 250 Painting 1
ART 355 Watercolor
ART 375 Printmaking: Intaglio
ART 377 Printmaking: Relief
ART 379 Printmaking: Silkscreen
ART 385 Printmaking: Lithography

Subject - Art (ART)

000 - ORIENTATION
1 Credit
Familiarization with the department and college requirements/programs. Introduces first-year students to areas of research, scholarship, and study within art and design experiences and across disciplines. Graded S/U.

100 - ART APPRECIATION
4 Credits
Analysis into the theories, practices, techniques, language and media of the visual arts and design. Introduction to the fundamentals of art historical study, styles and periods. Focus on major works from the ancient world through contemporary issues to establish specific cultural and social contexts, and to identify relationships between composition, form and content.

110 – CONTEMPORARY ISSUES IN ART & DESIGN
1 Credit
A cross-discipline, thematic investigation into contemporary issues in the visual arts and design. May repeat to 4 credits.

150 - STUDIO FOUNDATIONS 1
4 Credits
Methods, media and materials in drawing with emphasis in composition, perception and analysis. Understanding and discovery through experimentation and problem solving, the "act of seeing," visual thinking and processes.

155 – 3-D DESIGN 1
4 Credits
The elements and principles of three-dimensional design.

160 - STUDIO FOUNDATIONS 2
4 Credits
The function and use of color in art and design disciplines through color organization, phenomena, and interaction. Prerequisite: ART 150.

165 – 3-D DESIGN 2
4 Credits
Three-dimensional forming techniques. Prerequisite: ART 155.

170 – DRAWING/ILLUSTRATION
4 Credits
Drawing as a means of thinking, expression, invention and communication through interaction between perceptual skills, visual language, expression and subject matter. Formally Drawing Workshop. Prerequisite: ART 160.

190 - SPECIAL TOPICS IN ART
1 to 4 Credits

200 - NON-WESTERN ART: THEMATIC EXPLORATIONS
4 Credits
Explorations into non-western cultures focusing on themes including but not limited to death and the afterlife, tree of life, sacred numbers and temples. May repeat to 8 credits. Offered alternate years.

210 - FIGURE DRAWING
4 Credits
Drawing from model. Composition, proportion, structure and form. May repeat to 8 hours. Prerequisite: ART 170.

221 – SMALL METALS
4 Credits
The visual language, design, materials and technical skills of small-scale sculpture. May repeat to 8 credits. Offered alternate years.

222 - GRAPHIC DESIGN 1: INTRODUCTORY VISUAL COMMUNICATION
4 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 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.
230 – HISTORY OF GRAPHIC DESIGN
4 Credits
Events, ideas, movements, artifacts and designers that have historical significance and influence on contemporary graphic design and the profession. Exploration of the role of design in society and the nature, influence and impact of changing design methods, materials, technologies, theories and values. Offered alternate years.

240 – PHOTOGRAPHY AND COMMUNICATION
4 Credits
Design thinking in the context of photography and communication design; composition and technical skills through aesthetics and style. Methods in concept, image and form development, designer/illustrator as author, presentation formats, sequence and narrative. May repeat to 12 credits. Prerequisite: ART 160.

250 - PAINTING 1
4 Credits
Concepts and competencies of painting through composition and the creation of form. Work with natural objects via direct observation.

251 - PAINTING 2
4 Credits
Creating and controlling pictorial space and form and their relationship to composition. May repeat to 12 credits. Prerequisite: ART 250.

255 - CERAMICS 1
4 Credits
Methods and techniques of forming clay objects using various hand building techniques. Introduction to decorating, glazing and firing of ceramic ware.

260 – SCULPTURE: MODELING
4 Credits
The design and rendering of clay and plaster into sculpture. May be repeated for a total of 8 hours. Offered alternate years.

265 - SCULPTURE: CARVING
4 Credits
The design and rendering of sculpture using the subtractive method. Emphasis on organizational problems of form and space. May repeat to 8 credits.

290 - SPECIAL TOPICS IN ART
1 to 4 Credits

310 - ART HISTORY 1
4 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 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 Credits
The formation and development of major artistic movements in Europe and the United States from 1850 to the present. Prerequisite: ART 320.

340 - GRAPHIC DESIGN 3: NARRATIVE
4 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 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.

342 - ADVERTISING DESIGN 1
4 Credits
Form and content that shape communication marketing strategies in advertising design. Overview of creating concepts, the psychology of effective visual messages, and development of campaigns through use of creative, intelligent, emotional and persuasive words and images. Prerequisite: ART 340.

343 – ADVERTISING DESIGN 2
4 Credits
Integrated communications of design thinking into media, three-dimensional artifacts and campaigns as an extension of brand experience and strategic solutions. Prerequisite: ART 342.

345 - DESIGN RESEARCH METHODS
4 Credits
Research design, gathering, analysis, application and presentation of information for graphic designers. Emphasis on role of research in problem solving process, from initial client intake, to problem definition, design requirements, concept generation, screening, selection and refinement, to implementation and post project evaluation. Offered alternate years.

346 - VISUAL INTERFACE DESIGN
4 Credits
Communication design of visual interfaces and the analytical behavioral, cognitive and linguistic dimensions of designing for dynamic information environments. May repeat to 8 credits. Offered alternate years. Prerequisite: ART 340.

349 – INTERACTIVE DESIGN AND IDENTITY
4 Credits
Design thinking and processes in the context of e-commerce, branding and identity, usability and hierarchical form. Offered alternate years. Prerequisite: ART 341.
350 - CERAMICS 2
4 Credits
Methods and techniques of forming, decorating, glazing and firing clay bodies. Emphasis on wheel throwing. May repeat to 8 credits. Prerequisite: ART 255.

355 - WATERCOLOR
4 Credits
Techniques and modes of painting in aqueous media. May repeat to 8 credits. Prerequisite: ART 170.

360 – SCULPTURE: MOLD MAKING
4 Credits
The design and use of plaster molds for reproduction, altering, and advanced sculpture techniques. Emphasis on organizational problems of form and space. May repeat to 8 credits. Offered alternate years.

365 – SCULPTURE: INSTALLATION
4 Credits
Design of sculptural environments and site-specific work. May repeat to 8 credits. Offered alternate years. Prerequisite: ART 260, or ART 265, or ART 360.

370 – SCULPTURE: HOT METALS
4 Credits
Use of metals, oxyacetylene welding of steel, lost wax casting of bronze. Offered alternate years. Prerequisite: ART 360.

375 - PRINTMAKING - INTAGLIO
4 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 Credits
Methods and techniques of relief process. Includes woodcut, linoleum cut and reduction methods with color. Prerequisite: ART 170 or permission of instructor. Co-requisite: Junior or senior standing.

379 - PRINTMAKING - SILKSCREEN
4 Credits
Methods and techniques of the silkscreening process. Includes stencils and photo-emulsion techniques. Prerequisite: ART 170 or permission of instructor. Co-requisite: Junior or senior standing.

385 - PRINTMAKING - LITHOGRAPHY
4 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 to 4 Credits

405 – ADVANCED SCULPTURE
4 Credits
Directed Study. Prerequisite: Junior or senior status.

410 - ADVANCED CERAMICS
4 Credits
Directed study. May repeat to 12 credits. Prerequisite: 8 credits of ART 350.

415 - ADVANCED PRINTMAKING
4 Credits
Directed study. May repeat to 12 credits. Prerequisite: 8 credits of ART 375 and/or 385.

420 - ADVANCED PAINTING
4 Credits
Directed study. May repeat to 12 credits. Prerequisite: ART 251.

425 – ADVANCED ILLUSTRATION
4 Credits
Innovative visual solutions and the mastery of advanced illustration techniques through creative and professional work habits. May repeat to 12 credits. Prerequisite: ART 210.

430 – ADVANCED FIGURE DRAWING
4 Credits
Structure of the human body with the aim of producing drawings of greater structural and visual integrity, and more fluid descriptions of movements and weight in the figure. Prerequisite: ART 210.

440 - GRAPHIC DESIGN 5: PERSUASIVE DESIGN
4 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.

445 – ADVANCED GRAPHIC DESIGN
4 Credits
Design thinking and processes in the context of transformation design; interdisciplinary design issues as a means of continually participating, responding, adapting and innovating to design beyond tradition solutions to create fundamental change. May repeat to 12 credits. Prerequisite: ART 440.
470 - GRAPHIC DESIGN PRODUCTION WORKSHOP
4 Credits
In-house design and project-management class. Workshop engages in collaborative communication problem-solving, designer relationships with non-profit clients, visual research strategies, legal issues, production methods, and ethics in design. May repeat to 8 credits. Prerequisite: ART 341 and portfolio review or permission of instructor. Offered alternate years.

471 - INTERNSHIP
8 to 16 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.

472 - INTERNSHIP IN ADVERTISING DESIGN
8 to 16 Credits
Supervised field experience in an approved advertising design agency, department or organization. Approval of department required prior to registration. May be repeated, but only 16 credit hours will count toward graduation. Prerequisites: ART 342 and MRKT 351.

475 – EXTERNSHIP
1 to 4 Credits
Supervised field or collaborative experience in a venue outside the department in approved firm, studio, department, university or organization. International or domestic study may count toward requirement with department approval. May repeat to 8 credits. Prerequisites: Junior or senior rank; approval of department required prior to registration.

489 - SENIOR THESIS
1 Credit
Yearlong investigative project which synthesizes liberal arts and studio work, and culminates in a presentation that demonstrates knowledge of specific concepts, theory, issues, methods, and materials. May repeat to 3 credits.

490 - SPECIAL TOPICS IN ART
1 to 4 Credits

494 - SEMINAR IN ART
1 to 4 Credits

497 - INDEPENDENT STUDY IN ART
1 to 4 Credits

DEPARTMENT OF BIOLOGICAL AND ALLIED HEALTH SCIENCES

Professors Anderson, Keiser (Chair), Young; Associate Professors Aulthouse, DeLuca, Keas, Suniga, Verb, Walker, Woodley; Assistant Professors Adams, Davies, Mager, McWilliams, Montenery, White; Visiting Assistant Professors Caprette, Pritchard; Visiting Instructors Estrada, Taylor; Clinical Laboratory Science Program Director Sherrick; Director of Laboratories MaGaw; Laboratory Technician Brachok; Adjunct Faculty Carmichael, Decanio, Enders, Francis, Gough, Gleason, Hoagstrom, Hussain, Johnson, Kuk, Marshall, Ogg, Reboulet, Robinson, Sreenan, Westerick, 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.

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.

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.

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 (includ-
ing pre-dentistry, pre-medicine, pre-occupational therapy, pre-optometry, pre-physical therapy, pre-physician assistant and pre-veterinary medicine), environmental studies, 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. All biology courses must have a “C” grade (or better) to be used within the biology major.
3. Minimum of 47 biology hours is required for both the B.S. and B.A. degrees.
4. MFT (Major Field Test) required for all majors, except Nursing, during their senior year.

**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 an 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 may 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 students. 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”

- BIOL 494 Biology Senior Seminar

**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 324 Medical 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 255 Epidemiology
- 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 313 Medical Microbiology
- BIOL 315 Medical Terminology
- BIOL 324-25-26 Medical Physiology 1,2,3
- BIOL 343 Histological Techniques
- BIOL 351 Cell Biology
- BIOL 354 Bioinformatics
- BIOL 357 Intro. to Forensic Serology
- BIOL 360 North American Mammals
- BIOL 361 Entomology
- BIOL 362 Parasitology
- BIOL 363 Ornithology
- BIOL 364 Herpetology
- BIOL 365 Forensic Entomology
- 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 452 Biological Fluids
- BIOL 463 Clinical Immunology
- BIOL 464 Hematology and Hemostasis
- BIOL 465 Microbiology Diagnostic
- BIOL 481 Internship Program
- BIOL 490 Special Topics in Biological Sciences
*BIOL 497 Independent Study/Research 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 Bachelor of Science (B.S.) and Bachelor of Arts (B.A.) degree. Departmental advisors will assist students in selecting relevant electives.

B.S. Degree - Required Cognates (minimum 32 hrs.)
- One year of chemistry
- One year of 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.

The Department of Biological & Allied Sciences offers a B.S. in Biology with a specialization in Histotechnology. This specialization involves the 4th year (12 months) being divided into 6 months of didactic studies and 6 months of clinical studies with a clinical affiliation. The Department also offers a post-baccalaureate certificate in Histotechnology designed for the academically inclined individual. For detailed information contact the Program Director of Clinical Laboratory Science or the Department office.

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 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
- CHEM 115 Environmental Chemistry

PLUS
- 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 the individual goals and needs of the student.

Major in Forensic Biology
The major in forensic biology has two goals: to provide students with a solid foundation in the forensic sciences through a core of four forensic biology courses and to provide a focused and coherent study in the practice of the scientific techniques used to analyze physical evidence found at the scene of a crime with five upper-level forensic courses.

Core Requirements: (Must have a “C” grade or better)
- BIOL 121 General Biology
- BIOL 195 Freshman Orientation
- BIOL 122 Intro. to Zoology

BIOL 121 General Biology
BIOL 195 Freshman Orientation
BIOL 123  General Botany
BIOL 210  Intro. to Genetics
BIOL 217  Molecular Biology
BIOL 219  Forensic Biology 1
BIOL 229  Forensic Biology 2
BIOL 239  Forensic Biology 3
BIOL 249  Forensic Biology 4
BIOL 311  Microbiology
BIOL 319  Microscopy
BIOL 329  Physical Methods
BIOL 351  Cell Biology
BIOL 357  Forensic Serology
BIOL 494  Senior Seminar
BIOL 483  Internship- Forensic

Required Cognates:
CHEM 171-172-173  Intro. Chemistry
CHEM 251-252-253  Organic Chemistry
CHEM 311  Chemistry of Biological Molecules, or
CHEM 312  Chemistry of Metabolism, or
PHBS 341, 342  Biochemistry
CHEM 314, 315  Biochemistry Lab
PHIL 238  Ethics
MATH 154  Calculus for Life Sciences
STAT 156  Biostatistics 1
STAT 256  Biostatistics 2
PHYS 211-212-213  General Physics 1, 2, 3
PHYS 234-235-236  Physics Laboratory 1, 2, 3
PLSC 121  Intro. Criminal Justice
PLSC 251  Criminology
PLSC 351  Constitutional Law
PLSC 342  Judicial Process & Crim. Law

PLUS 20 hrs from this group:
BIOL 259  Crime Scene Invest.
BIOL 269  Computer Forensics
BIOL 231  Anatomy & Physiology 1
BIOL 354  Bioinformatics
GEOG 248  Geographic Information Science
GEOG 280  Geology
PLSC 342  Judicial Process & Crim. Law
PLSC 351  Constitutional Law
PLSC 476  Mock Trial

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 195  Freshman Orientation
BIOL 122  Intro. to Zoology

BIOL 123  General Botany
BIOL 210  Introductory Genetics
BIOL 217  Intro. to Molecular Biology
BIOL 311  Microbiology
BIOL 351  Cell Biology
BIOL 451  Adv. Topics in Cell Biology
BIOL 494  Biology Senior Seminar
CHEM 251-52-53  Organic Chemistry 1, 2, 3
CHEM 311  Chem. Of Biological Molecules
CHEM 312  Chemistry of Metabolism
CHEM 414-15  Biochemistry Laboratory

PLUS one of the Research Sequences:
BIOL 497  Independent Study/Research in Biology (3 cr hrs)
or
CHEM 481, 482, 483

Required Cognates:
CHEM 171-72-73  Introductory Chemistry 1, 2, 3
One year of mathematics (preferable sequence)
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
BIOL 494  Biology Senior Seminar

BIOLICAL & ALLIED HEALTH SCIENCES 69
PLUS one of the following:
BIOL 231  Anatomy and Physiology 1
BIOL 301  Developmental Anatomy
BIOL 302  Human Anatomy
BIOL 324  Medical Physiology 1

And a minimum of 4 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
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
The Nursing Program provides educational opportunities to a diverse population of qualified students who seek to acquire the knowledge and skills required for the practice of nursing as a Registered Nurse.

Graduates of the program receive a Bachelor of Science in Nursing (BSN) and are eligible to take the national licensing examination (NCLEX-RN) to become Registered Nurses in the State of Ohio. The program has Conditional Approval by the Ohio Board of Nursing (17 South High St., Suite 400, Columbus, Ohio 43215-7410, 614-466-3847) and is seeking accreditation by Commission on Collegiate Nursing Education, One Dupont Circle, NW, Suite 530, Washington, DC 20036-1120 (202) 887-6791.

Mission Statement
The Nursing Program at Ohio Northern University is committed to providing professional educational components to address the health care needs and issues within a diverse and changing world. The program actualizes this mission through integration of critical thinking in theory and practice principles to achieve evidence-based nursing practice inspired by a desire to contribute to the good of humankind. The development of the whole person reflects the emphasis of the University and prepares the student as a life-long learner in pursuit of knowledge and excellence in practice.

Students must attain a grade of “C” or better in all nursing core courses, Psychology 100, Sociology 105, and all required cognates.

Criteria for Admission
1. Meet the general admission requirements of Ohio Northern University
2. Graduation from an accredited high school program with a cumulative grade point average (GPA) of 3.30 on a scale of 4.00 or higher (or GED)
3. Minimum ACT score of 23, composite SAT score 1070
4. 2 units of mathematics
5. 6 units of natural sciences, including Biology and Chemistry
6. Criminal background check is required before clinical nursing courses

*Indicates core courses requiring a “C” grade or better

General Education: (75 hrs)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Experience (NURS 195)</td>
<td>1</td>
</tr>
<tr>
<td>English 110, 111, 204</td>
<td>12</td>
</tr>
<tr>
<td>Chemistry 135</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 136</td>
<td>4</td>
</tr>
<tr>
<td>Communication 225 or 211</td>
<td>4</td>
</tr>
<tr>
<td>Fine Arts xxx</td>
<td>4</td>
</tr>
<tr>
<td>History 110 or 111</td>
<td>4</td>
</tr>
<tr>
<td>Language (Spanish Literacy – 140, 141, 142)</td>
<td>12</td>
</tr>
<tr>
<td>Philosophy 238 or 240</td>
<td>4</td>
</tr>
<tr>
<td>Religion 1xx</td>
<td>4</td>
</tr>
<tr>
<td>*Psychology 100</td>
<td>4</td>
</tr>
<tr>
<td>*Sociology 105</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 120</td>
<td>4</td>
</tr>
<tr>
<td>Biostatistics 156 or 142</td>
<td>4</td>
</tr>
<tr>
<td>*Computer Literacy (NURS 335)</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education (Fitness, Life Skills, Wellness)</td>
<td>3</td>
</tr>
<tr>
<td>Participation in College Assessment Program</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Nursing Core Major Requirements (83 hrs)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 131 Intro. to Nursing Health Practices</td>
<td>1</td>
</tr>
<tr>
<td>NURS 141 Foundations of the Discipline and Science</td>
<td>2</td>
</tr>
</tbody>
</table>
NURS 202 Physical Assessment 4
NURS 211 Fundamentals of Nursing Practice 4
NURS 221 Pathophysiology 4
NURS 251 Pharmacology for Allied Health Sciences 4
NURS 295 Service Learning Seminar 1
NURS 303 Transcultural Health Care 4
NURS 310 Medical/Surgical I 6
NURS 320 Medical/Surgical II 5
NURS 324 Mental Health Nursing 5
NURS 335 Nursing Research Process and Informatics 3
NURS 340 Nursing Care of the Child & Family 5
NURS 345 Obstetric Nursing 5
NURS 410 Community Health Nursing 5
NURS 430 Older Adult Nursing 4
NURS 440 Medical/Surgical Nursing III 6
NURS 470 Leadership & Mgmt. in Nursing 3
NURS 498 Trans. to Prof. Prac.: Clin. Cap. 8
NURS 390 Special Topics in Nursing (or)
NURS 490 Special Topics in Nursing 4

*Required Cognates (31 hrs) Hours
BIOL 110 Biological Concepts for Life Sciences 4
BIOL 215 Microbiology 3
BIOL 231 Anatomy & Physiology 1 4
BIOL 232 Anatomy & Physiology 2 4
BIOL 253 Nutrition 4
CHEM 135 Chemistry 1, Con. & App. Health Technologies 4
CHEM 136 Chemistry 2, 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 333Mgmt & Org. Behavior 4
MGMT 363Human Resource Mgmt 4
FINC 362 Managerial Finance 4
IBEC 202 Principles of Microeconomics 4

Special Program Requirements
Ohio Northern believes that certain functional abilities & performance standards are necessary for the safe practice of professional nursing. These include:

• The ability to see, hear, touch, smell, and distinguish colors;
• The ability to speak and write with accuracy, clarity, and efficiency;
• Manual dexterity (gross and fine movement);
• The ability to learn, think critically, analyze, assess, solve problems, and reach judgments, and;
• Emotional stability and the ability to accept responsibility and accountability.

Students will need to demonstrate satisfactory application of these functions and competencies during their course of study in nursing. Students should consider their ability to demonstrate these functions and competencies when applying for admission to Ohio Northern University.

RN-BSN Nursing Completion Program
Applicants seeking admission to the RN-BSN Completion Program must meet the following criteria:

1. Associate degree or equivalent degree from a regionally accredited institution.
2. Minimum GPA 2.50
3. Current and unrestricted Ohio RN license.
4. Completion of a writing sample.
5. Meet the health requirements of the clinical agencies

Each applicant must submit an RN-BSN application, ONU Financial Aid Form, Informational Form, Computer Account Agreement and $30.00 application fee. All academic transcripts must be submitted to ONU directly from the institution.

RN-BSN Nursing Completion Program
(Non-Traditional) Degree

The RN-BSN Completion program has been developed to meet the needs of the practicing nurse. RNs will transfer into ONU with 108 credit hours based on their diploma and/or associate degree. The program of study is 74 credit hours with a clinical in community health nursing and a capstone clinical. This program is designed to be completed in one calendar year with 6 eight week terms. The program is held on-site at local area hospitals.

RN-BSN Completion Program Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 301</td>
<td>Foundations of the Discipline &amp; Science for the Registered Nurse</td>
</tr>
<tr>
<td>NURS 302</td>
<td>Physical Assessment for the Registered Nurse</td>
</tr>
<tr>
<td>COMM 225</td>
<td>Interpersonal Communication</td>
</tr>
<tr>
<td>ENGL 111</td>
<td>Writing 2</td>
</tr>
<tr>
<td>NURS 306</td>
<td>Transcultural Health Care for the Registered Nurse</td>
</tr>
<tr>
<td>NURS 322</td>
<td>Pathological Concepts for the Registered Nurse</td>
</tr>
<tr>
<td>HIST 110</td>
<td>Western Civilization 1</td>
</tr>
<tr>
<td>or HIST 111</td>
<td>Western Civilization 2</td>
</tr>
<tr>
<td>PHIL 240</td>
<td>Ethics in Professional Life</td>
</tr>
<tr>
<td>ART 100</td>
<td>Fine Arts</td>
</tr>
<tr>
<td>NURS 350</td>
<td>Leadership &amp; Mgmt in Nursing Care for the Registered Nurse</td>
</tr>
</tbody>
</table>

BIOLOGICAL & ALLIED HEALTH SCIENCES 71
STAT 156  Biostatistics 1  4  
NURS 425  Community Health Nursing for the Registered Nurse  5  
RELG 107  Religion  4  
ENGL 204  Great Works  4  
SPAN 120  Spanish for the Health Care Provider  4  
NURS 475  Nursing Research Process and Informatics for the Registered Nurse  4  
MATH 144  Finite Math  4  
NURS 499  Transition to Prof. Nursing Prac. for Registered Nurses: Clin. Cap.  7  
Total 74

Requirements for Graduation
Each candidate for a Bachelor of Science in Nursing must:
1. have completed the required curriculum of 74 credit hours.
2. 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) Nursing curriculum as outlined.
5. be recommended for the degree by a majority vote of the faculty of the university.

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 324  Medical 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
OR
BIOL 331-32-33  Physiology 1, 2, 3,
OR
BIOL 324-25-26  Medical Physiology 1, 2, 3
PLUS
BIOL 301  Developmental Anatomy
OR
BIOL 302  Human Anatomy

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 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
OR
BIOL 251  Principles of Ecology
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 255  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
HPSS 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  
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 status 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 Forensic DNA and Convicted Offender Laboratories. The Criminal Justice (Forensic) option is not available to students with a major in Forensic Biology.

PLSC 121  Intro to Criminal Justice  
PLSC 122  Police in America  
BIOL 219  Forensic Biology 1  
BIOL 229  Forensic Biology 2  
STAT 156 or 256  Biostatistics 1 or 2

PLUS
PLSC 342  Judicial Process  
or  
PLSC 351  Constitutional Law & Civil Libert.

PLUS
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). 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 science. 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. 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).

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 school.
The B.S. in Clinical Laboratory Science

The BSCLS degree coursework centers on student learning and professional development using a 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 47 quarter hours of biology requisites, (c) a minimum of 24 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 the clinical training program. Students admitted to the program continue their didactic coursework in the Department of Biological and Allied Health Sciences and complete clinical training at an area clinical affiliate that may include Lima Memorial Hospital. 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 110, 111, and 204</td>
<td>12</td>
</tr>
<tr>
<td>Philosophy 238 or 240</td>
<td>4</td>
</tr>
<tr>
<td>Communication 211 or 225</td>
<td>4</td>
</tr>
<tr>
<td>History 110 or 111</td>
<td>4</td>
</tr>
<tr>
<td>Religion XXX</td>
<td>4</td>
</tr>
<tr>
<td>Psychology 100</td>
<td>4</td>
</tr>
<tr>
<td>Fine Arts XXX</td>
<td>4</td>
</tr>
<tr>
<td>Non-Western Culture XXX</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics XXX (120 or above)</td>
<td>4</td>
</tr>
<tr>
<td>Statistics XXX</td>
<td>4</td>
</tr>
<tr>
<td>Computer Science (TECH 139 or ABUS 201)</td>
<td>4</td>
</tr>
<tr>
<td>Physical Education (Fitness, Life Skills, Wellness)</td>
<td>3</td>
</tr>
<tr>
<td>AASG 300 Job &amp; Graduate School Search Strategies</td>
<td>1</td>
</tr>
<tr>
<td>Participation in College Assessment Program</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Biology Core (47 hrs.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 121 General Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 122 Intro. to Zoology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 124 Intro. to Human Anatomy and Histology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 195 Orientation</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 210 Introductory Genetics</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 217 Intro. to Molecular Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 301 Developmental Anatomy or BIOL 302 Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 303 Histology or BIOL 343 Hist Tech</td>
<td>3 or 4</td>
</tr>
<tr>
<td>BIOL 311 Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL Physiology (200 level or above)</td>
<td>8-15</td>
</tr>
<tr>
<td>BIOL 351 Cell Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 497 Ind. Study/Research in Biology</td>
<td>3</td>
</tr>
</tbody>
</table>

### Chemistry Cognates (24 hrs.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 171-173 Intro. Chemistry 1, 2, 3</td>
<td>15</td>
</tr>
<tr>
<td>Additional Chemistry 200-400 level</td>
<td>9</td>
</tr>
<tr>
<td>(one course must be organic or biochemistry)</td>
<td></td>
</tr>
</tbody>
</table>

### Recommended Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 301 Developmental Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 302 Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 303 Histology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 315 Medical Terminology</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 343 Histological Terminology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 354 Bioinformatics</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 357 Forensic Serology/DNA Analysis</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 362 Parasitology</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 120 Physics w/ Health Science Applications</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 211-213 General Physics</td>
<td>9</td>
</tr>
<tr>
<td>PHYS 234-236 Physics Lab</td>
<td>3</td>
</tr>
<tr>
<td>PHBS 375 Immunology</td>
<td>4</td>
</tr>
<tr>
<td>MATH 154 Calculus for Life Sciences 1</td>
<td>4</td>
</tr>
<tr>
<td>MATH 155 Calculus for Life Sciences 2</td>
<td>4</td>
</tr>
</tbody>
</table>

### Clinical Laboratory Science Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLS 460 Foundations of Clinical Laboratory Science</td>
<td>3</td>
</tr>
<tr>
<td>CLS 461 Professional Practice and Development</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 462 Biological Fluids</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 463 Immunology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 464 Hematology and Hemostasis</td>
<td>5</td>
</tr>
<tr>
<td>CLS 465 Blood Banking and Transfusion Science</td>
<td>5</td>
</tr>
<tr>
<td>CLS 466 Clinical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 467 Microbiology Diagnostics</td>
<td>5</td>
</tr>
<tr>
<td>CLS 468 Clinical Laboratory Practicum</td>
<td>2</td>
</tr>
<tr>
<td>Orientation</td>
<td></td>
</tr>
<tr>
<td>CLS 469 Clinical Hematology Practicum</td>
<td>6</td>
</tr>
<tr>
<td>CLS 470 Blood Bank Practicum</td>
<td>6</td>
</tr>
<tr>
<td>CLS 471 Clinical Chemistry Practicum</td>
<td>6</td>
</tr>
<tr>
<td>CLS 472 Clinical Microbiology Practicum</td>
<td>6</td>
</tr>
<tr>
<td>CLS 473 Immunology &amp; Infectious Diseases Practicum</td>
<td>3</td>
</tr>
<tr>
<td>CLS 474 Case Studies in Clinical Laboratory Science</td>
<td>1</td>
</tr>
<tr>
<td>CLS 490 Special Topics in Clinical Laboratory Science</td>
<td>1-3</td>
</tr>
</tbody>
</table>

### Special Requirements

a. Minimum 2.00 cumulative GPA in all general education, biology core and chemistry cognates.

b. All CLS courses must have a “C” grade or better for satisfactory completion of requirements.

c. CLS Students must complete the Major Field Test in Biology during the term in which they take BIOL 497 - Ind. Study/Research in Biology. A special fee is assessed with course registration.

d. 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 the summer term. Additional information on microscope leasing is available from WCOCLS Program office.
e. **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 the supervised applied clinical experience.

**Post Baccalaureate Certificate Courses**

See CLS core courses page 74.

**Special Requirements**

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 the four-quarter clinical training experience for those pursuing the BSCLS degree or the post baccalaureate certificate. During the first two quarters, students 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 an assigned clinical affiliate that may include Lima Memorial Hospital.

**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 the first day.
of summer term. 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. At a minimum, B.S.C.L.S. applicants must:

- Submit a completed application for admission (only completed applications are considered) by March 1st
- Satisfy all applicable university and college admission requirements for graduation
- Satisfy all applicable degree requirements excluding CLS coursework
- Complete all prerequisite coursework with a minimum of a “C” in each course
- Demonstrate a GPA of 2.80 (scale 4.00) with a science (biology, chemistry, physics, math) GPA of 3.00
- Demonstrate 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, human anatomy and physiology, genetics, and molecular biology.
- Completed 24-quarter hours (or equivalent semester hours) of chemistry including biochemistry or organic chemistry.
- Completed 8-quarter hours (or equivalent semester hours) of college-level math including one course in statistics.
- 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 118.

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 (quick links) at http://www.onu.edu.

Subject - Biological Sciences (BIOL)

103 - LIFE AND EARTH SCIENCE FOR EARLY & MIDDLE CHILDHOOD MAJORS
4 Credits
Diversity, evolution, ecology, cell biology, inheritance and earth science as they affect and have affected life on earth. 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 Credits
Key biochemical and cellular concepts of genetic concepts and the anatomy and physiology of human organ systems. Prerequisite: Enrollment is restricted to Nursing and Pharmacy-Business majors.

121 - GENERAL BIOLOGY
4 Credits
Plant and animal life with emphasis on cell biology, genetics and major concepts in evolution and ecology.

122 - INTRODUCTION TO ZOOLOGY
4 Credits
The classification of major animal groups, and structure of animals from a comparative systems viewpoint. Prerequisite BIOL 121.

123 - GENERAL BOTANY
4 Credits
The classification, life histories, anatomy and physiology and evolutionary relationships of microbes, fungi and plants. Prerequisite: BIOL 121.

124 - INTRODUCTION TO HUMAN ANATOMY AND HISTOLOGY
4 Credits
Human tissues and organ systems. THIS COURSE DOES NOT SATISFY ANY REQUIREMENTS FOR THE MAJOR IN BIOLOGY AND MOLECULAR BIOLOGY. Co-requisite: BIOL 126. Prerequisite: BIOL 122.
126 - LAB FOR BIOLOGY 124
0 Credit

195 - ORIENTATION (1+0)
1 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 Credit
Presentations regarding pre-professional programs including physical therapy, occupational therapy, physicians assistant, chiropractic, etc. DOES NOT COUNT TOWARD ANY UNIVERSITY MAJOR. Graded S/U.

201 - ENVIRONMENT AND MAN
4 Credits
The interaction of man and his surroundings with an emphasis on the problems arising from increasing human population, pollution, and resource use.

204 - SYSTEMATIC PLANT SURVEY (2+4)
4 Credits
The phylogeny, classification, morphology, and development of selected plant and algal taxa. A Nature Center use fee is charged. Prerequisite: BIOL 123. Offered alternate years.

210 - INTRODUCTORY GENETICS
4 Credits
Mendelian, molecular and population genetics with experimental laboratory. Prerequisites: BIOL 121, 122 and 123; and CHEM 173.

211 - LABORATORY FOR 210
0 Credit

213 - NATURAL HISTORY (1+6)
4 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 Credits
The characteristics and control of microorganisms related to human infectious disease. Enrollment restricted to Nursing majors. Prerequisites: BIOL 231 and 232.

217 - INTRODUCTION TO MOLECULAR BIOLOGY (3+3)
4 Credits
DNA, RNA, and protein synthesis, viral regulatory mechanisms and gel electrophoresis techniques. A lab fee is charged. Prerequisites: BIOL 122 and 123.

219 - FORENSIC BIOLOGY 1
4 Credits
The history, structure and function of the modern forensic laboratories. Physical and chemical properties of evidence and the use of the microscope for examination of hairs, fibers and paint and drug testing. A lab fee is charged. Prerequisite: High school biology, chemistry or physics.

223 - INVERTEBRATE ZOOLOGY (3+3)
4 Credits
Morphology, physiology, life cycles and taxonomy of selected species. A lab fee is charged. Prerequisite: BIOL 122.

229 - FORENSIC BIOLOGY 2
4 Credits
Forensic toxicology, arson and explosion investigation, fingerprint and latent print evidence, firearms, tool marks and other impressions along with document and voice print examination. A lab fee is charged. Prerequisite: BIOL 219.

231 - ANATOMY AND PHYSIOLOGY 1 (3+3)
4 Credits
Cells, histology, skin, musculoskeletal, nervous and endocrine systems. CREDIT CANNOT BE RECEIVED FOR BOTH BIOL 231 AND BIOL 324. Prerequisite: BIOL 110 or 122; BIOL 124 recommended.

232 - ANATOMY AND PHYSIOLOGY 2 (3+3)
4 Credits
Continuation of 231. Blood, cardiovascular, respiratory, digestive, excretory, and reproductive systems. CREDIT CANNOT BE RECEIVED FOR BOTH BIOL 232 AND 325. Prerequisite: BIOL 231.

238 - EMERGENCY MEDICAL TECHNICIAN TRAINING
1 Credit
Ohio Department of Public Safety certified training program. Successful completion of course requirements, and National Registry of Emergency Medical Technicians examination provides national EMT-Basic certification. Open to all students only with permission of the instructor. DOES NOT COUNT TOWARD THE MAJOR IN BIOLOGY.
239 - FORENSIC BIOLOGY 3
4 Credits
Application of HPLC, GCMS, identification of illicit drugs, fingerprints, blood and breath alcohol determination and legal aspects of forensic science and admissibility standards of scientific evidence. A lab fee is charged. Prerequisite: BIOL 229.

240 - OSHA 40-HOUR SAFETY TRAINING
3 Credits
Response operations for the remediation incidents involving hazardous materials. Provided by arrangement with the Rhodes State College in Lima. DOES NOT COUNT AS A BIOLOGY COURSE.

241 - BASIC EMERGENCY RESPONSE
2 Credits
Mitigation techniques available to responders, application of skills to mock emergency responses, site safety; recognition, identification and notification procedures; use of survey instrumentation; risk assessment and mitigation of chemical hazards. 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 Credits
Methods of finding, interpreting and implementing governmental regulations pertaining to employee safety. Prerequisite: PLSC 306. Graded S/U. DOES NOT COUNT AS A BIOLOGY COURSE.

243 - HAZARDOUS WASTE GENERATOR TRAINING
2 Credits
Procedures and the implementation of contingency plans in dealing with hazardous materials. Prerequisite: BIOL 240. Graded S/U. THIS COURSE DOES NOT COUNT AS A BIOLOGY COURSE.

245 - OSHA SAFETY TRAINING REFRESHER
1 Credit
Complies with requirements regarding annual follow-up training for hazardous waste site workers who have previously completed BIOL 240 (OSHA Safety Training). Taught at the Rhodes State College in Lima. May be repeated 3 times for credit. Prerequisite: BIOL 240. Graded S/U. DOES NOT COUNT AS A BIOLOGY COURSE.

246 - HAZARDOUS MATERIALS TRANSPORTATION
2 Credits
Applications of regulations in daily operations involving the four major transportation models (air, water, rail, highways). Package selection, marketing, labeling, etc. for shipment of materials. Graded S/U. DOES NOT COUNT AS A BIOLOGY COURSE.

249 - FORENSIC BIOLOGY 4
4 Credits
Forensic botany, anthropology, pathology and odontology. Methods used to identify human skeletons and skeletal remains. A lab fee is charged. Prerequisite: BIOL 239.

251 - PRINCIPLES OF ECOLOGY
4 Credits
Interaction of organisms with their environment at the individual, population, community and ecosystem levels. Collection of data in the field, and analysis and interpretation. Prerequisites: BIOL 122, 123 or permission of the instructor.

253 - NUTRITION FOR HEALTH CARE PROVIDERS
4 Credits
The maintenance of health through conventional dietary strategies, energy factors associated with body weight and the pathology of various body systems with corresponding medical nutrition therapies. Prerequisites: BIOL 231 and 232. Enrollment is restricted to Nursing majors.

255 - EPIDEMIOLOGY
3 Credits
Disease spread, prevention and contribution to the health of society. Design, experimental analysis and policy decisions. Required for public health minor. Prerequisites: BIOL 121 and 122. Offered alternate years.

259 - FORENSIC CRIME SCENE INVESTIGATION
3 Credits
Search techniques with proper recognition, collection and packaging of evidence. A lab fee is charged. Prerequisite: BIOL 229.

263 - BIOGEOGRAPHY
5 Credits
Current and historic distribution of plants and animals related to major geological and evolutionary concepts. A weekend trip is required. A Nature Center use fee is charged. Prerequisites: BIOL 122 and 123. Offered alternate years.
269 - COMPUTER FORENSICS
3 Credits
Computer terminology and history of computer crime. Investigations and capabilities inclusive of pre-search and on-scene activities, data analysis and file recovery. Prerequisite: BIOL 229.

271 - INTRODUCTION TO MARINE BIOLOGY
4 Credits
Organisms and their habitats emphasizing 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.

290 - SPECIAL TOPICS IN BIOLOGICAL SCIENCES
1 to 4 Credits
Grading system at the discretion of the instructor. May be repeated for credit as the topic varies.

301 - DEVELOPMENTAL ANATOMY (3+3)
4 Credits
Comparative embryology, and human organ development. Prerequisite: BIOL 122 or equivalent.

302 - HUMAN ANATOMY (2+4)
4 Credits
Human body systems using x-rays, MRI’s, skeletal material, and cadaver dissection. A lab fee is charged. Prerequisite: BIOL 122 or its equivalent.

303 - HISTOLOGY (3+3)
4 Credits
Human cells, tissues, and the organ at the microscopic level. A lab fee is charged. Prerequisite: BIOL 122 or its equivalent.

305 - ENVIRONMENTAL TOXICOLOGY
3 Credits
Effects of both man-made and natural toxic agents in plant and animal systems. Prerequisites: BIOL 121 and two courses in Chemistry.

308 - VASCULAR PLANT ANATOMY (3+3)
4 Credits
Structures from all major plant organs examined in an evolutionary, ecological, and physiological context. Prerequisite: BIOL 123. Offered alternate years.

310 - PLANT PHYSIOLOGY (3+3)
4 Credits
Plant cell structure and function, including metabolism. Prerequisite: BIOL 123. Offered alternate years.

311 - MICROBIOLOGY
5 Credits
Medical, environmental, industrial, economical and research importance of microbes. A lab fee is charged. Prerequisites: BIOL 122 and BIOL 123.

312 - MICROBIOLOGY LABORATORY
1 Credit
Microbiological techniques for culturing, identifying, and manipulating microbes. Experimental design and data analysis will be emphasized. Prerequisites: BIOL 122, 123 or 124. Co-requisites: BIOL 311 or 313.

313 - INTRODUCTION TO MEDICAL MICROBIOLOGY
4 Credits
Microbial cell biology, antimicrobial chemotherapy, interactions of microorganisms with humans and other organisms, microbial diversity. Prerequisites: BIOL 122, 123, or 124 or CHEM 173.

315 - MEDICAL TERMINOLOGY
2 Credits
Root words, prefixes, suffixes and their appropriate combination to develop and utilize a medical vocabulary. Prerequisites: BIOL 122; and sophomore standing or permission of instructor.

319 - FORENSIC MICROSCOPY
4 Credits
Microscopes used to describe, photograph and categorize evidence. A lab fee is charged. Prerequisites: BIOL 122, 123 and 249.

322 - BIOSCIENCE LABORATORY 1
1 Credit
Methods used in drug development; routine histological techniques, and in vitro and in vivo drug screening. In vivo models of diseases are presented. Prerequisites: BIOL 124 and 126.

323 - BIOSCIENCE LABORATORY 2
1 Credit
Experimental data analysis in microbiology, molecular biology and cell biology. A lab fee is charged. Prerequisites: BIOL 311 or 313 and 322; PHBS 341 and 342.

324 - MEDICAL PHYSIOLOGY 1
5 Credits
Neuromuscular systems in humans, other vertebrates, and invertebrates as appropriate, with experimental laboratory. Prerequisites: BIOL 123 and one year of chemistry.
325 - MEDICAL PHYSIOLOGY 2
5 Credits
Continuation of 324. Cardiovascular and respiratory systems in humans with other vertebrate and invertebrate as appropriate, with experimental laboratory. Prerequisite: BIOL 324.

326 - MEDICAL PHYSIOLOGY 3
5 Credits
Continuation of 325. Renal, gastrointestinal and endocrine systems in humans with other vertebrate and invertebrate as appropriate, with experimental laboratory. Prerequisite: BIOL 325.

329 - PHYSICAL METHODS IN FORENSIC SCIENCE
4 Credits
Examinations of documents, trace evidence, explosives and firearms. A lab fee is charged. Prerequisite: BIOL 249.

331 - PHYSIOLOGY 1
4 Credits
Human neuromuscular structure and function. ENROLLMENT IS RESTRICTED TO PHARMACY MAJORS. Prerequisites: BIOL 122 and one year of chemistry.

332 - PHYSIOLOGY 2
4 Credits
Human cardiovascular and respiratory systems. ENROLLMENT IS RESTRICTED TO PHARMACY MAJORS. Prerequisite: BIOL 331.

333 - PHYSIOLOGY 3
4 Credits
Human renal, gastrointestinal and endocrine systems. ENROLLMENT IS RESTRICTED TO PHARMACY MAJORS. Prerequisite: BIOL 332.

340 - PROFESSIONAL EXPERIENCE CO-OP
1 Credit
Experience in a biologically or environmentally-related occupation with a governmental, consulting or industrial entity. Junior status and approval of the department chair is required. Graded S/U.

343 - HISTOLOGICAL TECHNIQUES
3 Credits
Principles and procedures used in the preparation of biological specimens for microscopic study. Offered alternate years. Prerequisites: BIOL 122, 124 or permission of the instructor.

351 - CELL BIOLOGY (3+3)
4 Credits
The function, ultrastructure and growth of eukaryotic cells emphasizing on experimental techniques and micrograph analysis. Prerequisites: BIOL 122, 123 and CHEM 173.

354 - INTRODUCTION TO BIOINFORMATICS
4 Credits
Data mining used in the fields of genomics or proteomics. Computer-based exercises using NCBI databases and other public domain sequences sources. A lab fee is charged. Prerequisites: BIOL 210 or 217 and permission of the instructor.

357 - INTRODUCTION TO FORENSIC SEROLOGY/DNA ANALYSIS
4 Credits
Techniques for the identification of body fluids and the source of individual DNA. Laboratory techniques include DNA STR analysis, mitochondrial DNA and Y-STR analysis. A lab fee is charged. Prerequisites: BIOL 210, 217 and 351; CHEM 253 or PHBS 341.

360 - NORTH AMERICAN MAMMALS
4 Credits
Natural history, behavior, ecology and systematics of North American orders and most North American families. A weekend field trip is required. Offered on demand. Prerequisite: BIOL 122.

361 - ENTOMOLOGY
4 Credits
Morphology, ecology, evolution and taxonomy of insects. A weekend field trip is required. A Nature Center use fee is charged. Offered alternate years. Prerequisite: BIOL 122.

362 - PARASITOLOGY
4 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 and 223.

363 - ORNITHOLOGY
4 Credits
The natural history, behavior, ecology and systematics of birds representing most orders and many families. A weekend field trip is required. A Nature Center use fee is charged. Prerequisite: BIOL 122.

364 - HERPETOLOGY
3 Credits
Biology of amphibians and reptiles, particularly species native and introduced to Ohio. A weekend field trip is required. A Nature Center use fee is charged. Offered alternate years. Prerequisite: BIOL 122.
365 - FORENSIC ENTOMOLOGY  
4 Credits  
The application of insects to legal proceedings, especially medico-criminal. The collection and identification of larval and adult insects from carrion models and their use in determining post-mortem interval is emphasized. Recent developments in the field of forensic entomology, including molecular and laboratory techniques, are examined. A lab fee is charged. Prerequisite: BIOL 122. BIOL 223 highly recommended.

368 - Ichthyology  
4 Credits  
Fish biology, particularly Ohio freshwater teleosts, emphasizing 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 Credits  
Ecological, physical and chemical aspects of marine systems. 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 Credits  
Ecological, physical and chemical aspects of marine systems. 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 Credits  
Invertebrates and vertebrates, stressing observational and descriptive techniques. Offered alternate years. A lab fee is charged. Prerequisites: BIOL 122 and 223.

397 - Self-Directed Studies in the Biological Sciences  
1 to 2 Credits  
Investigation of specialty fields within the biological sciences by utilizing interactive and/or multimedia programs. A maximum of 3 hours may be counted toward the major. Cannot be used as a general education class. Prerequisites: BIOL 122, 123, or 124. Graded S/U.

423 - Topics in Ecology and Biogeography  
3 Credits  
Current literature on selected topics. Prerequisites: BIOL 251, 263 or permission of instructor. Offered on demand. May be repeated for credit as the topics vary.

451 - Advanced Topics in Cell Biology  
3 Credits  
Current literature on selected topics in cell biology. May be repeated for credit as the topic varies. Prerequisites: BIOL 351 and biochemistry course.

462 - Biological Fluids (2+3)  
3 Credits  
Lecture/laboratory coverage of various human body fluids, including urine, sweat, seminal fluid, amniotic fluid, cerebrospinal fluid, and serous fluids, the physical and biochemical methods used to analyze them, and correlation of results with states of health and disease. A lab fee is charged. Minimum grade of C for CLS majors. Prerequisite: Permission of instructor. (Formerly CLS 462)

463 - Clinical Immunology (2+3)  
3 Credits  
Lecture/laboratory coverage of the structure and function of the human immune system and methods used to diagnose, prognose, and monitor its response in health and disease states. A lab fee is charged. Minimum grade of C for CLS majors. Prerequisite: Permission of the instructor. (Formerly CLS 463)

464 - Hematology and Hemostasis (4+4)  
5 Credits  
Lecture/laboratory coverage of human blood ontogeny, kinetics, pathophysiology, and methods used to diagnose, prognose, and monitor diseases of the blood, blood forming tissues, and disorders of hemostasis. A lab fee is charged. Minimum grade of C for CLS majors. Prerequisite: Permission of the instructor. (Formerly CLS 464)

467 - Diagnostic Microbiology (4+6)  
5 Credits  
Lecture/laboratory coverage of microbes of medical interest, emphasizing application of conventional methods and emerging technologies to isolate, identify, and detect antimicrobial susceptibility of bacteria, viruses, fungi, and parasites associated with human disease. A lab fee is charged. Minimum grade of C for CLS majors. Prerequisite: Permission of the instructor. (Formerly CLS 467)

481 - Internship Program  
16 Credits  
Experience enables the student to experience working with scientists in a professional workplace. Seniors only. Graded S/U.
482 - INTERNSHIP IN ENVIRONMENTAL STUDIES
16 Credits
Experience working with scientists in a professional workplace. ETS Major Field Test in Biology is required with a special fee being assessed. Prerequisites: ENVR major and senior status.

483 - FORENSIC BIOLOGY INTERNSHIP
8 Credits
Capstone experience in government and private forensic laboratories. Prerequisites: FRBI major and senior standing. ETS Major Field Test in Biology (ETS) required. A special fee is assessed.

489 - SPECIAL TOPICS IN BIOLOGICAL SCIENCES
1 to 4 Credits
Disciplines such as mammalogy and plant taxonomy. May be repeated for credit as topic varies.

490 - BIOLOGY SENIOR SEMINAR
1 Credit
Library research topic with a written paper and oral presentation, and a biology comprehensive examination. Major Field Test in Biology (ETS) is required. A special fee is assessed.

494 - BIOL, MBIO, ENVR, FRBI and CLS majors.

Subject - Clinical Laboratory Science (CLS)

460 - FOUNDATIONS OF CLINICAL LABORATORY SCIENCE
3 Credits
Lecture/laboratory coverage of the professional practices, including safety, regulatory issues, phlebotomy and specimen collection, handling, and processing, quality assurance, professionalism and ethics. Lab fee charged. Prerequisite: Admission to CLS program.

461 - PROFESSIONAL PRACTICE AND DEVELOPMENT (WEB-BASED)
3 Credits
Web-based, interactive coverage of clinical laboratory management including organizational structure, laboratory operations, leadership, team building, legal issues, interpersonal and interdisciplinary communication, resources management, career development and education methodology. Prerequisite: Admission to the CLS program.

465 - BLOOD BANKING AND TRANSFUSION SCIENCE
5 Credits
Lecture/laboratory coverage of blood groups biochemistry, genetics, and immunology, and discipline specific practices including donor selection, component preparation, detection and identification of antibodies, and compatibility testing. Lab fee charged. Prerequisite: Permission of the instructor.

466 - CLINICAL CHEMISTRY
4 Credits
Lecture/laboratory coverage of analytical principles, techniques, and applications of tests to diagnose, assess, and manage health and disease states. Lab fee charged. Prerequisite: Permission of the instructor.

468 - CLINICAL LABORATORY PRACTICUM ORIENTATION
2 Credits
Practical experience emphasizing policies and procedures governing operations including safety, specimen collection and phlebotomy, resource management, communications and information systems. Lab fee charged. Enrollment restricted to CLS majors. Graded S/U. Prerequisites: CLS 460 and CLS 461.

469 - CLINICAL HEMATOLOGY PRACTICUM
6 Credits
Practical experience emphasizing application of knowledge and skills to perform a wide variety of testing in a clinical setting, and further develop discipline-specific competency. Enrollment restricted to CLS majors. A lab fee is charged. Prerequisite: BIOL 464.
470 - BLOOD BANK PRACTICUM
6 Credits
Practical experience emphasizing application of knowledge and skills to perform a wide variety of testing in a clinical setting, implement therapy protocols, and further develop discipline-specific competency. Lab fee charged. Enrollment restricted to CLS majors. Prerequisite: CLS 465.

471 - CLINICAL CHEMISTRY PRACTICUM
6 Credits
Practical experience emphasizing application of knowledge and skills to perform a wide variety of testing in a clinical setting and further develop discipline-specific competency. Lab fee charged. Enrollment is restricted to CLS majors. Prerequisite: CLS 466.

472 - CLINICAL MICROBIOLOGY PRACTICUM
6 Credits
Practical experience emphasizing application of knowledge and skills in a clinical setting to perform a wide variety of testing and to further develop discipline-specific competency. Lab fee is charged. Enrollment is restricted to CLS majors. Prerequisite: BIOL 467.

473 - IMMUNOLOGY AND INFECTIOUS DISEASES PRACTICUM
3 Credits
Practical experience emphasizing application of knowledge and skills in a clinical setting to perform a wide variety of testing and to further develop discipline-specific competency. Lab fee is charged. Enrollment is restricted to CLS majors. Prerequisite: BIOL 463.

474 - CASE STUDIES IN CLINICAL LABORATORY SCIENCE (WEB-BASED)
1 Credit
Development and presentation of selected clinical cases. Enrollment is restricted to CLS majors. Graded S/U. Prerequisite: CLS 460 and CLS 461.

490 - SPECIAL TOPICS IN CLINICAL LABORATORY SCIENCES
1 to 3 Credits
Exploration of current topics in the field of laboratory medicine culminating in a written manuscript suitable for publication in a discipline-specific journal. The course may be repeated to appreciate various topical prospects. Enrollment is restricted to CLS majors.

Subject - Geology (GEOL)

280 - GEOLOGY
4 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 to 4 Credits
May be repeated for credit up to a total of 8 hours as the topic varies.

297 - INDEPENDENT STUDY IN GEOLOGY
1 to 3 Credits
Independent study in geology. Prerequisite: GEOL 280 or permission of instructor. Graded S/U.

Subject - Nursing (NURS)

110 - PRINCIPLES AND CONCEPTS OF HUMAN BIOLOGY
4 Credits
An exploration of the general principles that explain how organisms function. Key biochemical and cellular concepts and principles will be examined that lead to an understanding of the basis of genetic concepts and the anatomy and physiology of human organ systems. Enrollment is restricted to Nursing majors.

118 - AHA BASIC LIFE SUPPORT FOR HEALTHCARE PROVIDERS
1 Credit
Preparation of healthcare professionals to recognize several life-threatening emergencies and to provide cardiopulmonary resuscitation (CPR), use an automated external defibrillator (AED), and relieve choking in a safe, timely, and effective manner. Adult, child, and infant rescue skills in both the out-of-hospital and in-hospital settings. Graded S/U. Enrollment is restricted to Nursing majors.

131 - INTRODUCTION TO NURSING HEALTH PRACTICES
1 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 is restricted to Nursing majors.
141 - FOUNDATIONS OF THE DISCIPLINE AND SCIENCE
2 Credits
Students are introduced to 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 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.

202 - PHYSICAL ASSESSMENT (2+3+4)
4 Credits
Aspects of routine well-adult health assessment and physical examination are presented and demonstrated. Nursing techniques of inspection, palpitation, percussion and auscultation are demonstrated and practiced. Emphasis is placed on differentiating normal from abnormal findings. Therapeutic communication techniques and caring behaviors are integrated with assessment skills. Enrollment is restricted to Nursing majors. A lab fee is charged. Formerly NURS 241. Prerequisites: C or better in BIOL 110, CHEM 135 and CHEM 136. Co-requisite: BIOL 231.

211 - FUNDAMENTALS OF NURSING PRACTICE (2+3+4)
4 Credits
Foundation of 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 care in selected settings. Application of the nursing process for beginning clinical practice will be emphasized. Enrollment restricted to Nursing majors. A lab fee is charged. Prerequisites: C or better in NURS 202. Co-requisites: BIOL 215 and BIOL 232.

221 – PATHOPHYSIOLOGY (4+4+0)
4 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, hemato logic, cardiovascular, respiratory, endocrine, gastrointestinal, reproductive, skeletal, integumentary and special senses. Enrollment is restricted to Nursing majors. Prerequisites: BIOL 215, 231, 232 and NURS 211. Co-requisite: NURS 251.

