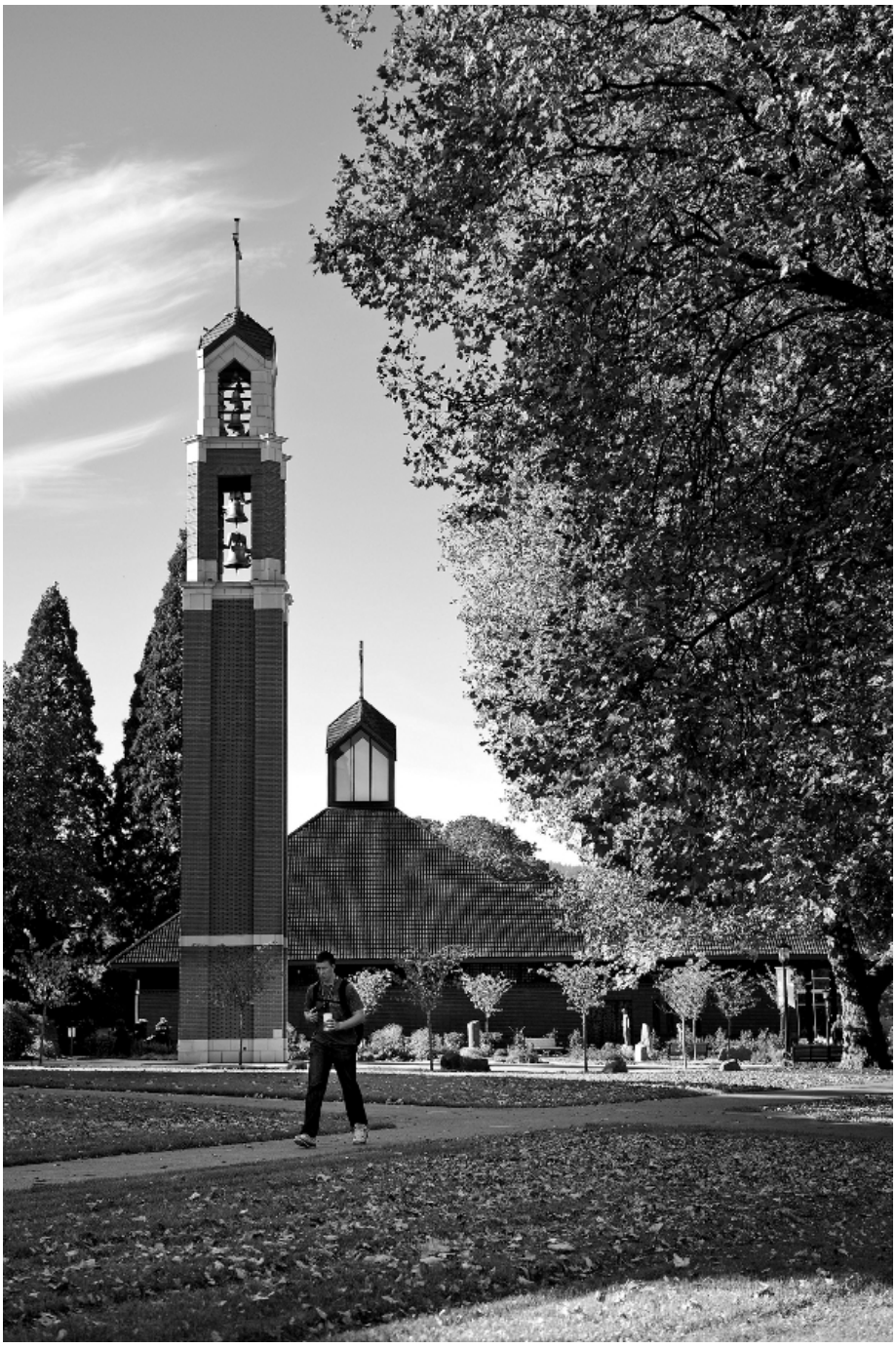
University of Portland

Bulletin 2012-2013



University of Portland

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UNIVERSITY CALENDAR

Fall Semester

2012-13		2013-14	Fall Semester
Aug. 27	Mon.	Aug. 26	Semester begins: Classes begin at 8:10 a.m.
Aug. 27	Mon.	Aug. 26	Late registration begins
Aug. 31	Fri.	Aug. 30	Last day to drop courses with full tuition refund
Aug. 31	Fri.	Aug. 30	Last day to register or change registration (drop/add)
Sept. 3	Mon.	Sept. 2	Labor Day (classes in session, offices closed)
Oct. 15-19	Mon.-Fri.	Oct. 14-18	Fall vacation, no classes
Oct. 19	Fri.	Oct. 18	Mid-semester (academic warnings)
Oct. 1	Varies	Oct. 1	Last day to apply for degree in May
Nov.6-9	Tue.-Fri.	Nov. 5-8	Advanced registration for spring semester, seniors and juniors
Nov. 12-15	Mon.-Thurs.	Nov. 11-14	Advanced registration for spring semester, sophomores and freshmen
Nov. 16	Fri.	Nov. 15	Last day to change pass/no pass
Nov. 16	Fri.	Nov. 15	Last day to withdraw from courses
Nov. 22-23	Thurs.-Fri.	Nov. 28-29	Thanksgiving vacation – no classes (begins 4 p.m., Wednesday)
Dec. 7	Fri.	Dec. 6	Last day of classes
Dec. 10-13	Mon.-Thurs.	Dec. 9-12	Semester examinations
Dec. 13	Thurs.	Dec. 12	Meal service ends with evening meal
Dec. 14	Fri.	Dec. 13	Degree candidates' grades due in registrar's office, 11 a.m.
Dec. 14	Fri.	Dec. 13	Christmas vacation begins, residence halls close
Dec. 17	Mon.	Dec. 16	All remaining grades due in registrar's office, 1 p.m.

Spring Semester

2012-13		2013-14	Spring Semester
Jan. 14	Mon.	Jan. 13	Semester begins: Classes begin at 8:10 a.m.
Jan. 14	Mon.	Jan. 13	Late registration begins
Jan. 18	Fri.	Jan. 17	Last day to drop courses with full tuition refund
Jan. 18	Fri.	Jan. 17	Last day to register or change registration (drop/add)
Feb. 1	Varies	Feb. 3	Last day to apply for degree in August
Mar. 4	Mon.	Mar. 3	Advanced registration for Summer Session begins
Mar. 8	Fri.	Mar. 7	Mid-semester (academic warnings)
Mar. 11-15	Mon.-Fri.	Mar. 10-14	Spring vacation, no classes
Mar. 18-21	Varies	Mar. 18-21	Advanced registration for fall semester, seniors and juniors
Mar. 22-27	Varies	Mar. 24-27	Advanced registration for fall semester, sophomores and freshmen
Apr. 5	Fri.	Apr. 4	Last day to change pass/no pass
Apr. 5	Fri.	Apr. 4	Last day to withdraw from courses
Apr. 9	Tue.	Apr. 8	Founders Day (special schedule)
Mar. 29-Apr. 1	Fri.-Mon.	Apr. 18-21	Easter vacation – no classes (begins 4 p.m. Thursday)
Apr. 26	Fri.	Apr. 25	Last day of classes
Apr. 29-May 2	Mon.-Thurs.	Apr. 28-May 1	Semester examinations
May 2	Thurs.	May 1	Meal service ends with evening meal
May 3	Fri.	May 2	Degree candidates' grades due in registrar's office, 11 a.m.
May 4-5	Sat.-Sun.	May 3-4	Commencement
May 6	Mon.	May 5	Residence halls close for graduating students
May 6	Mon.	May 5	All remaining grades due in registrar's office, 1 p.m.
May 13	Mon.	May 12	Continuous registration for Summer Session

Summer Session

2013		2014	Summer Session
May 13	Mon.	May 12	Classes begin
Aug. 2	Fri.	Aug. 1	Summer Session ends

Summer Session Calendar 2013

	First 6-week	Second 6-week	First 8-week	Second 8-week
Registration for Summer Session begins	Mon. 3/4			
Classes begin	Mon. 5/13	Mon. 6/24	Mon. 5/13	Mon. 6/10
Last day to pay tuition & fees	Mon. 5/6	Mon. 5/6	Mon. 5/6	Mon. 5/6
Last date to register for a directed study, practicum, thesis, research, or internship**	Thu. 6/27			
Last day to add or drop courses	Thu. 5/16	Thu. 6/27	Fri. 5/17	Fri. 6/14
Last day to withdraw from classes with full tuition refund	Thu. 5/16	Thu. 6/27	Fri. 5/17	Fri. 6/14
Memorial Day observed, University closed	Mon. 5/27			
Last day to withdraw from classes with 40% tuition refund*	Tue. 5/21	Tue. 7/2	Fri. 5/24	Fri. 6/21
Last day to change from pass/no pass	Fri. 6/7	Fri. 7/19	Fri. 6/7	Fri. 7/5
Last day to withdraw from classes	Fri. 6/7	Fri. 7/19	Fri. 6/7	Fri. 7/5
Last date to apply for August degree	Fri. 2/1			
Last day of classes	Thu. 6/20	Thu. 8/1	Wed. 7/3	Thu. 8/1
Independence Day observed	Thu. 7/4			
Official transcript from other institutions due for graduation candidates	Mon. 7/29			
Incomplete/In Progress grades removals due	Mon. 7/29			
Grades due	Mon. 6/24	Mon. 8/5	Mon. 7/8	Mon. 8/5
Grades available online	Tue. 8/6			

*Please note the registration fee is non-refundable.

**One-hour music performance and literature courses may be added through 7/2.

THE UNIVERSITY OF PORTLAND

Notes About This Bulletin

The *University of Portland Bulletin* has been published solely for information; information as of June 1, 2012. Every effort has been made to ensure its accuracy. Its contents do not constitute a contract between the University and its students. If regulations, program requirements, or services described herein conflict with current practice the latter will prevail.

Course descriptions appear alphabetically by subject following the University Services section. Course offerings and class times are published in the Registration Information and Course Schedule available annually in April. The University reserves the right to modify, change, or discontinue at any time, any element in its structure or organization, including its professional schools, departments, programs of study, undergraduate and graduate majors, and individual courses, as well as any other services offered, or fees charged.

The *University of Portland Bulletin* is published by the Office of Marketing and Communications, University of Portland, 5000 N. Willamette Boulevard, Portland, Oregon 97203-5798, Thomas Greene, Ed.D., interim provost, Publisher.

Contacts

The University address is 5000 N. Willamette Blvd., Portland, Oregon 97203-5798. The general telephone number is (503) 943-8000; FAX: (503) 943-7399; Internet: www.up.edu.

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Equal Opportunity and Nondiscrimination Policy

The University of Portland does not discriminate on the basis of race, color, national or ethnic origin, sex, disability, age, or any other basis protected by federal, state, or local law in its educational programs, admissions policies, scholarship and loan programs, athletic and other school-administered programs or in employment.

The designated coordination point for University compliance with Section 504 of the Rehabilitation Act of 1973 and for ADA is the executive vice president, in coordination with the University Health Center, the Office of Human Resources, and the Office for University Events.

Statement on Inclusion

At the University of Portland, a Catholic University guided by the Congregation of Holy Cross, all dimensions of our communal life—teaching and learning, faith and formation, and service and leadership—are informed and transformed by prayer, scripture, and the Christian tradition. Our belief in the inherent dignity of each person is founded upon the social teaching of the Catholic Church. At the center of that teaching is the fundamental mandate that every person, regardless of race, color, religion, gender, sexual orientation, social or economic class, age, or disability shall be treated with respect and dignity.

Moreover, we seek to create and sustain an inclusive environment where all people are welcomed as children of God and valued as full members of our community. We condemn harassment of every kind, and assert that no one in our community should be subject to physical or verbal harassment or abuse. Further, no one shall be denied access to programs, services, and activities for any unlawful reason. We provide all who live, learn, and work at the University the opportunity to actively participate in a vibrant, diverse, intellectual community that offers a broad range of ideas and perspectives, so that we may all learn from one another.

This statement was adopted by the board of regents on May 13, 2011.

Accreditation

The University of Portland is accredited by the Northwest Commission on Colleges and Universities, 8060 165th Avenue N.E., Ste. 100, Redmond, WA, 98052-3981.

The bachelor's and master's degrees in drama are accredited by the National Association of Schools of Theatre, 11250 Roger Bacon Drive, Suite 21, Reston, VA, 20190, (703) 437-0700.

The bachelor's degree in music is accredited by the National Association of Schools of Music, 11250 Roger Bacon Drive, Suite 21, Reston, VA, 20190, (703) 437-0700.