251 - PHARMACOLOGY FOR THE ALLIED HEALTH SCIENCES (3+3+0)
4 Credits
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. A lab fee is charged. Prerequisites: C or better in BIOL 215 and 232; and NURS 211. Co-requisites: NURS 221 and 295.

295 - SERVICE LEARNING SEMINAR
1 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. Co-requisites: NURS 251 and NURS 221.

301 - FOUNDATIONS OF THE DISCIPLINE AND SCIENCE FOR THE REGISTERED NURSE
2 Credits
Historical, philosophical, theoretical and social influences on the science and professional practice of nursing. Introduces the conceptual framework of the nursing curriculum. Enrollment restricted to RN-BSN Completion Students. Co-requisite: NURS 302. (Formerly NURS 500 and NURS 142)
302 - PHYSICAL ASSESSMENT FOR THE REGISTERED NURSE
4 Credits
Aspects of routine well-adult health assessment and physical examination are presented and demonstrated for the registered nurse student. Nursing techniques of inspection, palpitation, percussion and auscultation are demonstrated and practiced. Emphasis is placed on differentiating normal from abnormal findings. Therapeutic communication techniques and caring behaviors are integrated with assessment skills. Enrollment restricted to RN-BSN Completion students to test-out. Co-requisite: NURS 301. (Formerly NURS 242)

303 - TRANSCULTURAL HEALTH CARE
4 Credits
To broaden an understanding and perspective of health and illness of differing sociocultural populations. Transcultural health care will introduce cultural influences which affect an individual’s attitude toward institutional health care and the use therefore, and will identify culturally competent nursing interventions for the professional nursing student. Examines culturally based beliefs and values, preventive and therapeutic health practices and caring behaviors in diverse cultural and ethnic groups. Classroom and experimental activities address cultural assessment, awareness, and competence. Enrollment is restricted to Nursing majors. Formerly NURS 323. Prerequisite: C or better in NURS 141. Co-requisite: NURS 322.

306 - TRANSCULTURAL HEALTH CARE FOR THE REGISTERED NURSE
4 Credits
Designed to build upon the Registered Nurse’s understanding of health beliefs, attitudes, values and practices in relation to health, illness, and health-seeking behaviors of culturally diverse individuals/groups. Cultural assessment will focus on tools, methods, nursing care adaptations. Applies the nursing process to clients with respect for diversity and individual differences. Critical analysis of issues, and trends in international health are discussed. Enrollment restricted to RN-BSN Completion students. Prerequisites: C or better in NURS 301 and NURS 302. Co-requisite: NURS 322.

310 - MEDICAL / SURGICAL NURSING 1 (3+3+8)
6 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. The nurse in primary care, health adaptation, teaching-learning and therapeutic communication are emphasized. Nurse evidence-based practice is integrated into the clinical experience. A lab fee is charged. Enrollment is restricted to Nursing majors. Prerequisites: C or better in NURS 221 and NURS 251. Co-requisites: STAT 156 and NURS 303.

320 - MEDICAL/SURGICAL 2 (3+0+8)
5 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 patients. A lab fee is charged. Enrollment restricted to Nursing majors. Minimum grade of C required. Prerequisite: NURS 303 and NURS 310. Co-requisites: NURS 324 and NURS 335.

322 - PATHOLOGICAL CONCEPTS FOR THE REGISTERED NURSE
4 Credits
Review and further exploration of the basis of human diseases and disorders and the interaction of environmental, biological, behavioral and pharmacological consequences to the disease process. The application of previous nursing knowledge, medical and nursing diagnoses, and interventions will be applied to current and emerging knowledge. Emphasis is placed 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 restricted to RN-BSN Completion students. Prerequisites: NURS 301 and NURS 302. Co-requisite: NURS 306. (Formerly NURS 222)

324 - MENTAL HEALTH NURSING (3+0+8)
5 Credits
The acquisition and application of new knowledge of mental health nursing. The use of the nursing process with children, adolescents, adults and families experiencing alternations in mental health. Opportunities 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 restricted to
Nursing majors. Formerly NURS 300. Prerequisites: NURS 303 and NURS 310 with a grade of C or better in each course. Co-requisites: NURS 320 and NURS 335.

335 - NURSING RESEARCH PROCESS AND INFORMATICS
3 Credits
Historical developments and methodologies of nursing research as it relates to nursing practice. Development of an understanding of the research process and research proposals. 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 restricted to Nursing majors. Prerequisites: NURS 303, NURS 310 and STAT 156. Co-requisites: NURS 320 and NURS 324. (Formerly NURS 395)

340 - NURSING CARE OF THE CHILD AND FAMILY (3+0+8)
5 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. A lab fee is charged. Enrollment restricted to Nursing majors. Minimum grade of C. Prerequisites: NURS 320, NURS 324 and NURS 335. Co-requisite: NURS 345.

345 - OBSTETRICAL NURSING (3+0+8)
5 Credits
Lecture and clinical focuses on 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 is placed on women's health issues, gynecological problems, genetic disorders and birth defects. Enrollment restricted to Nursing majors. A lab fee is charged. Prerequisites: C or better in NURS 320, NURS 324, and NURS 335. Co-requisite: NURS 340. (Formerly NURS 420)

350 - LEADERSHIP AND MANAGEMENT IN NURSING CARE FOR THE REGISTERED NURSE
4 Credits
For the professional practice nurse and focuses on leadership and management theory/principles related to contemporary nursing trends and emphasizes practice applications. Emphasis will be placed on the coordination of nursing services and care management in relation to client/patient care, peers, superiors, or subordinates. Enrollment is restricted to RN-BSN Completion students. (Formerly NURS 520 and NURS 471) Prerequisites: NURS 306 and 322.

390 - SPECIAL TOPICS IN NURSING
1 to 4 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 320.

410 - COMMUNITY HEALTH NURSING (3+0+8)
5 Credits
Nursing care and public health principles for families and communities. Epidemiology, health promotion and prevention strategies and interventions are presented. Health promotion (primary, secondary, and tertiary prevention) are emphasized along with emerging community health issues and nursing interventions. A lab fee is charged. Enrollment is restricted to Nursing majors. Prerequisites: NURS 340 and NURS 345. Co-requisite: NURS 430.

425 - COMMUNITY HEALTH NURSING FOR THE REGISTERED NURSE (3.5+0+3.5)
5 Credits
Apply previous nursing knowledge and practice to individuals, families, groups and the practice setting of the community to promote optimal health behaviors. Review nursing care and current public health theories and principles as they relate to families, groups, and communities. Nursing process in public health nursing practice and common health problems encountered in community health nursing are studied. Enrollment restricted to RN-BSN Completion students. Prerequisite: NURS 350. Formerly NURS 410.

430 - OLDER ADULT NURSING (2+0+8)
4 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. A lab fee is charged. Enrollment restricted to Nursing majors. Prerequisites: A grade of C or better in NURS 340 and NURS 345. Co-requisite: NURS 410.
**440 - MEDICAL/SURGICAL NURSING 3**  
(3+3+8)  
6 Credits  
Built upon fundamental concepts in Medical Surgical Nursing 1 and 2. Emphasis on new knowledge and clinical skills for individuals and their family members with alternations 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. Prerequisites: C or better in NURS 410 and NURS 430. (Formerly NURS 330)

**470 - LEADERSHIP AND MANAGEMENT IN NURSING (2+0+4)**  
3 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: A grade of C or better in NURS 410 and NURS 430. Co-requisite: NURS 470.

**475 - NURSING RESEARCH AND INFORMATICS FOR THE REGISTERED NURSE**  
4 Credits  
Major components of the research process are addressed with a focus on the professional nurse as a consumer of research. Critical thinking skills are emphasized in the analysis of current nursing research. Historical developments and the methodologies of nursing research; and study findings as it relates to patient evaluation and care. Emphasizes on developing an understanding of the research process and research proposals. The interpretation of research reports and critiquing research literature to support evidence-based nursing practice. Explore and examine computer technology, basic information systems, and the use of cyber technology as it relates to a variety of health care environments and nursing practice. Further discussion regarding the impact of these technologies on nursing clinical practice, nursing administration, education and research will be examined. Enrollment restricted to RN-BSN Completion students. Prerequisites: C or better in NURS 425 and STAT 156.

**490 - SPECIAL TOPICS IN NURSING**  
1 to 4 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 440.

**498 - TRANSITION TO PROFESSIONAL PRACTICE: CLINICAL CAPSTONE (2+0+24)**  
8 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: C or better in NURS 440 and NURS 470.

**499 - TRANSITION TO PROFESSIONAL PRACTICE FOR REGISTERED NURSES: CLINICAL CAPSTONE (3.5+0+10.5)**  
7 Credits  
Integration of theory and practice as in the approach to completion of the nursing major. A clinical area will be selected to carry out nursing activities that promote health potential. Assist in the decision-making process about delivery of nursing care based on a thorough assessment, analysis and exploration of potential consequences while utilizing therapeutic communication. Enhance skills needed to continue with professional role development. Clinical experiences are based on objectives developed with RN preceptor and faculty and may be chosen from a variety of settings. Enrollment is restricted to RN-BSN Completion students. Prerequisite: C or better in NURS 475.
DEPARTMENT OF CHEMISTRY
AND BIOCHEMISTRY

Professors Canagaratna, Gray (Chair), Lamb, Peterson, Sadurski; Associate Professors Bates, Broekemeier, B. Myers; Assistant Professors Bowers, Celius, Zimmerman; Introductory Laboratory Coordinator Duliba; 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
Basic Major Students may select either a B.A. or a B.S. degree. The following core courses are required for the basic major: CHEM 000, 181, 182, 183, 200, 261, 262, 263, 271, 300, 341, 342, 343, 351, and 494. In addition, CHEM 304 and 324 are required. The following cognates are required: MATH 163, 164, 165; PHYS 231, 232, 233, 234, 235, 236; and a department approved computer science course.

American Chemical Society Certified Chemistry Major
Students may either select a B.A. or B.S. degree. The required courses include all of the courses required for the basic major (including all cognates) plus CHEM 311, 451, 462, and a minimum of 5 credit hours from among the following: CHEM 474, 473, 481, 482, 483, and approved upper level mathematics and physics courses.

American Chemical Society Certified Biochemistry Major
The required courses include all of the core courses required for the basic major (including all cognates) plus CHEM 311, 312, 314, 315, 324, 411, 414, and 415. Additional requirements are BIOL 121, 122, 123, and two courses from BIOL 210, 311, 351, 451 and PHBS 375.

Medicinal Chemistry Major
The required courses include all of the courses required for the basic major (including all cognates) plus CHEM 311, BIOL 121, 122, (123 or 124), and 231; PHBS 381 or BIOL 351; and PHBS 443. The Seminar Topic for CHEM 494 should include an element of Drug Design/Structure Activity Relationships.

Modified Chemistry Major
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. All modified programs include CHEM 000, 181, 182, 183, 261, 262, 263, 494 plus three courses from among 304, 311, 324, 337, 341, 342, 343, and 351. In addition 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 341 and 342 may be substituted for CHEM 311. Two of the following cognates must also be taken: PHYS 211, 212, 213, or 231, 232, 233 with related laboratories; BIOL 121, 122, 123; three mathematics courses at the level of 120 or above.

Minor in Chemistry
Students wishing to obtain a minor in chemistry should complete these courses: CHEM 171, 172, 173 or 181, 182, 183 or 225, 226 plus sufficient additional courses to achieve 33 credit hours in chemistry. These additional courses will be chosen from among CHEM 251, 252, 253, 261, 262, 263, 304, 312, 324, 337, 339, 341, 342, 343, 351, 363.

Minor in Biochemistry
Students wishing to obtain a minor in biochemistry should complete these courses: CHEM 171, 172, 173 or 181, 182, 183 and 251, 252, 253, 261, 262, 263 and 311 (or PHBS 341), 312 (or PHBS 342), 314, 315, and 414.

Subject - Chemistry (CHEM)

000 - ORIENTATION (1+0)

1 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 (4+0)

4 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 only one of the following courses: CHEM 100, CHEM 135, CHEM 171, CHEM 181 or CHEM 225.
102 - PHYSICAL AND EARTH SCIENCES- EARLY & MIDDLE CHILDHOOD MAJORS (4+1)
4 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 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 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 171 or 225.

115 - ENVIRONMENTAL CHEMISTRY (4+0)
4 Credits
Chemical aspects of the natural and polluted environment. Particular emphasis on air and water pollution. Prerequisite: CHEM 100 or 171 or 225. Offered alternate years.

135 - CHEMISTRY 1 - CONCEPTS AND APPLICATIONS FOR HEALTH TECHNOLOGIES (3+3)
4 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. Credit may be received for only one of the following courses: CHEM 100, CHEM 135, CHEM 171, CHEM 181 or CHEM 225. Prerequisite: None; high school chemistry recommended. Enrollment restricted to nursing and pharmaceutical business majors.

136 - CHEMISTRY 2 - CONCEPTS AND APPLICATIONS FOR HEALTH TECHNOLOGIES (3+3)
4 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. Prerequisites: CHEM 135 or 171, 172 and 173. Enrollment restricted to nursing and pharmaceutical business majors.

171 - INTRODUCTORY CHEMISTRY 1 (4+3)
5 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 only one of the following courses CHEM 100, CHEM 135, CHEM 171, or CHEM 181. Prerequisite: High school chemistry or equivalent or CHEM 108.

172 - INTRODUCTORY CHEMISTRY 2 (4+3)
5 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 or 181. Credit may be received for either CHEM 172 or CHEM 182 but not for both.

173 - INTRODUCTORY CHEMISTRY 3 (4+3)
5 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 or CHEM 182. Credit may be received for either CHEM 173 or CHEM 183 but not for both.

181 - INTRODUCTORY CHEMISTRY FOR MAJORS 1 (4+3)
5 Credits
Lecture and laboratory parallels CHEM 171.

182 - INTRODUCTORY CHEMISTRY FOR MAJORS 2 (4+3)
5 Credits
Lecture and laboratory parallels CHEM 172. Prerequisite: CHEM 181.
### 183 - INTRODUCTORY CHEMISTRY FOR MAJORS 3 (4+3)
5 Credits
Lecture and laboratory parallels CHEM 173. Prerequisite: CHEM 182.

### 190 - SPECIAL TOPICS IN CHEMISTRY
1 to 3 Credits
Can be repeated as topic varies. Graded S/U.

### 200 - INTRODUCTION TO CHEMICAL RESEARCH (1+0)
0 Credit
Methods and objectives of chemical research. Undergraduate research opportunities in the department. Science literature search engines. Summer research opportunities at other institutions. Graded S/U. Prerequisite: Sophomore standing or approval of department chair.

### 225 - CHEMISTRY CONCEPTS AND APPLICATIONS 1 (4+0)
4 Credits
Chemistry for engineering students. Basic chemical theories applied to practical situations. Credit may be received for only one of the following courses: CHEM 100, CHEM 135, CHEM 171, CHEM 181 or CHEM 225. Prerequisites: High school chemistry or CHEM 108; MATH 159 or 164; PHYS 231, 232, 234, 235 or equivalent of the above or approval of the department chair. (Formerly CHEM 162)

### 226 - CHEMISTRY CONCEPTS AND APPLICATIONS 2 (3+3)
4 Credits
Continuation of CHEM 225. Laboratory reinforces the lecture program. Prerequisite: CHEM 225. (Formerly CHEM 163)

### 251 - ORGANIC CHEMISTRY 1 (3+0)
4 Credits
The structural bonding, acidity, functional groups, configurational aspects, conformations, stereochemistry, nomenclature, fundamental reactions/mechanisms (SN1, SN2, E1, E2) of organic chemistry, and the synthesis and reactivity of alkenes and alkynes. Credit may be received for CHEM 251 or 261, but not both. Prerequisite: CHEM 173 or 183. Co-requisite: CHEM 254.

### 252 - ORGANIC CHEMISTRY 2 (3+0)
4 Credits
Structure determination using IR, NMR, and MS spectroscopy, radical reactions, synthesis and reactions of alcohols, Grignard and related organometallic reagents, aromaticity and electrophilic aromatic chemistry. Introduction to carbonyl chemistry. Credit may be received for CHEM 252 or 262, but not both. Prerequisite: CHEM 251 or 261. Co-requisite: CHEM 255.

### 253 - ORGANIC CHEMISTRY 3 (3+0)
4 Credits
Carbonyl chemistry including aldol and 1,3-dicarboxyl enolate reactions, synthesis and reactions of amines, heterocyclic chemistry, nucleophilic aromatic substitution, the structure and chemistry of carbohydrates, and amino acids including basic protein structure. Credit may be received for CHEM 253 or 263, but not both. Prerequisite: CHEM 252 or 262. Co-requisite: CHEM 256.

### 254 - LAB FOR ORGANIC CHEMISTRY 1 (0+3)
0 Credit
Basic laboratory techniques used for synthesis, isolation, purification, and analysis of organic compounds are studied in the course. Some functional group interconversion, substitution, and elimination processes are introduced. The lab experiments are designed to illustrate practical implementation of the theories and concepts learned in lecture. Co-requisite: CHEM 251.

### 255 - LAB FOR ORGANIC CHEMISTRY 2 (0+3)
0 Credit
Structure analysis using spectroscopy, free radical reactions, cycloaddition, electrophilic aromatic substitution, and other reactions relevant to the lecture material are explored. Co-requisite: CHEM 252.

### 256 - LAB FOR ORGANIC CHEMISTRY 3 (0+3)
0 Credit
The reactivity of phenols, enolates, amines, and carboxylic acid derivatives is investigated. The structure of carbohydrates, and representative multiple-step organic syntheses of relevant pharmaceutical agents are explored. Co-requisite: CHEM 253.

### 261 - ORGANIC CHEMISTRY 1 - MAJORS (3+0)
4 Credits
Same as Chemistry 251. Credit may be received for CHEM 251 or CHEM 261 but not for both. Prerequisite: CHEM 173 or CHEM 183. Co-requisite: CHEM 264.

### 262 - ORGANIC CHEMISTRY 2 - MAJORS (3+0)
4 Credits
Same as Chemistry 252. Credit may be received for CHEM 252 or CHEM 262 but not for both. Prerequisites: CHEM 251 or CHEM 261. Co-requisite: CHEM 265.

### 263 - ORGANIC CHEMISTRY 3 - MAJORS (3+0)
5 Credits
Same as Chemistry 253. Credit may be received for CHEM 253 or CHEM 263, but not for both. Prerequisite: CHEM 252 or 262. Co-requisite: CHEM 266.
264 - LAB FOR ORGANIC CHEMISTRY 1 - MAJORS (0+3)
0 Credit
Same as CHEM 254. Co-requisite: CHEM 261.

265 - LAB FOR ORGANIC CHEMISTRY 2 - MAJORS (0+3)
0 Credit
Same as CHEM 255. Co-requisite: CHEM 262.

266 - LAB FOR ORGANIC CHEMISTRY 3 - MAJORS (0+6)
0 Credit
Grignard and multiple step synthesis are introduced. Use of the chemical literature. Routine acquisition of NMR, IR, MS spectra and other physical data are used for structure elucidation of unknown organic compounds. In-depth coverage of two-dimensional NMR, IR, UV, and MS spectroscopy is completed. Co-requisite: CHEM 263.

271 - CHEMICAL APPLICATIONS OF MATHEMATICS (4+0)
4 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 173 or 183 or equivalent; and MATH 165.

290 - SPECIAL TOPICS IN CHEMISTRY
1 to 4 Credits
Can be repeated as the topic varies.

297 - INDEPENDENT STUDY IN CHEMISTRY
1 to 4 Credits
Can be repeated for a maximum of 6 credit hours. Prerequisite: Approval of the department chair.

300 - PREPARING FOR CAREERS IN CHEMISTRY AND BIOCHEMISTRY (2+0)
1 Credit

304 - ORGANIC SYNTHESIS (2+6)
4 Credits
Retrosynthetic analysis, functional group transformations, asymmetric synthesis, organometallic chemistry. Laboratory involves multistep synthesis utilizing techniques to work with air and water sensitive materials, standard purification techniques, and organic product characterization. Prerequisite: CHEM 263.

311 - CHEMISTRY OF BIOLOGICAL MOLECULES (4+0)
4 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, enzymes, isolation and characterization techniques and an introduction to the design and regulation of metabolic pathways. Optional associated laboratory: CHEM 314. Prerequisites: CHEM 253 or 263.

312 - CHEMISTRY OF METABOLISM (4+0)
4 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. Optional associated laboratory: CHEM 315. Prerequisite: CHEM 311.

314 - CHARACTERIZATION OF MACROMOLECULES (0+3)
1 Credit
Structure and physical properties of proteins, carbohydrates, and lipids. Enzyme characterization and kinetics. Course is supported by CHEM 311. Prerequisites: CHEM 311 or PHBS 341.

315 - BEHAVIOR OF MACROMOLECULES (0+3)
1 Credit
Characterization of macromolecule interaction and behavior. Methods of DNA analysis. Course is supported by CHEM 312. Prerequisites: CHEM 312 or PHBS 342 and CHEM 314.

324 - INTERMEDIATE INORGANIC CHEMISTRY (3+3)
4 Credits
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 department chair.

337 - ELEMENTS OF PHYSICAL CHEMISTRY (4+0)
4 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 173 or 226. Offered alternate years.

339 - CHEMICAL INTERACTIONS IN ENVIRONMENTAL SYSTEMS (4+0)
4 Credits
Chemical interactions in the natural environment, including the effects of man’s activities on the dynamics, thermodynamics and kinetics of atmospheric, hydropheric and lithospheric chemical systems. Taught in alternate years. Prerequisites: CHEM 226, 253 or 263.
341 - PHYSICAL CHEMISTRY 1 (3+3)
4 Credits
Classical thermodynamics. Laboratory illustrates principles and applications. Knowledge of computer programming recommended. Prerequisites: CHEM 271 or MATH 263, 272 and 275; and PHYS 231, 232, and 233 with related laboratories.

342 - PHYSICAL CHEMISTRY 2 (3+3)
4 Credits
Quantum mechanics. Laboratory illustrates applications in spectroscopy. Knowledge of elementary differential equations recommended. Prerequisite: CHEM 341.

343 - PHYSICAL CHEMISTRY 3 (3+3)
4 Credits
Statistical thermodynamics, kinetic molecular theory and chemical kinetics. Laboratory illustrates principles and applications. Prerequisite: CHEM 342.

351 - INTERMEDIATE QUANTITATIVE ANALYSIS (2+6)
4 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 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 226 or 253 or 263. Offered alternate years.

390 - SPECIAL TOPICS IN CHEMISTRY
1 to 4 Credits
Can be repeated as the topic varies.

411 - ADVANCED TOPICS IN BIOCHEMISTRY (3+0)
3 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 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 Credits
Protein, nucleic acid, lipid and carbohydrate isolation and characterization. Prerequisite: CHEM 414.

451 - ADVANCED INORGANIC CHEMISTRY (3+3)
4 Credits
Theory, bonding, spectroscopy, reaction mechanisms and organometallic compounds. Laboratory involves advanced methods of synthesis and characterization. Prerequisites: CHEM 324 and 343 or approval of the department chair.

462 - ADVANCED ANALYTICAL CHEMISTRY (3+3)
4 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 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 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 Credits
Prerequisites: CHEM 300 and approval of the department chair.

482 - SENIOR RESEARCH 2
2 Credits
Prerequisites: CHEM 481 and approval of the department chair.

483 - SENIOR RESEARCH 3
2 Credits
Prerequisites: CHEM 482 and approval of the department chair.

490 - SPECIAL TOPICS IN CHEMISTRY
1 to 4 Credits
Can be repeated as the topic varies.

494 - SEMINAR IN CHEMISTRY (1+0)
1 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 to 4 Credits
Can be repeated for a maximum of 6 credit hours. Prerequisite: CHEM 300 and approval of the department chair.
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:
- Organizational Communication
- Theatre
- Public Relations
- Broadcasting and Electronic Media

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, entrepreneurship, 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:
- 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. The National Communication Association Student Club allows students an opportunity to interact with professionals and provide service to the campus community.

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 Organizational Communication Concentration (70 hours)

I. Concentration Requirements: (58 hours)
COMM 211  Public Speaking
COMM 212  Business and Prof. Speaking
COMM 221  Interviewing
COMM 225  Interpersonal Communication
COMM 321  Group Communication
COMM 325  Communication Theory
COMM 335  Internship
COMM 345  Organizational Communication
COMM 440  Comm. and Conflict Mgmt.
COMM 445  Issues in Professional Comm.
COMM 495  Organizational Communication Capstone
ABUS 201  PC Applications
MGMT 333  Management and Org. Behav.
MRKT 351  Principles of Marketing

One of the following courses in Writing:
COMM 236  Public Relations Writing
COMM 256  Writing for Broadcasting and Electronic Media
ENGL 241  News Writing
ENGL 243  Magazine Writing
ENGL 343  Persuasive Writing
ENGL 347  Advanced Writing

II. Concentration Electives (12 hrs)
Choose two courses:
COMM 130  Intro. to Public Relations
COMM 150  Intro. to Broadcasting and Electronic Media
COMM 240  Parliamentary Procedure
COMM 311  Argumentation and Persuasive Speaking
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

Organizational Communication Minor (32 hours)

I. Minor Requirements (28 hours)
COMM 211  Public Speaking*
COMM 212  Business and Prof. Speaking
COMM 225  Interpersonal Communication*
COMM 325  Communication Theory
COMM 335  Internship
COMM 345  Organizational Communication
COMM 445  Issues in Prof. Communication
*Whichever was not taken to meet general education requirement

II. Minor Electives (8 hours)
COMM 221  Interviewing
COMM 240  Parliamentary Procedure
COMM 311  Argumentation and Persuasive Speaking
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 (28 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

II. Concentration Electives (24 hours)
Choose four courses:
COMM 211 Public Speaking***
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
MKT 351 Principles of Marketing
MGT 363 Human Resource Management
MGT 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)
A. Twelve (12) Hours From the Following:
COMM 355 Broadcast Journalism
COMM 357 Introduction to DVD Design
COMM 451 Beginning Digital Editing
COMM 452 Broadcast Sales and Promotions
COMM 454 Corporate Audio and Video Production
COMM 455 Broadcasting and Electronic Media Management
COMM 456 Advanced Digital Editing

B. Eight (8) Hours From the Following:
COMM 130 Introduction to Public Relations
COMM 211 Public Speaking* or COMM 225 Interpersonal Communication*
COMM 212 Business and Professional Speaking
COMM 221 Interviewing
COMM 260 Acting
MKT 351 Principles of Marketing
ENGL 371 Journalism
ART 222 Graphic Design 1

*Whichever was not taken to meet general education requirement

COMMUNICATION ARTS
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 (2 hrs.)
COMM 259  B and EM Practicum: Video (2 hrs.)
COMM 351  Audio/Video Production
COMM 453  Mass Media & Society

Eight (8) hours from the following:
COMM 355  Broadcast Journalism
COMM 357  Introduction of DVD Design
COMM 451  Beginning Digital Editing
COMM 452  Broadcast Sales and Promotions
COMM 454  Corporate Audio and Video Production
COMM 455  Broadcasting and Electronic Media Management
COMM 456  Advanced Digital Editing

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)
APMU 125  Individual Voice
APMU 225  Individual Voice
APMU 104  Class Piano for Non-Majors
or
APMU 105  Individual Piano for Non-Majors
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
*Only 8 hours of Level 1 dance courses will count toward concentration requirements.

II. Concentration Cognates (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.

COMM 117  Ballet 1
COMM 118  Modern Dance 1
COMM 217  Ballet 2
COMM 218  Modern Dance 2
COMM 204  Dance Practicum
COMM 370  Dance History
COMM 470  Dance Composition*

Elective (6 cr. hrs.) of any Discipline: Dance excluding COMM 114, 204, 370 and 470
*Offered alternate years.

Communication Arts with International Theatre Production Concentration (75 hours)

I. Concentration Requirements (59 hours)
Theatre
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

Music (17 hours)
APMU 125  Individual Voice
APMU 225  Individual Voice
APMU 104  Class Piano for Non-Majors
or
APMU 105  Individual Piano for Non-Majors
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

II. Concentration Cognates (16 hours)
PLSC 107  International Studies and World Problems
TECH 120  Intro to Computer Aided Design
TECH 261  Fundamentals of Electricity and Electronics

Choose one course:
ACCT 211  Accounting 1
ABUS 312  Business Law 1
MRKT 351  Principles of Marketing
*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 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 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. (Discipline: Theatre)

114 - INTRODUCTION TO DANCE
2 Credits
The three forms of dance; ballet, jazz and tap are presented to develop the ability to learn basic components and vocabulary of each of these forms. May be repeated, but only 8 credit hours count toward graduation. Offered annually Fall Quarter. (Discipline: Theatre, Dance)

115 – BEGINNING TAP DANCE
2 Credits
Tap dancing, taught in a studio format, for the student with little or no experience in tap dancing. May be repeated, but only 8 credit hours count toward graduation. Offered annually Fall and Winter Quarters. (Discipline: Theatre, Dance)

116 – BEGINNING JAZZ DANCE
2 Credits
Jazz dancing taught in a studio format. For the student with little or no experience in jazz dancing. May be repeated, but only 8 credit hours count toward graduation. Offered annually Winter and Spring Quarters. (Discipline: Theatre, Dance)

117 – BEGINNING BALLET
2 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 hours will count toward graduation. (Discipline: Theatre, Dance)

118 – BEGINNING MODERN DANCE
2 Credits
Modern dance taught in the studio format. For the student with little or no experience in modern dance. May be repeated, but only 8 credit hours count toward graduation. (Discipline: Theatre, Dance)

130 - INTRODUCTION TO PUBLIC RELATIONS
4 Credits
The role, function, and responsibilities of the public relations practitioner within organizations. (Discipline: Public Relations)

150 - INTRODUCTION TO BROADCASTING AND ELECTRONIC MEDIA
4 Credits
A survey course that examines various aspects of broadcasting, cable, and the emerging electronic media. (Discipline: Broadcasting & Elec. Media)

190 - SPECIAL TOPICS IN COMMUNICATION ARTS
1 to 4 Credits
Course may be repeated as topics vary, but only 12 hours will count toward graduation.

203 - PUBLIC RELATIONS PRACTICUM
1 to 4 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 to 4 Credits
Participation in a collaborative studio 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 and non-minors, only 6 hours apply toward graduation. Prerequisite: Permission of the instructor. (Discipline: Theatre, Dance)

211 - PUBLIC SPEAKING
4 Credits
Basic principles of preparation, organization, and delivery of original informative and persuasive speeches. (Discipline: Organizational Communication)
212 - BUSINESS AND PROFESSIONAL SPEAKING
4 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: Organizational Communication)

215 – INTERMEDIATE/ADVANCED TAP DANCE
2 Credits
A studio tap dance class for the intermediate and advanced student. May be repeated, but only 8 credit hours count toward graduation. Offered annually Spring Quarter. (Discipline: Theatre, Dance)

216 – INTERMEDIATE/ADVANCED JAZZ DANCE
2 Credits
A studio jazz dance class for the intermediate and advanced student. May be repeated, but only 8 credit hours count toward graduation. Offered alternating years Spring Quarter. (Discipline: Theatre, Dance)

217 – INTERMEDIATE/ADVANCED BALLET
2 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. May be repeated, but only 8 credit hours count toward graduation. Offered annually Winter Quarter and alternating Spring Quarter. (Discipline: Theatre, Dance)

218 – INTERMEDIATE/ADVANCED MODERN DANCE
2 Credits
A modern dance studio class for the intermediate and advanced student. May be repeated, but only 8 credit hours count toward graduation. Offered annually Spring Quarter and alternating Winter Quarter. (Discipline: Theatre, Dance)

221 - INTERVIEWING
4 Credits
The basic principles and structures of interviewing are examined and applied to interview situations such as employment, performance/ appraisal, journalism, etc. (Discipline: Organizational Communication)

225 - INTERPERSONAL COMMUNICATION
4 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: Organizational Communication)

236 - PUBLIC RELATIONS WRITING
4 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 Credits
Methods of conducting formal meetings by parliamentary rules. (Discipline: Organizational Communication)

256 - WRITING FOR THE BROADCASTING AND ELECTRONIC MEDIA
4 Credits
A study of the principles and techniques of copywriting for radio and television, corporate audio/video productions and the electronic media. Prerequisite: COMM 150. (Discipline: Brdcstg. & Elec. Media)

257 - BROADCASTING AND ELECTRONIC MEDIA PRACTICUM
1 to 4 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 to 4 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 to 4 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)

276 - PRODUCTION PRACTICUM
1 to 4 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-international production, non-theatre and non-musical theatre concentrations, only 6 hours apply toward graduation. Prerequisite: Permission of the instructor. (Discipline: Theatre)

260 - ACTING 1
4 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)

277 - SHOP PRACTICUM
1 to 4 Credits
Participation in a collaborative laboratory experience working in the scene or costume shop for University productions. A repeatable course. For non-international production, non-theatre and non-musical theatre concentrations, only 6 hours apply toward graduation. Prerequisite: Permission of the instructor. (Discipline: Theatre)

261 - PERFORMANCE PRACTICUM
1 to 4 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-theatre or non-musical theatre concentrations, only 6 hours apply toward graduation. Prerequisite: Permission of the instructor. (Discipline: Theatre)

262 - STAGE COMBAT
2 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. Prerequisites: COMM 260 or permission of the instructor. Offered annually Winter Quarter. (Discipline: Theatre)

278 - MAKEUP
2 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 to 4 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-international production, non-theatre and non-musical theatre concentrations, only 6 hours apply toward graduation. Prerequisite: Permission of the Instructor. (Discipline: Theatre)

285 - STAGE MANAGEMENT
4 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 Winter Quarter. (Discipline: Theatre)

290 - SPECIAL TOPICS IN COMMUNICATION ARTS
1 to 4 Credits
Course may be repeated as topics vary, but only 12 hours will count toward graduation.
291 - WORLD THEATRE HISTORY 1
4 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 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 to 4 Credits
A topic in Communication Arts of particular interest to the Communication Arts student. Prerequisite: Permission of department.

300 - THEATRE SYMPOSIUM
1 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 - ARGUMENTATION AND PERSUASIVE SPEAKING
4 Credits
Emphasis on persuasive theory and techniques, employing critical thinking skills and developing skills in the art of crafting persuasive arguments. Prerequisite: COMM 211. (Discipline: Organizational Communication)

317 - BALLET POINTE
2 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 to a maximum of 8 credit hours toward graduation. Offered alternate years Spring Quarter. (Discipline: Theatre, Dance)

321 - GROUP COMMUNICATION
4 Credits
Group theory and problem solving methods are examined; course focuses on the process of analyzing problems to implementing solutions. Prerequisite: COMM 211. (Discipline: Organizational Communication)

325 – COMMUNICATION THEORY
4 Credits
In depth examination and application of communication theories about the nature and dynamics of human communication/interaction. Prerequisite COMM 211 or 225. (Discipline: Organizational Communication) Formerly COMM 230.

330 - PUBLICITY, MEDIA, AND CAMPAIGNS
4 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 to 16 Credits
A skills course blending classroom theory with practical experience through working in an outside organization. Approval of department required prior to registration for course. May be repeated to a maximum of 16 credit hours toward graduation. (Discipline: Public Relations, Brdcsstg. & Elec. Media, Theatre)

336 - ADVANCED PUBLIC RELATIONS WRITING
4 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 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: Organizational Communication and Theatre)
342 - PUBLIC RELATIONS RESEARCH FOR PLANNING AND EVALUATION
4 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 Credits
Major organization and communication theories and their practical applications for effective communication within organizations. Communication processes, various roles and relationships in organizations, leadership communication, ethics, and problematic communication situations. (Discipline: Organizational Communication)

348 - HEALTH COMMUNICATION
4 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: Organizational Communication)

351 - AUDIO/VIDEO PRODUCTION
4 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 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 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 major, and sophomore status. (Discipline: Theatre)

365 - MUSICAL THEATRE PERFORMANCE
4 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 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. Offered annually Fall Quarter. (Discipline: Theatre, Dance)

373 - ISSUES IN PUBLIC RELATIONS
1 to 4 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 Credits
The principle design elements of theatre including, but not limited to: Scenic, Lighting, Costume, Sound, Props and Advanced Technology. A repeatable course. Offered annually Winter and Spring Quarters. Prerequisites: COMM 274 and 275 or permission of the instructor. (Discipline: Theatre)

378 - DESIGN PRACTICUM
1 to 4 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-international production, non-theatre and non-musical concentrations, only 6 hours apply toward graduation. Prerequisite: COMM 375 and permission of the instructor. (Discipline: Theatre)

380 - ARTS ADMINISTRATION
4 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 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 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 to 4 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-international production, non-international production, non-theatre and non-musical theatre concentrations, only 6 hours apply toward graduation. Prerequisite: COMM 386 and permission of the instructor. (Discipline: Theatre)

390 - SPECIAL TOPICS IN COMMUNICATION ARTS
1 to 4 Credits
May be repeated as topics vary, but only 12 hours will count toward graduation.

391 - AMERICAN THEATRE HISTORY
4 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 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: Organizational Communication)

430 - PUBLIC RELATIONS CASE STUDIES
4 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 Credits
Communication in the creation and management of conflict, communication strategies and skills for managing conflict and emphasis on collaborative problem solving. (Discipline: Organizational Communication)

445 - ISSUES IN ORGANIZATIONAL COMMUNICATION
4 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: Organizational Communication)

451 - BEGINNNING DIGITAL EDITING
2 Credits
The technology and practice of digital editing, conversion of analog video and digital capture to a final assembly. Editing software, importing files, assembling, applying the transitions, adding titles, editing techniques and theory. Software from AVID Technology will be used, however other brands will be discussed. (Formerly COMM 356). Prerequisite: COMM 351 or permission of the instructor. (Discipline: Brdcst. & Elec. Media)

452 - BROADCAST SALES AND PROMOTIONS
4 Credits
Skills involved in selling broadcast time and station promotion. (Discipline: Brdcstg. & Elec. Media)

453 - MASS MEDIA AND SOCIETY
4 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 Credits

455 - BROADCASTING AND ELECTRONIC MEDIA MANAGEMENT
4 Credits
Sales, programming, marketing, and management techniques unique to the broadcast medium. Prerequisite: COMM 150. (Discipline: Brdcstg. & Elec. Media)

456 - ADVANCED DIGITAL EDITING
2 Credits
Develops proficiency in using the AVID™ editing system, creation of videos, Developing sophisticated editing skills, emphasis on editing aesthetics. Prerequisites: COMM 451 and junior or senior status. (Discipline: Brdcstg. & Elec. Media)

457 - BEM PRACTICUM: SENIOR CAPSTONE
1 to 4 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 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 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 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, Dance)

486 - PLAYWRITING
4 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 to 4 Credits
May be repeated as topics vary, but only 12 hours will count toward graduation.

495 - ORGANIZATIONAL COMMUNICATION CAPSTONE
2 Credits
A multi-component project completed during the senior year. Integration of skills and experiences acquired during study to complete the major, including a major project and portfolio. Offered Spring Quarter. Prerequisite: Permission of the advisor. (Discipline: Organizational Communication)

499 - INDEPENDENT STUDY IN COMMUNICATION ARTS
1 to 4 Credits
Prerequisite: Permission of department.
Conceptual Framework

TEACHING IS ENABLING. The enabling teacher is firmly grounded in knowledge of the learner, knowledge of content, 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.

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 program requirements listed herein are subject to the approval of the State Board of Education and the Ohio Department 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)

The courses in general education and professional education meet the College of Arts and Sciences course requirements for the Bachelor of Arts degree and approved state licensure course requirements for the Early Childhood license (PreK-3rd grade).

General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHPE</td>
<td>Fitness</td>
</tr>
<tr>
<td>AHPE</td>
<td>Life Skills</td>
</tr>
<tr>
<td>AHPE</td>
<td>Wellness</td>
</tr>
<tr>
<td>ART 100</td>
<td>Art</td>
</tr>
<tr>
<td>BIOL 103</td>
<td>Life and Earth Science -- Early &amp; Middle Childhood Majors</td>
</tr>
<tr>
<td>or BIOL 121</td>
<td>General Biology</td>
</tr>
<tr>
<td>or BIOL 201</td>
<td>Environment and Man</td>
</tr>
<tr>
<td>CHEM 102</td>
<td>Physical &amp; Earth Sciences -- Early &amp; Middle Childhood Majors</td>
</tr>
<tr>
<td>or GEOL 280</td>
<td>Geology</td>
</tr>
<tr>
<td>or PHYS 101</td>
<td>Physical and Earth Sciences -- Early &amp; Middle Childhood majors</td>
</tr>
<tr>
<td>or PHYS 252</td>
<td>Earth Science and Planetary Astronomy</td>
</tr>
<tr>
<td>COMM 225</td>
<td>Interpersonal Communication</td>
</tr>
<tr>
<td>ENGL 110</td>
<td>Writing 1</td>
</tr>
<tr>
<td>ENGL 111</td>
<td>Writing 2</td>
</tr>
<tr>
<td>ENGL 204</td>
<td>Great Works</td>
</tr>
<tr>
<td>GEOG 226</td>
<td>World Regional Geography</td>
</tr>
<tr>
<td>HIST 110</td>
<td>Western Civilization 1</td>
</tr>
<tr>
<td>HIST 111</td>
<td>Western Civilization 2</td>
</tr>
<tr>
<td>One additional Humanities Course</td>
<td></td>
</tr>
<tr>
<td>MATH 172</td>
<td>Fundamental Mathematics 1</td>
</tr>
<tr>
<td>MATH 173</td>
<td>Fundamental Mathematics 2</td>
</tr>
<tr>
<td>Three courses in one modern language (or equivalent)</td>
<td></td>
</tr>
<tr>
<td>MUSC 100</td>
<td>Music</td>
</tr>
<tr>
<td>Philosophy (one four-credit course as approved by Department of Philosophy and Religion)</td>
<td></td>
</tr>
<tr>
<td>PSYC 100</td>
<td>Psychology</td>
</tr>
<tr>
<td>PSYC 215</td>
<td>Developmental Psychology</td>
</tr>
<tr>
<td>Religion (one four-credit course as listed by Department of Philosophy &amp; Religion)</td>
<td></td>
</tr>
</tbody>
</table>

Professional Education Requirements

*Students must be admitted to the Teacher Education Program

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 195</td>
<td>Orientation (1 hour)</td>
</tr>
<tr>
<td>EDUC 115</td>
<td>Culture and Schooling (4 hours)</td>
</tr>
<tr>
<td>EDUC 150</td>
<td>Five-Day Field Experience 1 (0 hours)</td>
</tr>
<tr>
<td>EDUC 152</td>
<td>Five-Day Field Experience 2 (0 hours)</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>ECED 205</td>
<td>Children’s Literature in the Early Childhood Classroom</td>
</tr>
<tr>
<td>*EDUC 300</td>
<td>Foundations of Reading and Assessments</td>
</tr>
<tr>
<td>*ECED 240</td>
<td>Introduction to Early Childhood Education</td>
</tr>
<tr>
<td>*EDUC 223</td>
<td>Child Development and Psychology</td>
</tr>
<tr>
<td>*ECED 318</td>
<td>Educational Assessment for Early Childhood Education</td>
</tr>
<tr>
<td>*ECED 230</td>
<td>Early Childhood Mathematics</td>
</tr>
<tr>
<td>*ECED 242</td>
<td>Early Childhood Curriculum and Policies</td>
</tr>
<tr>
<td>*EDUC 312</td>
<td>Teaching Phonics</td>
</tr>
<tr>
<td>*EDUC 263</td>
<td>Educational Psychology</td>
</tr>
<tr>
<td>*ECED 305</td>
<td>Social Studies in Early Childhood Education</td>
</tr>
<tr>
<td>*EDUC 210</td>
<td>Exceptional Learner</td>
</tr>
<tr>
<td>*EDUC 322</td>
<td>Integrated Language Arts</td>
</tr>
<tr>
<td>*ECED 315</td>
<td>Teaching Science as Inquiry</td>
</tr>
<tr>
<td>*EDUC 342</td>
<td>Reading in the Content Area</td>
</tr>
<tr>
<td>EDUC 320</td>
<td>Instructional Media and Educational Technologies</td>
</tr>
<tr>
<td>*ECED 325</td>
<td>Classroom Guidance in Early Childhood Education</td>
</tr>
<tr>
<td>*EDUC 445</td>
<td>Organization and Administration of Schools in Society</td>
</tr>
<tr>
<td>*ECED 335</td>
<td>Visual Arts in Early Childhood Education</td>
</tr>
<tr>
<td>*ECED 345</td>
<td>Family, School, and Community Partnerships</td>
</tr>
<tr>
<td>*EDUC 400</td>
<td>Assessment of Reading Instruction</td>
</tr>
<tr>
<td>*ECED 355</td>
<td>Music and Movement in Early Childhood Education</td>
</tr>
<tr>
<td>*ECED 415</td>
<td>Issues and Ethics in Early Childhood Education</td>
</tr>
<tr>
<td>*EDUC 470</td>
<td>Student Teaching -- Early &amp; Middle Childhood</td>
</tr>
<tr>
<td>*EDUC 475</td>
<td>Student Teaching Seminar</td>
</tr>
</tbody>
</table>

**MCED 260** Introduction to Middle Childhood Education (4 hrs.)
MCED 261 Middle Childhood Methods and Instruction (4 hrs.)
MCED 262 Middle Childhood Curriculum and Policies (4 hrs.)
*EDUC 300 Foundations of Reading and Assessments (5 hrs.)
*EDUC 312 Teaching Phonics (5 hrs.)
*MCED 318 Educational Assessment for Middle Childhood (4 hrs.)
EDUC 320 Instr. Media and Educ. Tech. (4 hrs.)
*EDUC 400 Assessment of Reading Instr. (4 hrs.)
*EDUC 342 Reading in the Content Area (5 hrs.)
*EDUC 445 Organization & Administration of Schools in Society, (2 hrs)
*EDUC 470 Student Teaching - Early & Middle Childhood (15 hrs.)
*EDUC 475 Student Teaching Seminar (1 hr.)

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 each discipline.

**Choices:**
- **MCED 308** Middle School Math Methods
- **MCED 309** Middle School Science Methods
- **MCED 311** Middle School Social Studies Methods
- **EDUC 322** Integrated Language Arts

A list of discipline courses in the concentration areas is available in the Center for Teacher Education office.

The Middle Childhood Generalist Endorsement is available for those completing the Middle Childhood Education major course requirements including the two areas of concentration. The Middle Childhood Generalist Endorsement allows the student to complete coursework in the two additional areas (not the areas of concentration) and complete other state licensure requirements to be able to teach these two additional content areas in grades 4-6 only. Specific requirements are available from 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 Sciences: Chemistry
- Physical Sciences: Physics
- Physical Sciences: Physics and Chemistry
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 1, (0 hours)
EDUC 152 Five-Day Field Experience 2, (0 hours)
EDUC 210 Exceptional Learner, 4 hrs.
EDUC 224 Young and Late Adolescent Psychology, 4 hrs.
**EDUC 285 Curriculum & Instruction, 4 hrs.
EDUC 318 Ed. Assessment for MA/AYA, 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
• EDUC 470 Student Teaching - Early & Middle Childhood, 7 hrs.
• EDUC 475 Student Teaching Seminar, 1 hr.
• EDUC 480 Student Teaching - Adolescent, 8 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 465 Science Education Portfolio, 0 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 - French, German, Spanish
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 1, (0 hours)
EDUC 152 Five-Day Field Experience 2, (0 hours)
EDUC 210 Exceptional Learner, 4 hrs.
PSYC 215 Developmental Psychology, 4 hrs.
**EDUC 285 Curriculum & Instruction, 4 hrs.
EDUC 318 Ed. Assessment for MA/AYA, 4 hrs.
• EDUC 440 Classroom Strategies, 4 hrs
• EDUC 445 Org. & Admin. of Schools in American Society, 2 hrs
• EDUC 470 Student Teaching - Early & Middle Childhood, 7 hrs.
• EDUC 475 Student Teaching Seminar, 1 hr.
• EDUC 480 Student Teaching - Adolescent, 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 1, (0 hours)
EDUC 152 Five-Day Field Experience 2, (0 hours)
EDUC 210 Exceptional Learner, 4 hrs.
EDUC 224 Young and Late Adolescent Psychology, 4 hrs.
**EDUC 285 Curriculum & Instruction, 4 hrs.
EDUC 318 Ed. Assessment for MA/AYA, 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, 7 or 15 hrs.
• EDUC 475 Student Teaching Seminar, 1 hr.
• EDUC 480 Student Teaching, 8 or 15 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.
# Ohio Northern University
## Praxis II – Pass-Rate Data: Regular Teacher Preparation Program
### Academic Year: 2005-06
### Number of Program Completers¹: 50

<table>
<thead>
<tr>
<th>Type of Assessment</th>
<th># Taking Praxis II²</th>
<th># Passing Praxis II³</th>
<th>ONU Pass Rate (%)</th>
<th>OH Pass Rate (%)</th>
<th>Nat’l Pass Rate (%)⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Professional Knowledge</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principles of Learning and Teaching EC</td>
<td>13</td>
<td>13</td>
<td>100%</td>
<td>99%</td>
<td>94%</td>
</tr>
<tr>
<td>Principles of Learning and Teaching K-6</td>
<td>1</td>
<td>***</td>
<td>***</td>
<td>95%</td>
<td>74%</td>
</tr>
<tr>
<td>Principles of Learning and Teaching 5-9</td>
<td>4</td>
<td>***</td>
<td>***</td>
<td>93%</td>
<td>64%</td>
</tr>
<tr>
<td>Principles of Learning and Teaching 7-12</td>
<td>22</td>
<td>21</td>
<td>95%</td>
<td>96%</td>
<td>80%</td>
</tr>
<tr>
<td><strong>Academic Content Areas</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Childhood Education</td>
<td>10</td>
<td>10</td>
<td>100%</td>
<td>100%</td>
<td>85%</td>
</tr>
<tr>
<td>Education of Young Children</td>
<td>13</td>
<td>13</td>
<td>100%</td>
<td>100%</td>
<td>94%</td>
</tr>
<tr>
<td>Eng Lang Lit Comp Content Knowledge</td>
<td>2</td>
<td>***</td>
<td>***</td>
<td>93%</td>
<td>70%</td>
</tr>
<tr>
<td>Middle School English Language Arts</td>
<td>3</td>
<td>***</td>
<td>***</td>
<td>99%</td>
<td>85%</td>
</tr>
<tr>
<td>Mathematics: Content Knowledge</td>
<td>3</td>
<td>***</td>
<td>***</td>
<td>97%</td>
<td>60%</td>
</tr>
<tr>
<td>Middle School Mathematics</td>
<td>2</td>
<td>***</td>
<td>***</td>
<td>100%</td>
<td>85%</td>
</tr>
<tr>
<td>Social Studies: Content Knowledge</td>
<td>4</td>
<td>***</td>
<td>***</td>
<td>95%</td>
<td>72%</td>
</tr>
<tr>
<td>Middle School Social Studies</td>
<td>3</td>
<td>***</td>
<td>***</td>
<td>94%</td>
<td>78%</td>
</tr>
<tr>
<td>Physical Ed: Content Knowledge</td>
<td>2</td>
<td>***</td>
<td>***</td>
<td>93%</td>
<td>62%</td>
</tr>
<tr>
<td>Music: Content Knowledge</td>
<td>4</td>
<td>***</td>
<td>***</td>
<td>98%</td>
<td>81%</td>
</tr>
<tr>
<td>Art Content Knowledge</td>
<td>3</td>
<td>***</td>
<td>***</td>
<td>96%</td>
<td>86%</td>
</tr>
<tr>
<td>Biology: Content Knowledge</td>
<td>2</td>
<td>***</td>
<td>***</td>
<td>98%</td>
<td>74%</td>
</tr>
<tr>
<td>Earth Science Content Knowledge</td>
<td>1</td>
<td>***</td>
<td>***</td>
<td>100%</td>
<td>78%</td>
</tr>
<tr>
<td><strong>Other Content Areas</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Education</td>
<td>2</td>
<td>***</td>
<td>***</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Aggregate Data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Knowledge</td>
<td>40</td>
<td>39</td>
<td>98%</td>
<td>97%</td>
<td></td>
</tr>
<tr>
<td>Academic Content Areas (Math, English, Biology, etc.)</td>
<td>52</td>
<td>51</td>
<td>98%</td>
<td>98%</td>
<td></td>
</tr>
<tr>
<td>Other Content Areas (Career/Technical Education, Health Education, etc.)</td>
<td>2</td>
<td>***</td>
<td>***</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td><strong>Summary Totals and Pass Rates⁵</strong></td>
<td>50</td>
<td>49</td>
<td>98%</td>
<td>95%</td>
<td></td>
</tr>
</tbody>
</table>

### Contextual Information
- Average number of weeks of supervised student teaching: 11
- Average number of student teaching hours per week: 37.5
- Average number of hours required for student teaching: 412
- Total number of students in supervised student teaching: 57
- Number of faculty members who supervised student teachers: 11
- Student teacher/faculty ratio: 5:1
- Full-time faculty in professional education: 9
- Part-time faculty in professional education who work full-time in the institution: 8
- Part-time faculty in professional education not otherwise employed by the institution: 3

(Footnotes)

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: Early Childhood Education (ECED)

205 - CHILDREN’S LITERATURE IN THE EARLY CHILDHOOD CLASSROOM
4 Credits
Selecting and evaluating quality children’s literature. Examination of works of notable authors and illustrators, concepts of diversity, strategies for integrating various genre into the curriculum, helping children respond to literature, and engaging students in meaningful literacy activities through literature. Includes 10 hours of field experience in Child Development Center.

230 - EARLY CHILDHOOD MATHEMATICS
4 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. (Formerly EDUC 230)

240 - INTRODUCTION TO EARLY CHILDHOOD EDUCATION
4 Credits
History, philosophy and current developments in the field of early childhood education. Prerequisite: Admission to Teacher Education Program. (Formerly EDUC 240)

242 - EARLY CHILDHOOD CURRICULUM AND POLICIES
4 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. Prerequisite: ECED 240. (Formerly EDUC 242)

305 - SOCIAL STUDIES IN EARLY CHILDHOOD EDUCATION
2 Credits
An integrated approach to the planning, processes, and content of the social studies based on developmental characteristics of the preschool-primary child. Requires 15 hours of field experience. Prerequisite: Admission to Teacher Education Program.

315 - TEACHING SCIENCE AS INQUIRY
4 Credits
Constructivist approach to science education methods and materials in the early childhood classroom. Focus on standards, inquiry, assessment, and incorporation of technology with content of a general science curriculum. Requires 20 hours of field experience. Prerequisite: Admission to Teacher Education Program.

318 - EDUCATIONAL ASSESSMENT FOR EARLY CHILDHOOD
4 Credits
Concepts in developmentally appropriate assessment with emphasis on crafting assessments to inform teaching and learning aligned with state and national standards. Development and appropriate use of traditional and alternative assessments, evaluating student progress, applying technologies, interpreting and using standardized tests and federal and state assessment requirements/reporting. Includes 15 hours of field experience. Prerequisite: Admission to Teacher Education Program. (Formerly ECED 215)

325 - CLASSROOM GUIDANCE IN EARLY CHILDHOOD EDUCATION
2 Credits
A guidance approach to classroom and behavior management. Emphasis on the learning environment, group management, teacher response to challenging behaviors, conflict management, and strategies for building prosocial behavior. Constructivist basis for teaching socialization skills in the early childhood classroom. Requires 15 hours of field experience. Prerequisite: Admission to Teacher Education Program.

335 - VISUAL ARTS IN EARLY CHILDHOOD EDUCATION
2 Credits
An integrated, constructivist approach to curriculum and pedagogy for teaching the visual arts based on developmental characteristics of the preschool-primary child. Requires 10 hours of field experience. Prerequisite: Admission to Teacher Education Program.