The Dr. Robert B. Pamplin, Jr. School of Business Administration's undergraduate and graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International), 777 South Harbour Island Boulevard, Suite 750, Tampa, FL 33602-5730, (813) 769-6500 (Fax: 813-769-6559).

The School of Education is accredited until 2012 at the undergraduate and graduate level through the National Council for Accreditation of Teacher Education (NCATE), 2010 Massachusetts Avenue NW, Suite 500, Washington, D.C., 20036-1023, (202) 466-7496.

The bachelor of science degree programs in civil, electrical, and mechanical engineering are accredited by the Engineering Accreditation Commission and that in computer science is accredited by the Computing Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD, 21202, (410) 347-7700.

The School of Nursing baccalaureate, master's, and doctoral degree programs are accredited by the Commission on Collegiate Nursing Education (CCNE), One Dupont Circle, NW, Suite 530, Washington, DC, 20036-1120, (202) 887-6791.

The bachelor's degree in social work is accredited by the Council on Social Work Education, 1725 Duke Street, Suite 500, Alexandria, VA, 22314-3457, phone (703) 683-8080; Fax: (703) 683-8099; E-mail: info@cswe.org.

Approvals

The School of Education is approved at the undergraduate and graduate level by the Oregon Teacher Standards and Practices Commission (TSPC): Public Service, 255 Capitol, N.E., Suite 105, Salem, OR 97310-1332, (503) 378-3586, and the Campus Alberta Quality Council, Alberta Advanced Education and Technology, Office of the Minister, Edmonton, Alberta, T5K 2B6 (780) 427-2025.

The School of Nursing is approved by the Oregon State Board of Nursing, 800 N.E. Oregon St., Suite 465, Portland, OR, 97232, (503) 731-4745.

The bachelor of science degree in chemistry (option 1) is approved by the American Chemical Society, Committee on Professional Training, 1155 Sixteenth Street, N.W., Washington, DC, 20036, (202) 872-4589.

Memberships

American Association of Higher Education

American Council on Education

Association of American Colleges and Universities

Association of Catholic Colleges and Universities

Association of Governing Boards of Colleges and Universities

National Association of Independent Colleges and Universities

National Catholic Education Association

Oregon Alliance of Independent Colleges and Universities

Western Association of Graduate Schools

Consumer Information Reports

As required by federal consumer information regulations, the University of Portland provides a variety of information to the campus community and prospective students. Detailed information and links to this consumer information is available on the University of Portland website at www.up.edu/policies.

University of Portland financial aid information: The University of Portland provides information regarding the cost of attendance, how to apply for financial aid, available types of financial assistance, as well as the rights and responsibilities of financial aid recipients at the Office of Financial Aid's website (www.up.edu/finaid) and within the Financial Aid Handbook at www.up.edu/finaid/handbook.

The University of Portland's academic program and regulations: The *University Bulletin* contains information regarding the University of Portland's degree programs, academic regulations, faculty, and facilities. Printed copies of the *University Bulletin* are available upon request from the Office of Admissions.

The University of Portland student characteristics and outcomes: Information about study body diversity, graduation rates for the general student body (broken down by race, gender, and financial aid status), graduation rates for students receiving athletically related student aid (broken down by race and gender within each sport), and retention rates for first-time, full-time, degree-seeking undergraduate students at the University of Portland is available upon request from the Office of Institutional Research. The Office of Institutional Research also can provide information about the types of graduate and professional education pursued by graduates of the University of Portland. The Office of Career Services can provide information about the placement and types of employment obtained by graduates.

The University of Portland's current Public Safety Report: The Public Safety Report includes the Campus Crime Report, Fire Safety Report, and Alcohol Policy. The Campus Crime Report includes statistics concerning crimes that occurred on campus; in certain off-campus buildings or property owned or controlled by the University of Portland; and on public property within, or immediately adjacent to an accessible entry from the campus. The Fire Safety Report includes information about University of Portland's campus fire safety policies and standards. The Alcohol Policy provides information on the University of Portland's policy concerning drug and alcohol use as well as information on other security related issues. This report is furnished annually to each enrolled student and is available, upon request, to any interested party from the Office of Admissions, the Pilot House Information Center, and the Department of Public Safety.

The University of Portland's Equity in Athletics (EADA) report: This report contains participation rates, financial support, and other information regarding men's and women's intercollegiate athletic programs. The report is available on the U.S. Department of Education website at http://ope.ed.gov/athletics/ under the University of Portland listing.

The University of Portland's vaccine requirements: The University Health Center can provide information about vaccinations required for all University of Portland students. The School of Nursing can provide information about additional vaccinations required for all nursing students.

The University of Portland's copyright infringement policy: Information about the University of Portland's policies and sanctions related to copyright infringement, including civil and criminal penalties for distributing copyrighted material (including unauthorized peer-to-peer file sharing and the prohibited use of the institution's information technology system for those activities) is available from the Office of Information Services.

The University of Portland's Gainful Employment Information is available on the University's website at the end of each associated program.

GENERAL INFORMATION

Introduction

The University of Portland was founded in 1901 by the Most Reverend Alexander Christie, Archbishop of Portland, with support and counsel from Rev. John A. Zahm, C.S.C., provincial of the American Province of the Congregation of Holy Cross, a Catholic religious community that shared his belief in the importance of education. In 1902, Archbishop Christie asked the Congregation to assume control of the University. For the next 65 years Holy Cross was solely responsible for the University's operation.

In 1967, as a means of ecumenical outreach and to involve lay people in the governance of the University, Holy Cross transferred control to a board of regents, but continued its commitment to offer the University the service of its members. As a result, the University of Portland is Oregon's Catholic university, governed by an independent board of regents composed of men and women of various religious denominations, with Holy Cross priests and brothers as members of its faculty, staff, and administration.

The University places superb teaching as both its first virtue and a central tenet of its mission. The five colleges of the campus — the College of Arts and Sciences, the Pamplin School of Business Administration, the Shiley School of Engineering, and the Schools of Education and Nursing — offer an education that stresses broad liberal arts learning, the development of personal skills, and the opening of the mind, the heart, and the soul. Ranked by *U.S. News & World Report* magazine as one of the ten best regional universities in the West, the University offers some 1,300 courses, 43 undergraduate programs of study, and 12 graduate degrees.

The University is situated on a bluff near the confluence of the Willamette and Columbia rivers in one of the large metropolitan areas of the West. Located in a residential section of the city of Portland, the 150-acre campus offers lawns, hundreds of trees, and beautiful buildings in a quiet, peaceful setting which is conducive to the learning process. Proximity to the river has suggested nautical names for the University's athletic teams, the Pilots, and the student publications, *The Beacon* and *The Log*.

Mission

The University of Portland, an independently governed Catholic university guided by the Congregation of Holy Cross, addresses significant questions of human concern through disciplinary and interdisciplinary studies of the arts, sciences, and humanities and through studies in majors and professional programs at the undergraduate and graduate levels. As a diverse community of scholars dedicated to excellence and innovation, we pursue teaching and learning, faith and formation, service and leadership in the classroom, residence halls and the world. Because we value the development of the whole person, the university honors faith and reason as ways of knowing, promotes ethical reflection, and prepares people who respond to the needs of the world and its human family.

The University uses the following mission commitments to plan and pursue its distinctive excellence:

- The statement of mission and the institutional goals affirmed by the board of regents guide the University's planning and actions.
- The University of Portland is a Catholic institution characterized by a special relationship with the Congregation of Holy Cross and the Archdiocese of Portland, a reverence for and study of Catholic teaching, and a public expression of faith and religious experience. The University welcomes the contributions of those of other faiths and respects their religious traditions.
- The University remains committed to the special values of a broad, liberal arts education as essential to its baccalaureate education and influential to specialized graduate education.
- The University remains committed to the high quality graduate programs in the College of Arts and Sciences and in the professional schools that reflect its mission.
- The University employs a principle of selectivity and a focus on distinctive programs that fulfill our mission as it assesses and monitors academic offerings.
- The University supports the hiring and development of distinctive faculty by emphasizing teaching excellence, collegiality, and an interest in developing interdisciplinary curriculum.

- The University regulates full-time undergraduate and graduate enrollments so they match the resources and infrastructure needed for excellence.
- The University commits to the success of its students in their academic programs and its athletes in NCAA Division I athletics.
- Residentiality is an intentional component of the University's focus on community and development of the whole person.
- The University prioritizes recognized excellence in programs, services, and personnel, and withdraws support where excellence seems unattainable.
- The University values access to higher education and uses institutional student aid to recruit retain students.
- The University remains committed to a balanced annual operating budget, vigorous efforts to increase financial resources, and wise stewardship of existing resources.

Seal of the University

The arms of the University of Portland are a green shield bearing a silver cross moline and crossed anchors. Beneath the cross and anchors are six wavy bars of silver and blue and on a blue chief, an open book with gold clasps. This is an adaptation of the arms of the Congregation of Holy Cross and the city of Portland. The motto is placed on a scroll under the shield and is "Veritas vos liberabit" ("The truth will set us free"). The supporters flanking the coat of arms are limbs of oak and laurel, symbolic of strength and success.

The University's logo for marketing and advancement purposes was designed to reflect the shield found in the University Seal.

Core Curriculum

The Catholic intellectual tradition is rooted in reasoned inquiry that crosses scholarly disciplines to engage and inform each of them. This tradition creates a framework in which great questions facing humankind can and should be addressed.

Through the core curriculum at the University of Portland students learn to use and value the lenses of different disciplines, see connections among them, and in doing so acquire the skills, knowledge, and values necessary for them to recognize the importance of broad learning and regular reflection throughout their lives. The goals of the core serve its mission and are achieved through the learning outcomes, which are continuously assessed.

Lenses for Seeing and Learning Essential Skills and Values

The faculty is committed to teaching students essential skills and values for learning and life. Writing, oral communication, critical thinking, information literacy, and the implications of diversity are core skills distributed throughout the core curriculum. Students will thus have opportunities in their core courses to learn and refine their understanding and application of each of these skills.

The University requires course work in:

Hrs.	Area	
3	Fine Arts	— Fulfilled by FA 207 only.
3	History	— Fulfilled by any history course up to and including 300 level.
3	Literature	— Fulfilled by ENG 112 only.
3	Mathematics	— Fulfilled by any mathematics course above MTH 120.
6	Philosophy	— Fulfilled only by PHL 150 and PHL 220.
6	Science	— Fulfilled by any 100 level BIO, ENV, CHM, PHY, or SCI or courses in a science major. Consult programs for options.
6	Social Sciences	— 2 disciplines fulfilled from among SOC 101, PSY 101, ECN 120, ECN 121 (with written permission of instructor), POL 200, POL 203, POL 205, SW 205, CST 225.
9	Theology	— Lower-division requirements fulfilled only by THE 101 and 205. — Upper-division THE course may be a Theological Perspectives class that can be used to satisfy the distribution requirements of both theology and a companion subject.

The core curriculum applies to transfer students. No substitutions may be made without special permission from the dean.

Goals of the Core

Goal I:

Develop the foundational knowledge and skills necessary for informed inquiry, decision-making and communication.

Learning Outcomes:

Students will be able to:

1. Express the product of critical, analytical, and imaginative thought in writing;
2. Use analytical and logical thinking in reading and presenting ideas and arguments;
3. Express the product of critical, analytical, and imaginative thought in speech;
4. Understand the concepts, principles, and implications of diversity and difference;
5. Find and use information to support the process of critical and analytical pursuits;
6. Use quantitative methods and perspectives to understand and solve real-world problems.

Goal II:

Develop the knowledge and skills for acting ethically in everyday life.

Learning Outcomes:

The student will be able to:

1. Recognize the limits of relativism and absolutism;
2. Recognize the ethical dimensions of novel problems and situations;
3. Frame an ethical problem;
4. Analyze a problem or situation using various ethical theories;
5. Come to a tentative judgment about an ethical problem he or she has framed and analyzed;
6. Distinguish ethics from law.

Goal III:

Examine faith, its place in one's life, and in the lives of others.

Learning Outcomes:

The student will be able to:

1. Explain how faith may provide meaning and purpose to one's life;
2. Explain faith as an experience, as a worldview, and as an activity;
3. Explain the importance assigned to faith as it shapes the expectations and aspirations of those other than oneself.

Goal IV:

Critically examine the ideas and traditions of western civilization.

Learning Outcomes:

The student will be able to:

1. Critically read and examine significant texts and art of western civilization;
2. Write critically about significant texts and art of western civilization;
3. Speak critically about significant texts and art of western civilization.

Goal V:

Learn to live and contribute in a diverse society and interdependent world.

Learning Outcomes:

The student will be able to:

1. Recognize how culture, social factors, psychological factors, religious factors, and/or communication shape the way we view the world and identify differences between and within societies and other diverse groups of people;
2. Recognize social, political, historical, economical, and/or religious factors contributing to cultural differences;
3. Demonstrate an understanding of religious, political, historical, and/or social concepts necessary to be informed and engaged citizens living in an increasingly interdependent world.

Fundamental Questions

The faculty of the University of Portland fashioned the core curriculum with the belief that learning originates in seeking answers to important life questions. Learning springs from active inquiry conducted through different intellectual disciplines, each with its own tools, methods, and measures. Learning is ongoing and integrates various perspectives. University of Portland students learn how various disciplines use their different lenses to study the same universe and all its experience. As a community of scholars, faculty and students approach key questions about life by gathering and assessing evidence about them: we explore cultures of the past and present for their answers; we examine the natural world and universe for data about them; we study religious traditions and practices, philosophies, literature and other arts, and ourselves for answers. Through this process, we know that good questions lead to more questions.

As a Catholic university, these fundamental questions, threaded throughout students' years here, must engage us all:

- Who am I? Who am I becoming? Why am I here?
- How does the world work? How could the world work better?
- How do relationships and communities function? What is the value of difference?
- What is the role of beauty, imagination, and feeling in life?
- Who or what is God? How can one relate to God?
- What is a good life? What can we do about injustice and suffering?

Lenses for Examining the Questions

In creating the core curriculum, the faculty has been guided by the University of Portland's place in the history of Catholic higher education and by its contemporary mission. Therefore, the faculty requires that students use the following courses as the lenses through which to begin their study of the fundamental life questions introduced by the core curriculum.

Hrs.	Area	Hrs.	Area
3	Fine Arts	6	Philosophy
3	History	6	Science
3	Literature	6	Social Sciences (2 disciplines)
3	Mathematics	9	Theology

The upper division theology course may be a Theological Perspectives class that can be used to satisfy the distribution requirements of both theology and a companion subject.

Lenses for Seeing and Learning Essential Skills and Values

The faculty is committed to teaching students essential skills and values for learning and life. Writing, oral communication, critical thinking, information literacy, and the implications of diversity are core skills distributed throughout the core curriculum. Students will thus have opportunities in their core courses to learn and refine their understanding and application of each of these skills.

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6	Science	— Fulfilled by any 100 level BIO, ENV, CHM, PHY, or SCI or courses in a science major. Consult programs for options.
6	Social Sciences	— 2 disciplines fulfilled from among SOC 101, PSY 101, ECN 120, ECN 121 (with written permission of instructor), POL 200, POL 203, POL 205, SW 205, CST 225.
9	Theology	— Lower-division requirements fulfilled only by THE 101 and 205. — Upper-division THE course may be a Theological Perspectives class that can be used to satisfy the distribution requirements of both theology and a companion subject.

The core curriculum applies to transfer students. No substitutions may be made without special permission from the dean.

UNIVERSITY ACADEMIC PROGRAMS OF STUDY

The University of Portland consists of one college with 14 departments, four professional schools, and a graduate school. Undergraduate majors are available in all departments of the College of Arts and Sciences and in each of the professional schools.

The Graduate School offers advanced degrees in the schools/departments of business administration, communication studies, drama, education, engineering, and nursing.

Students entering the University indicate the program of studies they wish to follow and will be under the direction of the dean of the college or school administering that program. Students may elect at any time to petition for a change of major or change of school.

Undergraduate Curriculum

College of Arts & Sciences

Biology46, B.S., B.A.

Chemistry50, B.S.

Communication55, B.A.

Drama84, B.A.

English61, B.A.

Environmental Ethics and Policy65, B.A.

Environmental Science68, B.S.

French Studies77, B.A.

General Studies74, B.S., B.A.

German Studies78, B.A.

History74, B.A.

Mathematics80, B.S., B.A.

Music87, B.A.

Organizational Communication58, B.S.

Philosophy90, B.A.

Physics95, B.S., B.A.

Political Science98, B.A.

*Pre-law study

†Pre-medicine study

Psychology100, B.A.

Social Work101, B.A.

Sociology103, B.A.

Sociology/Criminal Justice Track103, B.A.

Spanish79, B.A.

Theology105, B.A.

**Law school require a bachelor's degree for admission, but no specific major is required; there is no "pre-law major" as such. Students are helped to select a program acceptable to various law schools.*

†Both chemistry and biology provide a complete preparatory program for dentistry, medicine, pharmacy, optometry, or veterinary medicine.

Dr. Robert B. Pamplin, Jr. School of Business Administration

Accounting111, B.B.A.

Economics, B.B.A113., B.A.114

Entrepreneurship and Innovation Management115, B.B.A.

Finance117, B.B.A.

Global Business119, B.B.A.

Marketing121, B.B.A.

Operations and Technology Management123, B.B.A.

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School of Education

Elementary Education**Error! Bookmark not defined.**, B.A.Ed.

Secondary Education**Error! Bookmark not defined.**, B.S.S.E.

Donald P. Shiley School of Engineering

Civil Engineering149, B.S.C.E.

Computer Science155, B.S.C.S.

Electrical Engineering159, B.S.E.E.

Engineering Management168, B.S.E.M.

Mechanical Engineering164, B.S.M.E.

School of Nursing

Nursing175, B.S.N.

Minor Programs

Minors consist of no fewer than 12 and no more than 18 credit hours of upper-division courses excluding prerequisites. Academic regulations governing courses applied to major programs also apply to minors.

Approved minors include:

Biology39

Business Administration125

Catholic Studies42

Chemistry39

Communication39

Computer Science155

Drama39

Economics125

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Political Science41

Psychology41

Social Justice44

Sociology42

Spanish42

Theology42

Graduate Curriculum

The Graduate School offers rigorous educational experiences in a personalized learning environment. The University of Portland's graduate curricula are designed to provide candidates with the cutting-edge knowledge and skills they need to provide insightful, global, and ethical leadership within their professions, both now and into the future. See the Graduate School section of the *Bulletin* for descriptions of the degrees listed below and for information about non-degree graduate study. See Graduate School181 for information about the curriculum for each graduate degree.

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Communication200, M.A.

Drama202, M.F.A.

Education204, M.A., M.A.T., M.Ed.

Education 210(licensure and post-master's)

Engineering217, M.E.

Finance190, M.S.

Management Communication201, M.S.

Nursing217, M.S., D.N.P.

Pastoral Ministry226, M.A.P.M.

SPECIAL ACADEMIC PROGRAMS

In addition to the major and minor academic programs, the University also offers special opportunities through which students may gain particular credentials or otherwise enhance their education.

Studies Abroad

Rev. Arthur F. Wheeler, C.S.C., Ph.D., assistant to the provost

There are many opportunities for students at the University of Portland to study abroad. The University provides an academic-year program in Salzburg, Austria, fall and spring semester programs in Fremantle, Australia or Galway, Ireland, and summer-study programs in Salzburg, London, Tokyo, Broome, Australia, Montreal, Canada, Segovia, Spain, and Santiago, Chile. The University is also a member of the Independent Liberal Arts Colleges Abroad consortium, which offers a fall or spring semester program in London, and a fall or spring semester program in Granada, Spain. In conjunction with the Institute for the International Education of Students (IES), the University offers a one-semester program in Paris or Nantes, France, for students interested in advanced studies in the French language, and a one-semester program in Freiburg, Germany, for students interested in advanced studies in the European Union. Business internships are available at a variety of sites through IES.

For information concerning these programs, contact Rev. Arthur Wheeler, C.S.C., Ph.D., Director of Studies Abroad, University of Portland, 5000 N. Willamette Blvd., Portland, Oregon, 97203-5798. Telephone (503) 943-7857. Toll-free (800) 227-4568.

Australia

Madeline Lowes, rector

Fall or spring semester programs are available in Fremantle, the port city for Perth, Western Australia, by arrangement with the University of Notre Dame Australia, an independent Catholic institution with a wide range of offerings in the arts, humanities, social sciences, and business. The program is designed for juniors; nursing and accounting students may participate as sophomores. The program includes a field trip to the aboriginal community at Broome.

London Summer Program

The London program is a five-week opportunity for firsthand study of English culture and its contributions to the development of Western Civilization. The program is based in residential facilities in London, convenient to most major sites in the city. It is open to all qualified students after their freshman year. Enrollment is limited and admission is competitive. Applications must be submitted in October, and selection will be announced in early January.

The six-credit curriculum consists of two three-semester-hour courses taught by University of Portland professors. Credits from both courses can normally be applied to core curriculum requirements at the University. The courses are drawn from the arts and sciences. Specialized summer courses are also available in London for business students and nursing students.

Salzburg

René Horcicka, M.A., director in residence

Eva Brandauer, Ph.D., assistant director

Rev. Mark Ghyselinck, C.S.C., residence director

Faculty: E. Aussermair, J. Aussermair, Feldner, Hieke, Horcicka, Loos, Nadel, Schratzberger, Walterskirchen, Zecha

Students can enhance their education at the University of Portland by participating in the University's oldest studies abroad program, which is located in Salzburg, Austria. Since 1964, the Salzburg Program, an academic year of studies in the humanities, has provided an opportunity for students to immerse themselves in a different culture, travel to all corners of Europe, and experience personal growth as a member of the University community in Salzburg.

On the fall tour, students examine firsthand the art, religion, and history of France, and Germany. The spring tour takes students to the ancient ruins where the heart of the Greco-Roman culture once flourished. A three-week break between semesters and

three-day weekends allow for independent travel throughout Austria and other parts of Europe. Salzburg lies within an overnight train trip to Berlin, Paris, Amsterdam, Zurich, Rome, Budapest, Prague, and many places in between.

At the University of Portland Center in Salzburg, students enroll in courses taught in English by an Austrian faculty. A German language course is also required in order to enhance each student's ability to communicate with Austrian and German people. Another important aspect is the community living situation at the University of Portland Center. All students are actively involved in the various academic, cultural, social, and spiritual aspects of the program.

The full-year Salzburg Program is open to all qualified students, normally for their sophomore year. The University also offers two summer sessions in Salzburg, including courses in communication, engineering, history, literature, mathematics, science, philosophy, political science, psychology, and theology.

Segovia, Spain

Advanced classes in Spanish literature and culture are available in Segovia, Spain in odd-numbered summers. All instruction is in Spanish, and students live with Spanish families.

Summer Studies in Japan

An educational, cultural experience is available in Tokyo. Although a basic Japanese course is offered, this is not a language program. Instead, students participate in a series of lecture courses taught in English by specialists on Japan-related topics. In addition, conducted tours enable students to learn about the people of Japan firsthand. Course offerings in Asian studies discuss Japanese social structure, economics, history, art, religion, and business and management practices.

The program is open to all qualified students, with a preference for global business majors. Those interested should apply early to ensure acceptance. Satisfactory academic achievement and favorable personal recommendations are required.

Students will choose two courses from among 12 offered by Sophia University. Six undergraduate credits may be earned.

Cross-Registration Program

Full-time University of Portland students may participate in a cross-registration program sponsored by the member institutions of the Oregon Alliance of Independent Colleges & Universities (OAICU).

The program allows students to take a maximum of one undergraduate course per semester on a "space available" basis at a participating institution. There is no additional cost for tuition if the student is enrolled full-time at their home institution. The program is not available during the summer semester.

Interested students should first contact their academic advisor and dean for course approval. Contact the Office of the Registrar for the OAICU cross-registration form and additional information at (503) 943-7321.

Participating institutions include Concordia University, Corban University, George Fox University, Lewis & Clark College, Linfield College, Marylhurst University, Mt. Angel Seminary, Multnomah University, National College of Natural Medicine, Northwest Christian University, Oregon College of Art & Craft, Oregon College of Oriental Medicine, Pacific N.W. College of Art, Pacific University, Reed College, University of Portland, University of Western States, Warner Pacific College, Western Seminary, and Willamette University.

For detailed information, call (503) 943-7321.

Entrepreneur Scholars (E-Scholars) Program

Robin D. Anderson, Ed.D., Franz Chair in Entrepreneurship

The entrepreneur scholars (E-Scholars) program is a comprehensive entrepreneurial development program incorporating classroom activity and applied experience. It is limited to 25 students, and students from any discipline may be admitted to the program. Students apply in their sophomore year for participation in their junior year. E-Scholars program classes are: Creating a World-Class Venture (BUS 480); Entrepreneur Apprenticeship (BUS 481); and Global Entrepreneurship (BUS 482). This innovative program is made possible through individual and corporate named sponsorships of $5,000; each E-Scholar pays $4,000 for this unique combination of classroom work, interaction with world class entrepreneurs and enterprises, and international travel. Past experiences have taken place in Australia, Brazil, Chile, China, Malaysia, South Africa, Vietnam, and Ukraine, among other countries. In 2003, the E-Scholars Program received a $100,000 grant to replicate the program nationally.