345 - FAMILY, SCHOOL AND COMMUNITY PARTNERSHIPS
4 Credits
Ecological systems theory approach to understanding modern families, sensitivity to diversity, communication and professional ethics, creation of effective family/school/community partnerships, case studies. Requires 20 hours of field experience. Prerequisite: Admission to Teacher Education Program.

355 - MUSIC AND MOVEMENT IN EARLY CHILDHOOD EDUCATION
2 Credits
An integrated, constructivist approach to incorporating music into the PreK and K-3 primary curriculum. Elements of music and movement applied to developmentally appropriate practice. Requires 15 hours of field experience. Prerequisite: Admission to Teacher Education Program.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>415</td>
<td>ISSUES AND ETHICS IN EARLY CHILDHOOD EDUCATION</td>
<td>2</td>
<td>Exploration of current issues in early childhood education and professional ethical applications with particular emphasis on teaching in multicultural settings. Prerequisite: Admission to Teacher Education Program.</td>
</tr>
<tr>
<td>210</td>
<td>EXCEPTIONAL LEARNER</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>220</td>
<td>INTEGRATED FINE ARTS</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>223</td>
<td>CHILD DEVELOPMENT AND PSYCHOLOGY</td>
<td>4</td>
<td>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. Prerequisite: EDUC 115.</td>
</tr>
<tr>
<td>224</td>
<td>YOUNG AND LATE ADOLESCENT PSYCHOLOGY</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>241</td>
<td>EARLY CHILDHOOD METHODS AND INSTRUCTION</td>
<td>4</td>
<td>Teaching processes and development of materials for early childhood settings. Planning methodology and strategies. Includes 10 hours of field experience. Prerequisite: ECED 240.</td>
</tr>
<tr>
<td>285</td>
<td>CURRICULUM AND INSTRUCTION</td>
<td>4</td>
<td>School curriculum practices, instructional materials, curriculum development changes and trends. Discussion of mainstreaming and gifted education. Designed for adolescent and multije education majors. Includes 30 hours of clinical field experience. Prerequisites: EDUC 115, 2.50 GPA, and completion of Praxis 1 requirements.</td>
</tr>
<tr>
<td>290</td>
<td>SPECIAL TOPICS IN EDUCATION</td>
<td>1 to 4</td>
<td>Can be repeated as the topic varies.</td>
</tr>
</tbody>
</table>

**Subject: Education (EDUC)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>115</td>
<td>CULTURE AND SCHOOLING</td>
<td>4</td>
<td>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. Fee of $81.75 required.</td>
</tr>
<tr>
<td>150</td>
<td>FIVE DAY FIELD EXPERIENCE 1</td>
<td>0</td>
<td>Observation and participation with students and teachers in a school setting for five consecutive school days and a minimum of 35 hours. Must be completed in a culturally, racially and/or socioeconomically diverse setting. Approval of advisor and Director of Teacher Education is required prior to this experience. Graded S/U. Prerequisite: EDUC 115.</td>
</tr>
<tr>
<td>152</td>
<td>FIVE DAY FIELD EXPERIENCE 2</td>
<td>0</td>
<td>Observation and participation with students and teachers in a school setting for five consecutive days and a minimum of 35 hours. Experience will focus on teaching and the reflective practice. Approval of advisor and Director of Teacher Education are required prior to this experience. Graded S/U. Prerequisite: EDUC 150.</td>
</tr>
<tr>
<td>190</td>
<td>SPECIAL TOPICS IN EDUCATION</td>
<td>1 to 4</td>
<td>Can be repeated as the topic varies.</td>
</tr>
<tr>
<td>195</td>
<td>ORIENTATION</td>
<td>1</td>
<td>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.</td>
</tr>
</tbody>
</table>
300 - FOUNDATIONS OF READING AND ASSESSMENTS
5 Credits
Theoretical orientations of the reading processes and brief history of U.S. reading education. Implementation of various reading strategies and evaluation of reading materials in accordance with reading theories and aligned with the Ohio Academic Content Standards for grades P-9. Successful completion of 15 hours of field experience is a course requirement. Prerequisite: Admission to Teacher Education Program. (Formerly EDUC 314)

304 - STRATEGIES FOR TECHNOLOGY EDUCATION
4 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.

312 - TEACHING PHONICS
5 Credits
Emphasis on stages of orthographic development and phonics generalization. Emphasis on how to teach phonics and word recognition skills within a structured word study methodology. Course content is aligned with the Ohio Academic Content Standards for grades P-9. Successful completion of 30 hours of field experience is a course requirement. Prerequisite: EDUC 300.

318 - EDUCATIONAL ASSESSMENT FOR MA/AYA
4 Credits
Concepts in appropriate assessment for adolescents with emphasis on crafting assessments to inform teaching and learning aligned with state and national standards. Development and appropriate use of traditional and alternative assessments, evaluating student progress, applying technologies, interpreting and using standardized tests, and federal and state assessment requirements/reporting. Includes 15 hours of field experience. Prerequisite: Admission to Teacher Education Program.

320 - INSTRUCTIONAL MEDIA AND EDUCATIONAL TECHNOLOGIES
4 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.

322 - INTEGRATED LANGUAGE ARTS
4 Credits
Strategies for integrating the language arts within a literacy program and across the curriculum. Use of Ohio Academic Content Standards for P-9 with an emphasis on standards relating to the writing process, applications and conventions across the curriculum. Includes 30 hours of field experience. Prerequisites: EDUC 312 and Admission to Teacher Education Program. (Formerly EDUC 310)

342 - READING IN THE CONTENT AREA
5 Credits
Emphasis on literary connections across the curriculum, strategies for nonfiction and textbooks as well as appropriate fiction selections. Student support strategies including prereading, vocabulary, and comprehension strategies and study skills. Includes 30 hours of field experience. Prerequisite: Admission to Teacher Education Program.

350 - DEPARTMENTAL FIELD EXPERIENCE
0 Credit
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 160 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 to 4 Credits
Can be repeated as the topic varies.

400 - ASSESSMENT OF READING INSTRUCTION
4 Credits
Use of student assessment information to inform planning, teaching and learning. Development of a case study while working with a student in a local school. Includes authentic assessment analysis, plan and delivery of appropriate reading strategies and reassessment. Prerequisites: EDUC 312 and 342. (Formerly EDUC 340)

440 - CLASSROOM STRATEGIES
4 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 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 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 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 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 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 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 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 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 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 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 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.

465 - SCIENCE EDUCATION PORTFOLIO 0 Credit
Self-directed exploration of topics important to secondary education, including the history of science, its relationship to other disciplines and society, ethics and legal issues, laboratory safety, and scientific research. Graded S-U. Must be completed before student teaching. Co-requisite: EDUC 451.

470 - STUDENT TEACHING - EARLY CHILDHOOD-MIDDLE CHILDHOOD 7 or 15 Credits
Planning and teaching under supervision in the early or middle level grades; weekly seminar on campus. Prerequisites: An overall cumulative point average of 2.50 with no grade less than “C” in education and major courses required for licensure; a minimum of 160 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 twelve (12) weeks.

Co-requisite: EDUC 475. Graded S/U.

475 - STUDENT TEACHING SEMINAR
1 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. Co-requisite: EDUC 470 and/or 480.

480 - STUDENT TEACHING-adolescent
8 or 15 Credits
Planning and teaching under supervision in the adolescent level, full time, five days per week for twelve (12) 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 160 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. Co-requisite: EDUC 475. Graded S/U.

490 - SPECIAL TOPICS IN EDUCATION
1 to 4 Credits
Can be repeated as the topic varies.

497 - INDEPENDENT STUDY IN EDUCATION
1 to 4 Credits
In areas of student interest with permission of the Director of Teacher Education.

Subject-Middle Childhood Education (MCED)

260 - INTRODUCTION TO MIDDLE CHILDHOOD EDUCATION
4 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 I requirements. (Formerly EDUC 260)

261 - MIDDLE CHILDHOOD METHODS AND INSTRUCTION
4 Credits
Integrated teaching at the middle school level. Planning, instruction strategies, and evaluation of an interdisciplinary nature. Includes 20 hours of field experience. Prerequisite: MCED 260. (Formerly EDUC 261)

262 - MIDDLE CHILDHOOD CURRICULUM AND POLICIES
4 Credits
The development of theory, organization, and decision making in middle school curriculum from an integrated, interdisciplinary focus. Includes 20 hours of field experience. Prerequisite: MCED 261. (Formerly EDUC 262)

308 - MIDDLE SCHOOL MATH METHODS
4 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 Teacher Education Program. (Formerly EDUC 308)

309 - MIDDLE SCHOOL SCIENCE METHODS
5 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 Teacher Education Program. (Formerly EDUC 309)

311 - MIDDLE SCHOOL SOCIAL STUDIES METHODS
4 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 Teacher Education Program. (Formerly EDUC 311)

318 - EDUCATIONAL ASSESSMENT FOR MIDDLE CHILDHOOD
4 Credits
Concepts in appropriate assessment for the middle grades with emphasis on crafting assessments to inform teaching and learning aligned with state and national standards. Development and appropriate use of traditional and alternative assessments, evaluating student progress, applying technologies, interpreting and using standardized tests, and federal and state assessment requirements/reporting. Includes 15 hours of field experience. Prerequisite: Admission to Teacher Education Program.
DEPARTMENT OF ENGLISH

Professors McManus (Chair), Scott; Associate Professors Cullen, Lietz, O’Connell, Pitts, Robeson; Assistant Professors Bauer, Kanwit; Visiting Assistant Professors Criniti, Kline

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 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, and a 1-hour course for formal presentation of the capstone project to department faculty and students.

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, 271, 281, 335)
World Literature: Ancient to Modern
(ENGL 208, 219, 220, 262, 430, 432)

Other courses whose content changes significantly with each offering may also satisfy specific literature requirements: ENGL 207, 209, 261, 263, 274, 290, 364, 365, 390, 431, 490.

Major in Literature (65 hours)

Required Courses (23 hours)
ENGL 210 English Studies
ENGL 351 English Language
ENGL 410 Chaucer
ENGL 412 Shakespeare Studies
ENGL 451 Literary Criticism
ENGL 445 Senior Seminar
ENGL 446 Senior Presentation 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 at the 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 at the 300/400 level
(ENGL 208, 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 Modern Language, History or Philosophy beyond General Education requirements

**Major in Language Arts Education (64 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
- Writing (16 hours)
  - ENGL 241 News Writing or
  - ENGL 273 Writing in the Public Sphere or
  - ENGL 244 Desktop Publishing or
  - ENGL 443 Nonfiction Writing
  - ENGL 230 Web Publishing Practicum or
  - ENGL 231 Journal Publishing Practicum or
  - ENGL 250 Newspaper Practicum or
  - ENGL 251 Magazine Practicum
  - ENGL 341 Poetry Writing or
  - ENGL 342 Fiction Writing or
  - ENGL 343 Persuasive Writing or
  - ENGL 345 Screenwriting or
  - ENGL 349 Writing for Young Audiences
  - ENGL 347 Advanced Writing
  - ENGL 445 Senior Seminar
  - ENGL 446 Senior Seminar Presentation

**Linguistics, Grammar, History of the Language (4 hours)**
ENGL 351 English Language
Oral Communication (8 hours)
COMM 225 Interpersonal Communication
COMM 211 Public Speaking
  - or COMM 260 Acting 1

Attendance at two professional conferences/workshops
Completion of 52 hours of Education courses

**Major in Creative Writing (58 hours)**
Required Writing Courses (15 hours)
ENGL 341 Poetry Writing
ENGL 342 Fiction Writing
ENGL 445 Senior Seminar
ENGL 446 Senior Seminar Presentation
ENGL 447 Advanced Creative Writing
Electives (12 hours)
ENGL 451 Literary Criticism
  - or ENGL 405 Cultural Studies
ENGL 345 Screenwriting
ENGL 349 Writing for Young Audiences
ENGL 443 Nonfiction Writing
COMM 486 Playwriting
Practicum/Workshop Hours (3 hours)
ENGL 206 Screenwriting Workshop or
ENGL 230 Web Publishing Practicum or
ENGL 231 Journal Publishing Practicum or
ENGL 251 Magazine Practicum or
ENGL 375 Creative Writing Workshop

**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 (59 hours + Secondary Study)**
Professional Writing Core (24 hours)
ENGL 244 Desktop Publishing
ENGL 273 Writing in the Public Sphere
ENGL 405 Cultural Studies
ENGL 452 Rhetorical Theory
ENGL 470 Editing
ENGL 481 Internship
ENGL 445 Senior Seminar
ENGL 446 Senior Seminar Presentation
Core Electives (12 hours)
ENGL 205 Writing in the Professions
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 347 Advanced Writing
ENGL 378 Journal Publishing
ENGL 443 Nonfiction Writing
ENGL 447 Advanced Creative Writing
ENGL 451 Literary Criticism
Special topics courses (290, 390, 490) when the topic is writing
Practicum and Workshop Hours (3 hours in at least two different practicums or workshops)
ENGL 230 Web Publishing Practicum
ENGL 231 Journal Publishing Practicum
ENGL 250 Newspaper Practicum
ENGL 251 Magazine Practicum
ENGL 206 Screenwriting Workshop
ENGL 377 Professional Writing Workshop

**Language and Literature Core (20 hours)**
ENGL 210 English Studies
ENGL 351 English Language
  - or ENGL 200 Grammar in Context
Three literature courses in three core areas, two at the 300/400 level:
  - World Literature (ENGL 208, 219, 220, 262, 432)
  - 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, 209, 263, 290, 390, 430, 490.

**Secondary Study**
An Option, Minor, or Second Major in a discipline other than English
Major in Journalism
(60 hours + Secondary Study)

Journalism Core Requirements (36 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
ENGL 446 Senior Seminar Presentation

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 205 Writing in the Professions
ENGL 343 Persuasive Writing
ENGL 344 Writing Cyberspace
ENGL 347 Advanced Writing
COMM 355 Broadcast Journalism
ENGL 376 Journalism Workshop
ENGL 405 Cultural Studies
ENGL 443 Nonfiction Writing
ENGL 452 Rhetorical Theory

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 or ENGL 200 Grammar in Context

Three literature courses in three core areas, two at the 300/400 level:

World Literature (ENGL 208, 219, 220, 262, 432)
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, 209, 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)
ENGL 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

Minor in Creative Writing (30 hours)

Required course (4 hours)
ENGL 210 English Studies

Writing and Criticism Electives (14 hours)

ENGL 206 Screenwriting Workshop
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 and Workshops (3 hours in at least two different practicums and workshops)

ENGL 230 Web Publishing Practicum
ENGL 231 Journal Publishing Practicum
ENGL 250 Newspaper Practicum
ENGL 251 Magazine Practicum
ENGL 206 Screenwriting Workshop
ENGL 377 Professional Writing Workshop

Electives (12 hours)

ENGL 205 Writing in the Professions
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 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 205 Writing in the Professions
ENGL 343 Persuasive Writing
ENGL 344 Writing Cyberspace
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 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
0 Credit
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 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 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 Credits
Continuation of ENGL 110; includes argumentation and research. Prerequisites: ENGL 110 or HONR 100 or ACT of 25 or above in English and Reading.

150 - INTRODUCTION TO COLLEGE COMPOSITION
4 Credits
English grammar and composition for international students. Enrollment based upon ONU writing placement test administered during International Student Orientation. CREDIT EARNED IN THE COURSE DOES NOT SATISFY GRADUATION REQUIREMENTS FOR ANY PROGRAM OFFERED AT THE UNIVERSITY.

151 - COLLEGE COMPOSITION 1
4 Credits
Communication skills for non-native speakers of English with emphasis on reading and writing in an academic setting. Enrollment based upon ONU writing placement test administered during International Student Orientation. ENGL 151 and ENGL 152 may be substituted for ENGL 110. Prerequisite: Score of 4, 5, or 6 on ONU writing placement test.

152 - COLLEGE COMPOSITION 2
4 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 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 to 4 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.

200 - GRAMMAR IN CONTEXT
4 Credits
English grammar and the significance of the use of its structural patterns. Prerequisite: ENGL 111.

204 - GREAT WORKS
4 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.
205 - WRITING IN THE PROFESSIONS
4 Credits
The functions, uses, history and practice of writing in professional situations, with a focus on practical understanding of fundamental rhetorical concepts. Assignments include print and online writing, research, and documentation projects in various professional situations, with emphasis on grammatical correctness, concision and clarity, and the revision process. (Formerly ENGL 346) Prerequisite: ENGL 111.

206 - SCREENWRITING WORKSHOP
1 to 4 Credits
Introduction to the profession of screenwriting and methods of becoming professionally active in the field. One to 4 credits, depending upon work accomplished, to be determined by department. May be repeated, but only 12 hours count toward graduation.

207 - MODERN POETRY
4 Credits
Representative twentieth-century poetry written in English. Prerequisite: ENGL 110 or equivalent.

208 - MODERN WORLD DRAMA
4 Credits
Representative twentieth-century plays from Western and non-Western countries. ENGL 110 or equivalent

209 - MODERN FICTION
4 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 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 Language Arts Education, 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 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 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 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 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 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 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 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. Prerequisite: ENGL 111.

230 - WEB PUBLISHING PRACTICUM
1 to 6 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 to 6 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 to 6 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 Credits
Gathering information and writing for a newspaper. Prerequisite: ENGL 111.

244 - DESKTOP PUBLISHING
4 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 to 6 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 to 6 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 Credits
Representative plays and poetry from the entire span of Shakespeare’s career and from each of the genres. Prerequisites: ENGL 110 or equivalent.

261 - AFRICAN-AMERICAN LITERATURE
4 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 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 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 Credits
A sustained study of twentieth-century American drama. Prerequisite: ENGL 110 or equivalent.

273 - WRITING IN THE PUBLIC SPHERE
4 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 Credits
American multicultural literature with emphasis on aesthetic value and cultural context. Prerequisite: ENGL 110 or equivalent.

290 - SPECIAL TOPICS IN ENGLISH
1 to 4 Credits
May be repeated as the topic varies. Prerequisite: ENGL 110 or equivalent.

297 - INDEPENDENT STUDY IN ENGLISH
1 to 4 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, writing and specified literature courses (ENGL 310, 319, 334, 335, 341, 342, 343, 345, 347, 349): ENGL 204. Prerequisites for 300-level Journalism courses (371, 372, 380): ENGL 204 and 241. Prerequisites for specified Literature, Culture, Writing, and Language courses (322, 323, 324, 326, 351, 364, 365, 405, 410, 412, 430, 431, 432, 443, 451, 470): ENGL 204 and 210; at least one other 200-level literature course recommended.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>310</td>
<td>BRITISH LITERATURE BEFORE 1500</td>
<td>4</td>
<td>ENGL 204.</td>
</tr>
<tr>
<td>319</td>
<td>RENAISSANCE AND JACOBEAN LITERATURE</td>
<td>4</td>
<td>ENGL 204.</td>
</tr>
<tr>
<td></td>
<td>RESTORATION AND THE EIGHTEENTH CENTURY</td>
<td>4</td>
<td>ENGL 204 and 210.</td>
</tr>
<tr>
<td></td>
<td>BRITISH ROMANTICISM</td>
<td>4</td>
<td>ENGL 204 and 210.</td>
</tr>
<tr>
<td></td>
<td>VICTORIAN PERIOD</td>
<td>4</td>
<td>ENGL 204 and 210.</td>
</tr>
<tr>
<td></td>
<td>TWENTIETH-CENTURY BRITISH LITERATURE</td>
<td>4</td>
<td>ENGL 204 and 210.</td>
</tr>
<tr>
<td></td>
<td>AMERICAN WRITERS 1</td>
<td>4</td>
<td>ENGL 204.</td>
</tr>
<tr>
<td></td>
<td>AMERICAN WRITERS 2</td>
<td>4</td>
<td>ENGL 204 or HONR 200 or 205 or 212.</td>
</tr>
<tr>
<td></td>
<td>POETRY WRITING</td>
<td>4</td>
<td>ENGL 204 or HONR 200 or 205 or 212.</td>
</tr>
<tr>
<td></td>
<td>FICTION WRITING</td>
<td>4</td>
<td>ENGL 204 or HONR 200 or 205 or 212.</td>
</tr>
<tr>
<td></td>
<td>PERSUASIVE WRITING</td>
<td>4</td>
<td>ENGL 204 or HONR 240.</td>
</tr>
<tr>
<td></td>
<td>WRITING CYBERSPACE</td>
<td>4</td>
<td>ENGL 273.</td>
</tr>
<tr>
<td></td>
<td>SCREENWRITING</td>
<td>4</td>
<td>ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.</td>
</tr>
<tr>
<td></td>
<td>ADVANCED WRITING</td>
<td>4</td>
<td>ENGL 204 and 210.</td>
</tr>
<tr>
<td></td>
<td>WRITING FOR YOUNG AUDIENCES</td>
<td>4</td>
<td>ENGL 204 or HONR 200 or 205 or 212.</td>
</tr>
<tr>
<td></td>
<td>THE ENGLISH LANGUAGE</td>
<td>4</td>
<td>ENGL 204 and 210.</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
<td>---------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>364 -</td>
<td>THE BRITISH NOVEL</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>365 -</td>
<td>THE AMERICAN NOVEL</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>371 -</td>
<td>JOURNALISM</td>
<td>4</td>
<td>American journalism history and principles; contemporary ethical, legal, and diversity issues; the press as a cultural force in society. Prerequisites: ENGL 204 and 241.</td>
</tr>
<tr>
<td>372 -</td>
<td>REPORTING CONTEMPORARY ISSUES</td>
<td>4</td>
<td>Advanced journalism reporting techniques and research tools and formats used by newspapers in covering public policy issues. Prerequisites: ENGL 204 and 241.</td>
</tr>
<tr>
<td>375 -</td>
<td>CREATIVE WRITING WORKSHOP</td>
<td>1-4</td>
<td>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.</td>
</tr>
<tr>
<td>376 -</td>
<td>JOURNALISM WORKSHOP</td>
<td>1-4</td>
<td>American journalism history and principles; contemporary ethical, legal, and diversity issues; the press as a cultural force in society. Prerequisites: ENGL 204 and 241.</td>
</tr>
<tr>
<td>377 -</td>
<td>PROFESSIONAL WRITING WORKSHOP</td>
<td>1-4</td>
<td>Individualized instruction in writing for publication within a workshop environment. Prerequisites: ENGL 204 and either 243 or 443.</td>
</tr>
<tr>
<td>378 -</td>
<td>JOURNAL PUBLISHING</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>380 -</td>
<td>LITERARY JOURNALISM</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>390 -</td>
<td>SPECIAL TOPICS IN ENGLISH</td>
<td>1-4</td>
<td>May be repeated as the topic varies. Prerequisites: ENGL 210 and ENGL 204 or HONR 200 or 205 or 212.</td>
</tr>
<tr>
<td>400 -</td>
<td>CULTURAL STUDIES</td>
<td>4</td>
<td>Criticism of popular culture, theory, and practice, with focus on contemporary concepts of culture, textuality, and ideology. Prerequisites: ENGL 204 and ENGL 204 or HONR 200 or 205 or 212.</td>
</tr>
<tr>
<td>410 -</td>
<td>CHAUCER</td>
<td>4</td>
<td>The poetry of Chaucer, with special emphasis on the Canterbury Tales, Troilus and Criseyde, and reading and understanding Middle English. Prerequisites: ENGL 204 and 241.</td>
</tr>
<tr>
<td>412 -</td>
<td>SHAKESPEARE STUDIES</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>420 -</td>
<td>DEPARTMENT NEWSLETTER</td>
<td>1-3</td>
<td>Writing and laying out the annual department newsletter. May be repeated up to a maximum of 4 hours. English majors only.</td>
</tr>
<tr>
<td>430 -</td>
<td>READINGS IN ENGLISH LANGUAGE LITERATURE</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>431 -</td>
<td>READINGS IN AMERICAN LITERATURE</td>
<td>4</td>
<td>A major writer, genre, or theme in American literature, with attention to cultural context. Prerequisites: ENGL 204 and 210.</td>
</tr>
</tbody>
</table>
432 - STUDIES IN COMPARATIVE LITERATURE
4 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 Credits
A literary approach to the reading and writing of non-fiction essays. Prerequisites: ENGL 204 and 210.

445 - SENIOR SEMINAR
2 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.

446 - SENIOR SEMINAR PRESENTATION
1 Credit
Oral presentation of the project written in Senior Seminar. Prerequisites: ENGL 445 and Junior standing.

447 - ADVANCED CREATIVE WRITING
4 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 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 to 6 Credits
The history and theory of rhetoric and its practice in contemporary public discourse and media. Prerequisite: ENGL 210.

470 - EDITING
4 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 to 16 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 to 4 Credits
May be repeated as the topic varies. Prerequisites: ENGL 204 and 210.

497 - INDEPENDENT STUDY IN LITERATURE
1 to 4 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 to 4 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 to 4 Credits
May be repeated as the topic varies. Prerequisites: ENGL 241 and ENGL 204 or HONR 200 or 205 or 212.

DEPARTMENT OF HISTORY, POLITICS, AND JUSTICE

Professors Lomax, Loughlin, Ludanyi, J. Scott; Associate Professors Alexander, D. Smith, E. Wilson (Chair); Assistant Professor Crawford; Visiting Assistant Professors Schuck, R. Waters, H. Wilson

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 2007-08 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
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, Asian Studies as well as history, political science and criminal justice. Options in Forensic Science and Leadership Studies are also 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 political, 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. An internship is required of all majors.

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. A study or work experience abroad is required of all majors.

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, Phi Beta Delta, the national honorary for international scholars, and Studia Socialia Americae, Studium Primum, the national social studies honor society. Public service internships are available at all levels of government, including the Ohio Legislature. Public history internships 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 National Model United Nations in New York City. Students 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. Students interested in Asian Studies are encouraged to participate in study programs in Korea, China, and Taiwan.

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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 110-111</td>
<td>West. Civ. 1 &amp; 2</td>
<td>8</td>
</tr>
<tr>
<td>HIST 204</td>
<td>Historical Methods</td>
<td>4</td>
</tr>
<tr>
<td>PLSC 201</td>
<td>Intro. to Amer. Govt.</td>
<td>4</td>
</tr>
<tr>
<td>PLSC 202</td>
<td>State and Local Politics</td>
<td>4</td>
</tr>
<tr>
<td>HIST 214-215</td>
<td>U.S. History 1 &amp; 2</td>
<td>8</td>
</tr>
<tr>
<td>HSPS 222-25</td>
<td>One cont. course</td>
<td>4</td>
</tr>
<tr>
<td>or GEOG 226</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIST 404</td>
<td>Historical Thought</td>
<td>4</td>
</tr>
<tr>
<td>HIST 488-489</td>
<td>Sr. Research 1 &amp; 2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 hours</td>
<td>history electives at 300</td>
<td>8</td>
</tr>
<tr>
<td>or 400 level</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following must be at the 300 or 400 level:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST, HSPS</td>
<td>World History</td>
<td>8</td>
</tr>
<tr>
<td>HIST, HSPS</td>
<td>U.S. History</td>
<td>8</td>
</tr>
<tr>
<td>HIST, HSPS</td>
<td>Electives</td>
<td>12</td>
</tr>
<tr>
<td>AASG 300</td>
<td>Job/Grad Search</td>
<td>1</td>
</tr>
</tbody>
</table>

Minor in History
Specific requirements for the history major:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 110-111</td>
<td>West. Civ. 1 &amp; 2</td>
<td>8</td>
</tr>
<tr>
<td>HIST 204</td>
<td>Historical Methods</td>
<td>4</td>
</tr>
<tr>
<td>HIST 214-215</td>
<td>U.S. History 1 &amp; 2</td>
<td>8</td>
</tr>
<tr>
<td>HSPS 222-25</td>
<td>One cont. course</td>
<td>4</td>
</tr>
<tr>
<td>or GEOG 226</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following must be at the 300 or 400 level:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST, HSPS</td>
<td>World History</td>
<td>4</td>
</tr>
<tr>
<td>HIST, HSPS</td>
<td>U.S. History</td>
<td>4</td>
</tr>
<tr>
<td>HIST, HSPS</td>
<td>Elective</td>
<td>4</td>
</tr>
</tbody>
</table>

Major in Political Science
Specific requirements for the political science major are:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSPS 000</td>
<td>Orientation</td>
<td>1</td>
</tr>
<tr>
<td>PLSC 105</td>
<td>Intro. to Pol. Sci.</td>
<td>4</td>
</tr>
<tr>
<td>PLSC 201</td>
<td>Intro. to Amer. Govt.</td>
<td>4</td>
</tr>
<tr>
<td>PLSC 202</td>
<td>State and Local Politics</td>
<td>4</td>
</tr>
<tr>
<td>STAT 142</td>
<td>Intro. to Statistics</td>
<td>4</td>
</tr>
<tr>
<td>ISR 253-254</td>
<td>Res. Methods 1 &amp; 2</td>
<td>8</td>
</tr>
<tr>
<td>HIST 214</td>
<td>U.S. History 1 or 2</td>
<td>4</td>
</tr>
<tr>
<td>or 215</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSPS 222-25</td>
<td>One cont. course</td>
<td>4</td>
</tr>
<tr>
<td>or GEOG 226</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSPS 458</td>
<td>or 459</td>
<td></td>
</tr>
<tr>
<td>PLSC 488-489</td>
<td>Sr. Research 1 &amp; 2</td>
<td>3</td>
</tr>
</tbody>
</table>

28 hours political science electives at 300 or 400 level, distributed as follows:

HISTORY, POLITICS, AND JUSTICE 123
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 Intro. to Pol. Sci. 4 hours
PLSC 201 Intro. to Amer. Govt. 4 hours
PLSC 202 State and Local Politics 4 hours
STAT 142 Intro. to Statistics 4 hours
ISR 253-254 Res. Methods 1 & 2 8 hours
HSPS 222-25 One cont. course 4 hours
or GEG 226
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 Psych. 4 hours
PLSC 342 Judicial Process/Crim. Law 4 hours
ISR 253 Research Methods 1 4 hours
ISR 254 Research Methods 2 4 hours
STAT 142 Statistics 4 hours
PLSC 488 Senior Research 1 1 hour
PLSC 489 Senior Research 2 2 hours
PLSC 481 Internship 1-16 hours

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 2 4 hours
   PLSC 332 Criminal Procedure 4 hours
   SOC 361 Delinquency & Juvenile Justice 4 hours
   PLSC 462 Criminal Investigation 4 hours
   PLSC 355 Women & Minorities in Criminal Justice 4 hours
   PSYC 320 Psychology and the Law 4 hours
   PHIL 328 Ethics 4 hours
   or PHIL 320 Social Justice 4 hours
   PLSC 366 Public Administration 4 hours
   PLSC 462 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: 4 hours
   SOC 361 Delinquency & Juvenile Justice 4 hours
   Students select 28 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 362 Occupational Crime & Deviance 4 hours
   SOC 244 Criminal Behavioral Systems 4 hours
   PSSC 301 Social Psychology 4 hours
   PSYC 218 Developmental Psychopathology 4 hours
   PSYC 219 Child/Adolescent Psychotherapies 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 Historical Methods or ISR 253-254 Research Methods 1 & 2 8 hours
HSPS 222-25 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 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 Geography 4 hours
- GEOG 237 Physical Geography 4 hours
- GEOG 248 Introduction to GIS 4 hours

Modern Language:
1 year required, 2 years recommended

Two regions from: (8 credit hours)
- HSPP 222 Contemporary Africa 4 hours
- HSPP 223 Contemporary Asia 4 hours
- HSPP 225 Contemporary Latin America 4 hours
- HIST 384 Modern Europe 2 4 hours
- PLSC 416 East Central Europe & Russia 4 hours

Minor in Geography/GIS

Core courses:
- GEOG 226 World Regional Geography 4 hours
- GEOG 237 Physical Geography 4 hours
- GEOG 248 Introduction to GIS 4 hours
- GEOG 268 Intro. to Cartography 4 hours
- GEOG 348 Applied GIS 4 hours
- GEOG 481 GIS Internship 1-8 hours

21-28 hours

Cognates:
- ISR 253 Research Methods 1 4 hours
- ISR 254 Research Methods 2 4 hours

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
- HSPP 308 Material Culture 4 hours
- HIST 320 Adv. Public History 4 hours
- HIST 330 Adv. Local History 4 hours
- HIST 481 Public Service Internship 4 hours
- HIST 482 Archaeology Field School 4 hours

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
- SOIC 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).

Minor in Asian Studies

Core Courses:
Elementary Asian Language and Study Abroad
- OR
Pre-modern and Modern Japan
- OR
East Asian History to 1800 8 hours
- AND
East Asian History since 1800
- HSPS 224 Contemporary Asia 4 hours

3 Electives in Asian Studies 12 hours

Electives:
- HONR 202 Asian Music 4 hours
- HONR 208 Asian Studies 4 hours
- GEOG 226 World Regional Geography 4 hours
- HIST 471 History of the Ottoman Empire 4 hours
- HSPS 224 Contemporary Middle East 4 hours
- MUSC 200 Non-western Music 4 hours
- PHIL 243 Asian Philosophies 4 hours
- RELG 241 Islam and Christianity 4 hours
- RELG 264 Buddhism 4 hours
- SOIC 250 Cultural Anthropology 4 hours
- IBEC 300 Environment of Int'l. Bus. 4 hours

36 hours

* Eight hours must be taken outside the Department of History, Politics and Justice.

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

HISTORY, POLITICS, AND JUSTICE 125
Teacher Licensure with Major in Social Studies

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSPS 000</td>
<td>Orientation</td>
<td>1</td>
</tr>
<tr>
<td>HIST 004</td>
<td>Teacher Licensure Orient.</td>
<td>1</td>
</tr>
<tr>
<td>HIST 110-111</td>
<td>West. Civ. 1 &amp; 2</td>
<td>8</td>
</tr>
<tr>
<td>HIST 214-215</td>
<td>U.S. History 1 &amp; 2</td>
<td>8</td>
</tr>
<tr>
<td>HIST 303</td>
<td>Ohio History</td>
<td>4</td>
</tr>
<tr>
<td>HIST 365</td>
<td>African-Am. History</td>
<td>4</td>
</tr>
<tr>
<td>HIST/HSPS 300/400 level</td>
<td>Am. History Elective</td>
<td>4</td>
</tr>
<tr>
<td>HIST/HSPS 300/400 level</td>
<td>Eur. History Elective</td>
<td>4</td>
</tr>
<tr>
<td>HIST 204 or ISR 253-254</td>
<td>Historical Methods or Research Methods 1 &amp; 2</td>
<td>8</td>
</tr>
<tr>
<td>PLSC 107, HSPS 222-225</td>
<td>Intro. to Int'l Studies, Contemporary Affairs</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 226</td>
<td>World Regional Geog.</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 237</td>
<td>Physical Geography</td>
<td>4</td>
</tr>
<tr>
<td>PLSC 201</td>
<td>Intro. to Amer. Govt.</td>
<td>4</td>
</tr>
<tr>
<td>PLSC 202</td>
<td>State and Local Politics</td>
<td>4</td>
</tr>
<tr>
<td>PLSC/HSPS 300/400 level</td>
<td>Elective</td>
<td>4</td>
</tr>
<tr>
<td>IBEC 202</td>
<td>Microeconomics</td>
<td>4</td>
</tr>
<tr>
<td>IBEC 203</td>
<td>Macroeconomics</td>
<td>4</td>
</tr>
<tr>
<td>PSSC 301</td>
<td>Social Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 100</td>
<td>Psychology</td>
<td>4</td>
</tr>
<tr>
<td>SOC 105</td>
<td>Sociology</td>
<td>4</td>
</tr>
<tr>
<td>SOC 250</td>
<td>Cultural Anthropology</td>
<td>4</td>
</tr>
<tr>
<td>HIST/HSPS 488,489</td>
<td>Senior Research 1 &amp; 2</td>
<td>3</td>
</tr>
<tr>
<td>AASG 300</td>
<td>Job/Grad Search</td>
<td>1</td>
</tr>
<tr>
<td>Professional Education courses</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

Subject - Geography (GEOG)

193 - SPECIAL TOPICS IN GEOGRAPHY
1 to 4 Credits
Can be repeated as topic varies.

226 - WORLD REGIONAL GEOGRAPHY
4 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 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. Course cannot be counted as a social science.
248 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS
4 Credits
The fundamentals of geographic information systems (GIS). Includes basic cartographic principles, an introduction to general geography concepts and spatial analysis, and the necessary hardware and software elements used in GIS. Lab exercises in various applications of GIS technology used in engineering, political science, health, 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. Does not satisfy Social Science distribution requirement. Prerequisite: working knowledge of Windows operating system. Exercises require work outside class hours.

268 - CARTOGRAPHY
4 Credits
The art and science of making maps. The history of map-making, 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 to 4 Credits
Can be repeated as topic varies.

348 - APPLIED GEOGRAPHIC INFORMATION SYSTEMS
4 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 to 4 Credits
Can be repeated as the topic varies.

481 - PUBLIC SERVICE INTERNSHIP PROGRAM
1 to 16 Credits
Field experiences in the area of public service. Work in a close relationship with public offices and officials. Interns 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 to 4 Credits
Can be repeated as topic varies.

496 - INDEPENDENT STUDY IN GEOGRAPHY
1 to 4 Credits
Approval of department chairman required prior to registration.

Subject - History (HIST)

004 - TEACHER LICENSURE ORIENTATION
1 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 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 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 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 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.

HISTORY, POLITICS, AND JUSTICE
190 - SPECIAL TOPICS IN HISTORY
1 to 4 Credits
Can be repeated as the topic varies.

204 - HISTORICAL METHODS
4 Credits
Methods for the researching and writing of history from textual sources. Requires a fully documented research paper written predominantly from primary sources. Fulfills research methods requirement for social studies majors and international studies majors.

214 - UNITED STATES HISTORY TO 1865
4 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 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 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. Students gain proficiency in PastPerfect.

290 - SPECIAL TOPICS IN HISTORY
1 to 4 Credits
Can be repeated as topic varies.

301 - INTRODUCTION TO FAMILY HISTORY AND GENEALOGY
1 to 4 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 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.

303 - OHIO HISTORY
4 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 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.

311 - PRE-MODERN JAPAN
4 Credits
Ancient Japan and the beginning of imperial rule. Cultural importation from China. The devolution of imperial authority and shogunate. Offered alternate years.

312 - MODERN JAPAN
4 Credits
The Tokagawa Shogunate. The Meiji Restoration and modernization on the western model. The rise of militarism and World War II. From the occupation to the Japanese economic miracle. Offered alternate years.

313 - EAST ASIAN HISTORY TO 1800
4 Credits
The evolution of imperial authority in China and Japan. Cultural institutions in China, Japan, Korea and southeast Asia. Cultural interactions between those nations. The beginnings of European penetration into the East will also be considered. Offered alternate years.

314 - EAST ASIAN HISTORY SINCE 1800
4 Credits
320 - ADVANCED PUBLIC HISTORY
4 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 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 Credits
The history of the United States from the Gilded Age until the conclusion of World War II. Formerly HSPS 361.

362 - RECENT AMERICAN HISTORY 2
4 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 Credits
The history of the African-American experience from the African beginnings to the present-day.

372 - THE ANCIENT WORLD
4 Credits
The political, social, economic, and cultural development of the Near Eastern, Greek, and Roman civilizations of antiquity.

373 - MEDIEVAL EUROPE
4 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 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 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 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 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 to 4 Credits
Can be repeated as topic varies.

404 - HISTORICAL THOUGHT
4 Credits
Western historical thought from the Greeks to the present. Examination of classical, medieval, modern, and post modern schools of historical thought. Focus on implicit and explicit theories of history. Offered every other year beginning 2007-08.

405 - THE GREAT DIVERGENCE
4 Credits
Contact between East and West European penetration and domination of Asia. The struggle for decolonization and national liberation. Asian economic resurgence. Offered alternate years.

415 - RUSSIAN HISTORY TO 1815
4 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 Credits
The evolution of law as an instrument of dispute resolution and social control. The development of the civil law tradition and the English common law tradition to the seventeenth century.
454 - CIVIL WAR AND RECONSTRUCTION
4 Credits
Causes, duration and consequences of the American Civil War.

461 - TOPICS IN NORTH AMERICA TO 1783
4 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 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 Credits
Topics include but are not limited to World War I, the Rise of Fascism, The Holocaust, 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 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 to 16 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 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 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 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 to 4 Credits
Can be repeated as topic varies.

494 - SEMINAR IN HISTORY
1 to 4 Credits
Can be repeated as topic varies.

497 - INDEPENDENT STUDY IN HISTORY
1 to 4 Credits
Approval of department chairman required prior to registration.

Subject - History, Political Science and Criminal Justice (HSPS) ______

000 - HISTORY AND POLITICAL SCIENCE ORIENTATION
1 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 to 4 Credits
Can be repeated as the topic varies.

222 - CONTEMPORARY ASIA
4 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 Credits
Political, socioeconomic, and intellectual development of Africa since the conclusion of World War II. Open to freshmen.

224 - CONTEMPORARY SOUTHWEST ASIA AND NORTH AFRICA
4 Credits
The political, socioeconomic and intellectual development of Southwest Asia and North Africa 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 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 to 4 Credits
Can be repeated as the topic varies.

311 - URBAN HISTORY AND POLITICS
4 Credits
The historical development of American cities and the contemporary problems faced by cities and their suburbs.

378 - INTRODUCTION TO CANADIAN STUDIES
4 Credits
Canada's history, politics, geography, environment, economics and literature. Interdisciplinary, team taught. Formerly HSPS 278.

392 - SPECIAL TOPICS - HISTORY AND POLITICAL SCIENCE
1 to 4 Credits
Can be repeated as the topic varies.

395 - SEMINAR IN INTERNATIONAL STUDIES
4 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 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 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 Credits
Western political theory commencing with the Enlightenment and ending with John Rawls. Constitutionalism, contract theory, conservatism, idealism, romanticism, liberalism, utilitarianism, Marxism, anarchism, socialism, elite theories, social Darwinism, racism, anti-Semitism, fascism, feminism, environmentalism, and libertarianism shall be considered.

481 - PUBLIC SERVICE INTERNSHIP
1 to 16 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 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 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 to 4 Credits
Can be repeated as the topic varies.
107 - INTERNATIONAL STUDIES AND WORLD PROBLEMS
4 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 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 Credits
Historical, philosophical and legal basis of police institutions, practices and procedures. Issue oriented course and discussion topics will vary with prevailing issues.

123 - CORRECTIONS
4 Credits
Historical, philosophical and legal basis of correctional procedures and institutions. Issue oriented course and discussion topics will vary with prevailing correctional issues.

191 - SPECIAL TOPICS IN POLITICAL SCIENCE
1 to 4 Credits
Can be repeated as topic varies.

201 - INTRODUCTION TO AMERICAN GOVERNMENT
4 Credits
Introduction to the constitutional underpinnings, political behavior, processes, and institutions of American national government.

202 - STATE AND LOCAL POLITICS
4 Credits
Introduction to the underpinnings, political behavior, processes, and institutions found in American states and localities.

230 - POVERTY, INEQUALITY AND PUBLIC ISSUES
4 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 to 4 Credits  
Can be repeated as topic varies.

302 - WEEKEND SEMINAR  
1 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, Globalization and the United Nations, and Current Issues in Political Science and Criminal Justice. A Nature Center use fee is charged.

306 - ENVIRONMENTAL LAW  
3 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 Credits  
Examination of the formation, maintenance, and influence of interest groups and political parties in the United States.

323 - MASS POLITICAL BEHAVIOR  
4 Credits  
Examination of the theory, practice and role of voting behavior in the United States.

325 - TOPICS IN AMERICAN POLITICS  
4 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 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.

334 - PARLIAMENTARY DEMOCRACIES  
4 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 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 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 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 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 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.

366 - PUBLIC ADMINISTRATION AND POLICY ANALYSIS  
4 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 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 to 4 Credits  
Can be repeated as topic varies.

409 - THE PRESIDENCY  
4 Credits  
Examination of the development and contemporary operation of the Presidency.

411 - CONGRESS  
4 Credits  
Examination of the structure and operation of Congress.

416 - EAST CENTRAL EUROPE AND RUSSIA  
4 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 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.

475 - MODEL UNITED NATIONS  
1 to 4 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 to 4 Credits  
Preparation to participate in both the regional and national mock trial competition held at various sites throughout the United States. 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 to 16 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 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 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 to 4 Credits  
Can be repeated as topic varies.

495 - SEMINAR IN POLITICAL SCIENCE OR CRIMINAL JUSTICE  
1 to 4 Credits  
Can be repeated as topic varies.

498 - INDEPENDENT STUDY IN POLITICAL SCIENCE, CRIMINAL JUSTICE OR INTERNATIONAL STUDIES  
1 to 4 Credits  
Approval of department chairman required prior to registration.
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 83 hours
- Sport Management 83 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
- 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, fees 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 athletic training education 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPES 112</td>
<td>First Aid</td>
<td>2</td>
</tr>
<tr>
<td>HPES 113</td>
<td>Community CPR</td>
<td>1</td>
</tr>
<tr>
<td>HPES 151</td>
<td>HPESS Foundations</td>
<td>4</td>
</tr>
<tr>
<td>HPES 207</td>
<td>Advanced Strength &amp; Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>HPES 209</td>
<td>Sports Nutr. and Supplementation</td>
<td>4</td>
</tr>
<tr>
<td>HPES 213</td>
<td>Individual &amp; Dual Sports</td>
<td>4</td>
</tr>
<tr>
<td>HPES 217</td>
<td>Intramurals</td>
<td>4</td>
</tr>
<tr>
<td>HPES 218</td>
<td>Team Sports</td>
<td>4</td>
</tr>
<tr>
<td>HPES 221</td>
<td>Exercise Physio.</td>
<td>4</td>
</tr>
<tr>
<td>HPES 223</td>
<td>Kinesiology</td>
<td>4</td>
</tr>
<tr>
<td>HPES 226</td>
<td>Care &amp; Prevention of Ath. Inj.</td>
<td>4</td>
</tr>
<tr>
<td>HPES 230</td>
<td>Adapt. &amp; Corr. PE</td>
<td>4</td>
</tr>
<tr>
<td>HPES 233</td>
<td>Elem. School Phys. Ed.</td>
<td>4</td>
</tr>
<tr>
<td>HPES 271</td>
<td>Motor Learning</td>
<td>4</td>
</tr>
<tr>
<td>HPES 303</td>
<td>Org. &amp; Admin.</td>
<td>4</td>
</tr>
<tr>
<td>HPES 304</td>
<td>Teach Tech.</td>
<td>1</td>
</tr>
<tr>
<td>HPES 305</td>
<td>Practical Techniques of Teaching</td>
<td>1</td>
</tr>
<tr>
<td>HPES 360</td>
<td>Test Meas. HPE</td>
<td>4</td>
</tr>
<tr>
<td>HPES XXX</td>
<td>Coaching Techniques</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>(Only one officiating course may apply)</td>
<td></td>
</tr>
</tbody>
</table>

### Biology Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 231</td>
<td>Anat. &amp; Physio. 1</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 232</td>
<td>Anat. &amp; Physio. 2</td>
<td>4</td>
</tr>
</tbody>
</table>

### Education Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 460</td>
<td>Integrated PE Methods</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Integrated Health Methods</td>
<td>4</td>
</tr>
</tbody>
</table>

### Health Education (pre K-12) 53 hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPES 099</td>
<td>Wellness Lab</td>
<td>1</td>
</tr>
<tr>
<td>HPES 110</td>
<td>Intro to Exercise, Nutrition and Health</td>
<td>4</td>
</tr>
<tr>
<td>HPES 111</td>
<td>Pers. Hlth Prob</td>
<td>4</td>
</tr>
<tr>
<td>HPES 112</td>
<td>First Aid</td>
<td>2</td>
</tr>
<tr>
<td>HPES 113</td>
<td>Community CPR</td>
<td>1</td>
</tr>
<tr>
<td>HPES 119</td>
<td>Sch. &amp; Comm. Hlth.</td>
<td>3</td>
</tr>
<tr>
<td>HPES 151</td>
<td>HPESS Foundations</td>
<td>4</td>
</tr>
<tr>
<td>HPES 201</td>
<td>AIDS &amp; other Sexually Transmitted</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Diseases</td>
<td></td>
</tr>
<tr>
<td>HPES 209</td>
<td>Sports Nutrition and Supplementation</td>
<td>4</td>
</tr>
<tr>
<td>HPES 221</td>
<td>Exercise Physio.</td>
<td>4</td>
</tr>
<tr>
<td>HPES 303</td>
<td>Org. &amp; Admin.</td>
<td>4</td>
</tr>
<tr>
<td>HPES 360</td>
<td>Test Meas. HPE</td>
<td>4</td>
</tr>
<tr>
<td>HPES 494</td>
<td>Health Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

### Exercise Physiology 76-78 hours

#### Core Exercise Physiology Classes

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPES 110</td>
<td>Introduction to Exercise, Nutrition</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>and Health</td>
<td></td>
</tr>
<tr>
<td>HPES 112</td>
<td>First Aid</td>
<td>2</td>
</tr>
<tr>
<td>HPES 113</td>
<td>Community CPR</td>
<td>1</td>
</tr>
<tr>
<td>HPES 207</td>
<td>Advanced Strength and Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>HPES 209</td>
<td>Sports Nutrition and Supplementation</td>
<td>4</td>
</tr>
<tr>
<td>HPES 221</td>
<td>Exercise Physiology</td>
<td>4</td>
</tr>
<tr>
<td>HPES 223</td>
<td>Kinesiology</td>
<td>4</td>
</tr>
<tr>
<td>HPES 261</td>
<td>Exercise/Fitness Testing and</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Prescription 1</td>
<td></td>
</tr>
<tr>
<td>HPES 262</td>
<td>Exercise/Fitness Testing and</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Prescription 2</td>
<td></td>
</tr>
<tr>
<td>HPES 337</td>
<td>Exercise Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>HPES 338</td>
<td>Ex. Program Select Pops</td>
<td>4</td>
</tr>
<tr>
<td>HPES 369</td>
<td>Ex. Phys Practicum 1</td>
<td>1</td>
</tr>
<tr>
<td>HPES 375</td>
<td>Research Design and Statistics</td>
<td>4</td>
</tr>
<tr>
<td>HPES 381</td>
<td>ECG Analysis</td>
<td>2</td>
</tr>
<tr>
<td>HPES 383</td>
<td>Ex. Phys Practicum 2</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Clinical/Research Track Classes

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 124/126</td>
<td>Anatomy and Histology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 302</td>
<td>Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>HPES 329</td>
<td>Exercise Pharmacology</td>
<td>4</td>
</tr>
<tr>
<td>HPES 441</td>
<td>Introduction to Pathophysiology</td>
<td>4</td>
</tr>
<tr>
<td>HPES 485</td>
<td>Exercise Physiology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Internship (15)</td>
<td></td>
</tr>
<tr>
<td>HPES 498</td>
<td>Exercise Physio. Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>
Corporate Fitness/Personal Training

Track Classes

HPES 247  Sport Marketing and Promotions (4)
HPES 355  Organization and Administration of Health Promotion Programs/ Facilities Management(4)
HPES 362  Personal Training 1 (2)
HPES 363  Personal Training 2 (2)
HPES 364  Personal Training 3 (2)
HPES 485  Exercise Physiology Internship (15)
HPES 498  Exercise Physiology Seminar (1)

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 83 hours

Students, including transfers, must be accepted into the athletic training education 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, including a criminal background check.

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)

Sport Management Major 83 hours

HPES 247  Sport Marketing/Promo (4)
HPES 256  Soc/Psych of Sport (4)
HPES 265  Facility Management and Event Planning (4)
HPES 303  Org. & Adm. (4)
HPES 340  Finance-Economics of Sport(4)
HPES 344  Sport Management Practicum-Team Promotions (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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 211</td>
<td>Prin. of Accounting 1</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 212</td>
<td>Prin. of Accounting 2</td>
<td>4</td>
</tr>
<tr>
<td>ABUS 312</td>
<td>Business Law 1</td>
<td>4</td>
</tr>
<tr>
<td>MRKT 351</td>
<td>Prin. of Marketing</td>
<td>4</td>
</tr>
<tr>
<td>MRKT 371</td>
<td>Personal Selling</td>
<td>4</td>
</tr>
<tr>
<td>MGMT 363</td>
<td>Human Resource Management</td>
<td>4</td>
</tr>
<tr>
<td>MGMT 410</td>
<td>Business and Society</td>
<td>4</td>
</tr>
</tbody>
</table>

In addition to the College of Arts and Sciences Business Option, the following **certification** is available from the department.

**ONU Coaching Certification** 25 hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPES 112</td>
<td>First Aid</td>
<td>2</td>
</tr>
<tr>
<td>HPES 113</td>
<td>Community CPR</td>
<td>1</td>
</tr>
<tr>
<td>HPES 207</td>
<td>Adv. Strength and Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>HPES 226</td>
<td>Care &amp; Prevention of Ath. Inj.</td>
<td>4</td>
</tr>
<tr>
<td>HPES 324</td>
<td>Psych. of Coaching</td>
<td>2</td>
</tr>
<tr>
<td>HPES 334</td>
<td>Adv. Coach.</td>
<td>1</td>
</tr>
<tr>
<td>HPES 410</td>
<td>Ethics in Sport</td>
<td>4</td>
</tr>
<tr>
<td>HPES 421</td>
<td>Sport Law</td>
<td>4</td>
</tr>
</tbody>
</table>

Two coaching theory courses (only one officiating course may apply)

**Subject - Varsity Sports/Service Courses (AHPE)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Varsity Football Participation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>002</td>
<td>Varsity Cross Country Participation (MEN)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>003</td>
<td>Varsity Soccer Participation (MEN)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>004</td>
<td>Varsity Volleyball Participation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>005</td>
<td>Varsity Basketball Participation (MEN)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>006</td>
<td>Varsity Basketball Participation (WOMEN)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>007</td>
<td>Varsity Cross Country Participation (WOMEN)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>008</td>
<td>Varsity Soccer Participation (WOMEN)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>010</td>
<td>Varsity Track Participation (WOMEN)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>011</td>
<td>Varsity Wrestling Participation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>012</td>
<td>Varsity Track Participation (MEN)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>013</td>
<td>Varsity Tennis Participation (MEN)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>014</td>
<td>Varsity Tennis Participation (WOMEN)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>015</td>
<td>Varsity Golf Participation (MEN)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>016</td>
<td>Varsity Softball Participation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>017</td>
<td>Varsity Baseball Participation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>018</td>
<td>Varsity Swimming Participation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(MEN AND WOMEN)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>019</td>
<td>Varsity Golf Participation (WOMEN)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Graded S/U.</td>
<td></td>
</tr>
<tr>
<td>021</td>
<td>Weight Training and Physical</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Conditioning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>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)</td>
<td></td>
</tr>
</tbody>
</table>
024 - BEGINNERS GOLF
1 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 Credit
The basic skills, rules, etiquette and strategies of the game of disc golf will be taught. Participation is expected. Graded S/U. (Lifetime Activities)

028 - ULTIMATE FRISBEE
1 Credit
The basic skills, rules, etiquette and strategies of the game of ultimate frisbee will be taught. Participation is expected. Graded S/U. (Lifetime Activities)

029 - RACQUETBALL
1 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 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 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 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 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 Credit
An individualized medium intensity fitness program which best fits the physical and mental needs of each student. Programs could include cycling, hydrorobics (fitness swimming), running and power walking. (Fitness)

038 - ADVANCED FITNESS
1 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 Credit
To offer each student the opportunity to learn and participate in the fundamentals of billiards. (Lifetime Activities)

042 - HIKING AND BACKPACKING
1 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 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 Credit
The course is taught mostly in the classroom, and lessons in safe boating are included. (Life-time Activities)

049 - SNOW SKIING
1 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. Field trips are mandatory for credit to be received. 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 Credit
The traditional dance (i.e., waltz, foxtrot, swing, samba, rhumba, 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 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. A mandatory field trip is required to receive credit. (Lifetime Activities)

060 - ARCHERY
1 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 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 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 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 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 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 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 Credit
The basic skills, strategies and rules of the game of volleyball will be taught. Participation is expected. (Lifetime Activities)

087 - AEROBIC ACTIVITIES
1 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 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 to 4 Credits
May be repeated for credit as topic varies.