For more information about the program, contact the director of the Center for Entrepreneurship, University of Portland, 5000 N. Willamette Blvd., Portland, OR 97203-5798. Telephone (503) 943-7769.

Honors Program

John C. Orr, Ph.D., assistant to the provost

The University of Portland offers the honors program to enhance the intellectual life of the University community by mentoring high achieving and intrinsically motivated students to serve as public intellectuals at the University and beyond. The program fosters in these passionate and gifted students a love for the life of the mind and the desire to enrich their communities. Honors students may be enrolled in any major.

The curriculum fulfills a portion of the University core requirements for graduation. Freshmen take a one-week colloquium before the fall semester. They then take a first year course that fulfills one (and in some cases two) core requirement(s). In their sophomore year students take an additional core class. In the first two years honors students are also assigned a faculty mentor with whom they meet regularly and with whom they write reflective papers integrating their educational experience with their personal development. The sophomore year culminates with a reflective retreat at which students develop personal statements. In the junior and senior years, the focus of the honors students is in their majors. Each major has its own set of honors requirements, including a senior honors project. The junior and senior years also see honors students participating in two one-credit interdisciplinary reading and discussion courses. Additionally, honors students are supported and encouraged to take advantage of a number of special opportunities including, but not limited to, study abroad programs, internships, summer research opportunities, nationally competitive scholarships, service projects, various off-campus transformative experiences such as participation in conferences, and special projects. To remain in the honors program, students must maintain a cumulative GPA of 3.3, complete all honors assignments, and regularly attend honors events and meetings. For details contact the director of the honors program, Buckley Center 161, University of Portland, 5000 North Willamette Blvd., Portland, OR 97203. Telephone: (503) 943-7857. Toll free: (800) 227-4568. E-mail: honors@up.edu.

Air Force ROTC Aerospace Studies

Col. Paul Huffman, professor of aerospace studies

Faculty: Brom, Cummings, Hansen

The faculty of Aerospace Studies is organized to administer the Air Force Reserve Officer Training Corps (ROTC) classes and related experiences.

Air Force ROTC offers to men and women four- and three-year programs which lead to an Air Force commission. Students who qualify may elect to pursue any one of these programs. In addition, Air Force ROTC offers many scholarships to qualified students. Two-, three-, and four-year scholarships are available which pay partial or full tuition, fees, a book allowance, and a monthly stipend that varies by academic year.

The four-year program requires student participation during four academic years. The first two years, students are enrolled in the General Military Course (GMC) one credit hour each term. During the spring term of the sophomore year, students compete for entry into the Professional Officer Course (POC). Those selected will attend a four-week field training course, normally during the summer between their sophomore and junior years, and enter the POC at the beginning of their junior year. In the POC, cadets hold the rank of cadet officers and participate in planning, organizing, and conducting the leadership laboratory training. This training is the application of leadership and management theory they have learned. On completion of the POC, the four-week field training course, and receipt of a baccalaureate degree, cadets are commissioned in the Air Force as second lieutenants.

The three-year program is similar to the four-year program but requires students in their first year of AFROTC to be concurrently enrolled in both the sophomore and freshman GMC course, a total of two semester hours each term.

Entry Requirements: All students accepted into the Professional Officer Course (POC) must:

1. Be a citizen of the United States.
2. Successfully pass a physical examination (paid for by the Air Force).
3. Successfully pass the Air Force Physical Fitness Assessment.
4. Meet minimum predetermined academic and qualitative selection standards.

For further information, contact the Aerospace Studies Program, University of Portland, 5000 N. Willamette Blvd., Portland, Oregon 97203-5798. Telephone (503) 943-7216. Toll Free (800) 227-4568, ext. 7216.

Army ROTC Military Science and Leadership

LTC Matthew Little, professor of military science and leadership

Faculty: Delint, Healey, Repp, Richardson, Romero, Southall

The University of Portland, in cooperation with the U.S. Army, established the Department of Military Science and Leadership to operate the Army Reserve Officer Training Corps (ROTC). Army ROTC provides leadership training and scholarships so that students may earn an Army officer commission. Students enrolled in ROTC may earn a commission as an Army second lieutenant while achieving an academic degree (undergraduate or graduate) in an academic discipline of their choice. First- and second-year courses are open to any University student and may be taken without obligation to the U.S. Army.

Program Description

Army ROTC has traditionally been a four-year program. Individuals with prior military service, members of Reserve or National Guard units and summer ROTC leadership training course attendees may obtain advanced placement credit and enter and complete the program in two years. Normally all students enroll in one military science and leadership course and leadership laboratory per semester. Physical fitness of all enrolled students is stressed and closely monitored. The Army ROTC program consists of two phases, basic and advanced military science and leadership.

Basic Course

All students are eligible for enrollment in basic military science and leadership courses without incurring a military obligation. Requirements for completion of the basic course are MSL 101, MSL 102, MSL 201, and MSL 202, and associated labs and physical training classes.

Advanced Course

Upon fulfillment of the basic military science and leadership requirements, students become eligible for entrance into advanced military science and leadership.

Advanced military science and leadership consists of twelve academic credits of classroom instruction and associated labs and physical training. Students also attend a paid, six-week advanced leadership and tactics practicum, the ROTC leader development and assessment course (LDAC), between their junior and senior years.

In addition, advanced military science and leadership students become the student leaders for the University of Portland Pilot Battalion.

Completion of all military science and leadership requirements qualifies the student to apply for Congressional appointment as a commissioned officer in the United States Army.

Entry Requirements

All students accepted into the advanced course must:

1. Be a citizen of the United States.
2. Successfully pass the Army physical fitness test; meet height and weight standards.
3. Successfully pass a physical examination (paid for by the Army).
4. Meet minimum predetermined academic and qualitative selection standards. For further information, contact the Army Department of Military Science and Leadership, University of Portland, 5000 N. Willamette Blvd., Portland, Oregon 97203-5798. Telephone (503) 943-7353. Toll Free (800) 227-4568, ext. 7353.

Financial Assistance

Each advanced military science and leadership student receives a subsistence allowance of $350-$500 per month. Cooperative programs available with the Army Reserve and Army National Guard pay advanced military science and leadership non-scholarship students approximately $4,000 per year for simultaneous membership in Army ROTC and a Reserve or National Guard unit.

Nursing Program

Army ROTC offers challenging training for students interested in a bachelor of science in nursing degree. In addition to clinical and academic experiences, cadets learn leadership and organizational skills, enhancing their clinical decision-making and critical task management. Army ROTC pays for summer clinical and lecture classes, in addition to ROTC scholarships and University incentives. Students spend three weeks working in a military hospital.

Scholarships

All freshman, sophomore, and graduate students may compete for ROTC scholarships covering full tuition and fees. All Army ROTC scholarship recipients also receive $300-$500 per month for up to ten months of each school year, plus a $1,200 allowance per school year for books. Students need not be enrolled in Army ROTC to apply for and compete for three- and two-year scholarships. No commitment is incurred until the student accepts an offered scholarship and receives payment for school expenses. For more information, call the Army ROTC department at (503) 943-7353.

UNIVERSITY CENTERS

Garaventa Center for Catholic Intellectual Life and American Culture

Rev. Gary Chamberland, C.S.C., interim executive director

Jamie Powell, director

The University of Portland Garaventa Center for Catholic Intellectual Life and American Culture was dedicated in 2005 as a gift of the Garaventa family of Concord, California.

The Garaventa Center has firmly established itself as a place of conversation, study, and consideration of the Catholic intellectual and social traditions from which the University draws its inspiration. The Garaventa Center fosters an ongoing conversation that is morally, ethically, and spiritually grounded, through a variety of programs including lectures, symposiums, art exhibits, and conferences. As Catholic, the Garaventa Center's commitment is informed by the values that stem from the recognition that all life is a gift from a loving Creator, that all human beings have intrinsic dignity, and that the goods of the earth and the goods of human ingenuity have been given by God for the sake of all God's creatures. As Holy Cross, this commitment is to excellence in teaching in an environment that fosters the development of the whole person— the heart and the mind— to contribute to a just and lasting social order. The Garaventa Center is especially committed to challenging the students at the University of Portland to draw on the wisdom and living tradition of the Church to integrate faith and reason into every facet of their lives.

The University of Portland Garaventa Center for Catholic Intellectual Life and American Culture is located in Suite 214 in Buckley Center and can be contacted at (503) 943-7702 or powell@up.edu.

University Center for Entrepreneurship

Peter Rachor, director

Robin D. Anderson, Ed.D., Franz Chair in Entrepreneurship

The University of Portland Center for Entrepreneurship was established in 1998 through a generous seed endowment by Robert W. Franz. Cross-disciplinary activities of the center make a positive impact on students, faculty, alumni, and supporters of all five colleges of the University. The Center forms partnerships with the Portland entrepreneurship community to offer programs on new venture creation, social entrepreneurship, not-for-profit entrepreneurship, global entrepreneurship, and innovation and technology management. The University of Portland $100K Challenge is administered by the Center. This program is an event designed to motivate and support University of Portland students in creating new world-class ventures. Participants form teams which are judged by panels of entrepreneurs, venture capitalists, and other successful professionals who evaluate the teams' business plans and presentations, awarding up to $100,000 in cash prizes, investment capital and services to the finalists of the competition. This experience provides opportunities for hands on learning and the possibility of launching meaningful student lead businesses.

The Center also administers the annual Bauccio Lecture in Entrepreneurship, crafted to bring national and international leaders in entrepreneurship to the campus. The endowed lecture series is named for its founders, Fedele Bauccio '64, '66, and his wife Linda.

The Center for Entrepreneurship is located in Buckley Center, Room 216, (503) 943-7769, or ecenter@up.edu.

Learning Resource Center

Norah Martin, Ph.D., director

Br. Thomas Giumenta, C.S.C., learning assistance counselor

The Learning Resource Center, located in Franz Hall room 120, serves the mission of the University and of the College of Arts and Sciences by providing comprehensive learning support including peer assistants for writing, math, speech, group process, and international languages, as well as a language lab and a professional learning assistance counselor.

The Learning Resource Center provides students with out-of-class assistance that supplements classroom instruction and, in some cases, can make the concepts of a subject clearer. Assistants provide knowledgeable feedback on assignments, software allows more time to practice international languages, and the learning assistance counselor can suggest breakthrough strategies that assist student learning.

A lounge area in the Learning Resource Center is available for students who wish to study or who are waiting for an appointment with an assistant.

UNIVERSITY ACADEMIC REGULATIONS

The following articles set forth the rules and regulations of the University whereby the deans administer the academic affairs of the respective college and schools under the coordinating direction of the provost. All students, including those who participate in intercollegiate athletics, are responsible for knowledge of these regulations and will be governed by them. Additional regulations for graduate students can be found in the Graduate School section.

I. Code of Academic Integrity

Academic integrity is openness and honesty in all scholarly endeavors. The University of Portland is a scholarly community dedicated to the discovery, investigation, and dissemination of truth, and to the development of the whole person. Membership in this community is a privilege, requiring each person to practice academic integrity at its highest level, while expecting and promoting the same in others. Breaches of academic integrity will not be tolerated and will be addressed by the community with all due gravity.

The University of Portland defines academic integrity as "openness and honesty in all scholarly endeavors." This standard is to be upheld by faculty, students, administration, and staff to the extent that their roles in the University involve or influence scholarly activities, both on and off campus.

The University expects each faculty member and each student to engage in and promote scholarship in such a way that peers and experts will recognize his or her work as a scholarly undertaking, thorough and consistent with regard to the standards of one's discipline, appropriately cautious and self-critical, and cognizant and respectful of the contributions of others, including differing or opposing points of view.

The University's interest in maintaining compliance with this standard is grounded in nothing less than its identity as a scholarly community in the Roman Catholic tradition. As a Roman Catholic institution of higher learning, the University seeks to provide an educational opportunity for its students within a Judeo-Christian context that promotes respect, honesty, and fairness in service to God and neighbor. In the words of its mission, the University is committed to providing "an environment that fosters development of the whole person," including the moral and ethical self, and to promoting "a concern with issues of justice and ethical behavior" that is "central to the daily life of the University."

As a scholarly community, the University believes that it is vital to the academic process, as well as desirable in itself, to maintain an environment in which ideas, accomplishments, and information can be exchanged freely and creatively without misgivings as to the honesty and openness of one's colleagues. Beyond this, the University's stature and reputation as a scholarly community depend on the quality of its research and pedagogy, as well as its ability to certify its achievements in these areas. In conferring credentials, recognizing competencies, and awarding degrees, honors, promotions, and distinctions to students, faculty, and other associates of the University, it is imperative that the University have full confidence that all concerned parties have conducted themselves in accordance with its standard of academic integrity.