093 - UNIVERSITY WELLNESS PROGRAM
0 Credit
Assist full-time faculty/staff to design and implement a wellness program. Graded S/U.
(Wellness)

099 - WELLNESS LAB
1 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)

100 - UNIVERSITY WELLNESS PROGRAM
1 Credit
A comprehensive wellness program for ONU employees.

101 - WELLNESS ORIENTATION AND OBSERVATION
1 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 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, HLED and ATTR majors only.

111 - PERSONAL HEALTH PROBLEMS
4 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 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 may 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 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 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; and must be able to pass an in-water test to be enrolled. Instructor approval. (Fee)

115 - WATER SAFETY INSTRUCTION
3 Credits
To develop knowledge and skills to teach 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 lifeguarding, First Aid and CPR for the professional rescuer. (Fee)
117 - CPR FOR THE PROFESSIONAL RESCUER
1 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 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 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 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 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 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 to 4 Credits
May be repeated for credit as topic varies.

201 - AIDS AND OTHER SEXUALLY TRANSMITTED DISEASES
3 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 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.

208 - ADVANCED STRENGTH AND CONDITIONING LAB EXPERIENCE
1 Credit
Performance and instruction of 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: HPES 207.
209 - SPORTS NUTRITION AND SUPPLEMENTATION
4 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 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 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, and admitted to the athletic training education program.

217 - INTRAMURALS
4 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 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 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. Prerequisites: BIOL 232 or 333.

223 - KINESIOLOGY
4 Credits
Practical analysis of human movement patterns, muscle function, and biomechanical concepts. Laboratory techniques in analyzing movement while using Dartfish motion analysis software and Accupower force plates. Prerequisite: BIOL 231.

226 - CARE AND PREVENTION OF ATHLETIC INJURIES
4 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 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 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 and HPSS and EDUC majors only.

247 - SPORT MARKETING AND PROMOTIONS
4 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.

250 - PRE-SEASON ATHLETIC TRAINING CLINICAL EXPERIENCE
1 Credit
On-campus clinical field experience in pre-season football, soccer or volleyball prior to the start of the academic year. Prerequisites: HPES 112, 117 and 160; and Athletic Training major.
251 - ATHLETIC TRAINING CLINICAL LEVEL 1
1 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 athletic training education program, and must be in good academic standing. Graded S/U. Must have valid First Aid and CPR certifications.

252 - ATHLETIC TRAINING CLINICAL LEVEL 2
1 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. Must have valid First Aid and CPR certifications.

256 - SOCIOLOGY/PSYCHOLOGY OF SPORT
4 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 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 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.

265 - FACILITY MANAGEMENT AND EVENT PLANNING
4 Credits
Develop an understanding of the principles and processes necessary to successfully manage an athletic facility. Focus on the designing, planning, organizing, and managing of public and private athletic facilities, and to overcome and prevent issues which may arise.

271 - MOTOR LEARNING
4 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.

277 - EVALUATION TECHNIQUES IN ATHLETIC TRAINING 1
4 Credits
Practical application of the injury evaluation process, incorporating origins, insertions and innervations of selected muscle groups and manual muscle testing of the lower body, including thoracic and lumbar spine, abdominal and genitourinary. Prepares students to make injury diagnoses and formulate written injury evaluations and SOAP notes for documentation purposes. Must be an athletic training major. Prerequisite: BIOL 231 and HPES 215.

278 - EVALUATION TECHNIQUES IN ATHLETIC TRAINING 2
4 Credits
Continuation of HPES 277, but focusing on the upper body, including the head and cervical spine. Must be an athletic training major. Prerequisite: HPES 277.

284 - ATHLETIC TAPING AND BRACING
1 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: ATTR majors only and must be admitted to the athletic training education program. Graded S/U.

290 - SPECIAL TOPICS IN HUMAN PERFORMANCE AND SPORT SCIENCES
1 to 4 Credits
May be repeated for credit as topic varies.
300 - HEALTH PROMOTION PRACTICUM
3 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 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 Credit
Required of all physical education majors, preferably in their junior year. Involves assisting in service classes. Permission of department chairperson required, concurrent with EDUC 461.

305 - PRACTICAL TECHNIQUES OF TEACHING INTRAMURALS
1 Credit
Involves assisting with the organization and administration of the university intramural program. This course is an extension of the course HPES 217. Prerequisite: Permission of the department chairperson and HPES 217.

306 - PRACTICAL TECHNIQUES OF TEACHING PHYSICAL EDUCATION 3
1 Credit
Continuation of HPES 304,305. Prerequisites: HPES 304 and 305, and permission of department chairperson required.

308 - TECHNIQUES-COACHING VOLLEYBALL
2 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. Volleyball playing or coaching experience required. Offered odd numbered years.

310 - TECHNIQUES-COACHING SOFTBALL
2 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.

312 - THEORY AND TECHNIQUE OF COACHING COMPETITIVE SWIMMING
2 Credits
Develop a working knowledge of the basic technical skills for all four competitive strokes. Design and implementation of a seasonal training program, communication and organizational skills necessary to manage a team environment; and the rules and regulations of competitive swimming. Practical experience provided.

315 - OFFICIATING-VOLLEYBALL
2 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 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 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 Credits
Equipment, fundamentals of the art and skill of wrestling. Offered even numbered years.

321 - THEORY OF FOOTBALL COACHING
2 Credits
The fundamentals of the game, kicking, passing, handling the ball, tackling, blocking; individual position play; offensive and defensive formation; strategy and organization of a football program. To prepare students to coach on the junior high and senior high level.
322 - THEORY OF COACHING BASKETBALL
2 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 Credits
Individual position and team play in baseball. Lectures, reports, demonstration, and practice.

324 - PSYCHOLOGY OF COACHING
2 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 Credits
Equipment, fundamentals of the game: kicking, passing, playing the ball, strategy and generalship.

329 - EXERCISE PHARMACOLOGY
4 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.

332 - THEORETICAL PHYSIOLOGY
2 Credits
Lectures, reports, demonstration, and practice. Prerequisite: Junior status or permission of department chairperson.

334 - ADVANCED COACHING INTERNSHIP-EXTERNSHIP
1 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 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
4 Credits
Researched based evaluation of exercise programming strategies for select populations including but not limited to: children and adolescents, geriatric adults, pregnant women, persons suffering from cardiovascular, pulmonary, metabolic, immunological, orthopedic, neuromuscular, cognitive or sensory disorders. Prerequisite: HPES 221.

340 - FINANCE AND ECONOMICS OF SPORT
4 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 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 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 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. Must have valid First Aid and CPR certifications.
346 - SPORT MANAGEMENT PRACTICUM - FACILITIES MANAGEMENT 2
1 Credit
Prerequisites: Permission of department chairperson; SPMG majors only. Must have valid First Aid and CPR certifications.

348 - OFF-CAMPUS ATHLETIC TRAINING CLINICAL EXPERIENCE
0 Credit
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. Must have valid First Aid and CPR certifications.

353 - ATHLETIC TRAINING CLINICAL LEVEL 3
1 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. Must have valid First Aid and CPR certifications.

354 - ATHLETIC TRAINING CLINICAL LEVEL 4
1 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. Must have valid First Aid and CPR certifications.

355 - ORGANIZATION & ADMINISTRATION OF HEALTH PROMOTION PROGRAMS
4 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 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 Credits
Complete design of a personal training program for an assigned client based on client fitness assessment results, interview, fitness level and goals; other topics include but are not limited to physioballs, therabands, medicine balls and alternative modalities into training as well as an overview of current events in the personal training profession. Prerequisite: HPES 262. Must have valid First Aid and CPR certifications.

363 - PERSONAL TRAINING 2
2 Credits
Implementation of a personal training program for an assigned client and responsibility for training and assisting his/her client bi-weekly. All exercise sessions will take place in King Horn Sports Center under instructor supervision. Prerequisite: HPES 362. Must have valid First Aid and CPR certification.

364 - PERSONAL TRAINING 3
2 Credits
Design and implementation of a personal training program for an assigned client and responsibility for training and assisting his/her client biweekly. All exercise sessions will take place in King Horn Sports Center under instructor supervision. Additional requirement includes incorporating aquatic exercise modalities and registering for a pre-approved personal trainer certification exam. NOTE: Fees for certification exams will vary by each agency. Prerequisites: HPES 362 and 363. Must have valid First Aid and CPR certifications.

365 - ATHLETICS TESTING PRACTICUM
1 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 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.

HUMAN PERFORMANCE AND SPORT SCIENCES 147
369 - EXERCISE PHYSIOLOGY PRACTICUM 1
1 Credit
Comprehensive practical experience working with an adult fitness program under direct supervision of departmental staff. Experiences include but not limited to: client testing, counseling, monitoring, implementing health promotion materials and participating in fitness facility management. Must have valid First Aid and CPR certifications. Prerequisites: HPES 221; junior or senior status.

371 - THERAPEUTIC MODALITIES IN ATHLETIC TRAINING
4 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 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 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 Credits
The design and analysis of basic research in the sciences. Overview of experimental design, literature review, research methodology and statistical concepts and analysis. Prerequisite: Junior status and STAT 142.

378 - PSYCHOSOCIAL FACTORS IN ATHLETIC TRAINING
2 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 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 - EXERCISE PHYSIOLOGY PRACTICUM 2
1 Credit
Comprehensive practical experience working with an adult fitness program under the direct supervision of departmental staff. Experiences include but not limited to: client testing, counseling, monitoring, implementing health promotion materials and participating in fitness facility management. Must have valid First Aid and CPR certifications. Enrollment restricted to senior exercise physiology majors. Prerequisite: HPES 369.

390 - SPECIAL TOPICS IN HUMAN PERFORMANCE AND SPORT SCIENCES
1 to 4 Credits
May be repeated for credit as topic varies.

410 - ETHICS IN SPORT
4 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 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 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 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. Must have valid First Aid and CPR certifications.

456 - ATHLETIC TRAINING CLINICAL LEVEL 6
1 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. Graded S/U. Must have valid First Aid and CPR certifications.

461 - MEDICAL CONSIDERATIONS IN ATHLETICS
3 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 - EXERCISE PHYSIOLOGY INTERNSHIP
1 to 15 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 GPA, and permission of the department chairperson required.

486 - SPORT MANAGEMENT INTERNSHIP
1 to 15 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 to 16 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 GPA; 2.50 GPA in major(s); 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 to 4 Credits
May be repeated for credit as topic varies.

493 - SENIOR SEMINAR IN ATHLETIC TRAINING
4 Credits
Professional preparation for athletic training students taking the BOC exam. Review of athletic training domains, exam simulations, mock interviews and practical application of psychomotor skills will be emphasized. Prerequisite: HPES 354.

494 - HEALTH SEMINAR
3 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 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 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 to 4 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.
498 - EXERCISE PHYSIOLOGY SEMINAR
1 Credit
Discussion and analysis of the field setting, practice and organization. Includes monitoring and evaluation of the internships. To be taken concurrently with Exercise Physiology Internship (HPES 485).

INSTITUTE FOR SOCIAL RESEARCH

Professors Iseman, J. Scott; Associate Professors Alexander, Durkin (Director), Ewing, D. Smith, E. Wilson; Assistant Professors Crawford, Hundersmarck

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 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 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 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 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 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 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 (Chair), Putt; Associate Professors Mi. Caragiu, Fuller, Hunt, Johns, Raiti, Retterer, Robinson, Roepke; Assistant Professor Schroeder; Visiting Instructor Torres; Lecturers Barnhart, Morrison, Roll, Willner; Director of the Mathematics Resource Center: Rader

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 2007-08 recipient of this chair is Dr. Mihai Caragiu, 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 360 Mathematical Programming
MATH 492 Senior Research

** 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
MATH 360 Mathematical Programming
STAT 280 Stat for Sci/Engr.
or STAT 156 Biostatistics 1
MATH 421 Foundations of Geometry
MATH 492 Senior Research

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
or STAT 280 Stat for Sci/Engr
STAT 256 Biostatistics 2
STAT 281 Applied Regression
STAT 3xx Elective
STAT 3xx Elective
STAT 350 Statistical Computing
MATH 352 Real Analysis 1
MATH 480 Probability Models
MATH 481 Mathematical Statistics 1
MATH 482 Mathematical Statistics 2
STAT 491 Statistics Practicum
or
MATH 492 Senior Research

*Mathematics/statistics majors may use STAT 142 or 146 with permission of the department chair.

If more than one of STAT 281, STAT 351, or STAT 352 is taken before STAT 256, then STAT 256 is to be replaced by an additional STAT 3xx.

Mathematics/statistics majors are strongly encouraged to complete a minor or option in a cognate area.

Modified Mathematics Major
A modified mathematics major is available for students who are completing the requirements for a second major in mathematics in addition to a primary major outside of the Department of Mathematics.

It may not be used as a primary major. The modified major consists of the following 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 311 Abstract Algebra 1
MATH 352 Real Analysis 1
MATH 370 Junior Seminar (waived if equivalent coursework has been completed)
MATH 492 Senior Research
MATH 493 Senior Exposition

3 additional MATH courses numbered 275 or higher, but not MATH 301. One STAT course numbered 280 or higher may be included as one of the three courses.

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

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, 480, STAT 281, 3xx.

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
STAT 350
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

152 MATHEMATICS
Subject - Mathematics (MATH)

000 - ORIENTATION
1 Credit
Familiarization with the department, requirements for majors planning programs of study, University catalog and library. Graded S/U.

105 - INTERMEDIATE ALGEBRA
4 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 that 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 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 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 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. Recommended background: Two years of high school algebra.

145 - CALCULUS WITH BUSINESS APPLICATIONS
4 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 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 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 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 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 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 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 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 Credits
Limit of a function, continuity, the derivative, extrema, curve plotting, Mean Value Theorem, applications of the derivative. Recommended background: Two years of high school algebra and one-half year of high school trigonometry.

164 - CALCULUS 2
4 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 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 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 Credits
Fundamentals of counting, probability and statistics. Geometric figures, measurement, congruence, symmetry, constructions, transformations and similarity. Open only to early and middle education majors.

190 - SPECIAL TOPICS IN MATHEMATICS
1 to 5 Credits

245 - HISTORY OF MATHEMATICS
4 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 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 Credits
Linear systems and Gaussian 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 Credits
First and second order linear differential equations with applications. Laplace transforms and applications. Prerequisite: MATH 165.

285 - MATHEMATICAL PROBLEM SOLVING
1 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 to 4 Credits

294 - FOUNDATIONS OF MATHEMATICS
4 Credits
Sets, logic and mathematical proof; application of these concepts. Prerequisite: MATH 159 or 164.

297 - INDEPENDENT STUDY IN MATHEMATICS
1 to 4 Credits

301 - MATHEMATICS FOR SECONDARY TEACHERS
4 Credits
Enrichment and application topics for secondary school mathematics based on an advanced understanding of mathematics and mathematical proof.

311 - ABSTRACT ALGEBRA 1
4 Credits
Algebraic structures, groups, rings and fields. Prerequisite: MATH 294.

312 - ABSTRACT ALGEBRA 2
4 Credits
Continuation of MATH 311. Offered as needed. Prerequisite: MATH 311.

324 - TOPOLOGY
3 Credits
General point set topology and metric spaces. Offered as needed. Prerequisites: MATH 165 and 294.
332 - OPERATIONS RESEARCH
4 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 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 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 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 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.

360 - MATHEMATICAL PROGRAMMING
4 Credits
Numerical computation and programming concepts and techniques. Use of various mathematical software applications such as MATLAB, Excel, Visual Basic for Applications; Maple and Mathematica. Mathematical Text Editing. Prerequisite: MATH 272.

362 - FOURIER ANALYSIS AND PDES
4 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 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 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.

372 - ADVANCED LINEAR ALGEBRA
4 Credits
Finite and infinite dimensional vector spaces, linear independence, basis and dimension, linear transformations, diagonalization, inner product spaces and orthogonality. Prerequisite: MATH 272.

390 - SPECIAL TOPICS IN MATHEMATICS
1 to 4 Credits

411 - NUMBER THEORY WITH APPLICATIONS IN CRYPTOGRAPHY AND CODING THEORY
4 Credits
An introduction to number theory, modular arithmetic and finite fields, with applications to pseudo-random sequences, cryptography and coding theory. Prerequisite: MATH 164 or consent of the instructor.

421 - FOUNDATIONS OF GEOMETRY
4 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.

461 - NUMERICAL ANALYSIS
4 Credits
Review of programming concepts using MatLab and other software. Errors that occur in representing numbers on a computer and approximating solutions; Methods for locating roots of Equations; Numerical interpolation and numerical differentiation: splines; Numerical integration; Numerical solution of differential equations; Numerical solution of systems of equations. Prerequisites: MATH 165, MATH 272 and MATH 360.
470 - MATHEMATICS INTERNSHIP
2 to 12 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 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 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 Credits
Hypothesis testing, ANOVA, analysis of enumerative data, non-parametric statistics. Offered alternate years. Prerequisite: MATH 481.

490 - SPECIAL TOPICS IN MATHEMATICS
1 to 4 Credits

492 - SENIOR RESEARCH
1 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 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 to 4 Credits

497 - INDEPENDENT STUDY IN MATHEMATICS
1 to 4 Credits

Subject - Statistics (STAT)

142 - INTRODUCTION TO STATISTICS
4 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 Credits
Basic statistical techniques with emphasis on their applications in the field of business. Recommended background: MATH 145 or its equivalent. Formerly MATH 146.

156 - BIOSTATISTICS 1
4 Credits
Basic statistical techniques with emphasis on applications to biological and health sciences. Recommended background: MATH 120 or its equivalent. Formerly MATH 156.

190 - SPECIAL TOPICS IN STATISTICS
1 to 4 Credits
Topics to be determined by the instructor. Can be repeated for credit as the topic varies. Prerequisites: STAT 142, 146, 156 or 280, or permission of the instructor.

256 - BIOSTATISTICS 2
4 Credits
Review of inferential statistics, analysis of variance, regression analysis and correlation. Prerequisite: STAT 142 or 146 or 156 or 280 or permission of instructor. Formerly MATH 256.

280 - STATISTICS FOR SCIENTISTS AND ENGINEERS
4 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 Credits
Linear and multiple regression with applications. Prerequisite: STAT 142 or 146 or 156 or 280 or permission of instructor.

290 - SPECIAL TOPICS IN STATISTICS
1 to 4 Credits
Topics to be determined by the instructor. Can be repeated for credit as the topic varies. Prerequisites: STAT 142, 146, 156 or 280, or permission of the instructor.

297 - INDEPENDENT STUDY IN STATISTICS
1 to 4 Credits
Topics to be determined by student and instructor. May be repeated as the topic varies. Prerequisite: Permission of instructor.
350 - STATISTICAL COMPUTING
4 Credits
Use of statistical package programs such as 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 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 or 146 or 156 or 280 or permission of instructor.

352 - ANALYSIS OF VARIANCE WITH EXPERIMENTAL DESIGN
4 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 or 146 or 156 or 280 or permission of instructor.

353 - SURVEY SAMPLING METHODS
4 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 or 146 or 156 or 280 or permission of instructor.

354 - NONPARAMETRIC STATISTICAL METHODS
4 Credits
Review of parametric inferential methods; nonparametric hypothesis testing (including Wilcoxon rank-sum, Wilcoxon signed-rank, sign, Kolmogorov-Smirnov, Kruskal-Wallis, Friedman); nonparametric confidence interval estimation; rank correlation; randomization and permutation tests. Prerequisites: STAT 142 or 146 or 156 or 280 or permission of instructor.

355 - APPLIED PROBABILITY
4 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 or 146 or 156 or 280; MATH 154or 159 or 163; or permission of instructor.

356 - INTRODUCTION TO STOCHASTIC PROCESSES
4 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 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, or permission of instructor.

490 - SPECIAL TOPICS IN STATISTICS
1 to 4 Credits
Topics to be determined by the instructor. Can be repeated for credit as the topic varies. Prerequisite: permission of the instructor.

491 - STATISTICS PRACTICUM
1 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. Permission of the instructor.

DEPARTMENT OF MODERN LANGUAGES

Professors Dufault (Chair), Lippert, Walter; Associate Professor Finn; Assistant Professors Kempen, Sen; Lecturers Angulo, 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 methodologies in daily lessons.

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.

Apart from French, German, and Spanish, students may also study first and second year Chinese and Japanese. In addition, 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
- Participate in assessment activities

Major in French: teacher licensure (68 hours)
The major
- Four additional courses (two in literature)
The Multiage Licensure Program through the Center for Teacher Education

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. Participate in assessment activities

Major in German: teacher licensure (68 hours)
The major
- Four additional courses (two in literature)
The Multiage Licensure Program through the Center for Teacher Education

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
- Participate in assessment activities

Major in Spanish: teacher licensure (68 hours)
The major
- Four additional courses (two in literature)
The Multiage Licensure Program through the Center for Teacher Education

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

Participate in assessment activities
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRMN 130</td>
<td>Elementary German 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRMN 131</td>
<td>Elementary German 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRMN 132</td>
<td>Elementary German 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRMN 224</td>
<td>Intermediate German 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRMN 225</td>
<td>Intermediate German 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRMN 226</td>
<td>Intermediate German 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRMN 311</td>
<td>Using Contemporary German</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRMN 312</td>
<td>Communicating in German</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRMN 313</td>
<td>Advanced German Language Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPAN 140</td>
<td>Elementary Spanish 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPAN 141</td>
<td>Elementary Spanish 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPAN 142</td>
<td>Elementary Spanish 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPAN 244</td>
<td>Intermediate Spanish 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPAN 245</td>
<td>Intermediate Spanish 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPAN 256</td>
<td>Intermediate Spanish 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPAN 342</td>
<td>Advanced Spanish Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPAN 370</td>
<td>Spanish Conversation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPAN 372</td>
<td>Spanish Composition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHNS 101</td>
<td>ELEMENTARY CHINESE 1</td>
<td>4</td>
<td>Introduction to basic conversational Mandarin. By the end of the course, ability to converse on personal matters and familiarity with the foundations of the Chinese writing system.</td>
</tr>
<tr>
<td>CHNS 102</td>
<td>ELEMENTARY CHINESE 2</td>
<td>4</td>
<td>Continued development of skills in basic conversational Mandarin. Emphasis on vocabulary building and foundations of the Chinese writing system. Prerequisite: CHNS 101.</td>
</tr>
<tr>
<td>CHNS 103</td>
<td>ELEMENTARY CHINESE 3</td>
<td>4</td>
<td>Continued practice in basic conversational Mandarin. Emphasis on comprehension and speaking. Familiarity with foundations of the Chinese writing system and cultural values. Prerequisite: CHNS 102.</td>
</tr>
<tr>
<td>CHNS 201</td>
<td>INTERMEDIATE CHINESE 1</td>
<td>4</td>
<td>Builds upon prior competencies through aural, oral and compositional exercises and reading selections. After review of basic grammatical structures and characters, adds more traditional and simplified characters to sharpen reading, writing, listening, and speaking skills. Prerequisite: CHNS 103 or equivalent.</td>
</tr>
<tr>
<td>CHNS 202</td>
<td>INTERMEDIATE CHINESE 2</td>
<td>4</td>
<td>Continuation of CHNS 201. Prerequisite: CHNS 201 or equivalent.</td>
</tr>
<tr>
<td>CHNS 203</td>
<td>INTERMEDIATE CHINESE 3</td>
<td>4</td>
<td>Continuation of CHNS 202. Prerequisite CHNS 202 or equivalent.</td>
</tr>
<tr>
<td>FREN 120</td>
<td>ELEMENTARY FRENCH 1</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>FREN 121</td>
<td>ELEMENTARY FRENCH 2</td>
<td>4</td>
<td>Continuation of FREN 120. Four classes per week. Prerequisite: FREN 120 or proficiency established by placement test.</td>
</tr>
<tr>
<td>FREN 122</td>
<td>ELEMENTARY FRENCH 3</td>
<td>4</td>
<td>Continuation of FREN 121. Four classes per week. Prerequisite: FREN 121 or proficiency established by placement test.</td>
</tr>
<tr>
<td>FREN 214</td>
<td>INTERMEDIATE FRENCH 1</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>FREN 215</td>
<td>INTERMEDIATE FRENCH 2</td>
<td>4</td>
<td>Continuation of FREN 214. Prerequisite: FREN 214.</td>
</tr>
<tr>
<td>FREN 216</td>
<td>INTERMEDIATE FRENCH 3</td>
<td>4</td>
<td>Continuation of FREN 215. Prerequisite: FREN 215.</td>
</tr>
<tr>
<td>FREN 219</td>
<td>INTRODUCTION TO FRENCH LITERATURE</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>FREN 297</td>
<td>INDEPENDENT STUDY IN FRENCH</td>
<td>1-4</td>
<td>May be repeated as topic varies. Permission of instructor.</td>
</tr>
</tbody>
</table>
310 - ADVANCED FRENCH: READING
4 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 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 Credits
Intensive writing practice. Vocabulary development. Review of grammar. Prerequisite: FREN 216 or proficiency established by placement test.

313 - BUSINESS FRENCH
4 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 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 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 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 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 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 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 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 to 4 Credits
May be repeated as topic varies. Prerequisite: FREN 310 or 312.

405 - MODERN FRENCH MUSICAL
4 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 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 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 to 4 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 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 Credits
Continuation of GRMN 130. Four classes per week. Prerequisite: GRMN 130 or proficiency established by placement test.

132 - ELEMENTARY GERMAN 3
4 Credits
Continuation of GRMN 131. Four classes per week. Prerequisite: GRMN 131 or proficiency established by placement test.

224 - INTERMEDIATE GERMAN 1
4 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 Credits
Continuation of GRMN 224. Four classes per week. Prerequisite: GRMN 224 or proficiency established by placement test.

226 - INTERMEDIATE GERMAN 3
4 Credits
Continuation of GRMN 225. Four classes per week. Prerequisite: GRMN 225 or proficiency established by placement test.

261 - INTRODUCTION TO GERMAN LITERATURE
4 Credits
Basic principles of analyzing and appreciating German essays, short stories, poetry, plays, novels. Vocabulary building. Reading and discussions in German. Four classes per week. Prerequisite: GRMN 226.

298 - INDEPENDENT STUDY IN GERMAN
1 to 4 Credits
Permission of instructor.

311 - USING CONTEMPORARY GERMAN
4 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 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 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 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 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 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 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 to 4 Credits
May be repeated as topic varies. Prerequisite: GRMN 226 or permission of instructor.

498 - INDEPENDENT STUDY IN GERMAN
1 to 4 Credits
Permission of instructor.

Subject - Japanese (JAPN)

161 - ELEMENTARY JAPANESE 1
4 Credits
Basic Conversation in Japanese. By the end of the course, ability to converse on personal matters and familiarity with the foundations of the Japanese writing system.

162 - ELEMENTARY JAPANESE 2
4 Credits
Continued development of skills in basic conversational Japanese. Emphasis on vocabulary building and foundations of the Japanese writing system. Prerequisite: JAPN 161.

163 - ELEMENTARY JAPANESE 3
4 Credits
Continued practice in basic conversational Japanese. Emphasis on comprehension and speaking. Familiarity with foundations of the Japanese writing system and cultural values. Prerequisite: JAPN 162.

264 - INTERMEDIATE JAPANESE 1
4 Credits
Builds upon prior competencies through aural, oral and compositional exercises and reading selections. Prerequisite: JAPN 163 or equivalent.

265 - INTERMEDIATE JAPANESE 2
4 Credits
Continuation of JAPN 264. Prerequisite: JAPN 264 or equivalent.

266 - INTERMEDIATE JAPANESE 3
4 Credits
Continuation of JAPN 265. Prerequisite JAPN 265 or equivalent.

Subject - Modern Languages (MLNG)

190 - INDIVIDUALIZED LANGUAGE STUDY
1 to 3 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, Russian, Chinese, or Japanese. 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 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 to 4 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 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 Credits
Continuation of RUSS 150. Four classes per week. Prerequisite: RUSS 150 or demonstrated proficiency.

152 - ELEMENTARY RUSSIAN 3
4 Credits
Continuation of RUSS 151. Four classes per week. Prerequisite: RUSS 151 or demonstrated proficiency.

296 - INDEPENDENT STUDY IN RUSSIAN
1 to 3 Credits
Permission of instructor. Graded S/U.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>SPANISH FOR THE HEALTH CARE PROVIDER</td>
<td>4</td>
<td>Spanish for the Health Care Provider provides a fundamental background to the kind of Spanish that is spoken in health settings while teaching students about Hispanic culture. Enrollment restricted to Nursing majors.</td>
</tr>
<tr>
<td>140</td>
<td>ELEMENTARY SPANISH 1</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>141</td>
<td>ELEMENTARY SPANISH 2</td>
<td>4</td>
<td>Continuation of SPAN 140. Four classes per week. Prerequisite: SPAN 140 or proficiency established by placement test.</td>
</tr>
<tr>
<td>142</td>
<td>ELEMENTARY SPANISH 3</td>
<td>4</td>
<td>Continuation of SPAN 141. Four classes per week. Prerequisite: SPAN 141 or proficiency established by placement test.</td>
</tr>
<tr>
<td>244</td>
<td>INTERMEDIATE SPANISH 1</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>245</td>
<td>INTERMEDIATE SPANISH 2</td>
<td>4</td>
<td>Continuation of SPAN 244. Four classes per week. Prerequisite: SPAN 244.</td>
</tr>
<tr>
<td>246</td>
<td>INTERMEDIATE SPANISH 3</td>
<td>4</td>
<td>Continuation of SPAN 245. Four classes per week. Prerequisite: SPAN 245.</td>
</tr>
<tr>
<td>247</td>
<td>INTRODUCTION TO HISPANIC LITERATURE</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>250</td>
<td>SPANISH PHONETICS</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>299</td>
<td>INDEPENDENT STUDY IN SPANISH</td>
<td>1 to 4</td>
<td>Permission of instructor.</td>
</tr>
<tr>
<td>342</td>
<td>ADVANCED SPANISH LANGUAGE STUDY</td>
<td>4</td>
<td>Intensive study of grammar and syntax emphasizing high-frequency constructions. Prerequisite: SPAN 246.</td>
</tr>
<tr>
<td>343</td>
<td>BUSINESS SPANISH</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>351</td>
<td>HISPANIC CULTURAL PERSPECTIVES</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>353</td>
<td>SPANISH CIVILIZATION</td>
<td>4</td>
<td>Geographical, political, economic, social and cultural forces in Spain from prehistoric times to the present. Prerequisite: SPAN 372 and 370 or 342.</td>
</tr>
<tr>
<td>354</td>
<td>LATIN AMERICAN CIVILIZATION</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>356</td>
<td>SPANISH ART, MUSIC AND DANCE</td>
<td>4</td>
<td>Development of Spanish art, architecture, music and dance from prehistoric times to the present. Prerequisite: SPAN 372 and 370 or 342.</td>
</tr>
<tr>
<td>357</td>
<td>LATIN AMERICAN ART, MUSIC AND DANCE</td>
<td>4</td>
<td>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.</td>
</tr>
</tbody>
</table>
360 - HISPANIC MEDIA
4 Credits
Contemporary Spanish and Latin American radio, television, newspapers and magazines. Prerequisite: SPAN 372 and 370 or 342.

370 - SPANISH CONVERSATION
4 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 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.

499 - INDEPENDENT STUDY IN SPANISH
1 to 4 Credits
Limited to majors. A maximum of 4 credit hours may count toward major. Permission of instructor.

DEPARTMENT OF MUSIC

Professors Bates, D’Arca, Kratzer, MJ Zank; Assistant Professor Casey; Visiting Assistant Professors Kosmyna, Waters; Resident Artists Osbun Manley, Butler; Lecturers D. Altstaetter, L. Altstaetter, P. Ashmore, P.L. Ashmore, Cox, Eichelberger, Graber, Gramm, Laukhuf, Leaman, Neeley, R. Pinkney, Russell, Stein, Sycks, Yost, J. Zank, Zickafoose

Riess (Interim Chair)

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 101  Introduction to Music  2 hr.
ART 100,
COMM 105
or equiv.
COMM 211 or
Public Speaking or
225 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 (not required for
Mus. Ed. Majors) or Sociology
Math &
Mathematics, Biological or
Natural
Physical Sciences - two
Sciences
and one add. course)  8 hrs.
Computer Literacy
(Mus. Ed. Majors take
EDUC 320)  4 hrs.
Health
Wellness Elective  1 hr.
& P.E.
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 105  Computer Skills for Musicians  1 hr.
MUSC 205  Jazz Styles 1  2 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  Music History and Literature 1, 2, 3  9 hrs.
MUSC 241  Basic Conducting  2 hrs.
MUSC 342  Advanced Conducting-Instrumental  2 hrs.
APMU 204  Piano Proficiency  0 hrs.
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
APMU
109-489  Applied Mus.-Major Area  22 hrs.
AMUS 080 or 083  Major Vocal Ensemble
(for voice or piano majors) each qtr.  11 hrs.
or
AMUS 084, 087, 090  Major Instrumental Ens.
(for instrumental or piano majors) each qtr.  11 hrs.
MUSC 143  Classroom Inst. Meth.  1 hr.
Must be taken before Sr. Yr.
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.
APMU 121  Voice Individual  1+ hrs.
APMU 105  Piano Individual  1+ hrs.
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  1 0 hrs.
EDUC 152  Five day field experience  2 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.

APMU 109-489 Applied Mus.-Major Area 36 hrs.
APMU 105 Piano Indv. 1+ hrs.
AMUS 080 or 083 Major Vocal Ensemble (for voice or piano majors) each qtr. 12 hrs. or
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
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**

APMU 109-489 Applied Music-Primary 12+ hrs. minimum with achievement of APMU 400 performance level or continued study until graduation.
APMU 105 Piano Individual 6+ hrs.
APMU 105 Piano Indv. 1+ 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**

APMU 109-489 Applied Music-Indiv. (major instrument or voice) 24 hrs.
AMUS 080, 083, 084, 087 Major Ensemble 090, or 096 (each qtr.) 12 hrs.
APMU 105 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 Acct. 1, 2 8 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 101 Introduction to Music 2 hrs.
MUSC 105 Computer Skills for Musicians 1 hr.
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 205 Jazz Styles 1 2 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 241 Basic Conducting 2 hrs.
MUSC 311 Counterpoint 2 hrs.
MUSC 313 Orchestration 2 hrs.
MUSC 321, 322, 323 Literature 1, 2, 3 9 hrs.
APMU 105 Piano Individual 1+ hrs.
APMU 204 Piano Proficiency 0 hrs.
MUSC 480 or 497 Senior Project/Recital 0-3 hrs.
APMU 109-489 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.
A minor in music may be earned by taking a minimum of 36 hours which must include MUSC 101, 102, 105, 121, 122, 123, 131, 132, 133, 321, 322, 323; a minimum of six quarters of applied instruction on a primary instrument (1 credit/quarter) and successful completion of the APMU 200 Applied Music Proficiency Examination. Students must also complete a minimum of six quarters in a major performing group.

**Major Ensembles for Music Majors and Minors**

Primary instrument, voice or piano:
- AMUS 080 Chorus
- AMUS 083 University Singers

Primary instrument is strings:
- AMUS 096 Symphony Orchestra

Primary instrument is brass, woodwind or percussion:
- AMUS 084 Wind Ensemble
- AMUS 087 Symphonic Band
- AMUS 090 Marching Band (Fall only)
- AMUS 096 Symphony Orchestra

**Applied Music**

The goal of applied instruction in music performance is the comprehensive development of the highest levels of performance skill. Individual instruction in applied music is available for music majors and minors and non-music majors. Applied instruction in music is separated into three categories: preparatory, entry, and upper. Most non-majors and prospective music majors at the preparatory level will register for APMU 0xx classes. Most freshmen and sophomores start at the entry level and will register for APMU 1xx and APMU 2xx classes. Most juniors and seniors are in the upper level and will register for APMU 3xx and APMU 4xx courses. Performance level for music majors is usually determined during their audition for acceptance into the Music Department.

A minimum of twelve quarters of applied instruction in music is required for graduation with a major in music. A minimum of three quarters (6-9 quarter hours) of instruction and successful completion of an Applied Music Proficiency Examination is required at each of the four levels of applied instruction. Students are allowed a maximum of nine quarters (not including summer) in entry-level applied instruction. Those who want to continue lessons beyond the maximum allowable entry-level registration must do so using APMU 0xx level courses. Students must be eligible for upper-level status before admission to the teacher education program or the performance degree program. Readiness for upper-level applied music is determined by faculty jury during the Applied Music Proficiency Examination (APMU 200). The twelfth quarter of applied music may be waived for students who are enrolled in the teacher education program and are student teaching.

Music majors on their major instrument or voice have first priority in the assignment of applied instructors. Non-music and non-musical theatre majors are assessed an extra fee for individual lessons, and the availability of these lessons is dependent upon the schedule and load of the instructor involved.

**Subject - Ensemble Performance (AMUS)**

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.

078 - STEEL DRUM BAND
1 Credit
Special training in steel drum band performance.

079 - MEN’S CHORUS
1 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 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 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 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 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 Credit
A band specially organized to provide music for athletic events.

087 - SYMPHONIC BAND
1 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 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 to 3 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 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.

092 - WOODWIND ENSEMBLE
1 Credit
Selected ensembles of woodwind instrumentalists for the study and performance of characteristic literature.

093 - WOMEN’S CHORUS
1 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 Credit
Selected ensembles of brass instrumentalists for the study and performance of characteristic literature.

095 - PERCUSSION ENSEMBLE
1 Credit
Selected ensembles of percussionists for the study and performance of characteristic literature.

096 - SYMPHONY ORCHESTRA
1 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 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 Credit
Ensembles of string instrumentalists for the study and performance of characteristic literature.

099 - NEW MUSIC ENSEMBLE
1 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 - Applied Music (APMU)

APMU Preparatory Level Individual Music Instruction
Fall, Winter, Spring Quarters. One .5-hr. class per week, seminar class and recital attendance are required. Prerequisite: audition and approval of the Music Department Chair. Does not satisfy any requirements for a degree in music or a minor in music. Elementary applied music restricted to prospective music majors and non-majors whose audition scores indicate the need for systematic instruction to prepare for APMU 100 level instruction in given instrument.
Studio Classes
All music majors must be co-registered for the appropriate studio class, i.e. string studio for violin or cello. Studio class provides a supplemental group experience in a variety of master class and/or workshop settings.

001 - PIANO INDIVIDUAL FOR NON-MUSIC MAJORS
1 Credit

013 - ORGAN
1 Credit

017 - HARP SCHORD
1 Credit

021 - VOICE INDIVIDUAL
1 Credit
Co-requisite: APMU 122.

029 - VIOLIN INDIVIDUAL
1 Credit
Co-requisite: APMU 130.

033 - VIOLA INDIVIDUAL
1 Credit
Co-requisite: APMU 130.

037 - CELLO INDIVIDUAL
1 Credit
Co-requisite: APMU 130.

041 - DOUBLE BASS INDIVIDUAL
1 Credit
Co-requisite: APMU 130.

045 - GUITAR INDIVIDUAL
1 Credit

049 - FLUTE INDIVIDUAL
1 Credit
Co-requisite: APMU 152.

053 - OBOE INDIVIDUAL
1 Credit
Co-requisite: APMU 156.

057 - CLARINET INDIVIDUAL
1 Credit
Co-requisite: APMU 160.

061 - SAXOPHONE INDIVIDUAL
1 Credit
Co-requisite: APMU 164.

065 - BASSOON INDIVIDUAL
1 Credit
Co-requisite: APMU 168.

069 - TRUMPET INDIVIDUAL
1 Credit
Co-requisite: APMU 172.

073 - FRENCH HORN INDIVIDUAL
1 Credit
Co-requisite: APMU 176.

077 - TROMBONE INDIVIDUAL
1 Credit
Co-requisite: APMU 180.

081 - EUPHONIUM INDIVIDUAL
1 Credit
Co-requisite: APMU 180.

085 - TUBA INDIVIDUAL
1 Credit
Co-requisite: APMU 180.

089 - PERCUSSION INDIVIDUAL
1 Credit
Co-requisite: APMU 190.

100 - APPLIED MUSIC PROFICIENCY
0 Credit
Required of all persons seeking a degree in music. Performance for and evaluation by a quorum of applied music faculty to determine mastery of specific performance skills that are required for successful matriculation through 200, 300 and 400 level applied music courses. Based on the outcome of the jury examination the Music Faculty and Department Chair will advise the student to continue in their Music degree program or select another degree program in the University. Graded S/U.

104 - PIANO CLASS FOR NON-MUSIC MAJORS
1 Credit
For non-music majors with different levels of piano preparation. Basic skills for beginners and advanced concepts for experienced players according to individual skill levels. Work is one-one with instructor and progress is self-paced.

108 - PIANO STUDIO CLASS
0 Credit
Students enrolled in applied lessons must be co-registered for the corresponding studio class. Enhancement of the learning process in a group setting that specifically addresses issues related to performance skills providing an opportunity for members of the piano studio to meet as a group in a variety of settings. Includes solo
performances, ensemble performances, information on instrument maintenance as well as other topics deemed valuable by the instructor and the students. Classes are scheduled throughout the quarter. Studio Class is quite possibly the most valuable resource to becoming musically astute, competitive, positive, and goal focused. Graded S/U.

120 - VOICE CLASS FOR NON-MUSIC MAJORS
1 Credit
The fundamental information on the physical and mental processes involved in singing. Application of this information through practice, memorization and the performance of a variety of songs. Autumn, Winter, Spring Qtrs. One 1-hr laboratory lesson. Does not satisfy any requirements for a degree in music or a minor in music.

APMU First Level Individual Music Instruction
Instruction in applied music to develop basic musicianship and the performance skills to pass the Piano Proficiency Test (APMU204). One 1 hr lesson and recital attendance are required. Prerequisite: passing of Music Department entrance audition. Required of all students seeking a degree in music and whose major instrument is not piano. Open to other qualified students within the limits of instructional facilities and by permission of the Keyboard Faculty. Non-piano performance track music majors must enroll in APMU 105 every quarter until the Piano Proficiency Test is passed. Satisfactory completion of the Piano Proficiency Test (APMU 204) is required for graduation with a degree in music. Piano proficiency passage is determined by the Keyboard Faculty. A minimum of 6-9 qtr hrs of Level 100 instruction and successful completion of the Level 100 Applied Music Proficiency Examination (APMU 100) are required for graduation with a degree in music. Level 100 applied music proficiency is determined by jury, usually during spring quarter.

105 - PIANO INDIVIDUAL FOR MUSIC MAJORS
1 to 2 Credits

109 - PIANO INDIVIDUAL FOR PIANO PERFORMANCE MAJORS
2 to 3 Credits

113 - ORGAN INDIVIDUAL
2 to 3 Credits

114 - ORGAN STUDIO CLASS
0 Credit

121 - VOICE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 122.

122 - VOICE STUDIO CLASS
0 Credit

124 - VOICE CLASS FOR MUSICAL THEATRE MAJORS
1 Credit
The fundamental information on the physical and mental process of singing. Students will learn to apply this information through practice, memorization and the performance of standard vocal literature from the Musical Theatre repertoire.

125 - VOICE INDIVIDUAL FOR MUSICAL THEATRE MAJORS
1 to 2 Credits

129 - VIOLIN INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 130.

130 - STRING STUDIO CLASS
0 Credit

133 - VIOLA INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 130.

137 - CELLO INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 130.

145 - GUITAR INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 146.

146 - GUITAR STUDIO CLASS
0 Credit

149 - FLUTE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 152.

152 - FLUTE STUDIO CLASS
0 Credit

153 - OBOE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 156.

156 - OBOE STUDIO CLASS
0 Credit

157 - CLARINET INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 160.

160 - CLARINET STUDIO CLASS
0 Credit
161 - SAXOPHONE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 164.

164 - SAXOPHONE STUDIO CLASS
0 Credit

165 - BASSOON INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 168.

168 - BASSOON STUDIO CLASS
0 Credit

169 - TRUMPET INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 172.

172 - TRUMPET STUDIO CLASS
0 Credit

173 - FRENCH HORN INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 176.

176 - HORN STUDIO CLASS
0 Credit

177 - TROMBONE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 180.

180 - LOWER BRASS STUDIO CLASS
0 Credit

181 - EUPHONIUM INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 180.

185 - TUBA INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 180.

189 - PERCUSSION INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 190.

190 - PERCUSSION STUDIO CLASS
0 Credit

APMU Second Level Individual Basic Music Instruction

Instruction in applied music to develop musicianship, performance, and a wide reading knowledge of music literature. One 1-hr lesson, studio class and recital attendance are required. Music Performance majors require corresponding literature course. Prereq: a minimum of 6-9 qtr hrs of Level 100 instruction and successful completion of the Applied Music Proficiency Examination (APMU 100). Required of all students seeking a degree in music or a minor in music whose major instrument is the piano. Open to other qualified students within the limits of instructional facilities and by permission of the Keyboard Faculty and Music Department Chair. A minimum of 6-9 qtr hrs of Level 200 instruction and successful completion of the Level 200 Applied Music Proficiency Examination (APMU 100) are required for graduation with a degree in music. Level 200 applied music proficiency is determined by jury, usually during spring quarter. Transfer to upper level courses with the successful completion of the Applied Music Proficiency Examination (APMU 200) and written permission of the Keyboard Faculty and Music Department Chair. Repeatable to a maximum of 12 cr hrs.

200 - APPLIED MUSIC PROFICIENCY
0 Credit

Required of all persons seeking a degree in music. Performance and evaluation by a quorum of applied music faculty to determine mastery of specific performance skills required for successful matriculation through 300 and 400 level applied music courses. Based on the outcome of the jury examination the Music Faculty and Department Chair will advise the student to continue in their Music degree program or select another degree program in the University. Graded S/U.

204 - PIANO PERFORMANCE PROFICIENCY
0 Credit

Required exam for all music department majors. Passing grade required in this course before registration for APMU 309, EDUC 470, EDUC 480 and EDUC 475. Non-piano majors must pass this course by the end of the seventh quarter, and piano majors must pass it by the end of the sixth quarter. Grade S in total exam is prerequisite for registration for this course. Graded S/U.

209 - PIANO INDIVIDUAL FOR PIANO PERFORMANCE MAJORS
2 to 3 Credits
Co-requisite: APMU 108.

213 – ORGAN INDIVIDUAL
2 to 3 Credits

221 - VOICE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 122.

225 - VOICE INDIVIDUAL FOR MUSICAL THEATRE MAJORS
1 to 2 Credits
Co-requisite: APMU 122.
229 - VIOLIN INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 130.

233 - VIOLA INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 130.

237 - CELLO INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 130.

245 - GUITAR INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 146.

249 - FLUTE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 152.

253 - OBOE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 156.

257 - CLARINET INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 160.

261 - SAXOPHONE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 164.

265 - BASSOON INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 168.

269 - TRUMPET INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 172.

273 - FRENCH HORN INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 176.

277 - TROMBONE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 180.

281 - EUPHONIUM INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 180.

285 - TUBA INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 180.

289 - PERCUSSION INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 190.

APMU Third Level Individual Basic Music Instruction
Upper level instruction in applied music to develop professional qualities of musicianship, technique, and knowledge of music literature; recital required in junior year for performance majors. One 1-hr lesson, studio class and recital attendance are required. Music Performance majors require corresponding literature course. Prerequisite: A minimum of 6-9 qtr hrs of Level 200 instruction and successful completion of the Applied Music Proficiency Examination (APMU 200). Required of all students seeking a degree in music and whose major instrument is the piano. Open to other qualified students within the limits of instructional facilities and by permission of the Keyboard Faculty and Music Department Chair. A minimum of 6-9 qtr hrs of Level 300 instruction and successful completion of the Level 300 Applied Music Proficiency Examination (APMU 300) are required for graduation with a degree in music. Level 300 applied music proficiency is determined by jury, usually during spring quarter. Repeatable to a maximum of 12 credit hrs.

300 - APPLIED MUSIC PROFICIENCY
0 Credit
Required of all persons seeking a degree in music. Performance for and evaluation by a quorum of applied music faculty to determine mastery of specific performance skills required for successful matriculation through senior level applied music courses. Based on the outcome of the jury examination the Music Faculty and Department Chair will advise the student to continue in their Music degree program or select another degree program in the University. Graded S/U.

309 - PIANO INDIVIDUAL FOR PIANO PERFORMANCE MAJORS
2 to 3 Credits
Co-requisite: APMU 108.

313 - ORGAN INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 122.

321 - VOICE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 122.

329 - VIOLIN INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 130.

333 - VIOLA INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 130.
APMU Fourth Level Individual Basic Music Instruction

Applied music instruction at the senior level for music majors to develop professional qualities of musicianship, technique, and knowledge of music literature; recital required in senior year for music performance and music education majors. One 1-hr lesson, studio class and recital attendance are required. Music Performance majors require corresponding literature course. Prerequisite: A minimum of 6-9 qtr hrs of Level 300 classroom instruction and successful completion of the Applied Music Proficiency Examination (APMU 300). Required of all students seeking a degree in music and whose major instrument is piano. Open to other qualified students within the limits of instructional facilities and by permission of the Keyboard Faculty and Music Department Chair. A minimum of 6-9 qtr hrs of Level 400 instruction, successful completion of the Level 400 Applied Music Proficiency Examination (APMU 400) and written permission of the Keyboard Faculty and Music Department Chair are required for graduation with a degree in music. Level 400 applied music proficiency is determined by jury, usually during spring quarter. Repeatable to a maximum of 12 credit hrs.

400 - APPLIED MUSIC PROFICIENCY
0 Credit
Required of all persons seeking a degree in music. Performance for and evaluation by a quorum of applied music faculty to determine mastery of specific performance skills that are required to receive a degree in music. Based on the outcome of the jury examination the Music Faculty and Department Chair will advise the student to continue in their Music degree program or select another degree program in the University. Graded S/U.

409 - PIANO INDIVIDUAL FOR PIANO PERFORMANCE MAJORS
2 to 3 Credits
Co-requisite: APMU 108.

413 - ORGAN INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 122.

421 - VOICE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 122.

429 - VIOLIN INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 130.

433 - VIOLA INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 130.

437 - CELLO INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 130.

445 - GUITAR INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 146.

449 - FLUTE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 152.
453 - OBOE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 156.

457 - CLARINET INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 160.

461 - SAXOPHONE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 164.

465 - BASSOON INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 168.

469 - TRUMPET INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 172.

473 - FRENCH HORN INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 176.

477 - TROMBONE INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 180.

481 - EUPHONIUM INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 180.

485 - TUBA INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 180.

489 - PERCUSSION INDIVIDUAL
2 to 3 Credits
Co-requisite: APMU 190.

101 - INTRODUCTION TO MUSIC
2 Credits
Basic survey of art music throughout history. Concert attendance and recognition of composers, representative literature and styles are expected. Familiarization with the department, departmental technology, requirements and procedures. Required of all departmental majors. Offered Fall quarter.

105 - COMPUTER SKILLS FOR MUSICIANS
1 Credit
Basic computer skills needed for sequencing, MIDI, notation, and music composition. Required of all music majors and minors. A grade of C or better must be earned.

110 - FUNDAMENTALS OF MUSIC FOR THE NON-MUSIC MAJOR
4 Credits
Basic components of music. The perception and reading of musical symbols. Includes listening exercises. May serve as prerequisite for MUSC 121 for music and musical theatre majors.

121 - THEORY OF MUSIC 1
3 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. Co-requisite: MUSC 131. Offered Fall Quarter.

122 - THEORY OF MUSIC 2
3 Credits
Prerequisites: minimum of C in MUSC 121. Co-requisite: MUSC 132. Offered Winter Quarter.

123 - THEORY OF MUSIC 3
3 Credits
Prerequisite: MUSC 122 with a minimum grade of C. Co-requisite MUSC 133. Offered Spring Quarter.

131 - EAR TRAINING 1
1 Credit
Sight-singing; melodic, rhythmic and harmonic dictation; keyboard harmony; conducting; improvisation taught in a laboratory setting. Co-requisite MUSC 121. Level determined by proficiency. Offered Fall Quarter.

132 - EAR TRAINING 2
1 Credit
Prerequisite: MUSC 131 with a minimum grade of C. Co-requisite MUSC 122. Offered Winter Quarter.

---

Subject - Music (MUSC)

001 - CONCERT AND RECITAL OBSERVATION
0 Credit
A required number of concerts and recitals to be attended each quarter, including some events with mandatory attendance. Required of all full-time music majors. Graded S/U.

100 - MUSIC
4 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. Enrollment is limited to non-music majors.
133 - EAR TRAINING 3
1 Credit
Prerequisite: MUSC 132 with a minimum grade of C. Co-requisite MUSC 123. Offered Spring Quarter.

143 - CLASSROOM INSTRUMENTS
1 Credit
Elementary performance skills and pedagogy for classroom instruments including guitar, recorder and others. Introductory course for guitar proficiency. For school music teachers.

190 - SPECIAL TOPICS IN MUSIC
1 to 4 Credits

200 - NON-WESTERN MUSIC
4 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.

205 - JAZZ STYLES 1: IMPROVISATION AND ANALYSIS
2 Credits
The stylistic elements of the various eras of jazz history; functional analysis of chords, scales, modes, guide tones and form. Theoretical analysis of significant musical contributions of influential musicians of the different periods of jazz. Analysis of representative works from each period. Emphasis on the development of skills in jazz improvisation. Prerequisites: MUSC 122 and MUSC 132.

210 - JAZZ HISTORY AND LITERATURE
3 Credits
Modern jazz, from its roots in African tribal music through the gradual evolution of this American art form as it appears today. Offered alternate years Winter Quarter.

211 - ELECTRONIC MUSIC
2 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 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 with a minimum grade of C. Co-requisite MUSC 231.

222 - ADVANCED THEORY OF MUSIC 2
3 Credits
Prerequisite: MUSC 221 with a minimum grade of C. Co-requisite MUSC 232. Offered Winter Quarter.

223 - ADVANCED THEORY OF MUSIC 3
3 Credits
Prerequisite: MUSC 222 with a minimum grade of C. Co-requisite MUSC 233. Offered Spring Quarter.

231 - ADVANCED EAR TRAINING 1
1 Credit
Prerequisite: MUSC 133 with minimum grade of C. Co-requisite MUSC 221. Elements of traditional improvisation included in the keyboard harmony portion.

232 - ADVANCED EAR TRAINING 2
1 Credit
Prerequisite: MUSC 231 with a minimum grade of C. Co-requisite MUSC 222. Offered Winter Quarter.

233 - ADVANCED EAR TRAINING 3
1 Credit
Prerequisite: MUSC 232 with a minimum grade of C. Co-requisite MUSC 223. Offered Spring Quarter.

241 - BASIC CONDUCTING
2 Credits
General conducting techniques and principles of score study. Laboratory experiences. Continuation courses must be taken in sequence. Prerequisite: MUSC 121 with a minimum grade of C. Offered alternate years Fall Quarter.

261 - LATIN AND ITALIAN DICTION FOR SINGERS
1 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 Credit
Continuation of MUSC 261 in French.

263 - GERMAN DICTION FOR SINGERS
1 Credit
Continuation of MUSC 262 in German.
270 - INTRODUCTION TO THE MUSIC INDUSTRY
3 Credits
The various elements of the music industry - retailing, marketing, arts management, publishing, manufacturing, recording, unions and licensing. Prerequisite: MUSC 100. Offered annually Spring Quarter.

281 - GUITAR PROFICIENCY
0 Credit

290 - SPECIAL TOPICS IN MUSIC
1 to 4 Credits

305 - JAZZ STYLES 2: IMPROVISATION AND PEDAGOGY
2 Credits
Methods and materials for jazz pedagogy. The practical and musical aspects of running a secondary or intermediate school jazz program. Topics include but are not limited to: jazz band setup, rehearsal techniques, repertoire, rhythm section techniques, equipment, recommended recordings and rationale. Required for Music Education majors. Spring Quarter. Two 1 hour classes per week. Prerequisite: MUSC 205.

310 - AMERICAN MUSIC
4 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 Credits
Polyphonic music in various styles with particular emphasis on that of the eighteenth century. Creative projects in contrapuntal writing. Prerequisite: MUSC 223 with a minimum grade of C. Offered Fall Quarter alternate years.

312 - FORM AND ANALYSIS
2 Credits
Musical forms and styles from the Baroque to the present. Theoretical and stylistic analysis of representative music. Prerequisite: MUSC 223 with a minimum grade of C. Offered Winter Quarter alternate years.

313 - ORCHESTRATION
2 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 with a minimum grade of C.

314 - MUSIC COMPOSITION
3 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 Credits
The historical development of music literature. Representative literature and composers: Ancient, Medieval and Renaissance periods. Prerequisite: MUSC 100 with a minimum grade of C. Offered Fall Quarter alternate years.

322 - MUSIC HISTORY AND LITERATURE 2
3 Credits
Baroque and Classical periods. Prerequisite: MUSC 100 with a minimum grade of C. Offered Winter Quarter alternate years.

323 - MUSIC HISTORY AND LITERATURE 3
3 Credits
Romantic and Twentieth Century periods Prerequisite: MUSC 100 with a minimum grade of C. Offered Spring Quarter alternate years.

334 - WOODWIND METHODS
2 Credits
Study, elementary performance skills, pedagogy, and materials of the woodwind instruments. For future school music teachers.

336 - BRASS METHODS
2 Credits
Study, elementary performance skills, pedagogy, and materials of the brass instruments. For future school music teachers.

338 - PERCUSSION METHODS
2 Credits
Study, elementary performance skills, pedagogy, and materials of the percussion instruments. For future school music teachers.

339 - STRING METHODS
2 Credits
Study, elementary performance skills, pedagogy, and materials of the orchestral stringed instruments. For future school music teachers.
342 - ADVANCED CONDUCTING - INSTRUMENTAL
2 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 with a minimum grade of C. Offered Winter Quarter alternate years.

343 - ADVANCED CONDUCTING - CHORAL
2 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 with a minimum grade of C. Offered Spring Quarter alternate years.

371 - APPLIED FIELD LITERATURE-PEDAGOGY 1
1 Credit
Study of the professional and educational literature in a specific applied field.

372 - APPLIED FIELD LITERATURE-PEDAGOGY 2
1 Credit
Continuation of MUSC 371.

373 - APPLIED FIELD LITERATURE-PEDAGOGY 3
1 Credit
Continuation of MUSC 372.

380 - JUNIOR RECITAL
0 Credit
Students should not register for Junior Recital until they have passed the Recital Hearing. Graded S/U.

390 - SPECIAL TOPICS IN MUSIC
1 to 4 Credits

411 - ADVANCED ELECTRONIC MUSIC COMPOSITION
2 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 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 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 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 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
0 Credit
Students should not register for Senior Recital until they have passed the Recital Hearing. Graded S/U.

490 - SPECIAL TOPICS IN MUSIC
1 to 4 Credits

497 - INDEPENDENT STUDY IN MUSIC
1 to 4 Credits
A wide variety of specialized musical subjects are available through individual study with a faculty member.
DEPARTMENT OF PHILOSOPHY AND RELIGION

Professor Person (Chair); Associate Professors Croskery, Katayama, Morrison; Assistant Professors Clingerman, Dixon; Visiting Assistant Professor Simmons; Visiting Instructor Sasaki

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).

Philosophy Major The major in philosophy requires a minimum of 44 hours beyond PHIL 100, including the following courses: 234; 202 and 206; either 320 or 344; and 340 or 355.

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 228, 234, 240 and 320 or 344.

Philosophy Minor The minor in philosophy requires a minimum of 28 hours in philosophy, including PHIL 234; 202 and one of 340 or 355

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 228, 234, 240 and 320 or 344.

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; 225; 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 76 hours (44 hours in RELG, 12 hours in YMIN, and 20 hours in cognate subjects) as follows: RELG 105 or RELG 107, RELG 109 or RELG 110, RELG 225, RELG 241 or RELG 264, RELG 263, RELG 310, RELG 311, RELG 312, two additional classes in Bible, YMIN 001, YMIN 002, YMIN 003, YMIN 004, YMIN 253, YMIN 453, 4 hours of YMIN 410, RELG 481 or RELG 484, PSYC 100, SOC 105, EDUC 224 or PSYC 215, PSYC 226, 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.

Seminary Preview Program Partnership Ohio Northern University participates in the Methodist Theological Seminary in Ohio’s Seminary Preview Program. Eligible students are able to enroll in no more than two courses offered by MTSO tuition-free. Students in their junior or senior years with a GPA of 3.00 or above who have taken at least two courses in RELG at ONU are eligible. More information is available from the chair of the Department of Philosophy and Religion.

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 Credit
Familiarization with the department, requirements for majors, planning program of courses, University catalog and library. Graded S/U.

100 - INTRODUCTION TO PHILOSOPHY
4 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.

190 - SPECIAL TOPICS IN PHILOSOPHY
1 to 4 Credits
May be repeated for credit, depending on content.

PREREQUISITE FOR 200-LEVEL COURSES: SOPHOMORE STANDING OR CONSENT OF INSTRUCTOR

202 – ANCIENT PHILOSOPHY
4 Credits
Greek philosophical traditions against the background of the Pre-Socratics and Socrates, with a special emphasis on Plato and Aristotle. Prerequisites: sophomore standing or consent of the instructor.

206 – MODERN PHILOSOPHY
4 Credits
The principle philosophers during the 17th and the 18th century, such as Descartes, Locke, Spinoza, Hume, and Kant, with special attention to the historical development of ideas. Prerequisites: sophomore standing or consent of the instructor.

225 - PHILOSOPHY OF RELIGION
4 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. Prerequisites: sophomore standing or consent of the instructor. (Formerly PHIL 325/RELG 325)

228 – PHILOSOPHY OF LAW
4 Credits
The major philosophical theories of law, from legal positivism to originalism. Application to topics such as criminal law, contract law, and constitutional interpretation. Specific applications include but are not limited to: free speech, the insanity defense, and surrogate mother contracts. Prerequisites: sophomore standing or consent of the instructor. (Formerly PHIL 351)

234 - LOGIC
4 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.

238 - ETHICS
4 Credits
Selected ethical theories and their rational justification. The use of ethical theories for resolving ethical issues in personal and social decision-making. Prerequisites: sophomore standing or consent of the instructor.

240 - ETHICS IN PROFESSIONAL LIFE
4 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. Prerequisites: sophomore standing or consent of the instructor. (Formerly PHIL 336)

243 - ASIAN PHILOSOPHIES
4 Credits
Asian philosophical traditions on the metaphysical, epistemological, logical, and ethical questions about the universe’s and human beings’ origins, natures, and purposes, including the historical origins of these traditions, their development, and interactions. Prerequisites: sophomore standing or consent of the instructor.

250 - AESTHETICS
4 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. Prerequisites: sophomore standing or consent of the instructor. (Formerly PHIL 341)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>260</td>
<td>Philosophy of Science</td>
<td>4</td>
<td>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? Prerequisites: sophomore standing or consent of the instructor.</td>
<td></td>
</tr>
<tr>
<td>290</td>
<td>Special Topics in Philosophy</td>
<td>1 to 4</td>
<td>May be repeated for credit, depending on content. Prerequisites: sophomore standing or consent of the instructor.</td>
<td></td>
</tr>
<tr>
<td>300</td>
<td>Environmental Ethics</td>
<td>4</td>
<td>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, &quot;jobs vs. wilderness,&quot; and legal and moral rights. Prerequisites: junior standing or consent of the instructor.</td>
<td></td>
</tr>
<tr>
<td>310</td>
<td>Political Philosophy</td>
<td>4</td>
<td>Theories of political philosophy, such as social contract, libertarianism, utilitarianism, feminist, and political liberalism. Prerequisites: one course in philosophy, excluding PHIL 234, or consent of the instructor.</td>
<td></td>
</tr>
<tr>
<td>320</td>
<td>Metaphysics</td>
<td>4</td>
<td>Classical metaphysical questions about human nature and the world, such as the nature of reality, essence, existence, and causation. Prerequisites: one course in philosophy, excluding PHIL 234, or consent of the instructor.</td>
<td></td>
</tr>
<tr>
<td>344</td>
<td>Ethical Theory</td>
<td>4</td>
<td>Major ethical theories, such as utilitarianism, deontology, and virtue theory. Additional topics, such as ethical egoism, moral realism, and ethical relativism. Prerequisites: one course in philosophy, excluding PHIL 234, or consent of the instructor.</td>
<td></td>
</tr>
</tbody>
</table>
Subject - Religion (RELG)

000 - ORIENTATION
1 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 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 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 Credits
The major teachings, practices and institutional forms of Christianity in their historical and contemporary settings.

109 - INTRODUCTION TO THE OLD TESTAMENT
4 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 Credits

PREREQUISITE FOR 200-LEVEL COURSES: SOPHOMORE STANDING OR CONSENT OF INSTRUCTOR

210 - WOMEN IN THE BIBLE
4 Credits
The portrayal of women in the Old and New Testaments with secondary readings of feminist theory. Prerequisites: sophomore standing or consent of the instructor.

225 - PHILOSOPHY OF RELIGION
4 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. Prerequisites: sophomore standing or consent of the instructor. (Formerly PHIL 325/RELG 325)

231 - RELIGIOUS EXPERIENCE
4 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.) Prerequisites: sophomore standing or consent of the instructor. RELG 105 or RELG 107 is recommended.

241 - ISLAM AND CHRISTIANITY
4 Credits
The Islamic and Christian traditions, including the history, theology, and politics of each as well as an exploration of their interactions. Prerequisites: sophomore standing or consent of the instructor. RELG 105 or RELG 107 is recommended.

243 - THE BIBLE AND THE THIRD WORLD
4 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 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. Prerequisites: sophomore standing or consent of the instructor. RELG 108 or RELG 110 is recommended.

264 - BUDDHISM
4 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. Prerequisites: sophomore standing or consent of the instructor. RELG 105 or RELG 107 is recommended.

271 - BIBLICAL HEBREW 1
3 Credits
Biblical Hebrew with heavy emphasis on grammar and vocabulary. Offered on demand.

272 - BIBLICAL HEBREW 2
3 Credits
Continuation of RELG 271. Offered on demand. Prerequisite: RELG 271.

273 - BIBLICAL HEBREW 3
3 Credits
Biblical Hebrew with heavy emphasis on readings from the Hebrew Bible. Offered on demand. Prerequisite: RELG 272.
281 - HELLENISTIC GREEK 1
3 Credits
Hellenistic Greek with heavy emphasis on grammar, and some readings from the Greek New Testament. Offered on demand.

282 - HELLENISTIC GREEK 2
3 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 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 to 4 Credits
May be repeated for credit, depending on content. Prerequisites: sophomore standing or consent of the instructor.

310 - EARLY CHRISTIAN THOUGHT
4 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 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 Credits
Church history and theology over the past 200 years. Representative thinkers and issues. Prerequisite: One religion class. (Formerly 19th & 20th Century Christian Thought)

365 - JESUS AND THE GOSPELS
4 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 to 5 Credits
May be repeated for credit, depending on content. Prerequisites: junior standing or consent of the instructor.

481 - RELIGION SENIOR ESSAY
4 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 Credits
Open to students with at least a 3.50 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 to 4 Credits
Departmental permission required. May be repeated for credit, depending on content.

Subject - Youth Ministry (YMIN)

001 - YOUTH MINISTRY OBSERVATION 1
0 Credit
Observation and reflection on youth ministry in a congregational setting related to one’s own denominational tradition. Graded S/U. Enrollment limited to RYMN majors only.

002 - YOUTH MINISTRY OBSERVATION 2
0 Credit
Observation of and reflection on youth ministry in a congregational setting different from one’s own denominational tradition. Graded S/U. Enrollment limited to RMYN majors only.

003 – YOUTH MINISTRY OBSERVATION 3
0 Credit
Observation and reflection on ministry to youth in a culturally, racially, and/or socioeconomically diverse setting. Graded S/U. Enrollment limited to RYMN majors only.

004 – YOUTH MINISTRY OBSERVATION 4
0 Credit
Group reflection on issues pertaining to students’ internships. Graded S/U. Required of all students placed in internship setting. Enrollment limited to RYMN majors only.
253 - YOUTH MINISTRY ISSUES AND SETTINGS

4 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) Prerequisites: YMIN 001, YMIN 002, YMIN 003 and RELG 109 or RELG 110.

290 - SPECIAL TOPICS IN YOUTH MINISTRIES

1 to 4 Credits
May be repeated for credit depending on course content. RYMN majors only.

390 - SPECIAL TOPICS IN YOUTH MINISTRIES

1 to 5 Credits
May be repeated for credit depending on course content. RYMN majors only.

410 - YOUTH MINISTRY INTERNSHIP

1 to 4 Credits
Internship in youth ministry in various possible settings: congregation, camp, mission trip, etc. Each credit hour requires 25 hours in internship. May be repeated, but only 6 hours will count toward graduation. Limited to majors in youth ministry and approved by the department before registration. Prerequisites: YMIN 001, YMIN 002, YMIN 003; and RELG 109 or RELG 110. Co-requisite: YMIN 004. (Formerly RELG 410)

453 - PRINCIPLES OF CHRISTIAN EDUCATION

4 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 263, YMIN 253, and EDUC 224 or PSYC 215, and at least 1 hour of YMIN 410. Enrollment limited to RYMN majors only. (Formerly RELG 453)

499 - INDEPENDENT STUDY IN YOUTH MINISTRIES

1 to 4 Credits
Departmental permission required. May be repeated for credit depending on course content. Enrollment limited to YMIN majors only.

DEPARTMENT OF PHYSICS AND ASTRONOMY

Professor Theisen (Chair); Associate Professors Me. Caragiu, 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 with 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, two hours of 395 (maximum 2 hours) and 495. 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 301 (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.
Teacher Licensure  The department also offers a program leading to licensure for teaching physics in the Ohio public schools. The secondary education program is approved by the Ohio Department of Education. The student can choose to obtain licensure in physics alone or licensure in both physics and chemistry. The student will typically complete the modified track toward the physics major, 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 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 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 211 or 231.

101 - PHYSICAL AND EARTH SCIENCES- EARLY& MIDDLE CHILDHOOD MAJORS
4 Credits
The nature of matter and energy and of their interactions as an introduction to the fundamental principles comprising the discipline of physics. Science teaching methods will be included. For early childhood and middle childhood licenses only. Prerequisite: MATH 173.

110 - INTRODUCTION TO PHYSICS
4 Credits
Mathematical expression of basic principles 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 Credits
Selected basic physical principles and their application to health science. Topics include levers and torques, fluid dynamics, electrical conduction, magnetism, optics, and radiation. Prerequisite: High school physics.

211 - GENERAL PHYSICS: MECHANICS OF SOLIDS
3 Credits
Basic principles of Newtonian mechanics of solids. The corresponding laboratory is PHYS 234.

212 - GENERAL PHYSICS: SOUND, HEAT, AND LIGHT
3 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 Credits
Electrical and magnetic phenomena. The corresponding laboratory is PHYS 236. Prerequisite: PHYS 211 or 231.

231 - PHYSICS: MECHANICS OF SOLIDS
4 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 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 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 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 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 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 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 Credits
Structure, motions and evolution of stars, interstellar material, galaxies and the universe as a whole.

255 - PLANETARY ASTRONOMY LABORATORY
1 Credit
Laboratory and mathematical companion to PHYS 252.

256 - STELLAR AND GALACTIC ASTRONOMY LABORATORY
1 Credit
Laboratory and mathematical companion to PHYS 253.

290 - SPECIAL TOPICS IN PHYSICS
1 to 4 Credits

300 - ADVANCED PHYSICS LAB
1 to 3 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 Credits

303 - MODERN PHYSICS
4 Credits
Relativity, quantum and wave mechanics, atomic structure and absorption and emission processes. Prerequisite: PHYS 213 or 233.

345 - MATH METHODS IN PHYSICS
4 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 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 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 213 or 233.

353 - NUCLEAR PHYSICS
4 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 251 or 231.

360 - QUANTUM MECHANICS
4 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 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 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 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 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 Credits
Methods and problems in computational physics. Prerequisites: ECCS 461 and PHYS 345.

390 - SPECIAL TOPICS IN PHYSICS
1 to 4 Credits

395 - INDEPENDENT RESEARCH
1 to 2 Credits

411 - ELECTRICITY AND MAGNETISM 1
4 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. Prerequisite: PHYS 233.

412 - ELECTRICITY AND MAGNETISM 2
4 Credits
Advanced electric and magnetic fields; electric and magnetic properties of solids, electromagnetic radiation. Prerequisite: PHYS 411.

413 - SOLID STATE
4 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. Part of the Physics major program and offered when needed. Prerequisite: PHYS 303.

432 - STATISTICAL PHYSICS
4 Credits

490 - SPECIAL TOPICS IN PHYSICS
1 to 4 Credits
Part of the Physics major program and offered when needed.

495 – SENIOR THESIS SEMINAR
1 Credit
Written and oral presentation of the complete Capstone Research Project. The Research Project is written in the format of a scientific manuscript and presented during a formal seminar. This course will be the culmination of the Capstone experience. Prerequisite: PHYS 395.

497 - INDEPENDENT STUDY
1 to 3 Credits
Part of the Physics major program and offered when needed.

DEPARTMENT OF PSYCHOLOGY AND SOCIOLOGY

Professor Cohoe; Associate Professor Durkin (Chair); Assistant Professors Benbassat, Carrothers, Hundersmarck, Payment; Visiting Assistant Professor Moore; Visiting Instructor Brooks

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 formal prelaw program with “guaranteed admission” to the law school. Detailed information appears on page 34 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 340 Experimental Psychology 1
PSYC 341 Experimental Psychology 2
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 340 Experimental Psychology 1
PSYC 341 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 (PSYC)_______

000 - ORIENTATION
1 Credit
Familiarization with the departmental requirements for majors, planning programs of courses, University catalog and library; career options. Graded S/U.

100 - PSYCHOLOGY
4 Credits
General research and concepts in human behavior. Lectures, demonstrations, and observations.

111 - INTRODUCTORY LABORATORY
1 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
4 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.

215 - DEVELOPMENTAL PSYCHOLOGY
4 Credits
Basic theories in human development from conception through old age; contemporary research at each age level. Prerequisite: PSYC 100.

226 - HUMAN SEXUAL BEHAVIOR
4 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 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 to 4 Credits

310 - MOTIVATION
4 Credits
The forces responsible for the behavior of human and non-human organisms. Theoretical and empirical evidence to the biological, behavioral and mental events that trigger and direct behavior. Prerequisite: PSYC 100.

PSYCHOLOGY AND SOCIOLOGY
311 - PSYCHOLOGY OF PERSONALITY
4 Credits
The major theories of personality from Freud to contemporary theoretical approaches. Prerequisite: PSYC 100.

312 - PSYCHOLOGICAL ASSESSMENT
4 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 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 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.

321 - FORENSIC PSYCHOLOGY
4 Credits
Focus on Forensic Psychology utilizing Criminal Justice and psychological theoretical approaches. Specific attention is paid to the processes of identifying personality traits, behavioral tendencies, geographical location and demographic variables of an offender based on characteristics of a crime.

330 - SENSATION AND PERCEPTION
4 Credits
Biological and psychological mechanisms responsible for internalizing the external world. In-depth discussion of the relationship between physical and psychological events based on theoretical and empirical evidence. Prerequisite: PSYC 100.

335 - PHYSIOLOGICAL PSYCHOLOGY
4 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.

340 - EXPERIMENTAL PSYCHOLOGY 1
4 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: PSYC 100 and STATE 142 or STAT 146 or STAT 156. (Formerly PSYC 210)

341 - EXPERIMENTAL PSYCHOLOGY 2
4 Credits
Continuation of PSYC 340. This course must be taken in the quarter immediately following the quarter in which PSYC 340 was taken. Prerequisite: PSYC 340. (Formerly PSYC 211)

390 - SPECIAL TOPICS IN PSYCHOLOGY
1 to 4 Credits

394 - JUNIOR SEMINAR
1 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 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 to 16 Credits
A field experience in the area of psychology. Open to juniors and seniors. Only 8 practicum credits may apply to the major. Graded S/U. Approval of chairperson.

427 - RESEARCH PRACTICUM IN PSYCHOLOGY
1 to 16 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 Credit
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 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 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 to 4 Credits
Prerequisite: Approval of chairman.

Subject - Psychology and Sociology (PSSC)

301 - SOCIAL PSYCHOLOGY
4 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.

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 346 Social Stratification
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
SOC 489 Senior Capstone 1 and 2

20 hours of sociology electives

Sociology minor:
SOC 105 Sociology
ISR 253 Research Methods 1
ISR 254 Research Methods 2*
SOC 346 Social Stratification
SOC 446 or SOC 447
PSSC 301 Social Psychology
STAT 142** Intro. to Statistics
PHIL 100 Intro. to Philosophy

12 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 Credit
Familiarization with the department, requirements for majors, planning program of courses, University catalog and library. Graded S/U.

105 - SOCIOLOGY
4 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 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 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.
250 - CULTURAL ANTHROPOLOGY
4 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 Credits
Sociological perspectives on contemporary social problems and the process by which these issues come to be socially constructed as problems. Issues covered may include but are not limited to racism, drug use and abuse, poverty, problems of health care and environmental destruction. Prerequisite: SOC 105.

261 - CRIMINOLOGY
4 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 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 to 4 Credits

302 - WEEKEND SEMINAR
1 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.

346 – SOCIAL STRATIFICATION
4 Credits
The origins, institutionalization and change of class, status, prestige, power, and other forms of social inequality with attention to the effects of stratification on the individual. Prerequisite: SOC 105.

347 - RACE, CLASS, AND GENDER
4 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.

350 - SELF AND IDENTITY
4 Credits
The theories of and research done on the self, self-concept, and identities in humans from both sociological and psychological perspectives. Prerequisite: SOC 105.

355 - ADVANCED DATA ANALYSIS
4 Credits
Constructing measurement scales, cleaning data, factor analysis and assessing reliability. Association between nominal and ordinal variables and correlation, simple, multiple, and logistic regression. Prerequisite: STAT 142.

361 - DELINQUENCY AND JUVENILE JUSTICE
4 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 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 to 4 Credits

446 - CLASSICAL SOCIAL THEORY
4 Credits
Traces sociological theorizing from sociology's historical origins. Major theorists covered include Marx, Durkheim, Weber, Simmel, Chicago School sociologists. Emphasis is on building an understanding of the roots of contemporary social theory. Enrollment restricted to seniors. Prerequisite: Junior status.

447 - CONTEMPORARY SOCIAL THEORY
4 Credits
The major sociological theories developed since World War II. An examination of the critical debates in contemporary social theory. Prerequisite: Junior status.

481 - SOCIOLOGY INTERNSHIP
4 to 16 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 Credits
Development of research topic and/or question, literature review, and outline of research project directed by faculty advisor. Student must enroll at least two quarters before graduation. Capstone Research does not count toward Sociology elective hours. Prerequisites: Senior status, sociology primary major, and permission of advisor.

489 - SENIOR CAPSTONE RESEARCH 2
2 Credits
Research design, data collection, data analysis, and writing of the research paper directed by faculty advisor. Student must enroll at least one quarter before graduation and must have completed Senior Capstone Research 1. Capstone Research does not count toward Sociology elective hours. Prerequisites: SOC 488, senior status, and sociology primary major.

498 - INDEPENDENT STUDY IN SOCIOLOGY
1 to 4 Credits
Prerequisite: Approval of chairman.

DEPARTMENT OF TECHNOLOGICAL STUDIES

Professor Rouch (Chair); Associate Professors Jao, Nutter; Assistant Professor Steinecker; Instructor Miller

Mission Statement
The mission of the department of technological studies is to graduate leaders that pursue life-long learning, possess a high degree of technological literacy and the ability to implement and manage emerging technologies to benefit the world.

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 at least three 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.

A minor in technology systems is 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.

Manufacturing Technology Major
TECH 000 Orientation
TECH 110 Technology and Society
TECH 120 Introduction to CAD
TECH 130 Materials Science
TECH 140 Microcomputer Applications in Technology
TECH 223 Product Design & Analysis
TECH 230 Materials & Processes
TECH 232 Product Manufacturing
TECH 260 Fluid & Mechanical Systems
TECH 261 Fundamentals of Electricity & Electronics
TECH 294 Sophomore Seminar in Technology
TECH 321 Digital Manufacturing Design & Applications
TECH 322 Virtual Simulation of Systems
TECH 332 Applied Controls 1
TECH 335 Applied Controls 2
TECH 339 Data Base Applications and Management
TECH 362 Programming in Embedded Systems
TECH 412 Manufacturing Management
TECH 421 Solid Modeling for Design
TECH 423 Virtual Simulation Production and Management
TECH 435 Advanced Robotics
TECH 470 Quality Assurance & Work Measurement
TECH 494 Senior Seminar in Technology
TECH 496 Tour of American Industries
TECH 499 Senior Capstone in Technology

Additional course requirements:
• Choose one of the following: TECH 142, 240, 241, 341, or ITS 141
• Technical elective (requires 8 total credit hours - Any TECH or ITS course, or other courses outside the Technological Studies department approved by the department)
Required Cognates:
• ECCS 133 Visual Basic
• Three PHYS or CHEM courses (Excluding CHEM 108 and PHYS 110)
• Three MATH or STAT courses 120 or above

Construction Management
TECH 000 Orientation
TECH 110 Technology & Society
TECH 120 Intro to CAD
TECH 130 Materials Science
TECH 140 Microcomputer Applications in Technology
TECH 221 Construction Design
TECH 230 Materials & Processes
TECH 260 Fluid & Mechanical Systems
TECH 261 Fundamentals of Electricity and Electronics
TECH 294 Sophomore Seminar
TECH 332 Applied Controls 1
TECH 339 Data Base Applications & Management
TECH 350 Construction Materials & Methods
TECH 351 Applied Foundations & Soils
TECH 452 Construction Bidding & Estimating
TECH 484 Internship (15 hours) or TECH 380 Professional Practice (3 quarters)
TECH 494 Senior Seminar
TECH 496 Tour of Industries
TECH 499 Senior Capstone

Additional course requirements:
• Choose one of the following: TECH 142, TECH 240, TECH 241, TECH 341, or ITS 141
• Technical electives (requires 8 total credit hours—Any TECH or ITS course, or other courses outside the Technological Studies department approved by the department)

Required Cognates:
CE 203 Surveying
CE 414 Project Management
MGMT 333 Management/Organizational Behavior
MGMT 363 Human Resource Mgmt
ABUS 312 Business Law
Three PHYS or CHEM courses (excluding CHEM 108 and PHYS 110)
Three MATH or STAT courses 120 or above

Options/Minors (28 hours)
To add breadth to majors in the department, students may choose an option or minor as follows:

Advanced Manufacturing Option
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
TECH 142 Web Design and Development 1
TECH 321 Digital Manufacturing Design & Applications
TECH 322 Virtual Simulation of Systems
TECH 390 Designing Robotic Systems
TECH 421 Solid Modeling for Design
TECH 423 Virtual Sim. Production & Mgmt.
TECH 435 Advanced Robotics
TECH 490 Documenting and Optimizing Robotic Systems

Design Analysis Option
This option is designed for the Manufacturing 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 Product Design and Analysis
MATH 163 Calculus 1
MATH 164 Calculus 2
GE 113 Statics
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
ECCS 241 Web-Enabled Programming
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

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.

Technology Systems Minor (28 hours)
Students from any discipline are encouraged to use technology coursework as a corollary to their major to expand their capabilities of utilizing technology in a concentrated area of coursework. Technology Systems minors are required to take TECH 110 (Technology and Society) and 24 additional hours of courses in TECH or ITS, which are not part of a student’s major program of study. Specific courses used to fulfill the requirements of the minor are to be proposed to the Technological Studies department chair for approval prior to declaring the minor.
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 at least three quarters of co-op during which they enroll in TECH 380 (Professional Practice in Technology).

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:
• 3 quarters of Co-op (TECH 380)
• Robotics Team Competition
• 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):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TECH 000</td>
<td>Orientation</td>
</tr>
<tr>
<td>TECH 110</td>
<td>Technology and Society</td>
</tr>
<tr>
<td>TECH 120</td>
<td>Introduction to CAD</td>
</tr>
<tr>
<td>TECH 130</td>
<td>Materials Science</td>
</tr>
<tr>
<td>TECH 140</td>
<td>Microcomputer Applications in Technology</td>
</tr>
<tr>
<td>TECH 221</td>
<td>Construction Design</td>
</tr>
<tr>
<td>TECH 230</td>
<td>Materials &amp; Processes</td>
</tr>
<tr>
<td>TECH 232</td>
<td>Product Manufacturing</td>
</tr>
<tr>
<td>TECH 260</td>
<td>Fluid &amp; Mechanical Systems</td>
</tr>
<tr>
<td>TECH 261</td>
<td>Fundamentals of Electricity &amp; Electronics</td>
</tr>
<tr>
<td>TECH 294</td>
<td>Sophomore Seminar in Technology</td>
</tr>
<tr>
<td>TECH 350</td>
<td>Construction Materials &amp; Methods</td>
</tr>
<tr>
<td>TECH 362</td>
<td>Programming in Embedded Systems</td>
</tr>
<tr>
<td>TECH 491</td>
<td>Student Teaching Seminar in Technology</td>
</tr>
<tr>
<td>TECH 494</td>
<td>Senior Seminar in Technology</td>
</tr>
<tr>
<td>TECH 496</td>
<td>Tour of American Industries</td>
</tr>
<tr>
<td>TECH 499</td>
<td>Senior Capstone in Technology</td>
</tr>
</tbody>
</table>

Choose one of the following: TECH 142, 240, 241, 341, or ITS 141

Department of Education Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 115</td>
<td>Culture and Schooling</td>
</tr>
<tr>
<td>EDUC 150</td>
<td>Five Day Field Experience</td>
</tr>
<tr>
<td>EDUC 210</td>
<td>Exceptional Learner</td>
</tr>
<tr>
<td>EDUC 224</td>
<td>Young and Late Adoles. Psych.</td>
</tr>
<tr>
<td>EDUC 285</td>
<td>Curriculum</td>
</tr>
<tr>
<td>EDUC 304</td>
<td>Strategies for Technology Education</td>
</tr>
<tr>
<td>EDUC 318</td>
<td>Educational Assessment</td>
</tr>
<tr>
<td>EDUC 342</td>
<td>Reading in the Content Area</td>
</tr>
<tr>
<td>EDUC 445</td>
<td>Organization and Administration of Schools</td>
</tr>
<tr>
<td>EDUC 458</td>
<td>Organization and Methods of Teaching Technology</td>
</tr>
<tr>
<td>EDUC 475</td>
<td>Student Teaching Seminar</td>
</tr>
<tr>
<td>EDUC 470</td>
<td>Student Teaching</td>
</tr>
<tr>
<td>EDUC 480</td>
<td>Student Teaching</td>
</tr>
</tbody>
</table>

Notes:
• Students must be admitted to teacher education to take 300 level and above education (EDUC) courses.
• Students must have 160 hours of course related field experience
• Graduates of the program must attain a passing score on Praxis for Teacher Licensure

Subject - Information Technology Systems (ITS)

141 - COMPUTER NETWORKING
4 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 104; or ABUS 201; and ECCS 133 or 164. (Formerly TECH 244)

142 - WIDE AREA NETWORKING
4 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). Prerequisite: ITS 141.
251 - BASIC WEB SERVER CONSTRUCTION
4 Credits
Open source operating systems and web server software, including installation, configuration, maintenance, enhancements and management.

270 - MANAGING AND MAINTAINING A NETWORK SERVER ENVIRONMENT
4 Credits
The management and resources in a Windows Server Environment. Tasks include managing user, computer, and group accounts; managing access to network resources; managing printers; managing an organizational unit in a network based on Active Directory service and implementing Group Policy to manage users and computers.

271 - IMPLEMENTING, MANAGING, AND MAINTAINING A NETWORK OS INFRASTRUCTURE
4 Credits
The management of a network infrastructure in a Windows Server Environment. Tasks include managing routing, DHCP, DNS, WINS IPSec and network access devices. Prerequisite: ITS 270.

Subject - Technology (TECH)

000 - ORIENTATION
1 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 – TECHNOLOGY AND SOCIETY
4 Credits
Majoring, minorng, or interested in the Department of Technological Studies. An overview of the development and design of technological systems in society, and their impact throughout history. Content includes an introduction to major technological systems in construction, manufacturing, information/communication, transportation, and management. Lab activities and visitations utilized to reinforce concepts and the career path options offered by the Department.

120 - INTRODUCTION TO COMPUTER AIDED DESIGN
4 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.

130 – MATERIALS SCIENCE
4 Credits
Major industrial materials and their properties and processes. The conversion of raw materials via extraction, refining, and processing into consumer products. An emphasis on safety, metallurgy, non-destructive testing, destructive testing and material processing will be applied.

139 - INTRODUCTION TO INFORMATION SYSTEMS
4 Credits
The language, technology, techniques, applications, and management of information systems, including a laboratory component dealing with operating systems, power point, word processing, spread sheets and database. (Formerly CS 130)

140 - MICROCOMPUTER APPLICATIONS IN TECHNOLOGY
4 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.

142 - WEB DESIGN AND DEVELOPMENT 1
4 Credits
The development of computing skills with a focus on multimedia in the context of effective web site design. Topics include but not limited to: multimedia authoring, the use of peripherals and web page development using HTML, XHTML, CSS, and web authoring software applications. Prerequisites: TECH 139, or 140, or ABUS 201, or GE 104. (Formerly TECH 342)

190 - SPECIAL TOPICS IN TECHNOLOGY
1 to 4 Credits
May be repeated as the topic varies.

221 – CONSTRUCTION DESIGN
4 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 the latest software and technology available. Prerequisites: TECH 120 or GE 102 or GE 105.

223 – PRODUCT DESIGN AND ANALYSIS
4 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. Prerequisites: TECH 120 or GE 102 or GE 105.
230 - MATERIALS AND PROCESSES
4 Credits
The material processes involved in fabricating and machining of consumer products. Processing applications include casting and molding, conditioning, separating, forming, fastening, and assembling of traditional and non-traditional materials.

231 - CUSTOM WOODWORKING
3 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 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. An introduction to finite element analysis and manufacturing lead time. 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 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.

260 – FLUID AND MECHANICAL SYSTEMS
4 Credits
Concepts of fluid 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 fluid and mechanical systems. (Formerly TECH 460)

261 - FUNDAMENTALS OF ELECTRICITY AND ELECTRONICS
4 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. The use and maintenance of test equipment will be emphasized during the testing of analog circuits.

280 - COOPERATIVE EXPERIENCE ORIENTATION
1 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 to 4 Credits
May be repeated as the topic varies.

294 - SOPHOMORE SEMINAR IN TECHNOLOGY
1 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 - DIGITAL MANUFACTURING DESIGN AND APPLICATIONS
4 Credits
Design of 3D CAD solid models for manufacture of mechanical parts and products, with simulation and analysis of assembly processes. Overview of digital manufacturing systems, including several manufacturing simulation applications. Prerequisites: TECH 120 or GE 105.

322 - VIRTUAL SIMULATION OF SYSTEMS
4 Credits
Development of in-depth virtual simulations of discrete events provided by industrial and educational partners. Students utilize the newest generation of simulation applications to produce computer models for advanced analysis of manufacturing operations, including ergonomics, robotics, and assembly sequencing. Industrial project with teamwork and problem solving. Prerequisite: TECH 321.

332 – APPLIED CONTROLS 1
4 Credits
Combination digital logic and logic design will lay down a framework from which programmable logic controllers are presented. The concepts of inputs, outputs, relay logic and ladder logic will be addressed. Industrial robots will also be introduced and on-line programming will include tasks such as pick and place, finish application, and robot integration. Prerequisites: TECH 261 or TECH 361, or GE 201.
335 – APPLIED CONTROLS 2  
4 Credits  
A hands-on introduction to automation systems dealing with automated manufacturing practices in NC machines, PLCs and Industrial Robotics. Activities include such things as automated handling and processing of materials using conveyors, positioners/work-holders, industrial robots, and NC machines. Computer Integrated Manufacturing techniques including technologies such as sensing, vision, automated product identification, and storage and retrieval will be investigated. Prerequisite: TECH 332.

339 - DATABASE MANAGEMENT AND APPLICATIONS  
4 Credits  
Comprehensive introduction to database concepts, design and applications. Topics include but are not limited to: overview, relational database, create and maintain a database. Structured Query Language (SQL) commands, create other objects in a database such as Forms, Multi-Table forms, Reports, and data sharing in an application.

341 - DIGITAL PHOTOGRAPHY  
3 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.

343 - WEB DESIGN AND DEVELOPMENT II  
4 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 142.

350 - CONSTRUCTION MATERIALS AND METHODS  
4 Credits  
Basic concepts of construction techniques used today; including the methods and materials involved in framing, enclosing, and finishing residential and light commercial buildings. Financing, contracting, procuring, supervising, site-operation, foundation, structural elements, utilities, landscaping, and personnel associated with construction activities.

351 – APPLICATIONS OF SOILS AND FOUNDATIONS  
4 Credits  
Principles of soil mechanics as it relates to general construction and foundation systems including footings, piles, caissons, cofferdams, and other substances. Includes applications with properties of soils, soil exploration, compaction, water in soil, consolidation and settlement, soil strength, foundation design, and slope stability. Prerequisite: TECH 350.

362 – PROGRAMMING IN EMBEDDED SYSTEMS  
4 Credits  
Exploration of C programming applications in an embedded environment using various microcontroller functions including timers, A/D converters and serial communication. Prerequisite: TECH 332.

380 - PROFESSIONAL PRACTICE IN TECHNOLOGY  
1 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 2.50 accumulative GPA. Graded S/U.

390 - SPECIAL TOPICS IN TECHNOLOGY  
1 to 4 Credits  
May be repeated as the topic varies.

412 - MANUFACTURING MANAGEMENT  
4 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. Emphasis on just-in-time inventory control, lean manufacturing, and globalization. Also includes automatic identification, bar coding, self-directed work teams and conflict resolution.

421 - SOLID MODELING FOR DESIGN  
3 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. Prerequisites: TECH 120 or GE 102 or GE 105.

423 - VIRTUAL SIMULATION PRODUCTION AND MANAGEMENT  
4 Credits  
Development of advanced virtual simulations of discrete events. Factory layouts and process flows are analyzed utilizing state-of-the-art simulation software. Focus on project management, analysis, and class presentations. Introduction to digital process and resource planning. Industrial project with teamwork and problem solving. Prerequisite: TECH 322.

430 - NONMETALLIC MATERIALS AND PROCESSES  
4 Credits  
Nonmetallic materials properties and processing. Conversion of raw materials into consumer products via refining and processing. Major emphasis on polymers, ceramics, wood, and composites.
435 - ADVANCED ROBOTICS/AUTOMATION
2 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 139, 140 and 332; and TECH 120 or GE 102 or GE 105. May be repeated up to a maximum of 8 hours.

452 – CONSTRUCTION BIDDING AND ESTIMATING
4 Credits
Methods and techniques in construction estimating and bidding to include quantity take-off, labor costs, material costs, overhead, profits, and bidding. Practical applications emphasized. Prerequisite: TECH 351.

470 - QUALITY ASSURANCE AND WORK MEASUREMENT
4 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. Prerequisite: Junior or Senior standing.

484 - INTERNSHIP IN TECHNOLOGY
5 to 15 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 (A, B, C, D, F). A maximum of fifteen hours to count toward graduation.

490 - SPECIAL TOPICS IN TECHNOLOGY
1 to 4 Credits
May be repeated as the topic varies.

491 - STUDENT TEACHING SEMINAR
1 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. Co-requisites: EDUC 470 and/or 480. Graded S/U.

494 - SENIOR SEMINAR IN TECHNOLOGY
1 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 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 Credit
Participation with the annual department-sponsored comprehensive tour of industries including 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.

497 - INDEPENDENT STUDY IN TECHNOLOGY
1 to 3 Credits

499 - SENIOR CAPSTONE
1 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, 435, 484 or 495; or EDUC 470 or 480.
Professors Fenton, Goldberg, Maris, Meininger (Associate Dean), Woods; Associate Professors Alhajji, Banfe, Christopher, Ewing, M. Govekar, Heinfeld, Kleine, Savino, Zekany; Assistant Professors P. Govekar, Matsuda, Schertzer; Visiting Assistant Professor Liu; Instructor Prasad; Visiting Instructor Jiang; 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 2007-08 recipient of this endowed professorship is Robert E. Kleine, III, associate professor of marketing.

Mission Statement
The James F. Dicke 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 in an intimate, collaborative environment.

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 a competent professional and responsible citizen. Clarity of thought and expression, analytical skills, and creativity are all emphasized and fostered through the general education experience. The learning objectives of the College’s general education program are consistent with those established for the University as outlined on page 32 of this catalog. In addition, the specific courses making up the general education program 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, Finance, Management, Marketing, and Pharmaceutical Business Majors
1. Public Speaking (COMM 211)
2. Interpersonal communications (COMM 225)
3. One additional communication course selected from either the Organizational Communication discipline or from the Public Relations 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. Acceptable study experiences are those completed through an Ohio Northern University sponsored program (see page 32 of this catalog) that carries academic credit.

Quantitative Skills
Accounting, Finance, International Business and Economics, Management, and Marketing 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.

Pharmaceutical Business major
1. MATH 154
2. STAT 156 and 256

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, Finance, Management, and Marketing Majors
1. An additional eight quarter hours taken in the College of Arts and Sciences

Natural Science
Accounting, Finance, International Business and Economics, Management, and Marketing Majors
1. One science course

Pharmaceutical Business major
1. BIOL 110 and 231
2. CHEM 135 and 136

Aesthetic Sensibility
All Majors
1. One Fine Arts course (ART 100, MUSC 100 or COMM 105)

Physical Fitness
All Majors
1. Three different 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 Accnt. 1 and 2
ABUS 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 485 Strategic Management
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 six major areas of study: accounting; finance; international business and economics; management; marketing; and pharmaceutical business.

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.
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 MUSC 100 or COMM 105 Fine Arts Elective 4 hrs.
SOC 110 or MUSC 100 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.
ABUS 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.
MGMT 485  Strategic Management  4 hrs.
ACCT  Accounting Electives  8 hrs.
ACCT 427  Accounting Internship  4 hrs.
IBEC  Economics Elective  4 hrs.
General Electives  14 hrs.
TOTAL  42 hrs.

Forensic Accounting Option
A forensic accounting option is available to accounting majors. As an applied accounting discipline, this option provides student graduates with a working knowledge of the three basic areas of forensic accounting—fraud examination, business valuation, and litigation support. The use of forensic skills to enhance the basic accounting skill set for employment and certification purposes will be encouraged. Students pursuing this option are cautioned that some professional certifications in the areas of forensic accounting also require CPA licensure. The following courses are required for the option.

To be taken as part of the general education core requirements:

PLSC 121  Intro. to Criminal Justice  4 hrs.
An approved professional writing course  4 hrs.
And the following courses:
ABUS 305  Basics of Expert Testimony  4 hrs.
ACCT 306  Business Valuation  4 hrs.
ACCT 307  Fraud Examination  4 hrs.

PLSC 342  Judicial Process and Criminal Law  4 hrs.
PLSC 476  Mock Trial (2 quarters minimum)  2 hrs.
ACCT 404  Auditing  2 hrs.
ACCT 427  Internship in Accounting  4 hrs.
TOTAL  34 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, 392, 402, 403, 404, and ABUS 313. Twelve additional hours of elective course work in the College of Arts and Sciences are also recommended.

Finance
The curriculum core for the finance major includes: ACCT 301 or 314, FINC 369, 461, 467 and 8 hours of approved upper division finance electives.

Bachelor of Science in Business Administration
Finance Major Curriculum

First Year
ABUS 000  Orientation  1 hr.
ABUS 120  Ethics in Bus. Prac  4 hrs.
ABUS 201  Pers. Computer Appl.  4 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  4 hrs.
Social Science Elective  4 hrs.
TOTAL  48 hrs.

Second Year
PHIL  Philosophy Elective  4 hrs.
ACCT 211,212  Prin. of Accounting 1,2  8 hrs.
IBEC 202, 203  Microeconomics and Macroeconomics  8 hrs.
MGMT  Information Syst. Math and/or Statistics Elective  4 hrs.
ABUS 240  Microeconomics and Macroeconomics  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.
### Bachelor of Science in Business Administration

#### Management Major Curriculum

**First Year**
- **ABUS 000** Orientation 1 hr.
- **ABUS 120** Ethics in Bus. Prac. 4 hrs.
- **ABUS 201** Pers. Computer Appl. 4 hrs.
- **ENGL 110, 111** Writing 1 and 2 8 hrs.
- **HIST 110, 111** Western Civ. 1 and 2 8 hrs.
- **ART 100 or MUSC 105** Fine Arts Elective 4 hrs.
- **COMM 225** Interpersonal Comm. 4 hrs.

**Second Year**
- **PHIL** Philosophy Elective 4 hrs.
- **ACCT 211, 212** Prin. of Accounting 1, 2 8 hrs.
- **IBEC 202, 203** Microeconomics and Macroeconomics 8 hrs.
- **ENGL** English Elective 4 hrs.
- **RELG** Religion Elective 4 hrs.
- **COMM 225** Interpersonal Comm. 4 hrs.

**TOTAL** 48 hrs.

#### 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.
- **ENGL 110, 111** Writing 1 and 2 8 hrs.
- **HIST 110, 111** Western Civ. 1 and 2 8 hrs.
- **ART 100 or MUSC 105** Fine Arts Elective 4 hrs.
- **COMM 225** Interpersonal Comm. 4 hrs.

**Second Year**
- **PHIL** Philosophy Elective 4 hrs.
- **ACCT 211, 212** Prin. of Accounting 1, 2 8 hrs.
- **IBEC 202, 203** Microeconomics and Macroeconomics 8 hrs.
- **ENGL** English Elective 4 hrs.
- **RELG** Religion Elective 4 hrs.
- **COMM 225** Interpersonal Comm. 4 hrs.

**TOTAL** 48 hrs.

#### 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.
- **ENGL 110, 111** Writing 1 and 2 8 hrs.
- **HIST 110, 111** Western Civ. 1 and 2 8 hrs.
- **ART 100 or MUSC 105** Fine Arts Elective 4 hrs.
- **COMM 225** Interpersonal Comm. 4 hrs.

**Second Year**
- **PHIL** Philosophy Elective 4 hrs.
- **ACCT 211, 212** Prin. of Accounting 1, 2 8 hrs.
- **IBEC 202, 203** Microeconomics and Macroeconomics 8 hrs.
- **ENGL** English Elective 4 hrs.
- **RELG** Religion Elective 4 hrs.
- **COMM 225** Interpersonal Comm. 4 hrs.

**TOTAL** 48 hrs.
### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBEC 300</td>
<td>Environ. of Int'l. Bus.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>ABUS 312</td>
<td>Business Law 1</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 333</td>
<td>Mgmt. &amp; Org. Beh.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 334</td>
<td>Cases &amp; Exer. in Org. Beh.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MRKT 351</td>
<td>Prin. of Marketing</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>FINC 362</td>
<td>Managerial Finance</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 363</td>
<td>Human Resource Mgmt.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 364</td>
<td>Prod. &amp; Ops. Mgmt.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 364</td>
<td>Arts &amp; Sciences Elect.</td>
<td>8 hrs.</td>
</tr>
<tr>
<td>IBEC</td>
<td>Economics Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>44 hrs.</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 485</td>
<td>Strategic Management</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 486</td>
<td>Int'l. Mgmt.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 425</td>
<td>Management Internship</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT</td>
<td>Management Electives</td>
<td>12 hrs.</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>42 hrs.</td>
</tr>
</tbody>
</table>

### 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**

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABUS 000</td>
<td>Orientation</td>
<td>1 hr.</td>
</tr>
<tr>
<td>ABUS 120</td>
<td>Ethics in Bus. Prac.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>ABUS 201</td>
<td>Pers. Computer Appl.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>COMM 211</td>
<td>Public Speaking</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>ENGL 110, 111</td>
<td>Writing 1 and 2</td>
<td>8 hrs.</td>
</tr>
<tr>
<td>HIST 110, 111</td>
<td>Western Civ. 1 and 2</td>
<td>8 hrs.</td>
</tr>
<tr>
<td>ART 100 or COMM 105 or MUSC 100</td>
<td>Fine Arts Elective or Social Science Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>48 hrs.</td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL</td>
<td>Philosophy Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>ACCT 211, 212</td>
<td>Prin. of Accounting 1, 2</td>
<td>8 hrs.</td>
</tr>
<tr>
<td>IBEC 202, 203</td>
<td>Microeconomics and Macroeconomics</td>
<td>8 hrs.</td>
</tr>
<tr>
<td>ENGL</td>
<td>English Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>RELG</td>
<td>Religion Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>COMM 225</td>
<td>Interpersonal Comm.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>COMM</td>
<td>Comm. Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>48 hrs.</td>
</tr>
</tbody>
</table>

#### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBEC 300</td>
<td>Environ. of Int'l. Bus.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>ABUS 312</td>
<td>Business Law 1</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 333</td>
<td>Mgmt. &amp; Org. Beh.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MRKT 351</td>
<td>Prin. of Marketing</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>FINC 362</td>
<td>Managerial Finance</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 364</td>
<td>Prod. &amp; Ops. Mgmt.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 364</td>
<td>Arts &amp; Sciences Elect.</td>
<td>8 hrs.</td>
</tr>
<tr>
<td>IBEC</td>
<td>Economics Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MRKT</td>
<td>Marketing Electives</td>
<td>8 hrs.</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>44 hrs.</td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 485</td>
<td>Strategic Management</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MRKT 420</td>
<td>Marketing Internship</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MRKT 434</td>
<td>Marketing Research</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MRKT 452</td>
<td>Consumer Behavior</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MRKT 455</td>
<td>Advanced Marketing</td>
<td>4 hrs.</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>42 hrs.</td>
</tr>
</tbody>
</table>

### Bachelor of Science in Business Administration

**Pharmaceutical Business Major**

Students pursuing a Pharmaceutical Business Major must select from three concentration areas: marketing, management or economics. The curriculum core for the major (all concentrations) includes the biological foundation of BIOL 110 and 231; the chemistry foundation of CHEM 135 and 136; the quantitative analysis foundation of MATH 154, STAT 156, and STAT 256. Additional core courses for the major include: PHBU 305, 317, 365, 366, 495 and PHPR 241.

#### First Year-all concentrations

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABUS 000</td>
<td>Orientation</td>
<td>1 hr.</td>
</tr>
<tr>
<td>ABUS 120</td>
<td>Ethics in Bus. Prac.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>ABUS 201</td>
<td>Pers. Computer Appl.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>COMM 211</td>
<td>Public Speaking</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>ENGL 110, 111</td>
<td>Writing 1 and 2</td>
<td>8 hrs.</td>
</tr>
<tr>
<td>HIST 110, 111</td>
<td>Western Civ. 1 and 2</td>
<td>8 hrs.</td>
</tr>
<tr>
<td>ART 100 or COMM 105 or MUSC 100</td>
<td>Fine Arts Elective or Social Science Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>52 hrs.</td>
</tr>
</tbody>
</table>

#### Second Year-all concentrations

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 211, 212</td>
<td>Prin. of Accounting 1, 2</td>
<td>8 hrs.</td>
</tr>
<tr>
<td>IBEC 202, 203</td>
<td>Microeconomics and Macroeconomics</td>
<td>8 hrs.</td>
</tr>
<tr>
<td>ENGL</td>
<td>English Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>RELG</td>
<td>Religion Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>COMM 225</td>
<td>Interpersonal Comm.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>COMM</td>
<td>Comm. Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>48 hrs.</td>
</tr>
</tbody>
</table>

### Additional courses for pharmaceutical business majors pursuing the economics concentration include:

- IBEC 383, PHBU 430 and 431, and ACCT 314 and 315.
### Third Year. Economics Concentration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBEC 300</td>
<td>Philosophy Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>ABUS 312</td>
<td>Business Law 1</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 333</td>
<td>Mgmt. &amp; Org. Beh.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MRKT 351</td>
<td>Prin. of Marketing</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>ACCT 314</td>
<td>Intermed. Managerial Acct. 1</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>ACCT 315</td>
<td>Intermed. Managerial Acct. 2</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>FINC 362</td>
<td>Managerial Finance</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 364</td>
<td>Prod. &amp; Ops. Mgmt.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 305</td>
<td>Intro. to Pharmaceutical Science</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>PHBU 365</td>
<td>Intro. Health Care: Finc. &amp; Econ.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHPR 241</td>
<td>Contemporary Pharm. Practice</td>
<td>2 hrs.</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>45 hrs.</td>
</tr>
</tbody>
</table>

### Fourth Year. Economics Concentration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBEC 383</td>
<td>Intermediate Microeconomics</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 485</td>
<td>Strategic Management</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 317</td>
<td>Pharm. Legal Environ.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 366</td>
<td>Pharm. Economics</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 495</td>
<td>Internship</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 430</td>
<td>Econometrics</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 431</td>
<td>Seminar in Pharm. Economics</td>
<td>4 hrs.</td>
</tr>
<tr>
<td></td>
<td>Comm. Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td></td>
<td>General Elective</td>
<td>5 hrs.</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>37 hrs.</td>
</tr>
</tbody>
</table>

Additional core courses for pharmaceutical business majors pursuing the management concentration include: PHBU 371, 373, 413, 434, 452, and 455.

### Third Year. Marketing Concentration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBEC 300</td>
<td>Philosophy Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>ABUS 312</td>
<td>Business Law 1</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 333</td>
<td>Mgmt. &amp; Org. Beh.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MRKT 351</td>
<td>Prin. of Marketing</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 305</td>
<td>Intro. to Pharmaceutical Science</td>
<td>3 hrs.</td>
</tr>
<tr>
<td>PHBU 365</td>
<td>Intro. Health Care: Finc. &amp; Econ.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHPR 241</td>
<td>Contemporary Pharm. Practice</td>
<td>2 hrs.</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>45 hrs.</td>
</tr>
</tbody>
</table>

### Fourth Year. Marketing Concentration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 485</td>
<td>Strategic Management</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 317</td>
<td>Pharm. Legal Environ.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 366</td>
<td>Pharm. Economics</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 495</td>
<td>Internship</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 413</td>
<td>New Product Development</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 434</td>
<td>Marketing Research</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 452</td>
<td>Consumer Behavior</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>PHBU 455</td>
<td>Advanced Marketing</td>
<td>4 hrs.</td>
</tr>
<tr>
<td></td>
<td>Comm. Elective</td>
<td>4 hrs.</td>
</tr>
<tr>
<td></td>
<td>General Elective</td>
<td>1 hr.</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>37 hrs.</td>
</tr>
</tbody>
</table>

### Dual Majors and Minors

No course used to satisfy a major or minor requirement in the college may be counted as a discipline elective in the completion of a second major or minor in the college.