In line with this, the University holds that a consistent, active commitment to its standard of academic integrity not only benefits all members of the University community, but also is the responsibility of each and every member, without exception. Thus, each person who participates in the mission of the University of Portland and shares its privileges is accountable to the University not only for his or her own actions with regard to the standard of academic integrity, but also for the actions of groups of which he or she is a part. Furthermore, each person is responsible for encouraging academic integrity in others by means of direct communication and personal example, for discouraging breaches of academic integrity, for confronting persons who commit breaches, and for reporting breaches to the appropriate authorities.

Guidelines for Implementation of the University's Code of Academic Integrity

Examples of Violations of Academic Integrity

Violations of academic integrity include cheating, forgery and plagiarism. The following are presented as examples only, not as a comprehensive list. For further examples or more precise information, one should consult the recognized sources of authority in a particular field of study. Students should consult directly with their teachers. Ignorance of these or other breaches of academic integrity will not be deemed by the University as an excuse for failure to meet its expectations.

Cheating — Cheating is the violation of the letter or spirit of an academic endeavor in order to gain an advantage, put someone else at a disadvantage, or both. It includes, but is not limited to: [1] using or attempting to use unauthorized materials, notes,

information, and study aids on an examination;[2] copying someone else's paper; [3] fabricating or falsifying information; [4] submitting the work of another as one's own; [5] using or circulating previous examination materials without the instructor's permission; [6] submitting the same work for more than one class without the permission of both instructors; [7] accessing or using computer information without authorization; [8] encouraging, assisting, or otherwise facilitating any violation of academic integrity; [9] any form of intentional obstruction or destruction that inhibits the progress, accomplishment, or evaluation of academic endeavors in order to gain an advantage, put someone else at a disadvantage, or both.

Forgery — Forgery refers to falsifying or inventing information, data, or citations. It includes, but is not limited to: [1] fraudulently using academic records; [2] falsifying or inventing academic credentials or letters of recommendation; [3] falsifying official signatures of any member of the University community; [4] altering documents affecting academic records.

Plagiarism — Plagiarism is the use or representation of words or ideas of another without attribution, so that they appear to be one's own. It includes, but is not limited to: [1] using another's words, ideas, methodology, or formulation of a problem without proper acknowledgment; [2] using approximate wording or paraphrasing inappropriately; [3] claiming someone else's work as one's own; [4] allowing students or research assistants to gather research information without recognition of their work; [5] failure to acknowledge all sources of information or contributions to an assignment or other academic work.

Levels of Violations

All violations of academic integrity will be penalized as appropriate. In determining the appropriate penalty, consideration should be given to the knowledge-level and experience of the person committing the violation, the degree of intention in the violation, the nature of the violation, and whether of not this is a first offense or a repeat offense.

Level 1 — Level 1 violations may occur because of the violator's lack of knowledge in cases where this knowledge could be reasonably expected. The violation is not intentional and is the first offense. In general, the nature of the violation is minor and may involve only one assignment in a course. Penalties are educative rather than punitive, and may include: [1] making up the assignment; [2] requiring the student to rewrite a paper for a minimally passing grade; [3] requiring acquisition of specific knowledge related ethics; [4] community service for a specified number of hours.

Level 2 — Level 2 violations are of a more serious nature. The violation occurs when the violator has some knowledge or experience and the violation was committed with some degree of intent. Penalties may include: [1] an academic warning for a stated period of time (not to exceed one year) during which time any further violation will constitute grounds for a Level 3 penalty; [2] assigning no credit to the work; [3] assigning a failing grade in the course; [4] writing a short paper on the ethical issues related to the violation and what was learned from the experience.

Level 3 — Level 3 violations are of a very serious nature. The violation is intentional and premeditated. It directly benefits the violator or harms others, or both. The nature of the violation is major. Repeated Level 2 violations may constitute a Level 3 offense. Mitigating circumstances may include the acceptance of responsibility by the violator when confronted. Penalties may include: [1] academic probation for a stated period of time (may exceed one year and include the loss of some or all benefits of programs, university related scholarships, and the like); during this time any further violation will constitute grounds for a Level 4 penalty; [2] assigning a failing grade in the course; [3] restitution for damages; [4] probated suspension from the University for one or more semesters with notification that further violations will result in dismissal from the University; [5] withdrawal of University funding.

Level 4 — Level 4 violations are the most serious violations. The violation is intentional and premeditated. It directly benefits the violator and harms others. Repeated Level 2 or 3 violations may constitute a Level 4 offense. Penalties may include: [1] dismissal from the University; [2] permanent notation on the student's transcript; [3] restitution for damages; [4] revocation of an awarded degree.

Procedures for Addressing Violations

All individuals accused of a violation of academic integrity have the right to notice of the specific charges, a fair consideration of the charges, a fair review of the evidence, and confidentiality as allowed by law and in fairness to other affected persons.

Any person who believes that there has been a violation of this policy and wishes to report it, should report it to an appropriate faculty member. In some cases the faculty member will be the only person aware that there may have been a violation.

The faculty member will: a) Meet with the student to discuss the incident and to determine if a violation occurred. b) Gather and preserve any relevant evidence. c) Document the incident and the evidence as soon as possible. d) If a violation is deemed to have occurred, prepare a report for the student's dean, including a description of the incident, the evidence, and the penalty. Where the penalty requires the powers of the dean to implement it, the faculty member will make a recommendation of the

appropriate penalty. e) Normally the faculty member is expected to take action and/or make a recommendation within one week after receiving a report or witnessing an incident.

The dean will: a) Review the report, including any recommendation. b) Maintain a file of all reports.

If the dean agrees that a violation has occurred, he or she will: a) Determine an appropriate penalty if further action is necessary, document the violation, and notify the provost. b) In appropriate circumstances, obtain the approval of the provost before taking further action. c) Inform the student in writing of the charge and the penalty.

If the dean disagrees with the recommendation of the faculty member, he or she will notify the faculty member of this determination his or her reasons for disagreement.

Appeals

Students may appeal the decision of the dean. Such appeals will follow the University of Portland appeals process as published in the *University Bulletin* under "Grading Appeals27."

II. Course Registration

1. The dates for registration of students in both semesters and summer session are set forth in the University calendar contained in this *Bulletin*.
2. Providing the general requirements for admission to the University are met, the dean of each college or school of the University has the sole right to admit and register students in his or her college or school.
3. Students will not receive credit for any class for which they are not properly registered. Students who register for a class, fail to attend, and fail to withdraw properly will be assigned a grade of F for the course.
4. No one may register for any course after the latest date for registration. Students may change courses (drop/add) with the permission of the dean of the college or school involved during the first week at the beginning of the semester.
5. Students may not register for more than 18 semester hours of credit (twelve semester hours in the summer session), without the consent of their dean.
6. The University reserves the right to cancel courses for which there is not sufficient registration, to close enrollment in courses which are filled, and to modify course offerings when necessary. Every effort will be made to announce such changes promptly.
7. The dates for closing the late registration and the latest date for dropping or adding of classes are listed in the University calendar.
8. Registration is not complete until a student has been cleared by the Office of Student Accounts (by payment of all tuition and fees by the tuition due date.) The University reserves the right to cancel the registration of any student who has not been cleared once the semester has begun.
9. Advanced undergraduate students may enroll in a graduate course for either undergraduate credit or reservation for possible graduate credit. The written approval of the department chair, dean, and graduate program director is required.
10. Certain departments/schools offer courses which represent guided inquiry by special arrangement with faculty members, or which carry varying amounts of credit based upon the level of work being submitted. These directed study or variable credit courses require the written approval of the instructor and dean of the school in which the course is offered.
11. Students who register for classes but decide not to attend them must cancel their registration in writing at the Office of the Registrar by the last day for registration. If classes have begun, students must follow the withdrawal procedure.

III. Course Requirements

1. If an instructor is 10 minutes late, the class is considered dismissed.
2. The instructor of a class determines the requirements for the successful completion of a given course. The instructor will inform students in writing of these requirements and grading policies within the first week of the opening of the class. In those cases in which a student misses class meetings due to participation in activities which are officially approved by the provost, the student will be permitted to fulfill the missed requirements of the course.

3. As a general standard, one semester credit hour is to represent 45 hours of student involvement. In the fall and spring semesters the portion of this involvement that is dedicated to recitation or lecture is established as 55 minutes in length per week over 14 weeks. In summer sessions and in other time-shortened arrangements an equivalent of this dedication is required exclusive of registration and final examination periods.

IV. Examinations

In courses that require semester examinations, the examinations are to be given only during the scheduled times published by the registrar. During the week prior to final examination week, no examinations may be given, except in laboratory practica. All classes must meet during final examination week and in accordance with final exam schedule.

V. Grades and Credits

1. **Midterm Grades and Academic Warning** Instructors are required to give a mid-term grade to each student in 100 and 200 level courses at the mid-point of each semester. These grades are entered in the student's record but they do not become a part of the academic history that appears on their transcript. In upper-division courses, instructors should provide either mid-term grades for the entire class, or give a written academic warning to each student who is failing or near failing. A copy of this warning will be turned in to the Office of the Registrar.
2. **Change of Grade** No one but the instructor of a course can give a grade in that course or change a grade once given. The change of any grade other than the I , IP, or original data entry error must be justified in writing to the associate provost.
3. **Grade Report** A grade report for each student is available online during the week following the close of each semester. A paper copy will be mailed to the student's permanent address upon request. Grades will not be released or redirected over the telephone. If a student has any account balances or obligations such as tuition, library or parking fines, loans, etc., a hold will be placed on grade reports, transcripts, and/or diplomas until paid.
4. **Grading System** The grading system is based upon achievement in course work attempted. The grades and points of this grade point average (G.P.A.) system are as follows:

Points per Semester Hour Grade

A	**4.0**	**C**	**2.0**
A-	3.7	C-	1.7
B+	3.3	D+	1.3
B	3.0	D	1.0
B-	2.7	D-	.7
C+	2.3	F	.0

In addition, the following symbols are used:

P — Pass

NP — No Pass

AD — Audit

I — Work Incomplete

IP — In Progress (given only for Thesis 599 and other approved courses)

W — Withdrew (with permission)

NG — No Class Grade Register Submitted

The G.P.A. is the total points divided by the total semester hours in which grades of A through F are received. All courses which the student does not successfully complete will be denoted on the transcript by the symbol I, IP, F, or NP.

5. **Incomplete** The grade I is allowed only with the approval of the dean. An incomplete may be given when a student needs no further formal instruction but is unable to complete some requirement of the course due to circumstances beyond their control. The instructor must inform the dean in writing of their reasons for the incomplete and the agreed upon date for completion of the requirement (not to exceed one year). The I will convert to an F if the requirement is not completed by the deadline.

6. **Pass/No Pass** Certain courses, because of their content and scope, are graded on the pass/no pass basis. These courses are determined by the dean of the college or professional school which offers the courses involved upon recommendations of the faculty of a department or professional school. Such courses will not be subject to the regulations on student options below. Courses that are required by the University core, college curriculum, or departmental program may not be taken pass/no pass. To fulfill the remaining credit hours for graduation, three courses may be taken pass/no pass. The student must have the approval of his/her academic advisor and dean. Courses attempted under the pass/no pass system and completed successfully will carry academic credit, while unsuccessful performance will carry no credit but will be listed on a student's transcript. However, neither result will be included in the computation of the grade point average. Grades assigned will include P for performance ranging from D- to A and NP for F. The instructor will not be made aware that a student is enrolled under the system. The grades he/she submits will be translated into either a P or an NP by the registrar. Within the parameters above, one change in registration from regular status to pass/no pass or vice versa will be allowed in a given course up to the date listed in the University calendar.
7. **Repeating Courses** Only courses in which a grade of C-, D+, D, D-, F, or NP has been received may be repeated at the University of Portland for academic credit. A course may be repeated only once and only the latest grade is included in the computation of the G.P.A. and the total number of credit hours required for graduation. Both courses and grades will remain on the permanent academic record, with the original course denoted by the symbol E. While courses repeated at the University of Portland may change one's grade point average, equivalent courses taken at another institution, even when fulfilling University requirements, cannot be used to replace any course or grade entered on the permanent academic record, or to change one's University of Portland G.P.A.
8. **Withdrawal** To receive a W, a student must officially withdraw from a course in which he/she chooses not to continue. The withdrawal is effective the date it is filed in the registrar's office, and in no instance later than the date listed in the University calendar. Students who seek an exception from this regulation for individual courses after the deadline must meet with the appropriate department head and academic dean who will make a recommendation to the associate provost in accord with Reg. XI e. In no instance will a request be considered for a late withdrawal from an individual course without academic penalty that has not been forwarded with the recommendation of the academic dean.
9. **Leave/Readmission** Students must be continuously enrolled during fall and spring semesters or seek a leave of absence. A leave form may be secured from the registrar. Students must secure the requisite signatures on the form in order to obtain an approved leave. Students who are not enrolled and do not seek a leave must apply for readmission. Readmission is not automatic and requires approval by the dean of admissions.
10. **Medical Leave of Absence** Medical leave of absence is designed to allow an undergraduate or graduate student to pursue treatment for medical or psychiatric conditions, or to accommodate students too ill to complete the semester. A granted medical leave allows a student to leave school for not more than one year without subsequent academic penalty, and with minimal financial implications. The student will have grades of W recorded for the semester of departure. For full details, please review the "Medical Withdrawal Policy" found in the Financial Aid Handbook at www.up.edu/finaid/handbook. A medical leave of absence is granted at the discretion of the Office of the Provost; however, requests for a medical leave of absence originate at the University Health Center.