### 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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBEC 202</td>
<td>Microeconomics and Macroeconomics</td>
<td>8 hrs.</td>
</tr>
<tr>
<td>ACCT 211</td>
<td>Prin. Acct. 1, 2</td>
<td>8 hrs.</td>
</tr>
<tr>
<td>ABUS 312</td>
<td>Business Law 1</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MGMT 333</td>
<td>Mgmt. &amp; Org. Beh.</td>
<td>4 hrs.</td>
</tr>
<tr>
<td>MRKT 351</td>
<td>Prin. of Marketing</td>
<td>4 hrs.</td>
</tr>
</tbody>
</table>

### Additional Core Courses for Pharmaceutical Business Majors

- PHBU 371, 373, 413, 434, 452, and 455.

### Minor in Business Administration

- IBEC 202, 203
- ACCT 211, 212
- ABUS 312
- MGMT 333
- MRKT 351

204 BUSINESS ADMINISTRATION
FINC 362 Managerial Finance 4 hrs.
an approved elective 4 hrs.
TOTAL 36 hrs.

Minor in Entrepreneurship
The Entrepreneurship minor is available to both business and non-business majors with an interest in new venture creation. Courses to be used to satisfy the elective requirements of the minor must be approved. The elective courses will be related to the student’s entrepreneurial interests and will complement his/her academic background. A minimum of 16 hours required for the minor must be completed at Ohio Northern University.

ABUS 222 Intro. to Entrepreneurship 4 hrs.
IBEC 202 Prin. of Microeconomics 4 hrs.
MRKT 351 Principles of Marketing 4 hrs.
ABUS 444 New Venture Creation 4 hrs.
Approved program electives 12 hrs.
TOTAL 28 hrs.

Minor in Finance
The finance minor is available to both business and non-business majors. A grade of "C" or higher is required in all of the finance courses. A minimum of 16 hours required for the minor must be completed at Ohio Northern University. Non-business majors are advised that ACCT 211, 212 are prerequisites for ACCT 301, 314, and FINC 362. In addition, a course equivalent to or higher than MATH 144 is prerequisite for FINC 362.

ACCT 301 Intermediate Accounting 4 hrs.
or ACCT 314 Intermed. Managerial Acct 4 hrs.
FINC 362 Managerial Finance 4 hrs.
FINC 369 Intermediate Finance 4 hrs.
FINC 461 Investments 4 hrs.
FINC 467 International Finance 4 hrs.
Upper level Finance electives 8 hrs.
TOTAL 28 hrs.

Minor in Management
The Management minor is available to both business and non-business majors. A grade of "C" or higher is required in all of the courses. A minimum of 16 hours required for the minor must be completed at Ohio Northern University. Non-business majors are advised that STAT 146 or its equivalent is a prerequisite for MGMT 364.

MGMT 333 Mgmt. & Org. Beh. 4 hrs.
MGMT 334 Cases & Exercises in Org. Beh. 4 hrs.
MGMT 363 Human Resource Mgmt. 4 hrs.
MGMT 364 Production & Operations Management 4 hrs.
Upper level Management electives 8 hrs.
TOTAL 24 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.

FINC 362 Business Statistics 4 hrs.
(or equivalent, STAT 142 or 156)
MRKT 351 Principles of Marketing 4 hrs.
MRKT 434 Marketing Research 4 hrs.
Upper level 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.
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.

Classification of Students
For purposes of classification, the minimum requirement for sophomore standing is 45 quarter hours of completed academic work.

Junior standing: a minimum of 90 quarter hours of credit including the following courses or their articulated equivalents: IBEC 202 and 203; ACCT 211 and 212; MATH 145 and STAT 146.

Senior standing: a minimum of 135 quarter hours of credit including completion of the following courses or their articulated equivalents: ABUS 312; MGMT 333 and 364; MRKT 351; and FINC 362.

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 34 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, Politics, and 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.

Students pursuing two or more majors in the James F. Dicke College of Business Administration are required to complete a distinct internship/international experience for each.

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 Experiential Learning.

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, Acess, 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 Tecnologico y de Estudios Superiores de Monterrey, Campus Queretaro (Mexico), the University of Aarhus (Denmark), Southern Cross University (Australia), Kansai Gaidai University (Japan) and Hanyang University (Korea). Additional study-abroad experiences have taken place at the University of Havana (Cuba), Copenhagen Business School (Denmark), University of Lüneburg (Germany), University of Turin (Italy), the London School of Economics (England), and Queensland University (Australia).

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 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 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 to 4 Credits
Can be repeated as the topic varies.

201 - PERSONAL COMPUTER APPLICATIONS FOR BUSINESS
4 Credits
Business applications for microcomputers. Introductory level use of software for word processing, file management, spreadsheets, and graphics.

222 - PRINCIPLES OF ENTREPRENEURSHIP
4 Credits
Entrepreneurship and new venture creation. Prerequisite: IBEC 202.

240 - MANAGEMENT INFORMATION SYSTEMS
4 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. (Formerly MGMT 240.)

290 - SPECIAL TOPICS IN BUSINESS
1 to 4 Credits
Can be repeated as the topic varies.

305 - BASICS OF EXPERT TESTIMONY
4 Credits
Legal aspects of the forensic engagement, including rules of evidence and procedure.

312 - BUSINESS LAW 1
4 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 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. Permission required for non-business college major.

390 – SPECIAL TOPICS IN BUSINESS
1 to 4 Credits
Can be repeated as the topic varies.

444 - NEW VENTURE CREATION
4 Credits
Capstone course for the Entrepreneurship minor. Develop a business plan to support the launch of a new business venture. Prerequisite: ABUS 222.

475 - SMALL BUSINESS INSTITUTE
4 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.

490 - SPECIAL TOPICS IN BUSINESS
1 to 4 Credits
Can be repeated as the topic varies.

---

Subject - Accounting (ACCT)

190 - SPECIAL TOPICS IN ACCOUNTING
1 to 4 Credits
Can be repeated as the topic varies.

211 - PRINCIPLES OF ACCOUNTING 1
4 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 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.

290 - SPECIAL TOPICS IN ACCOUNTING
1 to 4 Credits
Can be repeated as the topic varies.

301 - INTERMEDIATE ACCOUNTING 1
4 Credits
Financial accounting functions and basic theory. Preparation of financial statements. Prerequisite: ACCT 212.
302 - INTERMEDIATE ACCOUNTING 2
4 Credits
Preparation of financial statements, working capital, operational assets, long-term liabilities, leases and owners equity. Prerequisite: ACCT 301.

303 - INTERMEDIATE ACCOUNTING 3
4 Credits
Preparation of financial statements. Pensions and post-retirement benefits, accounting changes, financial statement analysis, special topics and EPS. Prerequisite: ACCT 302.

306 - BUSINESS VALUATION
4 Credits
Assessment of organizational health and value via business strategy analysis, accounting analysis, financial analysis, and prospective analysis. Case studies and financial statement analysis applications. Offered alternate years. Prerequisites: ACCT 212 and IBEC 203.

307 - FRAUD EXAMINATION
4 Credits
Survey of the types of occupational fraud with the goal of understanding how and why people commit fraud, how fraudulent conduct might be deterred, and how allegations of fraud should be investigated and resolved. Offered alternate years. Prerequisite: ACCT 212.

314 - INTERMEDIATE MANAGERIAL ACCOUNTING 1
4 Credits

315 - INTERMEDIATE MANAGERIAL ACCOUNTING 2
4 Credits

316 - ADVANCED MANAGERIAL ACCOUNTING
4 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 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 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.

390 - SPECIAL TOPICS IN ACCOUNTING
1 to 4 Credits
Can be repeated as the topic varies.

392 - ADVANCED FINANCIAL ACCOUNTING
4 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 Credits
Emphasis on business processes and internal control structure, including current AIS topics such as electronic/web commerce, electronic/internet/network security, artificial intelligence, EDI, databases, encryption and Enterprise Resource Planning (ERP). Prerequisite: ACCT 302.

403 - AUDITING 1
4 Credits
Auditor's professional ethics and legal liability. 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 Credits
Continuation of ACCT 403. Statistical sampling in auditing, computer technology in auditing, and current issues and problems in auditing. Prerequisite: ACCT 403.

427 - INTERNSHIP IN ACCOUNTING
1 to 16 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 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.)

490 - SPECIAL TOPICS IN ACCOUNTING
1 to 4 Credits
Can be repeated as the topic varies.

499 - INDEPENDENT STUDY IN ACCOUNTING
1 to 4 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)

110 - PERSONAL FINANCE
4 Credits
Personal and family financial planning with an emphasis on financial recordkeeping, budgeting, tax planning, consumer credit, housing, insurance, investments and retirement & estate planning. Not open for credit to students who have received a grade of "D" or higher in FINC 362 and cannot be taken concurrently with FINC 362. Can be used only as general elective hours. Cannot be used to satisfy either finance or business elective requirements.

190 - SPECIAL TOPICS IN FINANCE
1 to 4 Credits
Can be repeated as the topic varies.

290 - SPECIAL TOPICS IN FINANCE
1 to 4 Credits
Can be repeated as the topic varies.

362 - MANAGERIAL FINANCE
4 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: ACCT 211 and MATH 144 or higher.

368 – WORKING CAPITAL MANAGEMENT
4 Credits
Planning for and management of short term funds within the firm. Topics include cash management, short term investments, receivables management, and short term borrowings. Globalization of financial services delivery, and international cash management and foreign exchange risk emphasized. Techniques used to manage short term surplus funds and hedge for short term foreign exchange risk exposures discussed. Prerequisite: FINC 362.

369 - INTERMEDIATE FINANCIAL MANAGEMENT
4 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. Prerequisite: FINC 362. Permission required for non-business college major.

390 - SPECIAL TOPICS IN FINANCE
1 to 4 Credits
Can be repeated as the topic varies.

421 - INTERNSHIP IN FINANCE
1 to 16 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 cannot be used to satisfy either finance or business elective requirements. Consult advisor. Graded S/U.

460 - FINANCIAL MARKETS AND INSTITUTIONS
4 Credits
Policies and decisions regarding asset, liability, and capital management of a variety of financial institutions such as banks, insurance companies, pension funds, mutual funds and others within the legal, competitive and economic environment. Prerequisites: IBEC 203 and FINC 362. Permission required for non-business college major.

461 - INVESTMENTS
4 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. Prerequisite: FINC 362. Permission required for non-business college major.
202 - PRINCIPLES OF MICROECONOMICS
4 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 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 to 4 Credits
Can be repeated as the topic varies.

300 - THE ENVIRONMENT OF INTERNATIONAL BUSINESS
4 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 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) Permission required for non-business college major.

Subject - International Business and Economics (IBEC)

100 - ECONOMICS
4 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)

190 - SPECIAL TOPICS IN INTERNATIONAL BUSINESS AND ECONOMICS
1 to 4 Credits
Can be repeated as the topic varies.
366 - PHARMACEUTICAL ECONOMICS
4 Credits
Economic analysis of the pharmaceutical industry. Cost and benefit analysis of industry choices; drug therapy costs and health care outcomes; market structure analysis; patients and trademarks; and government policy impacts. (Discipline: Economics; also listed as PHBU 366.) Prerequisites: IBEC 203; PHBU 365 or FINC 365. Permission required for non-business college major.

383 - INTERMEDIATE MICROECONOMIC THEORY
4 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) Permission required for non-business college major.

384 - INTERMEDIATE MACROECONOMIC THEORY
4 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) Permission required for non-business college major.

385 - INTERNATIONAL ECONOMICS
4 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) Permission required for non-business college major.

390 – SPECIAL TOPICS IN INTERNATIONAL BUSINESS AND ECONOMICS
1 to 4 Credits
Can be repeated as the topic varies.

411 - COMPARATIVE ECONOMIC SYSTEMS
4 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) Permission required for non-business college major.

423 - ECONOMICS OF THE PUBLIC SECTOR
4 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) Permission required for non-business college major.

426 - INTERNSHIP IN INTERNATIONAL BUSINESS AND ECONOMICS
1 to 16 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.

430 - ECONOMETRICS
4 Credits
Introductory econometrics. Application of statistical methods to economic, business and social science topics. (Discipline: Economics; also listed as PHBU 430.) Prerequisites: IBEC 203; MATH 145, 154, or 163; and STAT 142, 146, or 156. Permission required for non-business college major.

431 - SEMINAR IN PHARMACEUTICAL ECONOMICS
4 Credits
In-depth analysis of the pharmaceutical industry. Topics will vary. Guest speakers to include industry leaders, researchers, and government officials. (Discipline: Economics; also listed as PHBU 431.) Prerequisite: IBEC 366 or PHBU 366. Permission required for non-business college major.

435 - INTERNATIONAL FINANCIAL ACCOUNTING
4 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 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) Permission required for non-business college major.

### 453 - INTERNATIONAL MARKETING

*4 Credits*
World markets, their respective consumers and environments, and the marketing management required to meet the demand of world markets in a dynamic and ever-changing 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.) Permission required for non-business college major.

### 467 - INTERNATIONAL FINANCE

*4 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.) Permission required for non-business college major.

### 486 - INTERNATIONAL MANAGEMENT

*4 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.) Permission required for non-business college major.

### 490 - SPECIAL TOPICS IN INTERNATIONAL BUSINESS AND ECONOMICS

*1 to 4 Credits*
Can be repeated as the topic varies.

### 497 - INDEPENDENT STUDY IN INTERNATIONAL BUSINESS AND ECONOMICS

*1 to 4 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)

#### 190 - SPECIAL TOPICS IN MANAGEMENT

*1 to 4 Credits*
Can be repeated as the topic varies.

#### 290 - SPECIAL TOPICS IN MANAGEMENT

*1 to 4 Credits*
Can be repeated as the topic varies.

#### 292 - CROSS-CULTURAL MANAGEMENT

*4 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 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 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. Prerequisite: Sophomore standing.

#### 334 - CASES AND EXERCISES IN ORGANIZATIONAL BEHAVIOR

*4 Credits*
Experiential and case-based approach to managing organizational behavior. Prerequisite: MGMT 333.

#### 363 - HUMAN RESOURCE MANAGEMENT

*4 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 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.

375 - MANAGEMENT DECISION MAKING
4 Credits
Qualitative and quantitative management tools and techniques used in problem solving and decision making. Qualitative tools include Brainstorming, Cause and Effect Diagrams, the Nominal Group Technique, the Delphi Technique, Focus Groups, Force Field Analysis, Competitive Analysis, and Value Chain Analysis. Quantitative methods concentrate on linear programming and forecasting. (Also listed as PHBU 375.) Prerequisite: MGMT 364. Permission required for non-business college major.

390 - SPECIAL TOPICS IN MANAGEMENT
1 to 4 Credits
Can be repeated as the topic varies.

400 - CURRENT LABOR RELATIONS
4 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. Permission required for non-business college major.

410 - BUSINESS AND SOCIETY
4 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.

412 - HEALTH CARE MANAGEMENT
4 Credits
Special management issues in the Health sector: governance, human resources, financial statements and resource seeking, and performance assessments. (Also listed as PHBU 412.) Prerequisite: MGMT 333. Permission required for non-business college major.

425 - INTERNSHIP IN MANAGEMENT
1 to 16 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.

457 - PROJECT MANAGEMENT
4 Credits
Managerial planning and control. Tools and techniques involved in managing projects. Exercises in decision making and critical thinking. (Also listed as PHBU 457.) Prerequisite: MGMT 333. Permission required for non-business college major.

474 - SMALL BUSINESS MANAGEMENT
4 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 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. Permission required for non-business college major.

485 - STRATEGIC MANAGEMENT
4 Credits
Integrative business 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; FINC 362; IBEC 300 and MRKT 351. Permission required for non-business college major.

486 - INTERNATIONAL MANAGEMENT
4 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.) Permission required for non-business college major.
490 - SPECIAL TOPICS IN MANAGEMENT
1 to 4 Credits
Can be repeated as the topic varies.

498 - INDEPENDENT STUDY IN MANAGEMENT
1 to 4 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)

190 - SPECIAL TOPICS IN MARKETING
1 to 4 Credits
Can be repeated as the topic varies.

290 - SPECIAL TOPICS IN MARKETING
1 to 4 Credits
Can be repeated as the topic varies.

351 - PRINCIPLES OF MARKETING
4 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 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 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 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. (Also listed as PHBU 371.)

373 - LOGISTICS
4 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. (Also listed as PHBU 373.) Permission required for non-business college major.

376 - BUSINESS TO BUSINESS MARKETING
4 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. Permission required for non-business college major.

380 - PRINCIPLES OF ELECTRONIC COMMERCE
4 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. Prerequisite: MRKT 351. (Formerly MGMT 380) Permission required for non-business college major.

390 - SPECIAL TOPICS IN MARKETING
1 to 4 Credits
Can be repeated as the topic varies.

413 - NEW PRODUCT DEVELOPMENT
4 Credits
Issues in the development and marketing of new products and services. (Also listed as PHBU 413.) Prerequisite: MRKT 351. Permission required for non-business college major.

420 - INTERNSHIP IN MARKETING
1 to 16 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 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. Prerequisite: MRKT 351 and STAT 142 or 146 or 156. (Also listed as PHBU 434.)

MARKETING 215
452 - CONSUMER BEHAVIOR
4 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. Prerequisite: MRKT 351. (Also listed as PHBU 452.) Permission required for non-business college major.

453 - INTERNATIONAL MARKETING
4 Credits
World markets, their respective consumers and environments, and the marketing management required to meet the demand of world markets in a dynamic and ever-changing 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.) Permission required for non-business college major.

455 - ADVANCED MARKETING
4 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. Prerequisites: Open to senior marketing majors or minors only. (Also listed as PHBU 455.)

490 - SPECIAL TOPICS IN MARKETING
1 to 4 Credits
Can be repeated as the topic varies.

496 - INDEPENDENT STUDY IN MARKETING
1 to 4 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. Prerequisite: Junior standing.

305 - INTRODUCTION TO PHARMACEUTICAL SCIENCE
3 Credits
Basic and pharmaceutical sciences including medical terminology, pharmacology, toxicology, medicinal chemistry, pharmacokinetics and pharmaceutics. The role of pharmaceutical sciences in the health care system. Prerequisites: BIOL 110 and 231; CHEM 135 and 136.

317 - PHARMACEUTICAL INDUSTRY LEGAL ENVIRONMENT
4 Credits
Law and regulations related to the pharmaceutical industry. Prerequisites: ABUS 312; PHBU 365. Permission required for non-business college major.

365 - INTRODUCTION TO HEALTH CARE SYSTEMS FINANCE AND ECONOMICS
4 Credits
Basic concepts, principles and practices associated with the economic and financial aspects of the U.S. health care delivery system. (Also listed as FINC 365.) Prerequisites: IBEC 202; FINC 362. Permission required for non-business college major.

366 - PHARMACEUTICAL ECONOMICS
4 Credits
Economic analysis of the pharmaceutical industry. Cost and benefit analysis of industry choices; drug therapy costs and health care outcomes; market structure analysis; patents and trademarks; and government policy impacts. (Also listed as IBEC 366.) Prerequisites: IBEC 203; PHBU 365 or FINC 365. Permission required for non-business college major.

371 - PERSONAL SELLING
4 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. (Also listed as MRKT 371.)

373 - LOGISTICS
4 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. (Also listed as MRKT 373.) Permission required for non-business college major.

Subject - Pharmaceutical Business (PHBU)

190 - SPECIAL TOPICS IN PHARMACEUTICAL BUSINESS
1 to 4 Credits
Can be repeated as the topic varies.

290 - SPECIAL TOPICS IN PHARMACEUTICAL BUSINESS
1 to 4 Credits
Can be repeated as the topic varies.
375 - MANAGEMENT DECISION MAKING
4 Credits
Qualitative and quantitative tools and techniques used in problem solving and decision making. Qualitative tools include Brainstorming, Cause and Effect Diagrams, the Nominal Group Technique, the Delphi Technique, Focus Groups, Force Field Analysis, Competitive Analysis, and Value Chain Analysis. Qualitative methods concentrate on linear programming and forecasting. (Also listed as MGMT 375.) Prerequisite: MGMT 364. Permission required for non-business college major.

390 - SPECIAL TOPICS IN PHARMACEUTICAL BUSINESS
1 to 4 Credits
Can be repeated as the topic varies.

412 - HEALTH CARE MANAGEMENT
4 Credits
Special management issues in the Health sector: governance, human resources, financial statements and resource seeking, and performance assessments. (Also listed as MGMT 412.) Prerequisite: MGMT 333. Permission required for non-business college major.

413 - NEW PRODUCT DEVELOPMENT
4 Credits
Issues in the development and marketing of new products and services. (Also listed as MRKT 413.) Prerequisite: MRKT 351. Permission required for non-business college major.

430 - ECONOMETRICS
4 Credits
Introductory econometrics. Application of statistical methods to economic, business and social science topics. (Also listed as IBEC 430.) Prerequisites: IBEC 203; MATH 145, 154, or 163; and STAT 142, 146, or 156. Permission required for non-business college major.

431 - SEMINAR IN PHARMACEUTICAL ECONOMICS
4 Credits
In depth analysis of the pharmaceutical industry. Topics will vary. Guest speakers to include industry leaders, researchers and government officials. (Also listed as IBEC 431.) Prerequisite: IBEC 366 or PHBU 366. Permission required for non-business college major.

434 - MARKETING RESEARCH
4 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. Prerequisites: MKRT 351 and STAT 142 or 146 or 156. (Also listed as MRKT 434.) Permission required for non-business college major.

452 - CONSUMER BEHAVIOR
4 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. Prerequisite: MRKT 351. (Also listed as MRKT 452.) Permission required for non-business college major.

455 - ADVANCED MARKETING
4 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. Prerequisites: Open to senior pharmaceutical business majors only. (Also listed as MRKT 455.)

457 - PROJECT MANAGEMENT
4 Credits
Managerial planning and control. Tools and techniques involved in managing projects. Exercises in decision making and critical thinking. (Also listed as MGMT 457.) Prerequisite: MGMT 333. Permission required for non-business college major.

490 - SPECIAL TOPICS IN PHARMACEUTICAL BUSINESS
1 to 4 Credits
Can be repeated as the topic varies.

495 - INTERNSHIP IN PHARMACEUTICAL BUSINESS
1 to 16 Credits
Field experience in pharmaceutical business. Internship experience can be repeated for a maximum of sixteen credit hours. Up to four hours can be used to satisfy the pharmaceutical business major requirements. Additional hours can be used as general elective hours and can not be used to satisfy either pharmaceutical business or business elective requirements. Consult Advisor.
THE THOMAS JEFFERSON SMULL COLLEGE OF Engineering

Eric T. Baumgartner, 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 followed by 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 2007-08 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.

Leroy H. Lytle Distinguished Chair of Mechanical Engineering established in 1983 from the estate of Leroy H. Lytle, 1923 graduate of ONU. The 2007-08 recipient of the chair is Dr. Jed 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; 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; 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. Acceptable scores on the American College Test or the College Entrance Examination Board Test are expected of all candidates.

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 conform to the general education learning objectives of the university that have been previously stated in the catalog.

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 carefully consider 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
Ethics in Professional Life (PHIL 240) 4 hours
General Education 4 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
General Education 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 (2008-09)
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 8 hours
Programming 1 (ECCS 164) 4 hours
TOTAL 48 hours

Sophomore Year (2008-09)
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
Statics (GE 113) 4 hours
Dynamics (GE 214) 4 hours
Ethics in Professional Life (PHIL 240) 4 hours
Programming 1 (ECCS 164) 4 hours
Calculus 4 (MATH 263) 4 hours
Digital Logic (ECCS 260) 4 hours
TOTAL 49 hours

Junior Year (2008-09)
Chemistry 1 (CHEM 225) 4 hours
Chemistry 2 and Lab (CHEM 226-227) 4 hours
Signals and Systems 1 (ECCS 314) 4 hours
Electric Machines and Power Systems (ECCS 338) 4 hours
Statistics for Engineers (STAT 280) 4 hours
Analog Electronics 1, 2 (ECCS 321-22) 9 hours
Electromagnetics (ECCS 337) 4 hours
Control Systems 1 (ECCS 344) 4 hours
Power Electronics (ECCS 339) 4 hours
Microprocessors (ECCS 362) 4 hours
General Education 4 hours
TOTAL 49 hours

Senior Year (2008-09)
Senior Design Seminar (ECCS 404) 2 hours
Senior Design (ECCS 405) 3 hours
Engineering Tech. Comm. (ECCS 406) 1 hour
Digital Signal Processing (ECCS 411) 4 hours
Commun. Systems 1, 2 (ECCS 458-59) 8 hours
Engineering Economy (ECCS 472) 4 hours
Technical Electives 8 hours
General Education 8 hours
Microprocessors (ECCS 362) 4 hours
Signals and Systems 2 (ECCS 414) 4 hours
TOTAL 46 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
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
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
Data Structures 1, 2 (ECCS 268-69) 8 hours
Digital Logic (ECCS 260) 4 hours
General Education Elective 8 hours
TOTAL 49 hours

Junior Year
Chemistry 1 (CHEM 225) 4 hours
Chemistry 2 and Lab (CHEM 226-227) 4 hours
Analogue Electronics 1 (ECCS 321) 5 hours
Statistics for Engineers (STAT 280) 4 hours
Statics (GE 113) 4 hours
Signals and Systems 1 (ECCS 314) 4 hours
Networks and Data Communication (ECCS 366) 4 hours
TOTAL 49 hours
Microprocessors (ECCS 362) 4 hours  
Computer Architecture (ECCS 365) 5 hours  
Operating Systems (ECCS 466) 4 hours  
Dynamics (GE 214) 4 hours  
General Education 4 hours  
TOTAL 50 hours  

Senior Year  
Senior Design Seminar (ECCS 404) 2 hours  
Senior Design (ECCS 405) 3 hours  
Engineering Tech. Comm. (ECCS 406) 1 hour  
Digital Signal Processing (ECCS 411) 4 hours  
Engineering Economy (ECCS 472) 4 hours  
Networks and Data Comm. (ECCS 366) 4 hours  
Embedded Comp. Systems (ECCS 465) 4 hours  
Adv. Digital Electronics (ECCS 363) 4 hours  
Software Engineering (ECCS 446) 4 hours  
General Tech Elective 4 hours  
General Education Electives 12 hours  
TOTAL 46 hours  

Bachelor of Science in Mechanical 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  
Introductory Programming (ECCS 160) 3 hours  
Writing 1 (ENGL 110) 4 hours  
General Education 8 hours  
TOTAL 47 hours  

Sophomore Year  
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 113) 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  
Computer Aided Design (ME 318) 3 hours  
Adv. Strength of Materials (ME 319) 4 hours  
Manufacturing Processes (ME 341) 4 hours  
Theory of Machines (ME 352) 5 hours  
Thermodynamics (ME 365) 4 hours  
Fluid Mechanics (ME 366) 4 hours  
Numerical Methods (ME 371) 3 hours  
Engineering Analysis (ME 382) 3 hours  
Statistics for Scientists and Engineers (STAT 280) 4 hours  
Heat Transfer (ME 367) 4 hours  
Thermal Sciences Lab 1 (ME 368) 1 hour  
Experimental Methods (ME 374) 2 hours  
Control Systems (ME 339) 5 hours  
Ethics in Prof. Life (PHIL 240) 4 hours  
TOTAL 50 hours  

Senior Year  
Capstone 1, 2, 3, (ME 411-2-3) 5 hours  
Principles of Mech Design (ME 401) 3 hours  
Engineering Economics (ME 402) 1 hour  
Mechanical Design of Components (ME 417) 4 hours  
Advanced Thermal Sciences (ME 465) 4 hours  
Thermal Sciences Lab 2 (ME 466) 1 hour  
Finite Element Analysis (ME 471) 4 hours  
Vibration Analysis (ME 418) 4 hours  
Technical Electives 8 hours  
General Education 12 hours  
TOTAL 46 hours  

* A student must receive a passing grade in courses that are listed for graduation.

Bachelor of Science - Computer Science Curriculum  

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 computer scientists who conform to the general education learning objectives of the university that have been previously stated in the catalog.  
All students are required to complete a general education requirement. The requirement includes specific courses and electives. 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 including a minimum three-course sequence containing a significant laboratory component, and one elective course in non-Western culture. A list of electives and approved science sequences is available from the Electrical & Computer Engineering and Computer Science Department Office. An approved Honors Seminar may fulfill a requirement listed above.  

Freshman Year 2008-09  
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  
General Elective 4 hours  
TOTAL 49 hours  

* A student must receive a passing grade in courses that are listed for graduation.
Sophomore Year 2008-09
- 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
- Digital Logic (ECCS 260) 4 hours
- Science Elective 1,2,3 12 hours
- Computer Science Elective (ECCS 2XX) 4 hours
- General Electives 4 hours
TOTAL 48 hours

Junior Year 2008-09
- Foundations of CS (ECCS 448) 4 hours
- Digital Logic (ECCS 260) 4 hours
- Operating Systems (ECCS 466) 4 hours
- Computer Science Elective (ECCS 3XX) 8 hours
- Statistics (STAT 280) 4 hours
- Science Elective 4 4 hours
- Social Science Elective 1,2 8 hours
- Databases (ECCS 348) 4 hours
- General Electives 7 hours
TOTAL 47 hours

Senior Year 2008-09
- CS Technical Elective 4 hours
- Software Engineering (ECCS 464) 4 hours
- Prog. Lang & Compilers (ECCS 330) 4 hours
- Sr. Design Sem. (ECCS 404) 2 hours
- Senior Design (ECCS 405) 3 hours
- Eng Tech Comm (ECCS 406) 1 hour
- Communications (COMM 211 or 225) 4 hours
- Philosophy Elective 4 hours
- Non-Western Elective 4 hours
- General Electives 11 hours
TOTAL 41 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

The student must also complete 12 additional hours in computer science, with at least one course taken at the 300 or 400 level.

Electrical Engineering students may count ECCS 260 and ECCS 362 as computer science electives.

Mechanical Engineering students may count ME 371 and ME 372 or ECCS 160 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 grade point average of at least 3.00. Except where noted, credit hours earned in repeated courses can be counted only one time among the total hours required for graduation.

For students entering the mechanical engineering major in fall 2007 and after, the following academic regulation established by the mechanical engineering department is in effect. All mechanical engineering majors must have a letter grade of "C" or better in GE 113, Statics, and GE 214, Dynamics, prior to entering the junior year. Those students not meeting this requirement will not be permitted to take any 300 or 400 level ME coursework until this requirement is met.

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 47 quarter credit hours (45 computer science program) of completed academic work; for junior standing, 95 quarter credit hours (90 computer science program); and for senior standing, 143 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 succes-
sive 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 may 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 more than 90% of graduating seniors take the exam and more than 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, Room 1698, Columbus, OH 43215-6108.

Engineering Graduates and Law School
Graduating seniors of the T.J. Smull College of Engineering interested in entering the Pettit College of Law at Ohio Northern should refer to the program description material on page 34 of this catalog.

Dual Degree Programs
Information concerning dual degree programs involving the College of Engineering appears on page 33 of this catalog. 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 employment sessions begin in the summer following the sophomore year and include a contracted four to six terms of co-op experience. 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. 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 Option, an Entrepreneurship Minor or Option, a Computer Science Minor, a Bio-Medical Option, a Bio-Medical Sciences Minor, and an Environmental Option, among others. The Business Administration and Entrepreneurship Options 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.

Interdisciplinary programs are 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 grade point 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 Entrepreneurship Option requires a two course sequence in entrepreneurship and venture capital creation, one course in marketing, one course in economics, and three 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 Credit
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 Credits
The engineering profession and application of the engineering method: identification and definition of problems, consideration of assumptions and constraints, generation of problem solutions through the application of standard engineering techniques, and communication of results in standard formats. Offered Fall Quarter.

**105 - FRESHMAN ENGINEERING 2 (3+0)**
3 Credits
Application of engineering design process in a team environment. Graphical representation of engineering data. Use of industry-standard software applications. Engineering ethics. Prerequisite: GE 104.

**106 - FRESHMAN ENGINEERING 3 (3+0)**
3 Credits
A team-based conceptual design project based on the engineering design method: preparation of proposal, generation of design alternatives, consideration of constraints and criteria, selection of design alternative by decision matrix, testing and verification of design by prototyping, and preparation and presentation of design report. Offered Spring Quarter. Prerequisites: GE 104 and 105.

**113 - STATICS (4+0)**
4 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 158 or MATH 163 and PHYS 231. Offered Fall and Winter Quarters.

**180 - SPECIAL TOPICS**
1 to 4 Credits
Selected topics of current interest in general engineering. Can be repeated as the topic varies. Prerequisite: Permission of instructor.

**190 - INDEPENDENT STUDY**
1 to 4 Credits
Individual study of topic of particular interest to the student in general engineering. Prerequisite: Permission of instructor.

**201 - CIRCUITS 1 (3+2)**
4 Credits

**202 - CIRCUITS 2 (3+2)**
4 Credits

**214 - DYNAMICS (4+0)**
4 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 159 or MATH 164 and GE 113. Offered Winter and Spring Quarters.

GENERAL ENGINEERING

225
223 - STRENGTH OF MATERIALS (4+0)
4 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 and Spring Quarters.

243 - ENGINEERING MATERIAL SCIENCE (3+2)
4 Credits
Fundamental physical and microstructural characteristics of materials and how these relate to their mechanical properties. Evaluation of these properties for material selection. Metallurgical aspects including equilibrium diagrams. Includes laboratory experiments in Material Science.

250 - ORIENTATION FOR CO-OP STUDENTS (1+0)
0 Credit
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 to 4 Credits
Selected topics of current interest in general engineering. Can be repeated as the topic varies. Prerequisite: Permission of instructor.

290 - INDEPENDENT STUDY
1 to 4 Credits
Individual study of topic of particular interest to the student in general engineering. Prerequisite: Permission of instructor.

350 - PROFESSIONAL PRACTICE
1 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 Bazlamit, Smalley (Chair), Ward; Associate Professors Berdanier, Reza; Visiting Instructor Fought

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 university 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
Following completion of the Civil Engineering Program our graduates 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 Credits
Plane surveying; use of level, distance measurement devices, data collectors, and total stations; traversing, roadway applications, and topographic mapping, and introduction to GIS and GPS applications. Prerequisite: MATH 158 or MATH 163. Offered Fall Quarter.

**303 - ADVANCED SURVEYING**
3 Credits
A second surveying course that expands on the basic surveying skills presented in CE 203. Topics include: History of Ohio Land Surveys, Ohio Surveying Law, Boundary Surveying Fundamentals, Gathering of Surveying Field Data, and Preparation of Preliminary Engineering Site Drawings. Prerequisite: CE 203.

**313 - NUMERICAL AND STATISTICAL METHODS (3+0)**
3 Credits
Principles of numerical methods used in solving civil engineering problems. Topics include numerical solutions of single variable equations, systems of nonlinear equations, integration and differentiation, differential and partial differential equations by finite differences, and statistical techniques. Prerequisite: MATH 275. Offered Spring Quarter.

**321 - ENVIRONMENTAL SCIENCE (3+2)**
4 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+0)**
3 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. Offered Winter Quarter.

**326 - WATER TREATMENT DESIGN (3+2)**
4 Credits
Physical, chemical, and biological processes in drinking water treatment systems. Prerequisite: CE 321. Offered Spring Quarter.

**333 - GEOTECHNICAL ENGINEERING (3+2)**
4 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 Credits
Analysis of determinate beams, trusses, and frames. Load distributions, deflections, moving loads, influence lines, cables and arches. Prerequisite: GE 223. Offered Fall Quarter.

**342 - STRUCTURES 2 (4+0)**
4 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 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. Prerequisite: CE 341. Offered Spring Quarter.

**351 - TRANSPORTATION 1 (4+0)**
4 Credits
Components of transportation systems; traffic flow modeling, geometric design of highways, including horizontal and vertical alignments, drainage to include surface runoff using AASHTO procedures. Prerequisite: CE 203. Offered Fall Quarter.

**352 - TRANSPORTATION 2 (4+0)**
4 Credits
Principles of traffic engineering, capacity, and level of service. Capacity analysis of two-lane highways, multi-lane highways, and freeways. Traffic impact assessments and intersection analysis and design. Prerequisite: CE 351. Offered Winter Quarter.

**362 - FLUID MECHANICS (3+2)**
4 Credits
Principles of the mechanics of fluids; engineering properties of fluids, fluid statics, fluid dynamics by Bernoulli Principle and the continuity, momentum and energy principles. Offered Winter Quarter.
363 - HYDRAULICS (3+2)
4 Credits
Hydraulic analysis of steady flow in pipes to include 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. Offered Spring Quarter.

371 - URBAN PLANNING (4+0)
4 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. Offered Spring Quarter.

380 - SPECIAL TOPICS
1 to 4 Credits
Selected topics of current interest in civil engineering. Prerequisite: Permission of instructor.

390 - INDEPENDENT STUDY
1 to 4 Credits
Individual study of topic of particular interest to the student in civil engineering. Prerequisite: Permission of instructor.

410 - CE DESIGN SEMINAR 1
2 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 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 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 Credits
Continuation of civil engineering senior design project. Prerequisite: CE 415. Offered Spring Quarter.

425 - WASTEWATER TREATMENT DESIGN (3+2)
4 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 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. Offered Spring Quarter.

434 - SOIL MECHANICS (3+2)
4 Credits
Principles of the mechanics of soils, settlement, consolidation, shear strength, and two-dimensional seepage. Prerequisite: CE 434. Offered Winter Quarter.

438 - FOUNDATIONS (3+0)
3 Credits
Analysis and design of foundations, retaining structures and slopes. Prerequisite: CE 434. Offered Winter Quarter.

444 - STEEL DESIGN (3+2)
4 Credits
Design of beams, columns, tension members, frames and connections using structural steel. Loads and material properties. Application of AISC code and specifications to design. Prerequisite: CE 341. Offered Fall Quarter.

446 - STRUCTURAL DESIGN (4+0)
4 Credits
Design of structural projects. Prerequisites: CE 343 and 444. Offered Spring Quarter.

456 - TRANSPORTATION 3 (3+2)
4 Credits
Design of pavements for transportation facilities; material properties and their impact on pavement design and laboratory mix design applications. Prerequisite: CE 351. Offered Winter Quarter.

464 - HYDROLOGY (3+2)
4 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 Credits
Continuation of open channel flow analysis with sewer design and modeling open channel 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. Offered Spring Quarter.

480 - SPECIAL TOPICS
1 to 4 Credits
Selected topics of current interest in civil engineering. Prerequisite: Permission of instructor.

490 - INDEPENDENT STUDY
1 to 4 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

Professor Estell (Chair); Associate Professors Al-Olimat, Herr, Hurtig (Assistant Dean), Retterer, Vemuru; Assistant Professors Chen, Khorbotly, 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. practice the professional, ethical and moral responsibilities of computer scientists.
5. consider 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
By the time of graduation, students majoring in Computer Science at Ohio Northern University will be enabled to:
PO-1: 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.
PO-2: use engineering design methodology to develop components, processes or systems either independently or in a team environment.
PO-3: communicate in an engineering environment with team members possessing diverse skills and responsibilities yet working toward a common goal.

PO-4: design and conduct computer engineering experiments, and analyze, interpret, and communicate the results in an effective manner in both written and oral form.

PO-5: recognize the need and be able to continue learning in order to maintain an awareness of current technical challenges.

PO-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. practice the professional, ethical, and moral responsibilities of engineers.
5. consider 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
By the time of graduation, student majoring in Electrical Engineering at Ohio Northern University will be enabled to:

PO-1: apply their knowledge of math, science, and engineering in combination with the use of appropriate techniques, skill, and engineering tools to identify, formulate, and solve electrical engineering problems.

PO-2: use engineering design methodology to develop electrical components, processes, or systems either independently or in a team environment.

PO-3: communicate in an engineering environment with team members possessing diverse skills and responsibilities yet working toward a common goal.

PO-4: design and conduct electrical engineering experiments, and analyze, interpret, and communicate the results in an effective manner in both written and oral form.

PO-5: continue learning in order to maintain an awareness of current technical challenges in electrical engineering and therefore be able to accept increasing professional responsibility.

PO-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+0)
4 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.

160 - INTRODUCTORY PROGRAMMING (2+2)
3 Credits
Basic programming concepts and design techniques: data types, arrays, expressions, files, control structures, subprograms, functions. Engineering applications of basic problem-solving strategies. Offered Spring Quarter. Enrollment is restricted to students in the College of Engineering. Prerequisite: GE 105.

164 - PROGRAMMING 1 (4+0)
4 Credits
Basic programming techniques, simple data types, expressions, functions, 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.

165 - PROGRAMMING 2 (4+0)
4 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. Offered Winter Quarter.

166 - PROGRAMMING 3 (4+0)
4 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. Offered Spring Quarter.

182 - ECE CONCEPTS 1 (1+0)
1 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. Restricted to students in the College of Engineering. Offered Winter Quarter.
183 - ECE CONCEPTS 2 (1+0)
1 Credit
Continuation of ECCS 182. Prerequisite: ECCS 182. Graded S/U. Restricted to students in the College of Engineering. Offered Spring Quarter.

228 - PROGRAMMING ENVIRONMENTS (4+0)
4 Credits
Use of a software development environment to build a large project. Solutions incorporate third party library code and student generated libraries and include remote database access as well as network communications. A paper and a presentation are required. Students work independently. Prerequisite: ECCS 165. Offered Fall Quarter.

231 - INTRODUCTION TO COBOL (4+0)
4 Credits
Programming in COBOL with business applications. Offered alternate years.

241 - WEB-ENABLED PROGRAMMING (4+0)
4 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 authorizing tools. Prerequisite: ECCS 133 or ECCS 164. Offered Winter Quarter.

260 - DIGITAL LOGIC (3+3)
4 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. (Formerly ECCS 360) Prerequisite: MATH 336. Offered Fall Quarter.

264 - ASSEMBLY LANGUAGE AND COMPUTER ORGANIZATION (4+0)
4 Credits
Computer structure and machine language, assembly language programming, macros, program segmentation and linkage. Prerequisite: ECCS 166. Offered Spring Quarter.

268 - DATA STRUCTURES AND ALGORITHMS 1 (4+0)
4 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 (B.Trees, AVL Trees, Splay Trees), hash tables and graphs. Introduction to space and time complexity analysis. Prerequisite: ECCS 166. Offered Winter Quarter.

269 - DATA STRUCTURES AND ALGORITHMS 2 (4+0)
4 Credits

292 - EXTERNAL RESEARCH EXPERIENCE
1 to 4 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.

314 - SIGNALS & SYSTEMS 1 (4+0)
4 Credits
Linear time domain analysis techniques including impulse response and the superposition integral. Frequency domain analysis using Laplace transforms. Discrete signal analysis using Z-transforms. Prerequisites: MATH 275 and GE 202. (Formerly ECCS 203) Offered Fall Quarter.

321 - ANALOG ELECTRONICS 1 (4+3)
5 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. Prerequisite: ECCS 314. Offered Winter Quarter.

322 - ANALOG ELECTRONICS 2 (3+3)
4 Credits
Continuation of ECCS 321. Prerequisite: ECCS 321. Offered Spring Quarter.
330 - PROGRAMMING LANGUAGES AND COMPLIERS (4+0)
4 Credits
Constructs of contemporary programming languages in different programming paradigms. Principles of compiler design: lexical analysis, syntax analysis, semantic analysis, code generation and optimization for simple instruction sets, symbol table generation and maintenance. Prerequisite: ECCS 268. Offered Fall Quarter.

332 - OPERATIONS RESEARCH (4+0)
4 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 MATH 332)

337 - ELECTROMAGNETICS (4+0)
4 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. Offered Fall Quarter.

338 - ELECTRIC MACHINES AND POWER SYSTEMS (3+3)
4 Credits
Characteristics, operation principles and applications of power system components: power transformers, dc and ac rotating machines. Single line diagrams and per unit calculations, transmission lines modeling, load flow techniques and economic dispatch. Team-oriented design cases. Prerequisites: ECCS 337 and GE 202. Offered Winter Quarter.

339 - POWER ELECTRONICS (3+3)
4 Credits
Analysis and design of power semiconductor circuits. Converters, inverters and switched-mode power supplies. Prerequisite: GE 202. Offered Spring Quarter.

341 - ARTIFICIAL INTELLIGENCE (4+0)
4 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.

344 - CONTROLS 1 (3+3)
4 Credits

345 - CONTROLS 2 (3+3)
4 Credits

348 - DATABASES (4+0)
4 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.

362 - MICROPROCESSORS (3+3)
4 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 260 or 261 or 361. Offered Fall Quarter.

365 - COMPUTER ARCHITECTURE (4+3)
5 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 260 or 261 or 360 or 361. Offered Winter Quarter.
366 - NETWORKS AND DATA COMMUNICATION (4+0)
4 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. Offered Spring Quarter.

370 - USER INTERFACE DESIGN (3+2)
4 Credits
Human-Computer Interaction topics related to the user interface as encountered in software applications and web sites. Methodology and life cycle of user-centered interface development. Design guidelines regarding style, structure, layout, and organization. Accessibility, color, typography, globalization and personalization issues. Prerequisite: junior standing. Offered Winter Quarter.

371 - INTRODUCTION TO COMPUTER SECURITY (4+0)
4 Credits
Social engineering, cryptography, access control, protocols, software vulnerabilities, risk analysis, attack methodologies, legal and ethical issues. Prerequisite: Junior standing.

380 - SPECIAL TOPICS
1 to 4 Credits
Selected topics in electrical or computer engineering or computer science of current interest. May be repeated for credit. Prerequisite: Permission of instructor.

390 - INDEPENDENT STUDY
1 to 4 Credits
Individual study of topic in electrical or computer engineering or computer science of particular interest to the ECCS student. Prerequisite: Permission of instructor.

392 - EXTERNAL RESEARCH EXPERIENCE
1 to 4 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 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. Offered Fall Quarter.

405 - SENIOR DESIGN (3+0)
3 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. Offered Winter Quarter.

406 - ENGINEERING TECHNICAL COMMUNICATION (1+0)
1 Credit
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. Offered Spring Quarter.

411 - DIGITAL SIGNAL PROCESSING (3+2)
4 Credits
Analysis and design of discrete systems including FIR and IIR digital filters. Discrete time systems will be evaluated using several computer applications. Prerequisite: ECCS 414. Offered Fall Quarter.

414 - SIGNALS AND SYSTEMS 2 (4+0)
4 Credits
Signal and system analysis in the time domain. Discrete frequency domain analysis using the Fourier series. Continuous frequency domain analysis using the Fourier transform. Prerequisite: ECCS 314. (Formerly ECCS 301) Offered Fall Quarter.

416 - ADVANCED TOPICS IN DSP (2+2)
3 Credits
Speech and image applications. Adaptive signal processing. Wavelets. Prerequisite: ECCS 411.

423 - FILTER DESIGN (3+2)
4 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 414. (Formerly ECCS 323)
433 - ADVANCED TOPICS IN ENERGY CONVERSION (3+0)
3 Credits
Selected advanced topics in energy conversion.
Prerequisite: ECCS 338.

446 - ADVANCED TOPICS IN CONTROL SYSTEMS (3+0)
3 Credits
Selected advanced topics in control systems.
Prerequisite: ECCS 345.

448 - FOUNDATIONS OF COMPUTING (4+0)
4 Credits

453 - DIGITAL COMMUNICATION TECHNOLOGY (3 + 0)
3 Credits
A survey of digital communication techniques. Telephone, Radio, Satellite systems and others. Prerequisite: ECCS 314. Offered Spring Quarter.

458 - COMMUNICATION SYSTEMS 1 (3+3)
4 Credits
Analysis and design of Analog Communication Circuits. Prerequisites: ECCS 322 and 414. Offered Winter Quarter.

459 - COMMUNICATION SYSTEMS 2 (3+3)
4 Credits

461 - NUMERICAL ANALYSIS (4+0)
4 Credits
Review of programming concepts using MatLab and other software. Errors that occur in representing numbers on a computer and approximating solutions; Methods for locating roots of Equations; Numerical interpolation and numerical differentiation; splines; Numerical integration; Numerical solution of differential equations; Numerical solution of systems of equations. Offered alternate years. (Also listed as MATH 461) Prerequisites: MATH 165, MATH 272 and MATH 360 or equivalent.

463 - ADVANCED DIGITAL ELECTRONICS (3+3)
4 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 Manufacturing and Testability; Use of industry-standard computer-aided design tools to simulate, design and verify CMOS integrated circuits. Prerequisites: ECCS 260 or 261 or 361. ECCS 365 is recommended. (Formerly ECCS 363) Offered Fall Quarter.

464 - SOFTWARE ENGINEERING (4+0)
4 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. Offered Spring Quarter.

465 - EMBEDDED COMPUTING SYSTEMS (3+3)
4 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 ECCS 365. Offered Winter Quarter.

466 - OPERATING SYSTEMS (4+0)
4 Credits
Operating system principles; multi-programming, virtual memory, client-server models for operating systems. Prerequisite: ECCS 268. Offered Spring Quarter.

472 - ENGINEERING ECONOMY (4+0)
4 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. Offered Winter Quarter.

480 - SPECIAL TOPICS
1 to 4 Credits
Selected topics in electrical or computer engineering or computer science of current interest. Can be repeated up to 20 hours as the topic varies. Prerequisite: Permission of instructor.
490 - INDEPENDENT STUDY
1 to 4 Credits
Individual study of topic in electrical or computer engineering or computer science, of particular interest to the ECCS student. Prerequisite: Permission of instructor.

492 - EXTERNAL RESEARCH EXPERIENCE
1 to 4 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 Professor Yoder (Chair); Assistant Professors Laird, Sawyers, Shen; Instructor Mikesell

Mission Statement
The mission of the mechanical engineering department is to produce graduates who are prepared for professional practice or further studies, and who have the skills needed for lifelong success. We will provide our students with a solid foundation of technical knowledge through quality teaching and facilities. We will encourage our students to become well-balanced individuals who are able to practice their profession for the benefit of society, and who are prepared for a lifetime of learning.

Program Educational Objectives
Our graduates will be able to:
1. apply the principles of mechanical engineering in order to develop or improve products and technologies.
2. communicate effectively with a variety of audiences and work efficiently in multi-disciplinary teams.
3. work in a competent and ethical manner, recognizing the impact that engineering has on society.
4. continue their professional development through graduate studies and independent learning.

Program Outcomes
By the time of graduation, students majoring in Mechanical Engineering will:
1. be able to identify, formulate and solve problems in the areas of mechanical and thermal systems.
2. be prepared to work ethically, professionally, and responsibly.
3. demonstrate effective professional communication skills including technical writing, oral presentation, technical drawing, and listening skills.
4. understand and accept that their actions and decisions are to contribute to the good of humankind.
5. develop the skills needed for career-long learning, including preparation for graduate school and continuing professional development.
6. have knowledge of contemporary issues and an understanding of how mechanical engineering relates to the global society.
7. be able to use a variety of tools (e.g. software packages, manufacturing tools) and practices (e.g. specifications, analysis techniques) found in the professional workplace.

Subject - Mechanical Engineering
(ME)

318 - COMPUTER AIDED DESIGN (2+2)
3 Credits
Introduction to mechanical design applications with the computer used as a tool. Emphasis on solid modeling, simulation, design layout and geometric dimensioning and tolerancing. Prerequisite: GE 105.

319 - ADVANCED STRENGTH OF MATERIALS (4+0)
4 Credits
Mechanics of materials such as linear elastic fracture mechanics, stress concentrations, and initially-curved beams. Prerequisite: GE 223.

339 - CONTROL SYSTEMS (4+2)
5 Credits
Modeling, analysis and design of linear feedback control systems. Laplace transforms, transfer functions and frequency response. Digital controls and logic. Laboratory work in digital logic design and performance studies of real systems. Prerequisites: MATH 275, GE 214 and ME 372 or ME 202 or ECCS 164 or 160. Offered Spring Quarter. (Formerly ME 419)

341 - MANUFACTURING PROCESSES (3+2)
4 Credits
Manufacturing engineering and technology including casting, rolling, forging, extrusion, drawing, sheet forming, 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 tours are included. Prerequisite: GE 243
352 - THEORY OF MACHINES (4+3)
5 Credits
Kinematics and kinetics of mechanisms, analysis and synthesis of linkages, cams and gears. Prerequisites: GE 214 and ME 372 or ME 202 or ECCS 164 or ECCS 160. Offered Winter Quarter.

365 - THERMODYNAMICS (4+0)
4 Credits
Fundamentals of classical thermodynamics. Work, heat transfer, and thermodynamic properties. The First and Second Law of Thermodynamics. Application to power and refrigeration cycles. Prerequisite: PHYS 232. Offered Fall Quarter.

366 - FLUID MECHANICS (4+0)
4 Credits
Fundamentals of fluids phenomena, including hydrostatics, conservation of mass, energy, and momentum, dimensional analysis and piping systems. Development and application of the governing equations for fluid motion in integral and differential forms. Applications to physical devices and systems. Prerequisites: MATH 275 and ME 365. Offered Winter Quarter.

367 - HEAT TRANSFER (4+0)
4 Credits
Principles of the three mechanisms of heat transfer (conduction, convection, radiation) in solid, fluid and vacuum media. Development of the control volume approach. Applications to engineering problems and systems. Prerequisites: MATH 275 and PHYS 232.

368 - THERMAL SCIENCES LAB 1 (0+2)
1 Credit
Development and conduction of experiments in thermodynamics, hydrostatics, and fluid dynamics. Prerequisites: ME 365 and ME 366 and ME 374.

371 - NUMERICAL METHODS (3+0)
3 Credits

374 - EXPERIMENTAL METHODS (1+2)
2 Credits

380 - SPECIAL TOPICS
1 to 5 Credits
Selected topics of current interest in mechanical engineering. Can be repeated as the topic varies. Prerequisite: Permission of instructor.

382 - ENGINEERING ANALYSIS (3+0)
3 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.

390 - INDEPENDENT STUDY
1 to 5 Credits
Individual study of topic of particular interest to the student in mechanical engineering. Prerequisite: Permission of instructor.

401 - PRINCIPLES OF MECHANICAL DESIGN (3+0)
3 Credits
The process of design is covered with a focus on problem-solving methodology and project management. Teamwork tools and design are used on a team project.

402 - ENGINEERING ECONOMICS (1+0)
1 Credit
The principles of engineering economics are investigated. Co-requisite: ME 412. Offered Winter Quarter.

411 - CAPSTONE 1 (0+2)
1 Credit
Initiation of capstone design project as a team effort. Prerequisite: ME standing. Co-requisite: ME 401. Offered Fall Quarter.

412 - CAPSTONE 2 (0+4)
2 Credits
Continuation of capstone design project as a team effort. Prerequisite: ME 411. Co-requisite: ME 402. Offered Winter Quarter.

413 - CAPSTONE 3 (0+4)
2 Credits
Completion of capstone design project as a team effort. Prerequisite: ME 412. Offered Spring Quarter.

417 - MECHANICAL DESIGN OF COMPONENTS (4+0)
4 Credits
Design and selection of various machine elements. Design teams work on projects. Prerequisite: ME 319. Offered Fall Quarter.
418 - VIBRATION ANALYSIS (4+0)
4 Credits
Fundamentals of linear vibration including damped and undamped systems, single and multi-degree of freedom systems, and forced vibration. Prerequisites: MATH 275 or MATH 361 and GE 214 and ME 372 or ME 202 or ECCS 160 or ECCS 164. Offered Winter Quarter.

429 - APPLICATIONS IN CONTROL SYSTEMS (3+2)
4 Credits
Applications in control systems concentrating on PLCs and ladder logic. Advanced control theory explored. Laboratory work concentrates on PLC applications. Prerequisite: ME 339 or ECCS 261.

442 - MANUFACTURING SYSTEMS (3+2)
4 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 (3+2)
4 Credits
Modern computer-based techniques are used to model and control mechanical, thermal, fluid and/or electrical systems. Students are introduced to nonlinear systems, chaos theory, neural networks, fuzzy logic, and genetic algorithms. Students research and report on current applications of these algorithms. Prerequisites: ME 339 or ECCS 344 or ME 419 or ECCS 444.

462 - COMPUTATIONAL FLUID DYNAMICS (3+2)
4 Credits
The theory and methods of computational fluid dynamics, including grid generation, flow solution, and post processing 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 Fluent, Pointwise, Cobalt, and Fieldview. Prerequisites: ME 371 or ME 471 and ME 366 or ME 464.

465 - ADVANCED THERMAL SCIENCES (4+0)
4 Credits
Application of fundamental concepts from thermodynamics, fluid mechanics, and heat transfer to the analysis of complex thermal systems, including combustion and psychrometrics, compressible flow, and natural convection. Prerequisites: ME 366 and ME 367. Co-requisite: ME 466. Offered Fall Quarter.

466 - THERMAL SCIENCES LAB 2 (0+2)
1 Credit
Development and conduction of experiments in thermodynamics, fluid mechanics and heat transfer. Prerequisites: ME 367 and ME 368. Co-requisite: ME 465. Offered Fall Quarter.

469 - THERMAL SYSTEMS DESIGN (4+0)
4 Credits
A mechanical engineering technical elective course where the principles and knowledge gained throughout the Thermal Sciences course sequence are integrated and applied to a thermal system design problem as selected by the student group. Students will discuss and investigate various system components, reliability, safety, economics and application culminating in the design of a major thermal system and presentation to the class. Prerequisite: ME 465.

471 - FINITE ELEMENT ANALYSIS (3+2)
4 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.

480 - SPECIAL TOPICS
1 to 5 Credits
Selected topics of current interest in mechanical engineering. Can be repeated as the topic varies. Prerequisite: Permission of instructor.

490 - INDEPENDENT STUDY
1 to 5 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

Jon E. Sprague, 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 7870 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 Statements

The Ohio Northern University Raabe College of Pharmacy is committed to:

• Preparing students to enter the practice of pharmacy with the knowledge base and skills required to provide pharmacist-delivered patient care and effectively contribute to the profession. Inherent to the fulfillment of this commitment, students will be provided with the ability to develop problem-solving and life-long learning skills which will facilitate their 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. Also, the College will encourage, and provide opportunities for student participation in these endeavors;

• Providing information, support and services to students, colleagues, the profession of pharmacy, other health care disciplines, and the university community at large, consistent with the expertise of its faculty. Also, the College will encourage and provide opportunities for students to perform similar services.

The mission of the Department of Pharmaceutical and Biomedical Sciences (PHBS) reflects its commitment to education, research, and service. PHBS is committed to:

• Providing a curriculum which will assure the scientific competence of the pharmacist;
• Providing the fundamental background necessary for the development of the pharmaceutical scientist of the future;
• Contributing to the development and advancement of the foundational knowledge base through research in the pharmaceutical and biomedical sciences;
• Providing information, support and services to students, colleagues, the profession of pharmacy, the respective pharmaceutical sciences, the University, and the community at large, consistent with the expertise of the Department faculty.

The mission of the Department of Pharmacy Practice (PHPR) reflects its commitment to education, research, and service. PHPR is committed to:

• Providing a curriculum which will assure the competence of the pharmacy practitioner by providing excellent teaching in the pharmacy practice-related courses, providing innovative advanced practice training, and imparting a quest for life-long learning and professional service;
• Contributing to the development of the foundational knowledge base through research and clinical practice in the discipline areas represented in the Department;
• Providing activities that demonstrate the value of service as a part of learning for students, colleagues, the pharmacy profession, the pertinent pharmacy practice disciplines, and the community at large.
The Experiential Program is committed to:

• Preparing pharmacy students to enter pharmacy practice as generalists with the knowledge, skill, attitudes and values necessary to optimize drug therapy and provide quality patient care in various practice settings.

• Encouraging doctoral graduates to expand the depth of their training through postgraduate experiences and/or formalized training.

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. Applicants are required to complete a personal interview.

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 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. All transfer decisions are based on space availability in the program.

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:

<table>
<thead>
<tr>
<th>Category</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education courses</td>
<td>48</td>
</tr>
<tr>
<td>Basic science courses</td>
<td>73</td>
</tr>
<tr>
<td>Professional courses</td>
<td>184</td>
</tr>
<tr>
<td>Electives</td>
<td>19</td>
</tr>
</tbody>
</table>

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 conform to the general education learning objectives as previously stated on page 32.

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
- 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
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
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.

Doctor of Pharmacy Degree Curriculum

<table>
<thead>
<tr>
<th>First Year</th>
<th>Second Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory Chemistry 1, 2, 3 171, 172, 173</td>
<td>The Profession of Pharmacy 4, 5, 6 201, 202, 203</td>
</tr>
<tr>
<td>General Biology 121</td>
<td>Organic Chemistry 1, 2, 3 251, 252, 253</td>
</tr>
<tr>
<td>Introduction to Zoology 122</td>
<td>Physics 120</td>
</tr>
<tr>
<td>Introduction to Human Anatomy and Histology 124</td>
<td>Biostatistics 1 156</td>
</tr>
<tr>
<td>Calculus for Life Sciences 1 154</td>
<td>Biostatistics 2 256</td>
</tr>
<tr>
<td>The Profession of Pharmacy 1, 2, 3 101, 102, 103</td>
<td>General Education/Electives 24 hours</td>
</tr>
<tr>
<td>General Education/Electives 20 hours</td>
<td>TOTAL 54 hours</td>
</tr>
<tr>
<td>TOTAL 54 hours</td>
<td></td>
</tr>
</tbody>
</table>

Third Year
The Profession of Pharmacy 7, 8, 9 301, 302, 303
Biochemistry 1, 2 341, 342
Medical Microbiology 313
OTC Products 331
Immunology 375
Physiology 1, 2, 3 331, 332, 333
Biosciences Laboratory 1, 2 322, 323
General Education/Electives 14 hours
TOTAL 54 hours

Fourth Year
Pharmaceutical Sciences Modules 1, 2 431, 432
Biomedical Sciences Modules 1, 2 443, 444
Patient Care Assessment Modules 1, 2 401, 402
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 (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 full-time 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 226.
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.

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 student’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.

5. 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 PHPR 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 PHPR 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; PHPR 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)**

**191 – SPECIAL TOPICS**

1 Credit

Topics in Pharmacy. Enrollment is restricted to attendees of the Summer Honors Institute. May be repeated as the topic varies.

**441 - BIOMEDICAL SCIENCE AND PATIENT CARE MODULE 1: CARDIOVASCULAR SYSTEM**

9 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 DISEASE**

9 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.

**543 - BIOMEDICAL SCIENCE AND PATIENT CARE MODULE 3: THE CENTRAL NERVOUS SYSTEM AND SPECIAL SENSES**

9 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 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 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 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.

600 - SENIOR THESIS  
1 to 4 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 Christoff, Kinder, Milks, Sprague; Associate Professors Hrometz, Kisor (Chair); Assistant Professors Crossgrove, Mahfouz, Rojeb, Rorabaugh, Stockert, Talbot; Instructor 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 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 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 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 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 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 Credits  
Selected principles and practices of alternative (complementary) health care, including homeopathy, herbs, energy and touch therapies. Emphasis on implications for pharmacists. Prerequisite: Permission of the instructor.

341 - BIOCHEMISTRY 1 (4+0)  
4 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 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 Credits  
Basic principles of nutrition for pharmacy and non-pharmacy 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 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 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 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 immunobiologics currently available in the USA for prevention and treatment of most common infections and immunologic diseases. The role of biotechnology as a source of immunobiologics will be discussed. Prerequisite: PHBS 341.

381 - NATURAL PRODUCTS 1 (4+0)  
4 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 Credits  
The physical pharmacy, pharmaceutical and biopharmaceutical aspects of a variety of drug delivery systems, including solutions, solid dosage forms, disperse systems and aerosols. 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 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 Credits
Concepts of pharmacokinetics related to physiology and pathophysiology. Pharmaceutical and biopharmaceutic aspects of a variety of drug delivery systems, including solid, semisolid and transdermal dosage forms. Novel and experimental drug delivery systems also will be examined. Laboratory exercises introduce basic pharmaceutical and techniques necessary to prepare extemporaneous dosage forms, including ointments and suppositories, and gels. 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 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 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 Credits
Continuation of PHBS 443. Prerequisites: PHBS 431 and 443, and PHPR 401.

530 - MANUFACTURING PHARMACY (1+6)  
3 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 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 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 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 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 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 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 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 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 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 to 3 Credits
Can be repeated as the subject varies. Prerequisite: Permission of the instructor.

594 - SEMINAR IN PHARMACEUTICAL AND BIOMEDICAL SCIENCES
1 to 3 Credits
Can be repeated as the subject varies. Prerequisite: Permission of the instructor.

597 - INDEPENDENT STUDY-PHARMACEUTICAL AND BIOMEDICAL SCIENCES
1 to 3 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 Allison, Broedel-Zaugg, K. Kier; Associate Professors Parteleno, Reiselman, Roecker, Sullivan (Chair); Assistant Professors DiPietro, Finley, Kline, Martin, Shields; Clinical Professors Blumer (shared), Reed (shared), P. Smith (shared); Associate Clinical Professor Hulisz (shared); Assistant Clinical Professors Brosches (shared), Caudill (shared), Daberko (shared), Fearing (shared), Garman (shared), Gibson (shared), Goldman (shared), Harrell (shared), Kauffman (shared), Kimber (shared), Leifheit (shared), Meyer (shared), Miller (shared), Pierce (shared), Plogsted (shared), Rush (shared), Schlanz (shared); Instructors T. Kier, McCurdy

Subject - Pharmacy Practice (PHPR)

101 - THE PROFESSION OF PHARMACY 1
1 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 Credit
Continuation of PHPR 101. Prerequisite: PHPR 101.

103 - THE PROFESSION OF PHARMACY 3
1 Credit
Continuation of PHPR 102. Prerequisite: PHPR 102.

201 - THE PROFESSION OF PHARMACY 4
2 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 Credits
Continuation of PHPR 201. Prerequisite: PHPR 201.

203 - THE PROFESSION OF PHARMACY 6
2 Credits
Continuation of PHPR 202. Prerequisite: PHPR 202.
225 - PHARMABRIDGE
1 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 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 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 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 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 Credits
Continuation of PHPR 301. Prerequisite: PHPR 301.

303 - THE PROFESSION OF PHARMACY 9
2 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 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 - OTC PRODUCTS
4 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 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 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 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 Credits
An interdisciplinary approach to the practice of pharmacy as it fits into the contemporary health-care 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 to 16 Credits
Can be repeated as the topic varies. Prerequisite: Permission of the instructor.

594 - SEMINAR IN PHARMACY PRACTICE
1 to 3 Credits
Can be repeated as the topic varies. Prerequisite: Permission of the instructor.

597 - INDEPENDENT STUDY-PHARMACY PRACTICE
1 to 16 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 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)
0 Credit
Orientation to the non-traditional Doctor of Pharmacy program and completion of a prior learning assessment (PLA) portfolio (documentation of the pharmacists’ 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
0 Credit
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 Credits

715 - SPECIAL TOPICS IN PHARMACY PRACTICE
1 to 3 Credits
Internet based course clinically or disease oriented. Can be repeated as the topic varies. Prerequisites: PHPR 701. DOES NOT COUNT TOWARD GRADUATION.

720 - DRUG LITERATURE EVALUATION
3 Credits
Drug information sources (including the primary scientific literature). Processes used to make authoritative judgments based on information provided from principles of research methodology. Application of epidemiologic methods to the characteristics and events of drug use. Co-requisite: PHPR 701.

730 - PHARMACOKINETICS
3 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: PHPR 701.

740 - PHYSICAL ASSESSMENT
3 Credits
Preparation for advanced practice rotations. Experiences in various aspects of physical assessment. Prerequisite: PHPR 701.

750 - PATHOPHYSIOLOGY AND THERAPEUTICS: CARDIOLOGY
3 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: PHPR 701.
755 - PATHOPHYSIOLOGY AND THERAPEUTICS: RENAL
3 Credits
Physiology and pathophysiology of the renal 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: PHPR 701.

760 - PATHOPHYSIOLOGY AND THERAPEUTICS: INFECTIOUS DISEASE
3 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: PHPR 701.

765 - PATHOPHYSIOLOGY AND THERAPEUTICS: CENTRAL NERVOUS SYSTEM/  
3 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: PHPR 701.

770 - PATHOPHYSIOLOGY AND THERAPEUTICS: RESPIRATORY
3 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 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 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 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 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 to 6 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, Clarke, Fenton, French, Gerber, Hill, Lobenhofer, O’Melinn, Raack, Streib, Traster, Veltri (Associate Dean), Young; Visiting Professor Martin; Associate Professors Sabol, Ward; Assistant Professors Lewis, Torres; Visiting Assistant Professors Helmer, Pecchioni; Instructors Crider, Easterday, Mittendorf; Taggart Library: Professor Armstrong; Associate Professor Siebesma; Assistant Professors Christian, 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.


Dr. Steven W. and Helen E. Kormendy Law Lecture Fund. Established in 1987 by Mrs. Helen Kormendy and family in memory of her husband, Dr. Steven W. Kormendy, JD ’28, LLD ’85. The income from the fund is used to bring a prominent legal figure to the campus to address matters of law in a 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.

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. Wireless connectivity is available throughout the entire law college building. The Taggart Law Library houses more than 400,000 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, 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 88 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.

Mission Statement

The mission of the College of Law is to provide an excellent legal education emphasizing service to a diverse community and profession.
Leading articles on current legal topics, student
three times a year, the Law Review consists of
edited and published by law students. Published
highly respected and award-winning law journal, is
The
ample opportunity to hone their research, writing
competitions. In addition, three internal competitions are
sends teams to national and international competi-
The law college's strong Moot Court program
also offers Phi Alpha Delta, a legal fraternity.
Income Tax Assistance (VITA). The law college
ety, Student Bar Association (SBA), and Volunteer
Legal Association of Women, Media and Entertain-
Icelandic Legal Exchange Program, International
Education Society, Federalist Society,
Christian Legal Society, Criminal Law Society,
Constitution Society, Black Law Students Associa-
tion (BLSA), Cardozo Jewish Law Student Associa-
tion, Christian Legal Society, Criminal Law Society,
Environmental Law Society, Federalist Society,
Icelandic Legal Exchange Program, International
LL.M. in Democratic Governance
Lawyers from transitional countries and emerg-
ing democracies can pursue a Master of Laws in a
one academic year program in the College of Law. The
program is designed to train lawyers from the
public sector in skills that will assist them in building
stable democratic institutions in their home coun-
tries and develop systems that will support the rule
of law in a market economy. The two-semester,
twenty-four credit program is more fully described
in materials available from the College of Law.
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
The law college's strong Moot Court program
sends teams to national and international competi-
tions. 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 320 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 As-
sembly 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 finan-
cial 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.

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. 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 2008-09

#### Fall Semester 2008

**August**
- 11: Last day for payment of fees (Mon.)
- 20: Law students arrive; check-in residence halls
- 21-22: New law student orientation
- 25: Late registration
- 25: Law classes begin

**September**
- 1: Labor Day - Classes recess
- 2: Classes resume
- 5: Last day to add a course
- 15: Beginning of “W” period for withdrawals

**October**
- 23-26: Classes recess
- 27: Last day to withdraw
- 27: Classes resume

**November**
- 4: Last day to remove “incomplete”
- 27-30: Thanksgiving recess

#### December
- 1: Classes resume (Mon.)
- 5: Fall semester classes end
- 6-8: Reading days
- 9-19: Law finals
- 20-: Semester recess
- Jan. 11: Fall Graduation
- 31: Last day for payment of spring semester fees

### Spring Semester 2009

**January**
- 11: Law students arrive, check-in residence halls (Sun.)
- 12: Spring semester begins; late registration
- 19: Martin Luther King Jr. Day (Mon.); classes recess
- 23: Last day to add a course

**February**
- 2: Beginning of “W” period for withdrawals
- 28-: Mar. 8: Spring recess

**March**
- 9: Classes resume
- 23: Last day to withdraw
- 30: Last day to remove “incomplete”

**April**
- 10-13: Easter recess
- 14: Classes resume

**May**
- 1: Spring semester classes end
- 2-4: Reading days
- 5-15: Law finals
- 17: Commencement (Sun.)

### Summer Session 2009

- Classes: May 26-July 15
- Reading days: July 16-19
- Final exams: July 20-23
TUITION, FEES, AND OTHER CHARGES
2008-09

College of Law

Students enrolled and attending classes between 4/1/05 and 3/31/09

Tuition & General Fee
Per Semester
• Full-time student $13,645
• Part-time student (less than 12 hrs.) (per hour) $1135
• Academic overload fee (per hour) $ 850

Technology Fee Per Semester
• Full-time student $105
• Part-time student $ 30

Room
• Campus Village Apts. (double occupancy) $2940

Total Per Semester
Based on full tuition, technology fee, & apartment (CVA) $16,690

Total Per Academic Year
Based on full tuition, technology fee, & apartment (CVA) $33,380

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. Please contact the controller’s office for more information on these plans.

Regular Billing Schedule  For students selecting courses during the advance registration period, the fall semester billing will be sent through the TouchNet Ebill System. Students will receive an email at their ONU email address when a bill is available for viewing. 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. 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 2008-09

Fall Semester  August 11, 2008
Spring Semester  January 2, 2009

OTHER CHARGES

1. Auditing Fee, per semester hour (when permitted) ................................................ $15.00

2. Academic Overload Fees
   a. Maximum hours which can be taken per semester without overload charge
      Law - 18 hours
   b. 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 ...............................$150.00

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  
Fall Matriculants:  
Upon receiving an offer of admission to Ohio Northern Law School, an advance deposit of $200.00 will be required by April 1.  
A second deposit of $400.00 is required by June 15. No portion of the first or second deposit is refundable.

Summer Matriculants:  
Students offered admission to the Summer Starter Program will be required a deposit of $500.00 by April 1.  
Summer or Fall matriculants admitted after a due date will be required a partial or full payment within 7-14 days of the admission date.

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 and lock replacement... $58.60  
c. Room key replacement.................. $25.00

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 appealable 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 2009

1. College Fees, per credit hour  
College of Law $1128

2. Apartment Rental  
Double $325 per month

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 on-campus housing.

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 semester. Financial aid adjustments will be calculated based upon mandated federal refund calculations. A 100% refund is granted on or before the first day of class each semester. After that, the percentage is based on the number of days in attendance for the semester. There is no refund after the first 60% of the semester.

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 Services

The Law Career Services 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 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 Steiner F. and Ollie M. Bauman and Roy H. and Ruth G. Lambert Loan Fund was established through a bequest from Mrs. Lambert, BSEd 1936 as a memorial to her parents, The Baumans, as well as, for she and her husband, Roy H. Lambert, JD 1937. The fund shall be made available as loans, which are to be repaid, and the fund shall be a revolving, so as to provide the maximum benefit for worthy students.

• The Clark O. and Dorothy B. Biddle Endowed Scholarship was established by the estate of Dorothy B. Biddle for deserving Ohio Northern 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 Class of 1939 Scholarship was established through the will of Pauline Canterbury in honor of her husband. The scholarship is awarded to students with financial need.

• The Class of 1933 Scholarship Fund was established by Mr. and Mrs. William H. Carlton of Lima in memory of their daughter, Sally Jo, BA 1966. Scholarships are to be made to qualified female undergraduate students.

• 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 Robert and LaVelva Chandler 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 Paul Chenoweth Scholarship Fund was established through the will of Paul L. Chenoweth for students selected in accordance with university financial aid policy.

• 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 a student in his/her 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 Helen I. Craig Memorial Scholarship was established through a bequest of Helen I. Craig, BSEd 1925. Student awardees are selected in accordance with institutional 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 Dr. and Mrs. Ken Cooper.

• The Columbia Gas of Ohio Scholarship was established by Clair E., Hon. DBA 1995, and his wife, Rosemary Buttruff from Lima, Ohio. The scholarship recipients will be limited to full time sophomore and above students attending Ohio Northern University and who a.) live in Allen and contiguous counties in Ohio, b.) who are employed, c.) have an average 2.50 GPA on a 4 point grading scale, d.) are deemed worthy of financial assistance as judged by appropriate college officials, and e.) practice a religion of their choice aspiring to high moral and spiritual standards. The maximum amount available to any one student shall not exceed 12.5% of his or her annual cost of tuition.

• The Class of 1961 Scholarship was established to provide support for a student during his or her senior or P5 year.

• 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 a student in his/her 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 the Dickason family.

• 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.

SCHOLARSHIP AND LOAN FUNDS 261
• 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. Dr. Edwards was a trustee of the University from 1986-2007. 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 by 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 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 Gambrer and Ralph J. Gambrer Scholarship was established in loving memory of Mozelle O. Coles (AA 1931) by her husband, Ralph J. Gambrer (BSME 1931), and family. Students needing financial assistance are eligible for the annual award.

• The Gangemi-Krofft Financial Aid Award was established in 2003 in memory of Joseph J. Gangemi, the son of Francis and Charleen Gangemi of Findlay, Ohio.

• The Ernest R. Genovese Scholarship, established by Mrs. (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 Henry and Ruth Gray Scholarship was established through a bequest by Ruth Gray of Lyndhurst, Ohio. Henry Gray, her husband, had received an honorary degree in Public Service in 1975 from Ohio Northern University. The scholarship is available to students, including entering freshmen with preference for, but not restricted to students in the College of Pharmacy.

• 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 Helen R. Hall Scholarship was established by a bequest from Helen 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 students, including entering freshmen, who are deemed worthy of financial assistance as judged by appropriate college officials, are United States citizens, and legal residents of the State of Ohio.
• The J. Jay Hampson Memorial Scholarship was established by an estate gift of J. Jay Hampson, BA 1973, JD 1976, ACit. 1996, LLD 1998, 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 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 financial 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 Mary G. Kennedy Memorial Fund was established through a bequest of Mary G. Kennedy, Hon. DH 1981. Mary was the granddaughter of Henry Solomon Lehr, founder of Ohio Northern University. The scholarship is for the benefit of deserving students attending Ohio Northern University.

• 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 L. Lindabury and Family Scholarship was established by Nathan L., BSED 1940, his wife, Mary, and their children, Virginia L. Hoxie and Thomas L. Lindabury of Connecticut to provide financial assistance to qualified and worthy students.

• 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 Joseph and Bruno Mallone Scholarship was established by Judge Joseph P. Mallone, BSED 1939, JD 1950, and friends, to honor the memory of his brother, Bruno A. Mallone, BSED 1942, HF 1980 and assist students from the Geneva High School system.

• The Dr. Anthony J. and Mrs. Doris E. Martin Scholarship was established through a trust by Anthony, BA 1931 and Doris Martin of Atlanta, Georgia. The scholarship is for sophomores or above who are entering the pre-med (medical school), pre-physician assistant, pre-optometry, pre-physical therapy, pre-occupational therapy, clinical laboratory science, or nursing areas of instruction in the Department of Biological and Allied Health Sciences, the Department of Chemistry and Biochemistry or majors in other departments following these prescribed curricula. Dr. Martin operated a medical practice in Atlanta, Georgia until his retirement. The Martins were avid, active supporters of Ohio Northern University up until their deaths in 1997 and 2005 respectively.

• 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’s Endowed Scholarship Fund, established by the women of Ohio Northern University community, awards five equal need-based scholarships each year to one female student in each of the five colleges.

• 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 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 Charlotte R. Schmidlapp Scholarship was established by the Charlotte R. Schmidlapp Fund, Fifth Third Bank, Trustee, of Cincinnati, Ohio, to endow a scholarship to support women majoring in mathematics and the sciences, including Pharmacy, who are deemed worthy of financial assistance. Preference will be given first to students from Piqua, Ohio, or the greater Cincinnati/Northern Kentucky area, with second preference for a young woman from the State of 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 Robert G. Seiler Student Aid Fund was established by Dr. M.S. Seiler, LLB 1910, in memory of his discretion to aid students as deemed necessary.

• 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 John and Rhea Stambaugh Scholarship was established through the generosity of Dr. and Mrs. Steiner to assist academically worthy students with financial need at Ohio Northern.

• The Avanell Stambaugh Scholarship is awarded to worthy graduates of Ada High School.

• 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 E. and Gladys B. Welsh Scholarship was established through a bequest of Gladys Blair Welsh, AA 1928. The scholarship will be awarded in alternate years in the College of Pharmacy and the College of Arts & Sciences. Preference will be given to a graduate of Ada High School.

• 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 W.K. Whitehead Scholarship was established through a gift from John C. Stahler, M.D. to assist academically worthy students with financial need from the Riverside Local School District, DeGraff, Ohio.

• The David V. Wisher Scholarship was established by the estate of David and Helen Wisher 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. Wisher obtained the AA degree in 1937 and a BSEd degree in 1942.

• The Helen E. Wisher Scholarship was established by the estate of David and Helen Wisher 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. Wisher 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 Banks Family Scholarship was established to honor Joseph, BS 1941 and BA 1946, and his wife, Thelma Banks of Ada, Ohio by family and friends. Joe was a coach/assistant professor and athletic trainer at ONU from 1971-1984 and a part-time admissions counselor from 1985-2002. The scholarship will be awarded to worthy students who are studying to be athletic trainers.

• 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 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 Florence Brooks Memorial Scholarship was established by Philip, BSCE 1965, and his wife, Barbara, BSED 1967. Brooks of Fremont, Ohio in memory of his mother Florence Brooks, BS 1957. Awards will go to students deemed worthy of financial assistance.

• The Cliffe Deming and Okla Deming Brooks Scholarship was provided by Drs. Ivan and Mary Elizabeth Combe of White Plains, New York and friends of Ohio Northern University, as appropriate and meaningful tributes to Mrs. Okla Brooks and Professor Cliffe Deming. Annual income from this endowed fund shall be divided into two equal awards and presented to one needy, talented, highly motivated student majoring in Fine Arts, Fine Arts History, or Music; and to one equally deserving needy student majoring in speech or drama.
• The Erika Jane and Andrea Elaine Brubaker Memorial Scholarship was established by Dr. Inara Mencis Brubaker. BS 1959, of Bluffton, Ohio, in memory of her daughters, Erika Jane and Andrea Elaine Brubaker. The award will go to worthy students in the College of Arts and Sciences pursuing a major in chemistry.

• 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 Reva L. Clarke Memorial Nursing Scholarship was established by family and friends in memory of Reva L. Clarke to assist students pursuing a Bachelor of Science in Nursing degree.

• 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 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 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 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 Donald E. Geist and 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 Heterick-Felker Memorial Scholarship was established by Dr. Inara Mencis Brubaker. BS 1959, of the East Ohio Conference. 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 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 Donald E. Geist and 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 Heterick-Felker Memorial Scholarship was established by Robert Heterick, D.Humanities 1956, and his wife, Francis Felker Heterick, Honorary MA 1951, friends of the University, who were generous in their support of the University. The award is given to academically worthy students with financial need in the College of Arts and Sciences. The award is also given in the name of Mrs. Heterick’s sister, Sophia Felker.

• 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 Memorial Award, given 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 technology education 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 Gayle Lauth Endowed Fund was established for a senior graduating in the Department of Human Performance and Sport Sciences, with teacher licensure. The recipient, male or female, should have the highest ranking GPA in the department.

• 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, 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 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 Frederick Masnaghetti Marlo Endowed Scholarship was established by Fred Marlo, BSED 1949 of Reno, NV. The annual scholarship will be awarded with preference for deserving American Indian students and/or students deemed worthy of financial assistance who are pursuing a high school teaching career in the academic fields of English and/or journalism.

• 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. Lelma 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 was established by John V., Honorary DBA 1951 and his wife Mable F. Melick of Sylvania, Ohio. The scholarship is to be awarded to a student in pre-ministry or church work.
• The Merle H. and Muriel Neuman Mertz Scholarship was established by a bequest from Murs. 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 Metzger Scholarship was established by Dr. Henry L. Metzger, BSED 1941, DBA ‘94, and his wife, Geraldine, of Sharon Center, Ohio. The late Dr. Metzger, a retired insurance executive, was the president of the Hillier Family Foundation. The ONU Nature Center in Tuscarawas County is named for Dr. and Mrs. Metzger.

• 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 Willie 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. Byron Hawbecker.

• The Mary Jane and E. Meredith Schwartz Scholarship in Biology is awarded to a worthy student demonstrating need.

• The Winifred K. Sebald Scholarship was established through the estate of Mrs. Winifred Jobson Sebald, AA 1936, to assist economically needy students seeking a degree in Education.

• 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 Osman Smith, BA 1924, Piano 1925, and Paul P. Smith, BSEE 1924, D.Engr. 1975, 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 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.

SCHOLARSHIP AND LOAN FUNDS 269
•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 Vukovich Scholarship for Excellence in Mathematics and Science was established by Dr. Thomas Vukovich, ’65 and Dr. Diane Vukovich in support of excellence for the teaching of mathematics and/or science. Both Thomas and Diane have served as educators and leaders in higher education. This scholarship aims to build upon an expectation for continued academic excellence at Ohio Northern University in addition to exemplary leadership in service to others. The award is for Ohio Northern students including incoming freshmen who are deemed academically worthy of financial assistance and seek a career as educators in the fields of mathematics and/or science.

•The Martha Gesling Weber Award was established by Dr. Martha Gesling Weber, BA 1935, and her husband, Joseph. The award will go to one or more chemistry major(s) who have been accepted for admission to an M.D. degree-granting medical school.

•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 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 Dale and Norma Wilhelm Scholarship was established by a gift from Dr. and Mrs. Dale Wilhelms and family members. The award is to provide financial assistance to a first-generation college student in the College of Arts & Sciences.

•The Edwin L. and Rosie Williams Trumpet Endowed Scholarship was established by family and friends to honor the memory of Dr. Edwin L. Williams, professor and chair of the Department of Music at Ohio Northern University and his wife, Rosie, music lecturer and resident artist. The scholarship is for a qualified senior music major who is a trumpet student.

•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 Eugene, Herman, Nettie and Leota Beeler Scholarship was established through a bequest by Eugene A. Beeler, BA 1949. Scholarship recipients will be limited to Ohio Northern University students, including entering freshmen, who are enrolled in the College of Business and are deemed worthy of financial assistance.

• 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 "Bil-lie" 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 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 Elfreda M. Rusher Endowed Scholarship in Accounting was established to provide an annual award to qualified, full-time undergraduate students in the College of Business Administration majoring in accounting, who are rising juniors or seniors with a minimum gpa of 3.00. Student(s) should demonstrate financial need and be resident(s) of 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 Alumni Civil Engineering Scholarship was established by alumni of the College of Engineering. The award is to go to a worthy student in the College of Engineering majoring in Civil Engineering.

• The Russell J. and Maybelle L. Anspsach Scholarship was established by a trust distribution from Maybelle L. Anspsach 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 Beeney Student Aid Fund was established by Herbert K. Beeney, BSCE 1925, in memory of his wife, Adella Margaret Beeney, for a worthy student with financial need.

• The Victor G. and Anna Mae Beghini Scholarship was established by Victor and Anna Mae Beghini of Houston, Texas to assist worthy students in the College of Engineering. The recipient must be a sophomore, junior, or senior majoring in mechanical or electrical engineering maintaining a minimum gpa of 2.75. The recipient must also write a letter each year to the donor explaining their Ohio Northern experience and plans for their professional life after graduation.

• 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 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 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 Harold E. Keneipp Endowed Scholarship Fund was established by Linda and Don Hawk in memory of Harold E. Keneipp, Linda’s father. Mr. Keneipp was a long time employee and business leader for Westinghouse in Lima, Ohio and personally participated in frequent partnership efforts between Westinghouse and Ohio Northern, including the Westinghouse Scholars Program. Mr. Keneipp also taught engineering classes at ONU. Income from the fund will be awarded to students who are deemed worthy of financial assistance with preference for a deserving 3rd, 4th, or 5th year female engineering student showing continued academic progress during her first two years at ONU.

The James L. Klingenerberger Scholarship was established by former students, friends, and colleagues to honor Professor Klingenerberger, 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 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 William E. and June W. Sholl Scholarship Fund was established by a bequest from Mrs. Sholl to assist worthy students in the Smull College of Engineering.

• The Sholl Student Competition Fund has been established by a bequest from the estate of June W. Sholl. The endowment fund is in honor of William E. (xBSECE 1933) and June W. Sholl to assist students with design competition costs and to fund support of student academic activities.

• The William H. and Elizabeth Schaum Financial Aid Fund was established by William, BSCE 1923, D ENGR 1976 and his wife, Elizabeth to give future students of Ohio Northern University the opportunity for a unique educational experience. The award is given to worthy students in the College of Engineering.

• The William H. and Elizabeth Schaum Financial Aid Fund was established by William, BSCE 1923, D ENGR 1976 and his wife, Elizabeth to give future students of Ohio Northern University the opportunity for a unique educational experience. The award is given to worthy 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 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 gpa 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 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 Alpha Zeta Omega, Bill and Betty Klein Scholarship was established by the Alpha Zeta Omega, Theta Chapter in 2005. The scholarship is to be awarded to students deemed worthy of financial assistance in the College of Pharmacy.

• 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 Rollin E. and Margaret L. Ballentine Pharmacy Scholarship was established through the estate of Margaret L. Ballentine in memory of her husband, Rollin, BSPH 1952, and her father, Bertrand R. Higgins, PH G 1911. The income from the fund will be awarded to students enrolled in the College 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 in 1998 by Mr. Gary Garrett, BSPh 1969. The award is to go to a deserving student preferably from western Pennsylvania, enrolled in the College of Pharmacy. The student must also have attained P-3 status with at least a 3.00 GPA. The scholarship may be continued through graduation.

• 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 George and Beatrice Hawkey Endowed Fund, in memory of Dean Rudolph Raabe, was established by the Hawkey Family Foundation. The scholarship will be awarded to students, including incoming freshmen, who are deemed worthy of financial assistance, graduated from a school in Putnam County, Ohio and are enrolled in the 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. Odenkirk, PhG 1925, a well-known pharmacist, drugstore owner and businessman in Sugarcreek, Ohio.

• The Garrett Scholarship Fund was established in 1998 by Mr. Gary Garrett, BSPh 1969. The award is to go to a deserving student preferably from western Pennsylvania, enrolled in the College of Pharmacy. The student must also have attained P-3 status with at least a 3.00 GPA. The scholarship may be continued through graduation.

• 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 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 Pierstorf’s 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. Sleesman Scholarship was established through the general pharmacy memorial endowment fund by faculty of the College of Pharmacy, alumni, and friends of Mr. Sleesman, 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.

• The Judge Anthony A. Alaimo Scholarship Fund was established to honor Judge Anthony A. Alaimo, Class of 1940, by friends W. C. Killgallon and J. W. McSwiney. Judge Alaimo was a Senior Federal Judge for the South District Court of Georgia. The scholarship will be awarded to a student with a demonstrated work ethic and a strong academic background or high academic potential. Holder of the scholarship will be required to maintain a 3.25 G.P.A..

• The H.E. Ashcraft Memorial Grants are awarded to law students with financial need.

• 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 Dr. John E. Beard III Memorial scholarship was established in 2003 by friends, colleagues and family members as a memorial to Jack. The scholarship is to assist deserving students in the College of Law. John E. “Jack” Beard III, BA 1969, JD 1972, was a member of the board of trustees at Ohio Northern University and a prominent Pittsburgh, PA., attorney when he died at the age of 55 in 2003.
•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 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 Fund was established by the parents and friends of Murray Flom, a student in the College of Law who died in 1974. Annual income from the fund shall go to a qualified second or third year student with financial need from the College of Law. Preference shall be given to a Jewish student.

•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 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 Eugene N. Hanson Scholarship Fund was established by the parents of a graduate of the Pettit College of Law to honor Dr. Eugene Hanson, LL.D. 1986, Professor of Law from 1947-84, and Dean of the College of Law from 1958-73. The Annex to the Law Library is named in honor of Dean Hanson.

•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 Levi W. and Nancy N. Lile Endowed Scholarship was established in 2006 by Laird A. Lile, JD 1984 and family to honor his parents, Levi, JD 1972 and Nancy Lile of Bellefontaine, Ohio. Scholarship recipients will be limited to Ohio Northern University law students, including entering 1st year law students, who are deemed worthy of financial assistance as judged by appropriate College of Law officials. Special preference will be given to students who are Ohio residents, married with children, embarking upon a second career in the law.

• 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 J. and Irene G. Meredith Scholarship Fund was established by Harold J., JD 1925, and Irene G., AA 1925, Meredith of Lima, Ohio. The income is used to provide assistance to highly qualified students in the College of Law who require financial assistance and whose moral standards reflect those of the University. Dr. Meredith was a trustee of the University from 1957-1984, and a former President of the Board of Trustees.

• 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 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 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 provides 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 Pierstorf Scholarship Loan Fund, established by Ervin and Clarence Pierstorf as a memorial to the Pierstorf 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.
University Faculty
2007-08

Faculty are listed with position and rank for the 2007-08 academic year. The year refers to the time of initial service to the university.

**Julie A. Adams**, B.S. (Illinois), Ph.D. (Bowling Green), 2004. Assistant Professor of Biological Sciences


**Robert M. Alexander**, B.A. (Ohio Northern), M.A., Ph.D. (Tennessee), 2002. Associate Professor of Political Science

**Anas F. Alhajji**, B.Econ. (IUIMIS, Saudi Arabia), M.A., Ph.D. (Oklahoma), 2001. Associate Professor of Economics (Sabbatical, Academic Year 2007-08)

**Jeffery Allison**, B.S. Pharm., Pharm. D. (Ohio Northern), 1994. 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 (Sabbatical, Fall Quarter 2007)

**Nancy A. Armstrong**, A.B. (Vassar), J.D. (Boston College), M.S. (Drexel), 2001. Director of the Taggart Law Library; Professor of Law

**Amy L. Authouse**, 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


**Mark J. Batman**, B.S. (Wilmington), M.A. (Loras College), 2004. Instructor in Physical Education

**Druann Bauer**, B.A. (Northeast Louisiana), M.A. (Southwestern Louisiana), Ph.D. (Louisiana-Lafayette, 2006. Assistant Professor of English

**Eric T. Baumgartner**, B.S.A.E. (Notre Dame), M.S.A.E. (Cincinnati), Ph.D. (Notre Dame), 2006. Professor of Mechanical Engineering; Dean, Smull College of Engineering

**Subhi M. Bazlamit**, B.S.C.E. (U. of Jordan), M.S.C.E., Ph.D. (Toledo), 1994. Professor of Civil Engineering (Leave, Academic Year 2007-08)

**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

**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

**Bruce W. Berdanier**, B.S.C.E. (Ohio State), M.S.C.E. (Purdue), Ph.D. (Ohio State), 2000. Associate Professor of Civil Engineering

**John A. Berg**, B.A. (Findlay), M.A. (A kron), Ph.D. (Ohio State), 1992. Associate Professor of Education

**Justin C. Bergman**, B.A. (Franklin), M.A. (Manchester), 2005. Instructor in Human Performance and Sport Sciences

**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
Kimberly Broedel-Zaugg, B.S. Pharm. (Ohio Northern), M.B.A. (Ashland U.), Ph.D. (Ohio State), 1994. Professor of Pharmacy Practice; Assistant Dean, Raabe College of Pharmacy

Kimberly Broekemeier, B.A. (St. Olaf), Ph.D. (Minnesota), 1998. Associate Professor of Biochemistry


Charles L. Busch, B.S.E.E. (Ohio Northern), P.E. (Ohio), 1963. Director of Administrative Computing Services with rank of Assistant Professor


Christopher L. Caprette, B.S., M.S. (Cleveland State), Ph.D. (Ohio State), 2005. Visiting Assistant Professor of Biological Sciences

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


Robert M. Carrothers, B.A., M.A., Ph.D. (Kent State), 2005. Assistant Professor of Sociology

Rebecca L. Casey, B.M. (Ohio Northern), M.M. D.M.A., (Cincinnati Conservatory of Music), 1994. Assistant Professor of Music

Tevye C. Celius, B.S. (Puget Sound), Ph.D. (Cornell), 2005. Assistant Professor of Chemistry

Wei Kian Chen, B.S., M.S. (Southwestern Louisiana), Ph.D. (Louisiana-Lafayette), 2003. Assistant Professor of Computer Science

Elizabeth Christian, B.A. (Georgia), M.L.S. (Maryland), J.D. (Georgia), 2007. Reference Librarian in Law Library with rank of Assistant Professor

Jeffrey J. Christoff, B.S. Pharm. (Duquesne), Ph.D. (Ohio State), 1998. 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. Professor of Law

Forrest J. Clingerman, A.B. (Augstana College), M.Div. (Boston University), Ph.D. (Iowa), 2005. Assistant Professor of Religion

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

Russ Crawford, B.A., B.S. (Chadron State), M.A., Ph.D. (Nebraska), 2005. Assistant Professor of History

Cecily Crider, B.A., J.D. (Ohio Northern), 1998. Director and Instructor in Legal Writing


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

Janelle S. Crossgrove, B.S. (Hiram), Ph.D. (Kentucky), 2006. Assistant Professor of Toxicology

Margaret E. Cullen, B.A. (SUNY at Buffalo), M.A. (San Francisco State), Ph.D. (Tennessee), 1992. Associate Professor of English (Sabbatical, Spring Quarter 2008)

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. Assistant Professor of Biological Sciences

Dennis J. De Luca, B.A. (Upsala), Ph.D. (Cleveland State), 2003. Associate Professor of Biological Sciences

Natalie A. DiPietro, Pharm.D. (Ohio Northern), M.P.H. (Indiana), 2007. Assistant Professor of Pharmacy Practice

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; Chair, Department of Psychology and Sociology

Jennifer Easterday, B.S. (Rochester), J.D. (Ohio Northern), 2002. Staff Attorney with rank of Instructor in Law


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. Professor of Computer Engineering & Computer Science; Chair, Department of Electrical & Computer Engineering and Computer Science

James A. Estrada, B.S. (Bowling Green), M.A. (Boston University), 2007. Visiting Instructor in Biological Sciences

Randall L. Ewing, B.S.B.A., M.B.A. (Bowling Green), 1979. Associate Professor of Marketing

Howard N. Fenton, B.S., J.D. (Texas), 1988. Professor of Law

James W. Fenton, Jr., B.S.B.A., M.B.A. (Toledo), Ph.D. (Iowa), 2005. Professor of Management; Dean, Dicke College of Business Administration

David J. Fetrow, B.A. (Albion), M.L.S. (Emporia State), 2004. Reference Librarian with rank of Assistant Professor in the Library

Kristen Finley, Pharm. D. (West Virginia), 2007. Assistant Professor of Pharmacy Practice

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

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 K. 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. Professor of Law


Roger H. Goldberg, A.B. (Cornell), M.A., Ph.D. (Indiana), 1969. Professor of Economics; Associate Vice President for Academic Affairs

Michele Govekar, B.S. (Loyola), M.B.A. (St. Bonaventure), Ph. D. (Minnesota), 1997. Associate Professor of Management


Jeffrey A. Gray, B.S. (Pennsylvania State), Ph.D. (M.I.T.), 1993. Professor of Chemistry; Chair, Department of Chemistry and Biochemistry

Jeffery M. Heinfeldt, B.S.B.A., M.B.A. (Bowling Green), Ph.D. (Kent State), 2002. Associate Professor of Finance

Elena V. Helmer, J.D. (Kazakh State), LL.M. (Yale), 2006. Visiting Assistant Professor of Law

Dennis W. Herr, B.S.E.E. (Ohio Northern), M.S. (Ohio State), Ph.D. (Ohio) 1979. Associate Professor of Electrical and Computer Engineering

Kevin D. Hill, B.S. (U. of Kentucky), J.D. (Northern Kentucky U.), LL.M. (Temple), 1985. Professor of Law

Brian Hofman, B.B.A. (Iowa State), M.Ed. (Bowling Green), Ph.D. (Toledo), 1998. Associate Professor of Health and Physical Education

Robert A. Hovis, B.S. (Youngstown), M.S. (Case Western Reserve), Ph.D. (Ohio State), 1975. Professor of Mathematics; Interim Chair, Department 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. 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


Feng Jao, B.S. (Sheng-te Christian College), M.S. (Fort Hays State), Ph.D. (Toledo), 2000. Associate Professor of Educational Technology

Jingwen Jiang, B.S. (Yongzhou Teachers College), M.Acc. (Bowling Green), 2007. Visiting Instructor in Accounting

Bruce E. Johansen, B.E.S. (Cleveland), M.S. (Pittsburgh), Ph.D. (Worcester Polytechnic Institute), 1967-1999, 2008. Visiting Professor of Physics (Spring Quarter)

Ronald A. Johns, B.S. (U. of N. Carolina), M.A., Ph.D. (Indiana), 1990. Associate Professor of Mathematics

John Paul M. Kanwit, B.A., M.A. (Georgetown) Ph.D. (Indiana), 2007. Assistant Professor of English

Errol G. Katayama, B.A., M.A., Ph.D. (U. of Toronto), 2000. Associate Professor of Philosophy

Brian E. Keas, B.S. (Hope), M.S. (Wake Forest), Ph.D. (Michigan State), 2000. Associate 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. Assistant Professor of Health and Physical Education; Athletic Trainer

Mary Kempen, B.A. (Marquette), M.A. (Kansas), Ph.D. (Wisconsin), 2007. Assistant Professor of Spanish

Sami Khorbotly, B.S. (Beirut Arab University), M.S., Ph.D. (Akron), 2007. Assistant Professor of Electrical and Computer Engineering

Ronald D. Kieffer, B.S. Ed. (Baldwin-Wallace), M.A. (Bowling Green), Ph.D. (Ohio State), 2005. Associate Professor of Education

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; Chair, Department of Pharmaceutical and Biomedical Sciences

Robert E. Kleine, III, B.S. (New Hampshire), Ph.D. (Cincinnati), 2002. Associate Professor of Marketing

Daniel S. Kline, B.A., M.A. (Western Ontario), 2006. Visiting Instructor in English

Jennifer J. Kline, Pharm. D. (Ohio Northern), 2006. Assistant Professor of Pharmacy Practice; Assistant Director of Experiential Program

David J. Kosmyna, B.E. (Toledo), M.M. (Ohio), D.M.A. (Cincinnati), 2006. Visiting Assistant Professor of Music

Dennis L. Kratzer, B.M., M.M. (Bowling Green), 1979. Professor of Music

Laurie K. Laird, B.S.M.E. (Ohio Northern), M.S. (Cincinnati), 1993. Assistant Professor of Mechanical Engineering; Director of Co-op

Robert E. Lamb, B.A., B.S. (St. Louis), M.S., Ph.D. (Illinois), 1978. Professor of Chemistry

Michael W. Lewis, B.A. (Johns Hopkins), J.D. (Harvard), 2006. Assistant Professor of Law

Robert J. Lietz, B.A. (LeMoyne College), M.A. (Syracuse U.), 1987. Associate Professor of English

Anne Lippert, B.A. (Holy Names), M.A. (Washington), Ph.D. (Indiana U.), 1971. Professor of French; Vice President for Academic Affairs

Zhen Liu, B.Econ. (Tsinghua), M.A., Ph.D. (Stony Brook), 2007. Visiting Assistant Professor of Economics

Louis F. Lobenhofer, A.B. (William and Mary), J.D. (Colorado), LL.M. (Denver), 1979. Professor of Law

Paul M. Logsdon, B.A. (Ohio State), M.S.L.S. (Kentucky), 1977. Director, Heterick Library with rank of Associate Professor
John P. 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. (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

John N. Mager, III, B.A. (Hiram), M.S. (Miami), Ph.D. (Cornell), 2005. Assistant Professor of Biological Sciences

Tarek M. Mahfouz, B.S. (Cairo), M.S. (West Texas A & M), Ph.D. (Houston), 2006. Assistant Professor of Pharmaceutical Chemistry

Richard P. Meininger, B.A. (Duquesne), M.A. (Pittsburgh), Ph.D. (Ohio U.), 1973. Professor of Economics; Associate Dean, College of Business Administration

David Mikesell, B.S.M.E. (Ohio Northern), M.S.M.E. (Ohio State), 2007. Instructor in Mechanical Engineering

Michael M. Milks, B.S.Pharm. (Ohio Northern), Ph.D. (Ohio State), 1985. Professor of Pharmacology

Richard F. Miller, B.S. (Ohio Northern), M.S. (Walden), 2007. Visiting Instructor in Technological Studies

Allison A. Mittendorf, B.A., J.D. (Toledo), 2004. Instructor in Legal Writing

Susan M. Montenery, B.S.N. (Ohio State), M.S. (Walden), 2007. Assistant Professor of Nursing

Thurla Moore, M.S. (California State), M.S. (Florida International), Ph.D. (Ohio State), 2006. Visiting Assistant Professor of Psychology

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

Brian J. Myers, B.A. (Hiram), Ph.D. (Indiana), 2002. Associate Professor of Chemistry

Deidre Myers, B.S. Pharm. (Ohio Northern), 2000. Instructor in Pharmacy

Paul Nutter, B.S., M.B.A. (Ohio), 2000. Associate Professor of Technology

William O’Connell, B.A. (Marshall), M.S. (West Virginia), Ph.D. (Ohio), 1998. Associate Professor of English/Journalism

Liam O’Melinn, B.A. (California, Santa Cruz), Ph.D. (Yale), J.D. (Columbia), 2001. Professor of Law

Patricia A. Parteleno, B.S.Pharm., Pharm.D. (Ohio Northern), 1996. Associate Professor of Pharmacy Practice; Director of Experiential Programs

Kristie E. Payment, B.A. (SUNY-Potsdam), M.A. (St. Bonaventure), Ph.D. (Kent State), 2005. Assistant Professor of Psychology
Amanda E. Pecchioni, B.A. (Bennet College) J.D. (Howard), 2007. Visiting Assistant Professor of Law

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


Jason C. Pinkney, B.A. (Macalester), Ph.D. (New Mexico State), 2002. Associate Professor of Physics

Jonathan D. Pitts, B.A., M.A. (Idaho), M.A., Ph.D. (SUNY-Buffalo), 2000. Associate Professor of Mathematics


Tracy Pritchard, B.S. (Ohio Northern), Ph.D. (Cincinnati), 2007. Visiting Assistant Professor of Biological Sciences

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

Maria Raiti, B.S. (SUNY at Stony Brook), Ph.D. (Michigan), 1997. Associate Professor of Mathematics

James B. Reiselman, B.S. Pharm. (Nebraska), M.B.A. (Dayton), 1973. Associate Professor 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. Associate Professor of Civil Engineering

Brent Ridenour, B.S.B.A. (Ohio Northern), M.Ed. (Bowling Green), 2002. Assistant Professor of Health and Physical Education


Nils Riess, B.A. (Valparaiso), M.A. (Northern Illinois), 1975. Professor of Communication Arts; Chair, Department of Communication Arts; Interim Chair, Department of Music; Chair, Division of Fine Arts

Lisa G. Robeson, B.A. (Maryland), M.A. (Georgetown), Ph.D. (Catholic University), 2002. Associate Professor of English


Andrew M. Roecker, Pharm.D. (Ohio Northern), 2002. Associate Professor of Pharmacy Practice

Tena L. Roepke, B.S., M.Ed., M.A., (Bowling Green), Ed.D. (Toledo), 1984. Associate Professor of Mathematics/Education; Director, Center for Teacher Education

Robert C. Rohan, B.S. (Maryland), M.E. (Frostburg State), 2004. Instructor in Human Performance and Sport Sciences

Yousif B. Rojeab, B.S. (Jordan University), Ph.D. (Houston), 2007. Visiting Assistant Professor of Pharmaceutics

Michael Romanowski, B.S. (Indiana University of Pennsylvania), M.S. (Indiana), Ph.D. (Miami), 1993. Professor of Education

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), 1998. 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. Associate Professor of Law; Director of Academic Support

E. Alan Sadurski, B.S. (Oakland), Ph.D. (Wayne), 1980. Professor of Chemistry

Naoko Sasaki, B.A. (Kyoto Womens' University), M.A. (Olyola), M. Phil. (Syracuse), 2007. Visiting Instructor in Religion

David M. Savino, B.S.B.A., M.B.A. (Youngstown), 1979. Associate Professor of Management

Naoko Sasaki, B.A. (Kyoto Womens’ University), M.A. (Olyola), M. Phil. (Syracuse), 2007. Visiting Instructor in Religion

David R. Sawyers, B.S.M.E. (Rose-Hulman), M.S.M.E., Ph.D. (Notre Dame), 2003. Assistant Professor of Mechanical Engineering

Susan Schertz, B.S.B.A., M.B.A. (Xavier), Ph.D. (Cincinnati), 2007. Assistant Professor of Marketing

Sandra J. Schroeder, B.S., M.A., Ph.D. (Ohio State), 2004. Assistant Professor of Mathematics
Raymond F. Schuck, B.A. (Defiance), M.A. (Wright State), 1996. Visiting Assistant Professor of History and Collections Specialist

JoAnn M. Scott, B.A. (San Francisco State U.), M.A., Ph.D. (U. of California), 1987. Professor of Political Science


Kanishka Sen, B.A., M.A. (Jawaharlal Nehru), M.A., Ph.D. (Arizona State), 2003. Assistant Professor of Spanish


Hui Shen, B.S. (Tsingua), M.S. (Tongji), Ph.D. (Pennsylvania State), 2006. Assistant Professor of Mechanical Engineering

Terrence E. Sheridan, B.A. (Hiram), Ph.D. (Dartmouth), 2002. Associate 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

Aaron R. Simmons, B.A. (Oberlin), M.A., Ph.D. (Bowling Green), 2006. Visiting Assistant Professor of Philosophy

Thomas E. Simmons, B.S.B.A., B.A. (Ohio Northern), M.S. (Ohio University), 1999. Athletic Director; Assistant Professor of Physical Education and Sport Sciences

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

David Smith, B.A. (Kent State), M.A., Ph.D. (Chicago), 1998. Associate Professor of Geography

Jon E. Sprague, B.S. (Ferris State), Ph.D. (Purdue), 2006. Professor of Pharmacology; Dean, Raabe College of Pharmacy

Charles E. Steele, Jr., B.S. (Millsaps), M.A. (Denver), M.S. (Mississippi State), 1978. Science Librarian with rank of Professor

Adam W. Stienecker, B.S., Ph.D. (Toledo), 2005. Assistant Professor of Technology

Amy L. Stockert, B.S. (Indiana-Purdue Fort Wayne), M.S., Ph.D. (Ohio State), 2005. Assistant Professor of Biochemistry


Donald Sullivan, B.S. Pharm., M.S., Ph. D. (Ohio State), 1997. Associate Professor of Pharmacy Practice; Chair, Department of Pharmacy Practice

Rema G. 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 Health Studies

Jeffery N. Talbot, B.S. (Nevada), Ph.D. (Nebraska), 2006. Assistant Professor of Pharmacology

David Taylor, B.S. (Ohio Northern), M.S. (SUNY-Binghamton), 2007. Visiting Instructor in Biological Sciences

Sara L. Terrell, B.A. (Adrian), M.S. (Eastern Michigan), 2002. Assistant Professor of Exercise Physiology

William Theisen, B.S., M.S., Ph.D. (Iowa), 1995. Professor of Physics; Chair, Department of Physics and Astronomy (Sabbatical, Spring Quarter 2008)

Maximilian B. Torres, B.S. (California), J.D. (Harvard), Ph.D. (Navarra), 2006. Assistant Professor of Law

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

Matthew S. Vorell, B.A., M.A., (Miami), Ph.D. (Colorado), 2007. Assistant Professor of Communication Arts

Marjorie G. Walker, B.S.N. (Ohio), M.S.N. (West Virginia), Ed.D. (Argosy University/Sarasota), 2007. Associate Professor of Nursing and Director of the Nursing Program

Jennifer L. Walton, B.A., M.A. (Indiana State), Ph.D. (Bowling Green), 2006. Assistant Professor of Communication Arts

Bryan Ward, B.A. (Ohio Northern), Ph.D. (Ohio State), J.D. (North Carolina), 1999. Director of Law Clinics with rank of Associate Professor of Law