To return after a medical leave, a student must present appropriate documents to the University Health Center.

Grading Appeals

Students are responsible for maintaining standards of academic performance established for each course in which they are enrolled. Whenever students believe that their work has been improperly evaluated or that they have been treated in a capricious or prejudiced manner, they are expected to discuss this directly with the faculty member involved. If, after earnest inquiry, the matter remains unreconciled, the students may seek assistance through the following steps:

1. Appeal the question to the head of the department (unless the department head is a party to the grievance).
2. Submit the appeal to the dean of the academic college. The dean together with the department head will take all reasonable and proper actions to resolve the question at their level.
3. Should the aggrieved students believe that their rights were abridged at the departmental and college levels, they may file a request for review with the associate provost, making clear the substance of the appeal. The associate provost will consult with the dean, the department head, and the faculty member and student involved and make a recommendation regarding the issue: that the original evaluation and decision should stand; or that there appears to have been unfair evaluation or treatment by the instructor. In the latter instance, the associate provost will suggest that the instructor correct the wrong.

VI. Advanced Placement

College credit can be awarded on the basis of satisfactory scores on Advanced Placement (AP) and International Baccalaureate (IB) examinations. Three or more semester hours' credit may be granted for each AP examination passed with a score of 4 or 5 and higher level IB examinations passed with a score of 5 or better. There is no grade attached to Advanced Placement or International Baccalaureate credit and it is not included in the grade point average of the student.

VII. Course Challenge

Students may challenge courses and/or receive advanced placement with credit by permission from their academic dean and on certification from the head of the department which offers the course. Courses may be challenged only once. Courses may not be challenged in which the student has been previously enrolled at the University of Portland. Forms for requesting approval to challenge courses and for certifying credit are available in the Office of the Registrar, and must be presented to the proper academic dean before examination is taken.

VIII. Probation and Dismissal Due to Poor Scholarship

Any student who earns a semester G.P.A. below 2.00 will be placed on academic probation. A student who does not have a 2.0 G.P.A. at the 60 credit hour benchmark, may be dismissed. Furthermore, the records of those students who withdraw from more than four credit hours during a semester will be reviewed by the dean. When the academic progress of such a student is judged unsatisfactory, that student will be placed on academic probation.

If at the end of the next regular semester the student is not placed on probation, the student returns to regular academic standing. A student who is placed on probation for two semesters in any twelve-month period may be dismissed from the University.

In addition, regardless of the number of semesters on probation, a student may be dismissed if, in the opinion of the dean, the student's academic progress is inadequate to assure successful continuation at the University. Students who have been dismissed from the University for academic reasons may appeal in writing to the Academic Standing Committee for a review of the decision of dismissal and/or for re-admission to the University. The letter should be addressed to the associate provost, who is chair of the Academic Standing Committee. It is only with the approval of this committee that a student, once dismissed, may be re-admitted to the University.

IX. Transfer of Credits

1. Transfer to the University or from one college or school within the University to another may be made only with the approval of the dean in each area. For students who transfer within the University, courses common in requirements to all schools and divisions of the University will be accepted in transfer and both credit earned and grade received shall be used in computing the G.P.A. of the student. Other courses may be accepted at the discretion of the dean and shall be used in computing the G.P.A.
2. If, after enrolling in a degree program at the University of Portland, a student wishes to take a course at another institution and use it toward the degree, prior approval of the student's academic dean should be obtained. Official transcripts of credits earned in other institutions (high school, college, or university) must come directly from the school to the University of Portland.

X. Student Classification

1. Undergraduate degree-seeking students are classified as freshmen if they have earned less than 30 semester hours; as sophomores if they have earned at least 30 semester hours; as juniors if they have earned at least 60 semester hours; and as seniors if they have earned at least 90 semester hours.
2. Special students are those who qualify by maturity and ability to perform satisfactorily at the university level, but who fail to meet the requirements for freshman or advanced standing.
3. Nonmatriculated students are those who have been admitted in order to register for credit but who have not been accepted into any degree program at the University. See the Office of Admission235s section of this *Bulletin* for specific requirements for admission to this student status.

4. Postgraduate students are those who have earned an undergraduate degree and are in a program that leads to a certificate or other non-degree credential.
5. Graduate degree-seeking students are those who have earned a baccalaureate degree and who have been accepted into a program leading to an advanced degree.

XI. Graduation and Degrees

1. In order to earn a baccalaureate degree, students must successfully complete at least 120 semester credit hours, and more in most programs. The particular requirements in each college or school are listed under each program in this *Bulletin*. A minimum of 30 semester hours at the University of Portland is required for a degree. Normally, these 30 semester hours must be those which immediately precede the completion of degree requirements. It is expected that students will complete all of the upper-division courses in their major at the University of Portland. However, the deans of the schools or colleges may accept up to 25 percent of the upper-division major course requirements in transfer from other accredited institutions. Students seeking a second baccalaureate degree from the University are required to complete an additional 30 semester hours at the University and fulfill the course requirements of the college or school in which the second degree is sought.
2. In addition to satisfying the above requirements, students must have a cumulative G.P.A. of at least 2.0 in courses taken at the University of Portland, and a 2.0 average in their major field.
3. The undergraduate and graduate degrees listed elsewhere in this *Bulletin* are granted by the University through the College of Arts and Sciences and the various schools. (For master's degree requirements, refer to the Graduate School181 chapter of this *Bulletin*.
4. Eligible candidates for graduation should file an application for degree with the registrar the semester prior to the semester in which they expect to graduate but no later than the date specified in the academic calendar.
5. Although a number of administrative and faculty advisors are ready to help students in planning and checking the progress of their degree program, the final responsibility for completing all requirements for a degree rests with the student. If a student has not satisfied all of the requirements, the degree for that student will be withheld pending adequate fulfillment.

XII. Honors at Graduation

Honors for undergraduate degrees at graduation are determined one semester prior to graduation by computing the G.P.A. in all courses (both University of Portland and transfer) applicable toward graduation. Transfer students who have not completed 30 semester hours in residence by one semester prior to graduation will be evaluated at the conclusion of all work. Fall semester graduates are included with the subsequent spring semester and summer semester graduates are included with the previous spring semester in determining honors at graduation. Honors are based on the following formula: within a given college or school, summa cum laude will be awarded to the student receiving the award for high scholastic achievement and to all students receiving a 4.00 G.P.A.; maxima cum laude to the next 3%; magna cum laude to the next 7%; cum laude to the next 10%.

XIII. Miscellaneous Regulations

1. **Applicability** Students and University personnel are bound by all published University rules and regulations.
2. **Administrative Withdrawal** The University reserves the right to withhold or terminate the privilege of attending the University when such official action is deemed advisable or necessary in the interest of the student or of the University or both. When such action involves termination of attendance within a semester or session, it shall be termed "Administrative Withdrawal.'' An appropriate record shall be kept in the confidential files of the vice president for student affairs and a notation of such action shall be kept in the student's file in the Office of the Registrar.
3. **Course Numbers** The number assigned to a course indicates in a general way its academic level. Generally, courses numbered in the one hundreds (1xx) are for freshmen; courses numbered in the two hundreds (2xx) are for sophomores. Courses numbered in the three hundreds (3xx) are upper-division courses for undergraduates only. Four hundred courses (4xx) are principally for upper-division undergraduate students, but a limited number of such courses may be applied toward advanced degrees with the permission of the department head and the associate provost. Five hundred courses (5xx) are graduate courses which may be taken for undergraduate credit by advanced students with the permission of the head of the department in which the course is taught and the dean of the college. Courses numbered in the seven hundreds (7xx) are reserved for continuing education credit courses ordinarily not acceptable as fulfilling requirements in programs leading to academic degrees. Course numbers in the eight hundreds (8xx) are reserved for non-credit continuing education courses.

Course numbers in the nine hundreds (9xx) are reserved for continuing education courses taken for continuing education units (CEUs) only.

4. **Dean's List** The undergraduate dean's list is compiled at the end of each semester by the Office of the Registrar. To qualify for the dean's list, a student must complete at least 12 semester hours of credit which count toward their grade point average; receive a grade of C or above in all classes which count toward their grade point average, receive no F or NP grades; and earn a semester G.P.A. of 3.50 or higher. There is no dean's list during the summer or in the Graduate School.
5. **Exceptions** Exception to any academic regulation is permitted only for extraordinary reasons, and then only by the provost's office.
6. **Student Address** Students are required to report in writing or online to the Office of the Registrar their off-campus, local address and any changes of address, both local and permanent, each semester. (Note: Residence hall students' addresses are automatically recorded.)
7. **Transcripts** A transcript of credit is a complete and faithful copy of the student's University academic record. Official transcripts bear the seal of the University and the signature of the registrar. Requests for transcripts must be made in writing including the student's signature. We are unable to accept telephone or e-mail requests since the student's signature is required to release their transcript. To order a transcript, please send an original, signed letter indicating where you would like your transcripts to be sent, or download and mail the transcript request form from our website at www.up.edu/registrar. Please include in your written request the following information: name(s) under which you may have attended; U.P. ID number; date of birth; and dates you attended the University of Portland. Transcripts are normally mailed within 2 working days of receiving the request. You can order a rushed transcript for an additional fee and it will be processed immediately. Please allow additional days for processing if you attended the University prior to 1983. The University will not issue transcripts for anyone with outstanding account balances or obligations. Note: For transcripts from previous educational institutions attended, students must contact each institution directly.
8. **Withdrawal** The student who withdraws from all classes at any time during the school year must complete the withdrawal form available from the Office of the Registrar. Failure to do so will result in responsibility for grades submitted by the instructors.
9. **University Communication** All University of Portland students, faculty, and staff are required to obtain access to the University network, the campus portal (PilotsUP,) and a University of Portland e-mail account (@up.edu) for communication purposes. Communication from University offices is posted on the campus portal or sent to the up.edu address and students, faculty, and staff are responsible for any information that is conveyed.

XIV. Records

Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights include:

1. The right to inspect and review the student's education records within 45 days of the day the University receives a request for access. A student should submit to the registrar, dean, head of the academic department, or other appropriate official, a written request that identifies the record(s) the student wishes to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education records that the student believes are inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA. A student who wishes to ask the University to amend a record should write the University official responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed. If the University decides not to amend the record as requested, the University will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
3. The right to provide written consent before the University discloses personally identifiable information from the student's education records, except to the extent that FERPA authorizes disclosure without consent. The University discloses education records without a student's prior written consent under the FERPA exception for disclosure to school officials

with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic, research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the University has contracted as its agent to provide a service instead of using University employees or officials (such as an attorney, auditor, or collection agent); a person serving on the board of regents; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for the University.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:

   Family Policy Compliance Office
   U.S. Department of Education
   400 Maryland Avenue, SW
   Washington, DC 20202-5901

FERPA Annual Notice to Reflect Possible Federal and State Data Collection and Use

As of January 3, 2012, the U. S. Department of Education's FERPA regulations expand the circumstances under which education records and personally identifiable information (PII) contained in such records – including Social Security Number, grades, or other private information – may be accessed without student consent. First, the U.S. Comptroller General, the U.S. Attorney General, the U.S. Secretary of Education, or state and local education authorities ("federal and state authorities") may allow access to student records and PII without student consent to any third party designated by a federal or state authority to evaluate a federal or state-supported education program. The evaluation may relate to any program that is "principally engaged in the provision of education," such as early childhood education and job training, as well as any program that is administered by an education agency or institution. Second, federal and state authorities may allow access to education records and PII without student consent to researchers performing certain types of studies, in certain cases even when they object to or do not request such research. Federal and state authorities must obtain use-restriction and data security promises from the entities that they authorize to receive student PII, but the authorities need not maintain direct control over such entities. In addition, in connection with statewide longitudinal data systems, state authorities may collect, compile, permanently retain, and share, without student consent, PII from education records, and they may track student participation in education and other programs by linking such PII to other personal information that they obtain from other federal or state data sources, including workforce development, unemployment insurance, child welfare, juvenile justice, military service, and migrant student record systems.

Directory Information FERPA allows the University to provide "directory information" to others without a student's consent. Directory information is information that is generally not considered harmful or an invasion of privacy if released. If you do not want the University to disclose directory information without your prior consent, you must notify the registrar in writing by the end of the first week of classes. In the event that such written notification is not filed, the University assumes that the student does not object to the release of the directory information. Directory information includes: name; address; telephone number; e-mail address; name(s) and address(es) of parent(s); country of citizenship; major field of study; enrollment status (full-time, part-time); participation in recognized activities and sports; weight and height of members of athletic teams; photographs; dates of attendance; degrees, honors and awards received; class-year in school; and previous educational institutions attended.

Disciplinary Records All records of disciplinary proceedings are maintained through the Office of the Vice President for Student Affairs. Such records are destroyed seven years after the last entry into the student's record. (In compliance with the Clery Act (20 USC § 1092 (f).) Information in these records is not made available to persons other than the president of the University, the vice president for student affairs, and student affairs office staff on a need-to-know basis, and as allowed or required in compliance with Federal Law 20 USC §1092, and USC § 1232.

Counseling Records Counseling records are privileged and confidential as required (and except as limited) by law in accordance with state and federal statutes and regulations. Generally, information may not be disclosed to another person or agency outside of the University Health Center (including parents, teachers, or residence life staff) without the written consent of the student.

Medical Records Medical records are privileged and confidential as required (and except as limited) by law in accordance with state and federal statutes and regulations. Generally, information may not be disclosed to another person or agency outside of the University Health Center (including parents, teachers, or residence life staff) without the written consent of the student. Medical records may be released to necessary personnel to appropriately respond to an emergency.

Records Not Available to Students or Third Parties The following items are not available to students or outside parties: alumni giving records; campus safety and security records for law enforcement purposes; parents' financial information;

personal records kept by individual staff members; score reports of standardized tests; student employment records; and transcripts of grades sent by other educational institutions.

Enrollment Certification

The University can certify a student's enrollment status for the current semester or for past enrollment semesters. Requests for the current semester are processed after the end of the first week of classes. Current enrollment status is based on the number of registered semester credit hours. Undergraduate full-time enrollment is 12 semester hours (6 in summer). Graduate full-time enrollment is 9 semester hours (5 in summer). Students should submit requests for enrollment certification in writing to the Office of the Registrar. After the first week of the semester, allow one week for processing, not including time needed for the certification to travel by mail. Students can order a rushed enrollment certification for an additional fee and it will be processed immediately. Most certifications for auto insurance, credit card applications, travel discounts, etc., will be referred to the National Student Clearinghouse. Definitions of full- and part-time status are used for enrollment certification purposes only, not for financial aid purposes. See Financial Aid Handbook for specific information about financial aid at www.up.edu/finaid/handbook.

Additional Academic Regulations for Graduate Students

Please note that additional regulations for graduate students are found in the Graduate School181 section.

WILSON W. CLARK MEMORIAL LIBRARY

Drew Harrington, M.L.S., dean

Faculty: Hinken, Mann, Michel, Parks, Senior, Sotak

Introduction

The Clark Memorial Library will be under renovation from the spring of 2012 through late summer of 2013. For up-to-date information regarding library hours and services, please consult the library website at http://library.up.edu or call the library at 503-943-7111.

Since 1958, the Wilson W. Clark Memorial Library, named for the lumberman and civic leader whose family generously supports the University, has played a central role in campus life as a dynamic teaching library. In addition to its primary teaching mission, the library combines the latest information technology and digital resources with traditional collections to serve students, faculty and staff seeking information and pursuing knowledge. Visit the library's home page at http://library.up.edu.

Mission

The Wilson W. Clark Memorial Library serves the University of Portland community as a dynamic teaching library. The library accomplishes this through interactive instruction, by acquiring and organizing multi-format collections that support the curriculum, and by facilitating access to resources in the library and beyond.

Services

The library faculty and staff provide on-campus and distance education instruction, research expertise, library digital and print collection development, and day-to-day library assistance.

Reference librarians provide one-on-one research support and teach course specific information literacy sessions on how to find, evaluate, and apply information resources.

The library's interlibrary loan/document delivery department requests and rapidly delivers electronic and print materials not held in our collections.

The library's circulation department manages checkout of library materials and assists students and faculty with both electronic and print course reserves.

The library Multimedia Lab is available for the University community to create and edit multimedia assignments and products. Media collections are also available for checkout or library use.

The technical services department of the library manages the collections and creates and maintains the library on-line catalog and related discovery tools.

Electronic Resources and Traditional Collections

The library subscribes to an extensive collection of electronic resources—subject research databases, e-journals, and e-books. The library faculty and staff work with students and faculty to facilitate access to these powerful information resources.

Traditional print and media collections in the library number more than 250,000 items, providing a rich and ever-evolving selection of books, journals, CDs, DVDs, e-books, streaming videos, and subject databases.

The Clark Memorial Library collections, built collaboratively by librarians and subject faculty, are mindfully selected to support and enrich the University curriculum. Thousands of electronic, print, and media resources are added annually to support a broad range of disciplines and interests, reflecting the academic offerings of the University. The library also offers curriculum-focused special collections in Catholic theology and philosophy, and American history. Additionally, the library conserves a collection of over 1,000 rare books and manuscripts housed in the library's Special Collection room. These materials are available for use through special arrangement.

University of Portland students, faculty, and staff can tap into more than 28 million additional library resources through SUMMIT borrowing, available through the University's membership in the Orbis Cascade Alliance Consortium. SUMMIT borrowing is a simple, user-initiated service available on the Clark Memorial Library web pages. Students and faculty can search and select resources from the collections of 36 academic libraries in Oregon and Washington and quickly have them delivered to the Clark Library. SUMMIT borrowing also allows the University of Portland community to borrow on-site from any of the consortium libraries.

Library Hours and Contact Numbers

The library telephone number is (503) 943-7111 or (800) 841-8261 (toll-free). The fax number is (503) 943-7491. Library hours are:

Monday-Thursday	7:30 a.m. until midnight
Friday	7:30 a.m. until 9 p.m.
Saturday	10 a.m. until 9 p.m.
Sunday	10 a.m. until midnight

Special hours are posted for exam times, summer session and for times when school is not in session.

Archives and Artifacts

Rev. Robert C. Antonelli, C.S.C., Ph.D., archivist

Rev. Jeffrey Schneibel, C.S.C, archivist

These adjunct collections are located in the basement of Shipstad Hall. The archives houses collections of historical documents, publications, and photographs relating to the history of the University. The archives is open to researchers Monday through Friday, from 8 a.m. to 4 p.m., and the University archivist may be reached by phone at (503) 943-7116. Also see the archives webpage at http://library.up.edu/default.aspx?cid=1517&pid=59.

The museum houses a display of photos and artifacts connected with the history and development of the University. Students and faculty are encouraged to visit the museum, which is open to visitors and researchers Monday through Friday, 8 a.m. to noon, and 1 p.m. to 4 p.m. The museum curator may be reached by telephone at (503) 943-8038.

COLLEGE OF ARTS AND SCIENCES

Michael F. Andrews, Ph.D., interim dean

Norah A. Martin, Ph.D., associate dean for curriculum

Terence G. Favero, Ph.D., associate dean for faculty

James G. Stemler, Ph.D., interim associate dean for students

Introduction

The College of Arts and Sciences (CAS) provides the "Core" education in the liberal arts for all students at the University of Portland and offers bachelor of arts degrees or bachelor of science degrees in 26 majors and 20 minors through 14 departments. Besides its responsibility for the core program, the College of Arts and Sciences supports the professional schools through courses in mathematics, physics, biology, communication studies, English, and other disciplines. Graduate programs are offered in communication studies, drama, and theology.

Some students within the College or in the professional schools choose to enrich their educations or to prepare for their chosen careers by obtaining a double major or minor: for example in nursing or engineering and Spanish, biology and chemistry, business and organizational communication. Over 50 percent of students in the College study abroad, and many participate in faculty-sponsored research projects, internships, or service learning.

Faculty in the College are reflective teachers, who continually seek for ways to improve their teaching while maintaining an active agenda of research and scholarship. Each faculty member advises students, serving as a mentor and model for the student's progress in study and preparation for a life of service and leadership. Advisors in pre-law and pre-med assist students who are preparing for careers in those professions.

The College is home to mission-centric programs in Catholic studies, social justice, and environmental science, and to departments of philosophy and theology, which promote ethical reflection and the integration of faith and reason. The College supports the Learning Resource Center for English, mathematics, international languages, speech, and group process, and encourages student involvement through clubs sponsored by each department and through the College's Student Advisory Council. Each year the English department sponsors the Northwest Undergraduate Conference in Literature (NUCL) and the history department publishes its award winning journal, *Northwest Passages*.

All students at the University of Portland are welcome to audition for plays, to sing in the chorale, or to play in musical ensembles. All are invited to join the prize-winning debate team or to compete in Mock Trial.

Three programs in the College are externally evaluated: music (NASM), drama (NAST), and social work. The other programs conduct program reviews every five years in addition to yearly self-assessment. The College as a whole is assessed by the Northwest Association of Colleges and Universities as part of the University of Portland's periodic assessment.

Mission

The College of Arts and Sciences serves the academic mission of the University of Portland by providing the University's core curriculum and by offering excellent undergraduate majors and minors in 14 departments and in select graduate programs. At the heart of a Catholic university, guided by the Congregation of Holy Cross, the College's faculty are committed to the model of reflective teaching and scholarship that promotes excellence in teaching and learning, value-centered instruction, and personal advising and attention to the student. The aim is to educate the whole person: head and hands, intellect and skills, faith and values, ethics, and a capacity for service and leadership.

Students of the College of Arts and Sciences are a community of learners, who are engaged in active learning both inside and outside the classroom, faculty-guided student research, international study, and interdisciplinary inquiry. They learn to pursue high standards of academic and professional excellence, while preparing for a variety of careers or advanced study and becoming lifelong learners who are also caring and responsible community leaders.

As a careful steward, the College engages in ongoing planning, which includes regular assessment of its programs, fundraising to support its faculty, students, and programs, and communication with local, regional, and national communities.

College Requirements

The undergraduate programs are designed to build on the University's core curriculum to educate students so that they will make contributions to the world guided by concerns for issues of justice and ethical behavior. In addition to the University core, the college requires courses in communication and metaphysics.

College Learning Objectives and Outcomes

In addition to the outcomes for their degrees and their majors, graduates of the College of Arts and Sciences will be able to:

1. Communicate effectively;
2. Understand how problems in metaphysics are related to problems in other academic disciplines or to problems in every day life.

Effective Communication

The CAS core communication requirement helps students learn to explain and, in some courses practice aloud, how people use communication to exert influence, acquire knowledge, create identities, and foster relationships through written or oral communication.

Learning Outcomes for Effective Communication

Students taking CST 107, ENG 107, CST 332, or ENG 311 for the Effective Communication requirement will be able to:

1. Understand the nature of a particular communication genre.
    a. Comprehend the **elements** of a particular communication genre.
    b. Comprehend the **rules and norms** associated with skilled practice of a particular communication genre.
    c. Comprehend that skilled communication in a particular genre involves **multiple stages**.
2. Improve their ability to achieve goals using a particular communication genre.
    a. Demonstrate ability to adapt communication (i.e., content, organization, language, style) to audiences.
    b. Demonstrate ability to accomplish goals using a particular communication genre.

Metaphysics

Metaphysics is the study of the most basic and general features of reality and our conceptions of them. In the courses that fulfill the metaphysics requirement, PHL 331-337, students critically examine the ideas and traditions of western civilization, further preparing students to critically and thoughtfully engage the core questions: Who am I? Who am I becoming? Why am I here? Who or what is God? How can one relate to God? Among the topics studied in the various courses that fulfill the metaphysics requirement are:

- The nature and existence of God
- Free will and determinism
- The nature of Being
- Personal identity over time
- The mind/body problem
- The immortality of the soul

Additionally, by investigating implicit assumptions and implications of the other disciplines, the metaphysics requirement enables students to better grasp the nature and value of those studies. The metaphysics requirement will allow students to acquire the skills to engage in in-depth analysis of basic concepts of reality fundamental to understanding issues in other disciplines, thereby preparing them for a life of thoughtful reflection. For example, metaphysics complements and deepens students' studies in theology through its investigation of ontological questions. While only one metaphysics course is required, students are encouraged to take more than one so that they have the opportunity for in-depth investigation of additional basic concepts of reality.