Robert L. Ward, B.S., M.S. (U. of Missouri-Rolla), Ph.D. (U. of Arkansas), 1989. Professor of Civil Engineering

Robert A. Waters Jr., B.A. (Pennsylvania), M.A. (California State), J.D. (Mississippi Lamar Law Center), Ph.D. (Mississippi), 2005. Visiting Assistant Professor of History

Sarah Waters, B.M. (Ohio Northern), M.M. (Western Michigan), D.M.A. (Ohio State), 2005. Visiting Assistant Professor of Music

Qiang Wen, Ph.D. (Alabama), 2007. Visiting Assistant Professor of Mechanical Engineering

Chandalar H. West, B.S. (Wilmington), M.H. Ed. (East Carolina), 2001. Assistant Professor of Health and Physical Education; Athletic Trainer

Robin M. White, B.S.N., M.S.N. (Nevada), 2006. Assistant Professor of Nursing

Ellen S. Wilson, B.A. (Angelo), M.A., Ph.D. (Miami), 1979. Associate Professor of History; Chair, Department of History, Politics, and Justice; Chair, Division of Social Sciences

Harry James Wilson, B.A. (Florida State), M.A. (West Florida), Ph.D. (Louisiana State), 2007. Visiting Assistant Professor of Geography

Kurt Wilson, B.S. (Manchester), M.A. (Western Michigan), 1999. Assistant Professor of Health and Physical Education; Head Athletic Trainer

Michelle A. Wilson, B.S. (East Stroudsburg), M.S. (Marshall U.), 1991. Associate Professor of Health and Physical Education; 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; Chair, Department 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


Kay Zekany, B.S., M.S. (Miami), Ph.D. (South Carolina), 1998. Associate Professor of Accounting

Jake R. Zimmerman, B.S. (Montana State), Ph.D. (North Dakota), 2006. Assistant Professor of Chemistry

PART-TIME FACULTY

Peggy S. Bockey Adams, B.S.N. (Bowling Green), M.S.N. (University of Phoenix), 2007. Lecturer in Nursing


James Allman, Pharm.D. (West Virginia), 2007. Assistant Clinical Professor of Pharmacy

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


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

William C. Asman, B.A. (Capital), M.E.Ad. (Wright State), 2002. Lecturer in Communication Arts

Thomas Barnhart, B.S., M.A.T. (Purdue), 2001. Lecturer in Mathematics

Nathan P. Baxter, B.S. (Ohio Northern), M.S. (Florida), 2007. Lecturer in Physics

Thomas G. Beery, B.S., M.A. (Bowling Green), 1998. Lecturer in Writing

Nicholas Bellman, B.S. Pharm., Pharm.D. (Ohio Northern), 2007. Assistant Clinical Professor of Pharmacy

Jeffrey Benson, B.A., J.D. (Ohio State), 2008. Adjunct Professor of Law

Michelle L. Bestic, Pharm.D. (Ohio Northern), 2007. Assistant Clinical Professor of Pharmacy
Joy Bischoff, B.S.N. (Ohio Northern), 2006. Lecturer in Nursing


John Bowers, B.A. (Northwestern), J.D. (Mercer), LL.M. (Georgetown), 2007. Adjunct Professor of Law

Keithen M. Branch, Pharm.D. (Ohio Northern), 2007. Assistant Clinical Professor of Pharmacy

Zachariah C. Broshes, Pharm. D. (Ohio Northern), 2005. Assistant Clinical Professor of Pharmacy

Rinaldo A. Brusadin, B.S., M.S. (Ohio State), 2007. Lecturer in Pharmaceutical Economics

Joyce Buetner, B.S.Ed. (Ohio State), M.S.Ed. (Dayton), 2002. Lecturer in English

Nancy A. Burnett, B.F.A. (Columbus College of Art and Design), 2005. Lecturer in Art

Lloyd Butler, B.M. (Ohio Northern), M.M. (Northwestern), 2004. Resident Artist

Cara Calvo, B.S. (Portland State), B.S.M.T. (Oregon Health Sciences University), M.S.M.T. (Vermont), 2002. Clinical Associate Professor of Clinical Laboratory Science (Fall Quarter)

Cara Carl, B.A.(Ohio State), 2007. Lecturer in Chemistry

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

Junell Chapman, B.S., M.A. (Toledo), 2006. Lecturer in Sociology

Steven D. Christopher, B.S.B.A., J.D. (Ohio Northern), 2007. Lecturer in Business


Daniel Collette, B.A., J.D. (Ohio Northern), 1997. Adjunct Professor of Law

Kenneth G. Colwell, B.M.Ed. (Eastern Kentucky), M.M. (Akron), 2007. Lecturer in Art

Laura Barnhardt Corle, B.F.A. (Ohio Northern), 2008. Lecturer in Art

Jonathon W. Cox, B.M. (Ohio Northern), M.M. (Ohio), 2007. Lecturer in Music

Kathryn Crea, B.S. Pharm. (Ohio State), Pharm.D. (St. Louis), 2000. Assistant Clinical Professor of Pharmacy

Mariah M. Cunningham, B.A. (Bowling Green), J.D. (Ohio Northern), 2007. Adjunct Professor of Law

Jennifer Daberko, Pharm.D. (Ohio Northern), 2005. Assistant Clinical Professor of Pharmacy Practice

Kristin M. Daws, B.A. (Northern Iowa), 2007. Lecturer in Chemistry

Douglas Degen, B.S.C.E. (Ohio Northern), 1999. Lecturer in Engineering and Technology

Jamie De La Cruz, B.A. (Maryville University-St. Louis), J.D. (Ohio Northern), 2007. Adjunct Professor of Law

Hannah G. Derr, B.A. (Ohio), A.D. (Marion Technical College), M.H.A. (St. Joseph’s College), 2007. Lecturer in Business


R. Michael DeWine, B.S. (Miami), J.D. (Ohio Northern), 2008. Lecturer in Politics

Staci R. Dotson, Pharm.D. (Ohio Northern), 2007. Assistant Clinical Professor of Pharmacy Practice

Mary Jane Eichelberger, B.M.Ed. (Heidelberg), 1994. Lecturer in Music

Karen Elliot, B.A. (Youngstown), J.D. (Ohio Northern), 1998. Adjunct Professor of Law


Peggy Ewald, B.B.A. (Tiffin), M.A. (Heidelberg), 2004. Lecturer in Human Performance and Sport Sciences

Debra Fearing, Pharm.D. (Cincinnati), 2006. Assistant Clinical Professor of Pharmacy

David J. Fickel, B.A. (Gettysburg), J.D. (Toledo), 1986. Adjunct Professor of Law

Geraldine Finn, B.S. (Findlay), M.A. (Cleveland St.), Ph.D. (Union Institute), 1998. Lecturer in History

Deborah Foos, B.A. (Bluffton), M.B.A. (Ashland), 2008. Lecturer in Management
Thomas Fourman, B.A. (Earlham), M.Ed. (Wright State), 1996. Lecturer in Chemistry

Darla J. Gaiser, B.S. Pharm. (Ohio Northern), 2007. Assistant Professor of Clinical Pharmacy

Casey D. Garman, B.S. Pharm. (Cincinnati), Pharm. D. (South Carolina), 2005. Assistant Clinical Professor of Pharmacy

Michelle Gearhart, Pharm.D. (Ohio Northern), 2003. Assistant Clinical Professor of Pharmacy


Stephanie Gibson, Pharm. D. (Duquesne), 2001. Assistant Clinical Professor of Pharmacy


Jacob P. Gleason, B.S. (Westminster), M.A. (Geneva), 2007. Lecturer in Biological Sciences

Mort Goldman, B.S. Pharm. (Pittsburgh), Pharm.D. (Cincinnati), 2004. Assistant Clinical Professor of Pharmacy

Kenneth D. Gordon, B.S., M.A. (Ball State), 2007. Lecturer in Communication Arts

Micah A. Graber, B.M. (Bowling Green), 2007. Lecturer in Music

Carol J. Gramm, B.A. (Ohio Northern), M.Ed. (Miami), 1986. Lecturer in Music

Stephen Grant, B.A. (Ohio State), J.D. (Akron), 2007. Adjunct Professor of Law

Thomas Grubaugh, B.S. (Ohio State), 2007. Assistant Clinical Professor

Rhonda Grubbs, B.F.A (Columbus College of Art and Design), M.F.A. (Bowling Green), 2003. Lecturer in Art

Stacey Hairston, B.S. (Ohio Northern), 2002. Lecturer in Human Performance and Sport Sciences

Amy C. Haning, Pharm.D. (Ohio Northern), 2007. Assistant Clinical Professor of Pharmacy

Angela N. Harper, B.A. (Ohio Northern), 2007. Lecturer in Communication Arts

Colleen C. Harrell, B.S., Pharm. D. (Toledo), 2005. Assistant Clinical Professor of Pharmacy

Christopher M. Harshbarger, B.S. Pharm. (Ohio Northern), 2007. Assistant Clinical Professor of Pharmacy Practice

Donald C. Hart, B.S. (Ohio Northern), 2005. Lecturer in Pharmacy and Psychology

David M. Hartzell, Pharm. D. (Ohio Northern), 2005. Assistant Clinical Professor of Pharmacy

Byron Hawbecker, B.A. (Manchester), M.S. (Arizona), Ph.D. (Kent State), 2005. Lecturer in Chemistry

Kevin Hawley, B.A. (Syracuse), J.D. (Duke), 2003. Adjunct Professor of Law

Daniel W. Hehr, B.S.Ed. (Ohio Northern), M.A. (Bowling Green), 2007. Lecturer in Technology

Scott R. Henkels, B.A. (Hiram), M.F.A. (Missouri-Kansas City), 2005. Lecturer in Communication Arts

Richard K. Highfield, B.Ed. (Toledo), M.A. (Ball State), 2007. Lecturer in Accounting

Teresa K. Hoffman, Pharm.D. (Ohio Northern), 2007. Assistant Clinical Professor of Pharmacy

Brenda Hoyt, B.F.A. (Wright State), 1996. Lecturer in Communication Arts and Lecturer in Human Performance and Sport Sciences

Douglas W. Huffman, B.S. (Purdue), J.D. (Michigan), 2005. Adjunct Professor of Law

Darrell T. Hulisz, B.S.Pharm. (U. of Toledo), Pharm.D. (Medical U. of South Carolina), 1991. Associate Clinical Professor of Pharmacy

Gretchen A. Hull-Morris, B.A. (Ohio Northern), 2005. Lecturer in History

Michael Humphrey, B.S. Pharm. (Ohio Northern), M.D. (Ohio State), Lecturer in Pharmacy

Lynn M. Hundersmark, B.A. (Alma), J.D. (Kentucky), 2005. Mock Trial Consultant

Melanie L. Hunsicker, B.S., Pharm.D. (Ohio Northern), 2007. Assistant Clinical Professor of Pharmacy

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. ATEP Medical Director

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

Scott Johnson, B.S., M.S. (Brigham Young), 2001. Lecturer in Physics
Darlene Johnston, B.A. (Hanover), M.A. (Indiana U.-Purdue U.), 2006. Lecturer in English

Christopher Kalb, B.S.N. (Bowling Green), M.S.N. (Duke), 2006. Lecturer in Nursing

Patricia Kaple, B.S., M.S. (Bowling Green), 2006. Lecturer in Chemistry

Matthew Kauflin, B.S. Pharm. (Ohio Northern), Pharm.D. (Toledo), 2001. Assistant Clinical Professor of Pharmacy

Cynthia Keller, B.S.N. (Ohio Northern), 2008. Lecturer in Nursing

Amanda L. Kelsch, B.A. (Bowling Green), 2007. Lecturer in English

Christopher Kempf, B.A. (Ohio State), J.D. (Capital), 2005. Adjunct Professor of Law

Jason M. Kimbrel, Pharm. D. (Ohio Northern), 2005. Clinical Professor of Pharmacy

Mary Jo Knott, B.S. (Ohio State), M.A. (Findlay), 2006. Lecturer in English

Charles V. Knueve, B.S. (Ohio State), Pharm.D. (Ohio Northern), 2007. Assistant Clinical Professor of Pharmacy

Benjamin Z. Konop, B.A. (Emory), J.D. (Michigan), 2005. Adjunct Professor of Law

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

James Leaman, B.M.Ed. (Eastern Kentucky), M.M. (Bowling Green), 2000. Lecturer in Music

Michael C. Leifheit, Pharm. D. (Ohio Northern), 2005. Assistant Clinical Professor of Pharmacy

Kathleen S. Leis Grine, B.S. (Ohio Northern), M.S. (Bowling Green), 1996. Lecturer in Chemistry


Paul D. Lucas, B.S.Pharm. (Ohio Northern), Pharm. D. (Purdue), 1980. Part-time Associate Professor of Clinical Pharmacy

David E. Lusk, B.S. (Ohio Northern), 1991. Lecturer in Chemistry

Catriona Macphie, M.A. (Glasgow University), 1996. Lecturer in Communication Arts

John Magee, B.A., M.A. (Oregon), Ph.D. (Ball State), 1976. Lecturer in English

Kirsten E. Osbun Manley, B.M. (Bowling Green), 1988. Resident Artist and Lecturer in Music

Melanie M. Marshall, B.S. (Ohio Northern), M.S. (Toledo), 2007. Lecturer in Biology


Jason Maus, B.A. (Heidelberg), M.A. (Bowling Green), 2005. Lecturer in Economics

Charles F. McCluskey, B.S. Pharm. (Ohio Northern), Pharm.D. (Ohio State), 2003. Assistant Clinical Professor of Pharmacy

Steven Meyer, B.S., M.S. (Toledo), 2006. Assistant Clinical Professor of Pharmacy

John R. Miller, B.S. (Wisconsin), 2005. Assistant Clinical Professor of Pharmacy

Virginia L. Moore, B.A. (Mount Mary College), M.A.T. (Indiana), 2001. Lecturer in History


Randall S. Myers, B.S. Pharm.(Ohio Northern), 2007. Assistant Clinical Professor of Pharmacy

Vernon Neeley, B.M.(Ohio Northern), 2007. Lecturer in Music

Tammy Nuesmeyer, B.S.N. (Bowling Green), M.S.N. (Medical College of Ohio), 2006. Lecturer in Nursing


Natallie Paphanchith, B.S.N. (Ohio Northern), 2008. Lecturer In Nursing

Gene Parker, 2008. Lecturer in Music

Cathy L. Patton, B.S.N. (Bluffton), M.S.N. (Medical College of Ohio), M.B.A. (Tiffin), 2007. Lecturer In Nursing

Dean B. Paul, B.S. (Mount Union), 2003. Lecturer in Physical Education

Tracey Pierce, B.S. Pharm. (Toledo), 2000. Assistant Clinical Professor of Pharmacy

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

Susan D. Putt, B.S. (Bowling Green), M.S. (Akron), 2006. Lecturer in English

Michael Reed, B.S., Pharm.D. (Cincinnati), 1995. Regional Director for Experiential Education for Northeastern Ohio; Clinical Professor of Pharmacy

Daniel Reid, B.S. (Ohio Northern), 2008. Lecturer In Finance


Janet Roll, B.A. (Otterbein), M.S., Ph.D. (Bowling Green), 2003. Lecturer in Mathematics

Reginald Routson, B.L.S., M.A. (Bowling Green), J.D. (Toledo), 1985. Adjunct Professor of Law

Autumn L. Runyon, Pharm.D. (Duquesne), 2007. Assistant Clinical Professor of Pharmacy

Michael Rush, Pharm.D. (Ohio Northern), 2006. Assistant Clinical Professor of Pharmacy

Thomas Russell, B.M.Ed. (Evansville), 1998. Lecturer in Music

William Rychel, B.A. (Mount Union), M.A.(Coe), 2006. Lecturer in Human Performance and Sport Sciences

Brian J. Sabol, B.S. (Ohio State), Pharm.D. (Kentucky), 2007. Assistant Clinical Professor of Pharmacy

Lori A. Sahloff, B.S., (Toledo), M.S. (Kettering), 2005. Lecturer in Technology

Sangeeta Sangha, B.A. (Waterloo), M.A. (Bowling Green), 2006. Lecturer in Philosophy

Luke R. Sargent, Pharm.D. (Ohio Northern), 2007. Assistant Clinical Professor of Pharmacy

Karen Schlanz, B.S.Pharm. (Ohio Northern), Pharm.D. (Cincinnati), 2004. Assistant Clinical Professor of Pharmacy

Nancy Schroeder, B.S.N. (Ohio Northern), 2006. Lecturer in Nursing

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

Leah Sellers, B.A. (Ohio), J.D. (Michigan), 2007. Adjunct Professor of Law

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

Jeffrey P. Smith, B.A. (Miami), 2007. Lecturer in English

Michael T. Smith, B.S., M.A. (Bowling Green), 2006. Lecturer In Technology

Paul G. Smith, B.A. (Anderson), D.O. (Kirkville), 1997. Clinical Professor of Pharmacy

Micah J. Sobata, Pharm.D. (Ohio Northern), 2007. Assistant Clinical Professor of Pharmacy

William Stein, B.S., M.A. (Ohio State), 2005. Lecturer in Music

Michael Stockelman, B.A. (Thomas More), M.S.(Dayton), Ph.D. (Cincinnati), 2008. Lecturer in Biological Sciences

Nathan Stockman, Pharm.D. (Ohio Northern), 2000. Assistant Clinical Professor of Pharmacy


Heather Surface, B.B.A., M.S. (Ohio), 2006. Lecturer in English

Linda Sycks, B.M.E. (Capital), 1998. Lecturer in Music

Leslie D. Thede, B.S.E.E., M.S.E.E. (Iowa), Ph.D. (Toledo), 2007. Lecturer in Engineering

Elizabeth Theisen, M.A.T., B.S. (Iowa), 1996. Lecturer in Education

Cathy Turnwald, 2007. Lecturer in Biological Sciences

Timothy Van Meter, B.S. (Tennessee Technological), M.Div., Ph.D. (Emory), 2008. Lecturer in Biological Sciences

Juergen A. Waldick, A.A. (Montgomery College), B.A. (American), J.D. (Ohio Northern), 1989. Adjunct Professor of Law

Frank Wickham, B.S. Pharm. (Ohio Northern), 2008. Lecturer in Business


Charles Willner, B.S. (Evangel College), 2006. Lecturer in Mathematics and Physics
*Mock Trial Coach*

*Lecturer in Music*

*Lecturer in Music*

*Lecturer in Music*

---

**ADJUNCT FACULTY**

*Adjunct Professor of Clinical Laboratory Science*

*Adjunct Professor of Pharmacy*

Todd Banks, B.S., B.S.Pharm. (Cincinnati), 2004.  
*Adjunct Professor of Pharmacy*

Christina Louise Bard, B.S. (Oregon Institute of Technology), 2007.  
*Adjunct Professor of Clinical Laboratory Science*

*Adjunct Professor of Clinical Laboratory Science*

*Adjunct Professor of Pharmacy*

*Adjunct Professor of Pharmacy*

*Adjunct Professor of Pharmacy*

*Adjunct Professor of Pharmacy*

*Adjunct Professor of Clinical Laboratory Science*

*Adjunct Professor of Clinical Laboratory Science*

*Adjunct Professor of Pharmacy*

Maurice Chung, M.D. (Tufts), 1993.  
*Adjunct Professor of Pharmacy*

*Adjunct Professor of Clinical Laboratory Science*

*Adjunct Professor of Pharmacy*

*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*

*Adjunct Professor of Pharmacy*

Christine F. Edie, B.S. Pharm., Pharm.D. (South Carolina), 1999.  
*Adjunct Professor of Pharmacy*

*Adjunct Professor of Clinical Laboratory Science*

Carl Fossaceca, B.S. Pharm. (Ohio State), Pharm.D. (Florida), 2004.  
*Adjunct Professor of Pharmacy*

*Adjunct Professor of Clinical Laboratory Science*

*Adjunct Professor of Clinical Laboratory Science*

*Adjunct Professor of Pharmacy*

Christopher Geib, B.A. (Ohio Northern), M.B.A. (University of Phoenix), 2006.  
*Adjunct Professor of Clinical Laboratory Science*

*Adjunct Professor of Pharmacy*

*Adjunct Professor of Pharmacy*

*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*

Monica Hess, Pharm.D. (Kentucky), 2006.  
*Adjunct Professor of Pharmacy*

*Adjunct Professor of Pharmacy*

*Adjunct Professor of Clinical Laboratory Science*
Margaret Huwer, B.S. (Ohio Northern), Pharm.D. (Ohio State), 1996. Adjunct Professor of Pharmacy

Lynn James, B.A. (Capital), 2006. Adjunct Professor of Clinical Laboratory Science

George E. Kikano, B.S., M.D. (American University of Beirut), 2000. Adjunct Professor of Pharmacy

Delbert Konnor, B.S., M.S. (Wayne State), 2006. Adjunct Professor of Pharmacy

Lawrence J. Kuk, B.S. Pharm. (Ohio Northern), D.O. (Ohio University College of Osteopathic Medicine), 2005. Adjunct Professor of Biological and Allied Health Sciences

Ronda Lehman, B.S. Pharm. (Ohio Northern), Pharm.D. (Ohio State), 2002. Adjunct Professor of Pharmacy

Marlin Linger, B.A. (Kent State), M.B.A. (North Dakota), B.S., M.S. (Ohio State), 2006. Adjunct Professor of Clinical Laboratory Science

Shannon M. Malaney, B.S., (Kent State), B.S.Pharm., Pharm.D. (Cincinnati), 2004. Adjunct Professor of Pharmacy

Robert Marotta, B.A. (Notre Dame), J.D. (Chicago- Kent College of Law), 1998. Adjunct Professor of Pharmacy

Mary Mihalyo, B.S., Ph.D. (Duquesne), 2006. Adjunct Professor of Pharmacy

Joseph T. Moss, Jr., B.S. (Toledo), M.B.A. (Cleveland State), Pharm.D. (Arkansas), 2007. Adjunct Professor of Pharmacy

Allen Nichol, B.S. Pharm. (Ohio Northern), Pharm. D. (Southeastern U. of the Health Sciences), 2003. Adjunct Professor of Pharmacy

Pamela Ogg, B.S., (Ohio), 2004. Adjunct Professor of Clinical Laboratory Science

Ayodele O. Olabsi, B.S., M.S., Ph.D. (Wichita State), 2007. Adjunct Professor of Clinical Laboratory Science

Mary Putnam, B.A. (Miami), 2006. Adjunct Professor of Clinical Laboratory Science

Paulette Rapp, B.S. (Wright State), 2006. Adjunct Professor of Clinical Laboratory Science

James E. Reboulet, B.S., M.S. (Dayton), 2005. Adjunct Professor of Clinical Laboratory Science

Rebecca Roman, Pharm.D. (Ohio Northern), 2004. Adjunct Professor of Pharmacy

Gary Rutherford, B.S. Pharm. (Ohio Northern), 2000. Adjunct Professor of Pharmacy

Tom G. Saunders, B.S. (Indiana), 2007. Adjunct Professor of Clinical Laboratory Science

Caroline M. Schepman, B.S.M.T. (Minot State), 2007. Adjunct Professor of Clinical Laboratory Science

Maria J. Schmucker-Toussant, B.A. (Walsh), M.B.A. (Ashland), 2007. Adjunct Professor of Clinical Laboratory Science

Kristen H. Schwetschenau, B.S. (Purdue), Pharm.D. (Cincinnati), 2004. Adjunct Professor of Pharmacy

Albert A. Sebok, B.S.Pharm., Pharm.D. (Ohio Northern), 1987. Adjunct Professor of Pharmacy

Burlin L. Sherrick, B.S.M.T. (Medical University of South Carolina), 2002. Adjunct Professor of Clinical Laboratory Science

Joseph Sreenan, B.S. (Xavier), M.D. (Medical College of Ohio, ), 1988. Adjunct Professor of Histology and Pathology

R. Jane Steiner, B.S. (Findlay), 2007. Adjunct Professor of Clinical Laboratory Science

Beth Stevens, B.S. (Bowling Green), 2006. Adjunct Professor of Clinical Laboratory Science

Kathryn Taylor, Pharm.D. (Ohio Northern), 2004. Adjunct Professor of Pharmacy

J. Russell Teagarden, B.S. Pharm. (Illinois), M.A. (Loyola U. of Chicago), 2000. Adjunct Professor of Pharmacy

Paul Thorpe, B.S. (Brigham Young), M.D. (Utah School of Medicine), 2006. Adjunct Professor of Clinical Laboratory Science

Diane Todd, B.S. (Weber State), M.S. (Wright State), 2006. Adjunct Professor of Clinical Laboratory Science

Geraldine Urse, B.S. (Ohio State), D.O. (Ohio U. College of Osteopathic Medicine), 2001. Adjunct Professor of Pharmacy

Ann Van Horn, B.S. (Ohio Northern), 2006. Adjunct Professor of Clinical Laboratory Science

Dean Wagner, B.S. (Stonehill College), Ph.D. (Boston College), 2007. Adjunct Professor of Clinical Laboratory Science

Christine Waugh, B.S.Pharm. (West Virginia), 1995. Adjunct Professor of Pharmacy

Jennifer Wright, B.S. Pharm., Pharm.D. (Kentucky), 1999. Adjunct Assistant Professor of Pharmacy
**EMERITI**

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree Details</th>
<th>Position Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>John P. Stahl</td>
<td>B.S.E.E. (Ohio Northern), M.S.E.E. (Case Institute), Ph.D. (Toledo), P.E. (Ohio), 1966-93</td>
<td>Professor of Electrical Engineering, Emeritus</td>
</tr>
<tr>
<td>Harold H. Hinderliter</td>
<td>A.B. (Houghton), M.Div. (Wesley Theological), Ph.D. (Vanderbilt), 1960-94</td>
<td>Professor of Philosophy and Religion, Emeritus</td>
</tr>
<tr>
<td>Dwight D. Khoury</td>
<td>B.A., M.A. (Wayne State), 1977-94</td>
<td>Associate Professor of Foreign Languages, Emeritus</td>
</tr>
<tr>
<td>Francis A. Gangemi</td>
<td>B.S. (Notre Dame), M.S., Ph.D. (Catholic), 1967-95</td>
<td>Professor of Physics, Emeritus</td>
</tr>
<tr>
<td>Howard L. Haight</td>
<td>B.S., M.S. (Nebraska), Ph.D. (Iowa), 1968-95</td>
<td>Professor of Chemistry, Emeritus</td>
</tr>
<tr>
<td>Donald W. Stansloski</td>
<td>B.S. Pharm. (Ferris State), M.S., Ph.D. (Nebraska), 1972-95</td>
<td>Professor of Pharmacy Practice, Emeritus</td>
</tr>
<tr>
<td>John A. Berton</td>
<td>A.B., A.M., Ph.D. (Illinois), 1967-96</td>
<td>Professor of Mathematics, Emeritus</td>
</tr>
<tr>
<td>Ronald E. Roll</td>
<td>B.S., M.S. (Ohio State), 1964-96</td>
<td>Associate Professor of Physics, Emeritus</td>
</tr>
<tr>
<td>Robert R. Davis, Jr.</td>
<td>B.A., M.A. (Kent), Ph.D. (Michigan State), 1966-97</td>
<td>Professor of History and Political Science, Emeritus</td>
</tr>
<tr>
<td>John D. Magee</td>
<td>B.A., M.A. (Oregon), Ph.D. (Ball State), 1976-97</td>
<td>Professor of English, Emeritus</td>
</tr>
<tr>
<td>G. Rex Messick</td>
<td>B.S.E.E. (Ohio Northern), M.S. (Pittsburgh), 1958-97</td>
<td>Associate Professor of Physics, Emeritus</td>
</tr>
<tr>
<td>David J. Benson</td>
<td>B.A. (Michigan State), J.D. (Syracuse), 1973-98</td>
<td>Professor of Law, Emeritus</td>
</tr>
<tr>
<td>Daniel S. Guy</td>
<td>B.A. (Ohio Wesleyan), J.D. (Ohio Northern), LL.M., S.J.D. (Michigan), 1959-74, 1977-98</td>
<td>Professor of Law, Emeritus</td>
</tr>
<tr>
<td>Metta Lou Henderson</td>
<td>B.S., M.S., Ph.D. (Arizona), 1978-98</td>
<td>Professor of Pharmacy Practice, Emerita</td>
</tr>
<tr>
<td>Roger D. Young</td>
<td>B.S.B.A. (Miami), M.B.A. (Xavier), C.P.A., 1964-98</td>
<td>Professor of Accounting, Emeritus</td>
</tr>
</tbody>
</table>


George D. Vaubel, A.B., LL.B. (Ohio Northern), LL.M. (Michigan), 1958-99. Professor of Law, Emeritus


Eric V. Nelson, B.S., M.S. (Wisconsin), Ph.D. (Manitoba), 1967-2000. Professor of Biological Sciences, Emeritus

Albert T. Awad, B.S. Pharm., M.S. (Cairo U.), B.S. Pharm. (Ohio Northern), Ph.D. (Ohio State), 1966-1996. Professor of Pharmacognosy, Emeritus

Bruce E. Johansen, B.E.S. (Cleveland), M.S. (Pittsburgh), Ph.D. (Worcester Polytechnic Institute), 1967-1999. Professor of Electrical Engineering, Emeritus


Donald E. Milks, B.C.E. (Clarkson), M.S., Ph.D. (Arizona), 1965-2001. Professor of Civil Engineering, Emeritus


William L. Evans, B.A., J.D. (Ohio Northern), 1975-2002. Professor of Law, Emeritus


Amar N. Bhattacharya, B.V.Sc., D.V.M. (Bengal Vet., India), M.S., Ph.D. (Ohio State), 1970-2000. Professor of Pharmacology, Emeritus

Ronald L. Evans, B.S. Ed. (Ohio Northern), M.A. (Bowling Green), 1966-1999. Associate Professor of Mathematics, Emeritus

Thomas A. Gossel, B.S. Pharm. (Ohio Northern), M.S., Ph.D. (Purdue), 1972-2002. Professor of Pharmacology, Emeritus

F. Lee Grismore, B.S.E.E. (Ohio Northern), M.S.E.E. (Missouri School of Mines and Metallurgy), Ph.D. (Georgia Institute of Technology), 1991-2001. Professor of Electrical and Computer Engineering, Emeritus

Byron L. Hawbecker, B.A. (Manchester), M.S. (Arizona), Ph.D. (Kent State), 1963-2003. Professor of Chemistry, Emeritus and Dean of the Getty College of Arts and Sciences, Emeritus


Leo R. Maier, B.S.M.E. (Purdue), M.E. (Penn State), Ph.D. (Iowa State), 1975-2001. Professor of Mechanical Engineering, Emeritus


Morton L. Mallin, B.S. (Philadelphia College of Pharmacy and Science), M.S. (Hahnemann), Ph.D. (Cornell), 1964-1993. Professor of Microbiology, Emeritus


Carl W. Hoagstrom, B.S. (Kearney), M.S. (Purdue), Ph.D. (Arizona), 1975-2005. Professor of Biological Sciences, Emeritus
BOARD OF TRUSTEES
(as of 2/1/2008)

OFFICERS OF THE BOARD

Robert C. Smith, Chair
John J. Bishop, Vice Chair
Oscar J. Mifsud, Vice Chair

EX-OFFICIO MEMBERS

Kendall L. Baker, B.A., M.A., Ph.D., President of the University
Bruce R. Ough, B.A., M.Div., Bishop, The Ohio West Area, The United Methodist Church, Columbus, Ohio
Terry D. Keiser, B.S.Ed., M.A., Chair, University Council
Jennifer A. Frommer, BSCE, President, Alumni Association
Trevor J. Eagle, President, Student Senate

ELECTED BY THE WEST OHIO CONFERENCE

Thomas Compton, B.S., M.B.A., 2010. President, Precision Strip, Minster, OH (retired)
William E. Croy, Jr., B.A., M.Div., 2009. Senior Minister, Maple Grove United Methodist Church, Columbus, Ohio

ELECTED BY THE EAST OHIO CONFERENCE

Janice Sweress, B.F.A., 2010. V.P./HR Business Partner, Charter One Bank, Cleveland, Ohio
Charles Yoost, B.A., M.B.A., 2008. Senior Pastor, Church of the Saviour, Cleveland, Ohio

BOARD AT LARGE

Larry F. Boord, B.A, J.D., 2010. President, Boord & Associates, Columbus, Ohio
Donald J. Campbell, B.S.M.E., M.S.M.E., D.E. 2009. Special Assistant to NASA Deputy Administrator, NASA Glenn Research Center, Cleveland, Ohio (retired)

Frank Cosiano, B.S. Pharm., M.D., D.Ph., 2008. Physician, Findlay, Ohio (retired)
James L. Kennedy, B.A., 2008. CEO, Twenty-First Communications, Columbus, Ohio
Benjamin Logan, B.A., J.D., 2008. District Court Judge, Grand Rapids, Michigan
Stephen A. Malbasa, B.A., 2008. Senior Vice President, American Funds Group, Cleveland, Ohio
William W. Moore, B.A., 2010. President, Olentangy Associates, Columbus, Ohio
Martin S. Paul, B.A., 2010. President and CEO, Paul’s Lumber Do-It Center, Garrettsville, Ohio


LIFE TRUSTEES

Carl Clay, B.S.M.E., D.E., Director of Transportation and Logistics, Marathon Oil Company, Montgomery, Texas (retired)


DeBow Freed, B.S., M.S., Ph.D., D.Lett., President Emeritus, Ada, Ohio

Vern H. Hakes, Ph.C., D.Sc., Vice President, Eli Lilly International Corp., Port Clinton, Ohio (retired)

Charles B. Hedrick, A.B., M.B.A., D.B.A., Manager, Employee Relations, Procter and Gamble Company, Cincinnati, Ohio (retired)

F. Michael Herrel, B.S., D.B.A., Columbus, Ohio

Gordon Hughes, B.A., D.B.A., Administrative Vice President, Armco, Inc., Middletown, Ohio (retired)

Susan J. Insley, B.S., J.D., Executive Vice President, Cochran Public Relations, Columbus, Ohio (retired)

Leonard W. Mann, A.B., S.T.B., D.Div., Pastor, The United Methodist Church, Lancaster, Ohio (retired); Brunswick, Georgia

Thomas Moore, B.A., 2007. President, WBCO/WQEL, Bucyrus, Ohio (retired)

Robin R. Obetz, B.A., J.D., Of Counsel, Vorys, Sater, Seymour and Pease, Columbus, Ohio

Ervin W. Pierstorf, B.S. Pharm., D.Ph., Fairview Photo Service, Fairview Park, Ohio (retired)

Allen Reinhardt, B.A., M.B.A., Orlando, Florida

Harrison Shutt, D.B.A. President, Kewpee Hamburger, Lima, Ohio

UNIVERSITY ADMINISTRATION

THE PRESIDENT’S CABINET

Kendall L. Baker, B.A., M.A., Ph.D., President of the University

Anne Lippert, B.A., M.A., Ph.D., Vice President for Academic Affairs

John W. Green, B.S., M.B.A., C.P.A., Vice President for Financial Affairs

Karen P. Condeni, B.A., M.S.Ed., Vice President and Dean of Enrollment

Alice-Kay Hilderbrand, B.S.Ed., M.A., Vice President for Student Affairs

Thomas R. Stevick, B.A., M.P.A., J.D., Vice President for University Advancement

William L. Robinson, B.S. Ed., M.A., Executive Assistant to the President

UNIVERSITY CHAPLAIN

Vernon LaSala, B.S.E.E., M.Div.

ACADEMIC DEANS

Robert A. Manzer, B.A., M.A., Ph.D., Dean, Getty College of Arts and Sciences

Eric T. Baumgartner, B.S.A.E., M.S.A.E., Ph.D., Dean, T.J. Smull College of Engineering

Jon E. Sprague, B.S. Pharm., Ph.D., Dean, Raabe College of Pharmacy

James W. Fenton, Jr., B.S.B.A., M.B.A., Ph.D., Dean, Dicke College of Business Administration

David C. Crago, A.B., J.D., Dean, Pettit College of Law

COLLEGE OF ARTS AND SCIENCES

Sandra Calvert, B.A., M.S.Ed., Ph.D., Assistant Dean

Mary Drzycimski-Finn, B.A., M.A., Assistant to the Dean for Student Success

Melissa Verb, B.A., M.S., Assistant to the Dean for Sharyn Zembower, B.A., Coordinator for Non-Traditional Programs

COLLEGE OF BUSINESS ADMINISTRATION

Richard P. Meininger, B.A., M.A., Ph.D., Associate Dean

Matthew Lambdin, B.F.A.A., M.A., Director of Experiential Learning

COLLEGE OF ENGINEERING

Juliet K. Hurtig, B.S.E.E., M.S.E.E., Ph.D., Assistant Dean for Admissions and Advising

Laurie K. Laird, B.S.M.E., M.S., Director of Corporate and Alumni Relations

COLLEGE OF LAW

Jennifer S. Easterday, B.S., J.D., Assistant Director of Legal Clinic

Linda K. English, B.A., M.A., Director of Law Admissions and Assistant Dean
Howard N. Fenton, B.S., J.D., Director of LL.M. Program
Cheryl A. Kitchen, B.S., Director of Law Alumni and Career Services
Nancy Paine Sabol, B.A., J.D., Director of Academic Support
Lisé A. Schneider, B.S., M.P.A., Assistant Director of Law Admissions
Lisa S. Taylor, B.A., J.D., Director of Development
Stephen C. Veltri, B.A., J.D., LL.M., Associate Dean for Academic Affairs
Bryan H. Ward, B.A., Ph.D., J.D., Director of Law Clinics
Mindi L. Wells, B.S.B.A., J.D., Assistant Dean for Administration and Student Services

COLLEGE OF PHARMACY
Kimberly Broedel-Zaugg, B.S. Pharm., M.B.A., Ph.D., Assistant Dean of External Affairs
Karen L. Kier, B.S. Pharm., M.Sc., Ph.D., Director of Non-Traditional Doctor of Pharmacy Program
Thomas L. Kier, B.S. Pharm., M.A., Ph.D., Associate Dean of Pharmacy Operations
Robert McCurdy, B.S. Pharm., M.Ed., Assistant Dean and Director of Pharmacy Student Services
Patricia A. Parteleno, B.S. Pharm., Pharm.D., Director of Experiential Programs

HETERICK LIBRARY
Indra Canagaratna, B.Sc., M.S., Acquisitions/Systems Librarian
Alice Essinger, B.A., M.L.S., Catalog Librarian
Paul Logsdon, B.A., M.S.L.S., Director of Heterick Memorial Library/Reference Librarian
Traci W. Moritz, B.A., M.L.S., Public Services Librarian
Charles E. Steele, Jr., B.S., M.A., M.S., Science Librarian

TAGGART LAW LIBRARY
Nancy A. Armstrong, A.B., J.D., M.S., Director, Taggart Law Library
Elizabeth Christian, B.A., J.D., M.L.S., Reference Librarian
David J. Fetrow, B.A., M.L.S., Reference Librarian
Marcia K. Siebesma, B.A., A.M.L.S., Associate Law Librarian

OFFICE OF THE REGISTRAR
Richard G. Carpenter, B.A., M.S., Registrar
Andrea N. Richardson, B.S., Assistant Registrar

OFFICE OF ACADEMIC AFFAIRS
Christy Cole, B.S., M.S., Director of Institutional Research
Roger H. Goldberg, B.A., M.A., Ph.D., Associate Vice President for Academic Affairs
Heather M. Hutchings, B.S., M.S., Institutional Research Analyst
Katie Vennekotter, B.A., Coordinator of Academic Affairs and Assessment Activities

OFFICE OF STUDENT AFFAIRS
Elizabeth J. Barnett, B.A., M.Ed., Assistant Director of Residence Life
Justin F. Courtney, B.A., M.A., Director of Residence Life
Rebecca J. Diller, B.A., M.S.E., Assistant Director of Counseling
Jennifer L. Lambdin, B.S.B.A., M.A., Assistant Director of Greek Life, Student Activities and Leadership
Rev. Vernon Lasala, B.S.E.E., M.Div., University Chaplain
Clyde W. Pickett, B.S., M.A., Director of Multicultural Development
Michael D. Schafer, B.S.B.A., M.S.E., Ph.D., Director of Counseling Center
Nancy Sheely, B.S., M.S., Assistant Director of Career Services
Chad R. Shepherd, B.S., M.A.Ed., Director of Greek Life, Student Activities and Leadership
Adriane L. Thompson-Bradshaw, B.A., M.A., Dean of Students
Dr. Kha Tran, B.S., M.D., University Physician
Sandra L. Waggoner, B.A., M.Ed., Career Consultant
Jane A. Ward, B.A., M.A., Career Coach

OFFICE OF FINANCIAL AID
Kacy Duling, B.S., Coordinator of Operations
Pamela Hughes, B.S., Assistant Director of Financial Aid
Lori Shea, B.S.B.A., Assistant Director of Financial Aid
Melanie Weaver, B.S., M.S.Ed., Director of Financial Aid
Amy Zimmerly, B.S., Financial Aid Counselor

OFFICE OF ADMISSIONS
Emily Buehler, B.A., Admissions Counselor
Erin Chandler, B.A., Admissions Counselor
Tabitha J. Courtney, B.A., M.A., Assistant Director of Admissions
Brian J. Crescenzo, B.A., Admissions Counselor
Kristen L. Dickerson, B.M., M.A., Admissions Counselor
Curtis Ferguson II, B.A., M.A., Coordinator for Multicultural Recruitment and Admissions Counselor
Dustin Jarrett, B.A., Admissions Counselor
Kevin R. Kolks, B.A., Admissions Counselor
Eron Memaj, B.S., M.S., International Services Coordinator
Deborah Miller, B.S., Director of Admissions
Deanna Shine, B.S., M.S., Director of International Admissions
Zachary D. Weber, B.S., Admissions Counselor

UNIVERSITY ADMINISTRATION
OFFICE OF FINANCIAL AFFAIRS
Aaron Burden, B.B.A., Purchasing Agent
Amber L. Carpenter, B.S.B.A., Bursar
David L. Dellifield, B.S.B.A., Director, McIntosh Center
Paul D. Fletcher, B.S.B.A., PHR, Director of Human Resources
Stewart A. Graham, Director of University Printing Services
Lee Ann Hall, Manager, Business Services
T. Joseph Hermiller, B.S.M.E., Director of Facilities Planning and Construction
Stacey R. Neeley, B.S.B.A., M.B.A., Controller
Vicki J. Niese, B.S., Purchasing Manager
Trisha Russell, B.A., Budget and Financial Analyst
Anita Stanley, Assistant Director of Printing Services
Desiree Tosatto, B.S.B.A., Accountant

OFFICE OF UNIVERSITY ADVANCEMENT
Josh Alkire, B.A., Associate Director of Communications
Kenneth W. Block, B.A., M.A., Executive Director of Development
Richard Borowski, B.S., Director of Development, College of Arts and Sciences
Nancy A. Burnett, B.F.A., Assistant Director for Art and Design
Ken Colwell, B.M.E., M.M., Associate Director of Web Design
Carol S. Flax, B.A., M.A., Director of Communications and Marketing
Tim Glon, B.A., M.A., Sports Information Director/Public Information Officer
Jose Nogueras, B.A., Associate Director for News Services
David T. Smittle, B.S.B.A., Director of Advancement Services
Lisa S. Taylor, B.A., J.D., Director of Development, College of Law
Rebecca Watercutter, B.S., Coordinator of Proposal Development

Dacy L. Wilcox, B.A., M.A., Associate Director of Annual Giving
Mary Wilkin, B.A., Associate Director for Communication Services
Toma Williams, B.A., Associate Director for Art and Design
Scott Wills, B.S.B.A., M.B.A., Director of Development, College of Pharmacy

OFFICE OF ALUMNI AFFAIRS
Ann E. Donnelly, B.A., M.S.Ed., Director of Alumni Affairs
Danielle M. Murray, B.A., Assistant Director of Alumni Affairs

UNIVERSITY AUDIO CENTER
Ross Sutherland, B.A., M.A., Director of University Audio Center

OFFICE OF INFORMATION TECHNOLOGY
Robert T. Beer, B.S.E.E., Director of Academic Computer Users Services
James Bougor, B.S., Systems Administrator
Jayson Brake, B.S., Associate Systems Director
C. Larry Busch, B.S.E.E., P.E., Director of Administrative Computing Services
Heather Caprette, B.A., M.F.A., Online/Instructional Course Design Specialist
Nathaniel L. Conn, B.S., Associate Administrative Systems Analyst
Chandra L. Dunbar, B.C.I.S., M.S., Educational Technology Specialist
Brian Gray, B.S., M.B.A., Administrative Systems Analyst
George E. Gulbis, B.S., M.B.A., Associate Vice President and Director of Information Technology
Nathan Oliver, B.A., M.A., Online/Instructional Course Design Specialist
Jeff Rieman, B.S., I/T Project Manager
John T. Williams, B.S., Associate System Analyst
## INDEX

### A

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic calendar, undergraduate</td>
<td>6</td>
</tr>
<tr>
<td>Academic standing</td>
<td>42</td>
</tr>
<tr>
<td>Accounting courses</td>
<td>208</td>
</tr>
<tr>
<td>Accreditation</td>
<td>4</td>
</tr>
<tr>
<td>Activities, extracurricular eligibility</td>
<td>44</td>
</tr>
<tr>
<td>Administration, university</td>
<td>298</td>
</tr>
<tr>
<td>Admission</td>
<td>13</td>
</tr>
<tr>
<td>Advance deposits</td>
<td>18</td>
</tr>
<tr>
<td>Advanced placement</td>
<td>12</td>
</tr>
<tr>
<td>Affiliations</td>
<td>4</td>
</tr>
<tr>
<td>Alcoholic beverages policy</td>
<td>27</td>
</tr>
<tr>
<td>Art and Design department</td>
<td>60</td>
</tr>
<tr>
<td>Arts and Sciences, Getty College of</td>
<td>49</td>
</tr>
<tr>
<td>Asian Studies</td>
<td>125</td>
</tr>
<tr>
<td>Athletics</td>
<td>31</td>
</tr>
<tr>
<td>facilities</td>
<td>11</td>
</tr>
<tr>
<td>intercollegiate</td>
<td>31</td>
</tr>
<tr>
<td>intramural</td>
<td>31</td>
</tr>
<tr>
<td>Athletic coaching certification program</td>
<td>138</td>
</tr>
<tr>
<td>Attendance, class</td>
<td>43</td>
</tr>
<tr>
<td>Auditing, admission for</td>
<td>41</td>
</tr>
<tr>
<td>fee for</td>
<td>17</td>
</tr>
</tbody>
</table>

### B

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological and Allied Health Sciences department</td>
<td>66</td>
</tr>
<tr>
<td>Board of trustees</td>
<td>297</td>
</tr>
<tr>
<td>Breakage deposits</td>
<td>19</td>
</tr>
<tr>
<td>Buildings</td>
<td>11</td>
</tr>
<tr>
<td>Business Administration, Dicke College of</td>
<td>199</td>
</tr>
<tr>
<td>accounting</td>
<td>208</td>
</tr>
<tr>
<td>finance</td>
<td>210</td>
</tr>
<tr>
<td>international business and economics</td>
<td>211</td>
</tr>
<tr>
<td>management</td>
<td>213</td>
</tr>
<tr>
<td>marketing</td>
<td>215</td>
</tr>
<tr>
<td>pharmaceutical business</td>
<td>216</td>
</tr>
</tbody>
</table>

### C

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calendar, Law 08-09</td>
<td>256</td>
</tr>
<tr>
<td>Calendar, Undergraduate 08-09</td>
<td>6</td>
</tr>
<tr>
<td>Center for Teacher Education</td>
<td>109</td>
</tr>
<tr>
<td>Change in course</td>
<td>41</td>
</tr>
<tr>
<td>Chemistry and biochemistry department</td>
<td>89</td>
</tr>
<tr>
<td>Churches of Ada village</td>
<td>26</td>
</tr>
<tr>
<td>Clinical Laboratory Science courses</td>
<td>74</td>
</tr>
<tr>
<td>Colleges of</td>
<td></td>
</tr>
<tr>
<td>Arts and Sciences</td>
<td>49</td>
</tr>
<tr>
<td>Business Administration</td>
<td>199</td>
</tr>
<tr>
<td>Engineering</td>
<td>219</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>239</td>
</tr>
<tr>
<td>Law</td>
<td>254</td>
</tr>
<tr>
<td>College Level Examination Program (CLEP)</td>
<td>13</td>
</tr>
<tr>
<td>Communications arts activities</td>
<td>30</td>
</tr>
<tr>
<td>Communication arts department</td>
<td>94</td>
</tr>
<tr>
<td>Communication Skills Center</td>
<td>36</td>
</tr>
<tr>
<td>Communications with the University</td>
<td>2</td>
</tr>
<tr>
<td>Computer science program</td>
<td>229</td>
</tr>
<tr>
<td>Computer Center</td>
<td>34</td>
</tr>
<tr>
<td>Costs</td>
<td>16</td>
</tr>
<tr>
<td>Counseling</td>
<td>25</td>
</tr>
<tr>
<td>Course numbering system</td>
<td>44</td>
</tr>
<tr>
<td>Credit by examination</td>
<td>45</td>
</tr>
<tr>
<td>Criminal justice</td>
<td>125</td>
</tr>
</tbody>
</table>
INDEX

D
Dean's List ................................................................. 43
Degrees, awarding of ............................................... 46
Departmental organizations ...................................... 30
Deposits, other ......................................................... 19
Disabilities policy ...................................................... 15
Dismissal, academic .................................................. 42
Distinction, graduation with .................................... 47
Dual degree programs, undergraduate .................... 33

E
Early admission ......................................................... 13
Education department ............................................. 105
education courses ..................................................... 109
Eligibility for extracurricular activities ....................... 44
Employment ............................................................ 23
Engineering, Smull College of ................................... 219
general engineering .................................................. 225
civil ....................................................................... 226
computer science ..................................................... 229
cooperative education program ................................ 224
electrical ................................................................. 229
computer ................................................................. 229
graduation requirements, degrees ......................... 223
mechanical .............................................................. 235
registration, professional engineer ......................... 224
English as a Second Language (ESL) Program ........... 40
English department ................................................ 114
Entrepreneurship ..................................................... 205, 224
Examination, credit by ............................................ 45
Examinations, student review ................................... 44
Expenses ................................................................. 16

F
Facilities .................................................................... 11
Faculty ..................................................................... 281
Fax number ............................................................. 1
Fees .......................................................................... 17
Final examinations ................................................... 43
Finance courses ...................................................... 210
Financial aid .......................................................... 21
Food service ........................................................... 25
Fraternities, .............................................................. 28
professional ............................................................ 28
social ..................................................................... 27
Fraternity housing ................................................... 24

G
General Education .................................................... 32, 50, 200, 220, 240
Geography courses ................................................ 126
Geology courses ...................................................... 84
Grade appeals procedure ....................................... 44
Grading ................................................................. 42
Graduate placement ............................................... 47

H
Health service .......................................................... 25
History, politics and justice department ..................... 122
History, university ................................................. 10
Histotechnology ...................................................... 68
Honorary societies .................................................. 28
Honors Program ...................................................... 36
Housing ................................................................. 24
Human performance and sport sciences department .... 135

I
Information technology ........................................... 34
Institute for Social Research ..................................... 150
Intercollegiate competition ..................................... 31
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interfraternity Council</td>
<td>34</td>
</tr>
<tr>
<td>International Baccalaureate</td>
<td>31</td>
</tr>
<tr>
<td>International business and economics courses</td>
<td>32</td>
</tr>
<tr>
<td>International students</td>
<td>31</td>
</tr>
<tr>
<td>International study opportunity</td>
<td>32</td>
</tr>
<tr>
<td>Internet address</td>
<td>33</td>
</tr>
<tr>
<td>Intramural sports</td>
<td>34</td>
</tr>
<tr>
<td>Juris Doctor degree</td>
<td>34</td>
</tr>
<tr>
<td>Late registration fee</td>
<td>35</td>
</tr>
<tr>
<td>Law, Pettit College of</td>
<td>35</td>
</tr>
<tr>
<td>Law Review</td>
<td>35</td>
</tr>
<tr>
<td>Library</td>
<td>31</td>
</tr>
<tr>
<td>Loan funds</td>
<td>32</td>
</tr>
<tr>
<td>Majors offered</td>
<td>33</td>
</tr>
<tr>
<td>Majors, double or multiple</td>
<td>34</td>
</tr>
<tr>
<td>Management courses</td>
<td>34</td>
</tr>
<tr>
<td>Mathematics department</td>
<td>34</td>
</tr>
<tr>
<td>Marketing courses</td>
<td>35</td>
</tr>
<tr>
<td>Mathematics courses</td>
<td>35</td>
</tr>
<tr>
<td>Medical sciences program</td>
<td>35</td>
</tr>
<tr>
<td>Minor, defined</td>
<td>36</td>
</tr>
<tr>
<td>Mission and Purpose Statement</td>
<td>36</td>
</tr>
<tr>
<td>Modern languages department</td>
<td>37</td>
</tr>
<tr>
<td>Music department</td>
<td>37</td>
</tr>
<tr>
<td>Musical activities</td>
<td>37</td>
</tr>
<tr>
<td>Nondiscrimination policy</td>
<td>38</td>
</tr>
<tr>
<td>The Northern yearbook</td>
<td>39</td>
</tr>
<tr>
<td>Northern Review</td>
<td>39</td>
</tr>
<tr>
<td>Nursing Program</td>
<td>39</td>
</tr>
<tr>
<td>Office hours, university</td>
<td>39</td>
</tr>
<tr>
<td>Option, defined</td>
<td>40</td>
</tr>
<tr>
<td>Organization of university</td>
<td>40</td>
</tr>
<tr>
<td>Outcomes assessment, student participation</td>
<td>40</td>
</tr>
<tr>
<td>Panhellenic Council</td>
<td>40</td>
</tr>
<tr>
<td>Payments and payment plans</td>
<td>40</td>
</tr>
<tr>
<td>Pharmacy, Raabe College of</td>
<td>40</td>
</tr>
<tr>
<td>academic standing</td>
<td>40</td>
</tr>
<tr>
<td>classification of students</td>
<td>40</td>
</tr>
<tr>
<td>Doctor of Pharmacy degree</td>
<td>40</td>
</tr>
<tr>
<td>dual degree programs</td>
<td>40</td>
</tr>
<tr>
<td>graduation requirements</td>
<td>40</td>
</tr>
<tr>
<td>Non-traditional doctor of pharmacy curriculum</td>
<td>40</td>
</tr>
<tr>
<td>pharmaceutical and biomedical sciences</td>
<td>40</td>
</tr>
<tr>
<td>pharmacy practice</td>
<td>40</td>
</tr>
<tr>
<td>transfer students</td>
<td>40</td>
</tr>
<tr>
<td>Philosophy and religion department</td>
<td>40</td>
</tr>
<tr>
<td>Physical education</td>
<td>40</td>
</tr>
<tr>
<td>Physics and astronomy department</td>
<td>40</td>
</tr>
<tr>
<td>Placement, career</td>
<td>40</td>
</tr>
<tr>
<td>Polaris</td>
<td>40</td>
</tr>
<tr>
<td>Political science courses</td>
<td>40</td>
</tr>
<tr>
<td>Post Baccalaureate Program in Clinical Laboratory Science</td>
<td>40</td>
</tr>
<tr>
<td>Prelaw</td>
<td>40</td>
</tr>
<tr>
<td>Premedical sciences</td>
<td>40</td>
</tr>
<tr>
<td>Preoccupational therapy</td>
<td>40</td>
</tr>
<tr>
<td>Prephysical therapy</td>
<td>40</td>
</tr>
<tr>
<td>Prephysician assistant</td>
<td>40</td>
</tr>
<tr>
<td>Preseminary</td>
<td>40</td>
</tr>
</tbody>
</table>
| Pres]