Learning Outcomes for Metaphysics Courses:

In addition to learning objectives specific to the individual courses that fulfill the metaphysics requirement, all metaphysics courses will enable students to:

1. Engage with problems in metaphysics that are related to problems in other academic disciplines and to problems in everyday life;
2. Read original texts on metaphysical problems in a competent manner;
3. Comprehend major figures and issues relevant to a particular area of metaphysics;
4. Write technically competent essays that display critical awareness of issues in metaphysics.

Programs of Study

The College of Arts and Sciences awards both the bachelor of arts (B.A.) and bachelor of science (B.S.) degrees. Degree programs are designed in accordance with the principles of the liberal arts to ensure appropriate breadth and depth. All the programs approximate the following distribution:

- 1/3 of the courses are in the major with at least 24 credits of upper division work in a single discipline.
- 1/3 of the courses are in the University core program.
- 1/3 of the courses are college and degree requirements or electives.

A minimum of 120 credits is required for a degree with at least a 2.0 grade point average in the major discipline. At least 48 credits must be upper-division work with at least 75 percent of these credits earned at the University of Portland. Specific requirements can be found throughout this document.

Across most academic institutions, the scope of the academic program or a course of study determines if a B.A. or B.S. degree is awarded. In general, the majority of B.A. degrees provide breadth in the liberal arts and for a major in one or more areas. B.S. degrees typically have considerably more depth in a particular field of study and may include courses in closely related fields or with professional or technical emphasis, while also providing for a foundational liberal arts education.

Bachelor of Arts

A bachelor of arts (B.A.) degree generally provides a comprehensive liberal arts education with a major in one or more specific areas. The B.A. degree provides the opportunity to develop breadth in the knowledge of arts, humanities, natural sciences, quantification and social and behavioral sciences. In general, the B.A. degree has fewer major and prerequisite hours, more liberal arts electives hours, and foreign language experience.

Learning Outcomes for the Bachelor of Arts Degree

In addition to the outcomes for their majors, B.A. degree students will:

1. Develop an appreciation of multiple disciplinary perspectives on enduring questions;
2. Attain intermediate proficiency in a language other than English.

Requirements for the Bachelor of Arts Degree (B.A.)

The degree requires 15 credits of upper-division learning outside the primary major. Nine of these credits must come from at least three different college disciplines outside the primary major.

Recognizing that proficiency in other languages prepares the student to live and work in the international global community and fosters an appreciation for other cultures, every student in B.A. degree programs will demonstrate proficiency through the intermediate level in one language. This requirement may be satisfied in the following ways.

1. Four years of high school study of one language with grades of C or above or study of one language through the intermediate level at a nationally accredited college or university with grades of C or above.
2. Completion of French, German, or Spanish 202, or 12 credits of Chinese.
3. International students whose first language is not English.

Bachelor of Science

A bachelor of science (B.S.) degree generally provides for in-depth study within a major discipline or may integrate knowledge from more than one discipline and include a foundational liberal arts education. The B.S. degree generally requires in-depth study within the major field and/or may involve additional supporting technical or professional coursework. B.S. degrees have more major and prerequisite hours and may typically lead to a specific or professional career path.

Learning Outcomes for the Bachelor of Science Degree

In addition to the outcomes for their majors, B.S. degree students will:

1. Incorporate expertise from related disciplines to foster professional development;
2. Attain in-depth knowledge of a chosen discipline.

Major Programs

Biology, B.A.

Biology, B.S.

Chemistry, B.S.

Communication, B.A.

Organizational Communication, B.S.

English, B.A.

Environmental Ethics and Policy, B.A.

Environmental Science, B.S.

General Studies, B.A.

General Studies, B.S.

History, B.A.

French Studies, B.A.

German Studies, B.A.

Spanish, B.A.

Mathematics, B.A.

Mathematics, B.S.

Drama, B.A.

Music, B.A.

Philosophy, B.A.

Physics, B.A.

Physics, B.S.

Political Science, B.A.

Psychology, B.A.

Social Work, B.A.

Sociology, B.A.

Theology, B.A.

Minor Programs

Minor programs are offered by most departments in the College of Arts and Sciences. Minors consist of no fewer than 12, nor more than 18, credit hours of upper-division courses, excluding prerequisites. Academic regulations governing courses applied to major programs also apply to minors. Transfer credits applied to a minor may not exceed 25% of the total number of hours required for the minor. Students must achieve a minimum average of 2.0 in their minor fields.

Biology

Prerequisites: BIO 206-207, BIO 276-277.

Required: 15 upper-division hours and at least two courses must include a laboratory component.

Catholic Studies

Required: PCS 300 and PCS 452 and 12 upper-division hours from Program in Catholic Studies (PCS) listed courses:

At least three of which must be:

PCS 334, PCS 435, PCS 472, PCS 469, PCS 402, PCS 422, PCS 425, PCS 438, PCS 441, PCS 442, PCS 453, PCS 456, PCS 457, PCS 463, PCS 482, or PCS 486.

At least six of which must be:

PCS 350, PCS 351, PCS 320, PCS 323, PCS 330, PCS 332, PCS 426, PCS 456, PCS 459, PCS 333, PCS 335, PCS 345, PCS 354, PCS 467, PCS 400, PCS 426 or a PCS summer study abroad program.

Chemistry

Required: 15 upper-division hours. All prerequisites for these courses must be satisfied.

Communication

Required: 15 upper-division hours. All prerequisites for these courses must be satisfied.

Drama

Prerequisite: DRM 210

Required: 16 upper-division hours which must include:

- DRM 321
- DRM 350
- **One history elective**: DRM 407 or DRM 408
- **One design practicum elective:** DRM 351, DRM 353, DRM 363, or DRM 365
- **One theory elective**: DRM 310, DRM 333, DRM 427, DRM 450, or DRM 471
- **One production practicum course:** DRM 372

English

Prerequisite: ENG 112

Required: 15 upper-division hours with at least 6 hours taken at the 300 level and at least 6 hours taken at the 400 level.

Environmental Policy

Required: 16 upper-division hours.

- **One of the following biology courses with lab**:

Ecology and Lab (BIO 442/472), Marine Biology of the Pacific Northwest and Lab (BIO 338/368), Lake and Stream Biology and Lab (BIO 391/392);

- **One of the following theology courses**:

Ecology in Theological Perspective (THE 328) or Theological Environmental Ethics (THE 327), or Theology in Ecological Perspective (THEP 482);

- **Two courses from the following list**:

Environmental Policy (ENV 349), Food Politics and Policy (POL 338), North-South Relations in a Globalized World (POL 462), Business in a Political World (POL 379), Social Work for Sustainable Communities (SW 456), Law and the American Judiciary (POL 405), International Law and Organization (POL 351), Women, Theology, and Globalization (THE 458), or American Public Policy (POL 335) (6 hours); and Environmental Economics (ECN 322) (3 hours).

Environmental Science

Required: 16 upper-division hours comprised of

- **One of the following**:

Ecology in Theological Perspective (THE 328) or Theological Environmental Ethics (THE 327) or Theology in Ecological Perspective (THEP 482) (3 hours);

- **Ecology with lab (BIO 442/472) (4 hours);**

- **9 hours from the following list**:

Animal Behavior (BIO 347), Lake and Stream Biology (BIO 391), Lake and Stream Biology Lab (BIO 392) The Nature of Plants (BIO 341), Field Botany (BIO 371), Marine Biology of the Pacific Northwest (BIO 338), Marine Biology Lab (BIO 368), Vertebrate Biology (BIO 345), Vertebrate Lab (BIO 375), Environmental Geoscience (ENV 383), Remote Sensing and GIS (ENV 384), Environmental Microbiology (ENV 385), Environmental Chemistry (ENV 386), Environmental Lab (ENV 387), Air Pollution (ENV 391), Conservation Biology (BIO 391), Entomology (BIO 391), Environmental Engineering (CE 367), Analytical Chemistry (CHM 314), Analytical Labs (CHM 374/379), Advanced Instrumental Methods (CHM 412), or Advanced Instrumental Techniques (CHM 472) (9 hours).

Fine Arts

Prerequisites: 12 credits in lower-division (to include FA 125, FA 207, and at least three different introductory-level studio courses).

Required: 12 upper-division credits (to include FA 350 and FA 351 and 6 additional hours). Salzburg students may substitute FA 203 and 304 for FA 207 and 351, respectively, and may substitute 3 upper-division fine arts credits for FA 350. Salzburg students who take FA 203, 304, and 207 (on campus) are not required to take FA 350 and 351 but must complete 12 upper-division credits in fine arts.

French

Prerequisite: 12 lower-division hours or equivalent.

Required: 12 upper-division hours.

German

Prerequisite: 12 lower-division hours or equivalent.

Required: 12 upper-division hours, including at least one 400-level GRM course.

History

Prerequisite: One 200-level History course.

Required: 15 upper-division hours.

Mathematics

Required: 15 upper-division hours except MTH 387.

Music

Prerequisites: Music 001 (two semesters), MUS 101, MUS 103, MUS 286 (2 semesters), and 2 semesters of one or more of the following: MUS 243, MUS 244, MUS 245, MUS 252, MUS 253. (Total: 8 Credits)

Required: 12 upper-division hours including:

- MUS 303
- MUS 486 (two semesters)
- **Two semesters of one or more of the following**: MUS 443, MUS 444, MUS 445, MUS 452, MUS 453
- **Five credits of Music Electives**, only two of which may be lessons or an ensemble.

Neuroscience

Prerequisites: PSY 101 and BIO 205.

Required: 15 upper-division hours which must include:

- PSY 301
- PHL 332
- BIO 342

At least 6 hours from the following list: PSY 315, PSY 330, PSY 340, PSY 380, PSY 430, BIO 307/377, BIO 308/378, BIO 347. Students must take at least 12 of the required 15 upper-division hours outside their designated major. Only 3 hours can overlap between a major and a minor. Typically, psychology majors would take 6 hours of biology electives and biology majors would take 6 hours of psychology electives.

Philosophy

Prerequisites: PHL 150 and PHL 220.

Required: 15 upper-division hours including at least one course from PHL 331-335 and at least three 400-level PHL courses.

Physics

Prerequisites: PHY 204-205.

Required: 15 upper-division hours; up to three hours of advanced laboratory credit may be included.

Political Science

Prerequisite: Any 200-level political science course except POL 292.

Required: 15 upper-division hours.

Psychology

Prerequisite: PSY 101.

Required: 15 upper-division hours.

Social Justice

Required: SJP 300 and SJP 452 and 12 upper-division hours from Social Justice Program (SJP) listed courses distributed among three academic disciplines. A PCS summer study abroad program may also fulfill up to 6 upper-division credit hours

Sociology

Prerequisite: SOC 101.

Required: 15 upper-division hours.

Spanish

Prerequisite: 12 lower-division hours or equivalent.

Required: 12 upper-division hours.

Theology

Prerequisites: THE 101 and THE 205.

Required: 15 upper-division hours, selected in consultation with the department advisor, with no more than 6 hours coming from any one sub-discipline of theology. In addition, at least 9 of these 15 hours must be at the 400-level. The other 6 hours may be fulfilled either by taking courses at the 300-level or the 400-level, or by taking a 300 or 400-level course and a THEP offering. (Courses taken at a 300-level may not be retaken at a 400-level, or vice versa.)

Interdisciplinary Minors

Catholic Studies Minor

Academic Advisor: Rev. Charles B. Gordon, C.S.C., Ph.D., theology

Program Administrator: Norah A. Martin, Ph.D., associate dean, college of arts and sciences

Through the Catholic studies minor students seek to understand the mutual influences of Catholic Christianity and world cultures over the course of 2,000 years. Drawing on the resources of many departments at the University of Portland, students will study how faith and reason have shaped Catholic texts, systems of thought, institutions, and devotional practices and how Catholic Christianity has contributed to world cultures through works of charity, justice, and peace up to the present day. At the same time, students will engage in rigorous assessment of the Church's contributions to intellectual, cultural, spiritual, and social developments, in order to achieve a mature understanding of the Church's role.

Besides providing opportunities to explore the dynamic and mutual interaction between the Church and cultures, the minor challenges students to add their own transformative contributions to the rich and living tradition of Catholic Christianity. The Catholic studies program encourages participation in its summer study abroad programs.

The Catholic studies minor provides opportunities for students to engage in sustained reflection on the Catholic tradition and to experience its many facets — intellectual, spiritual, liturgical, artistic, and service. Because it is necessarily interdisciplinary and promotes the study of faith and service, the Catholic studies minor clearly manifests the mission of the University of Portland.

Learning Outcomes for Catholic Studies Minors

Catholic studies graduates at the University of Portland should be able to:

1. Identify informing principles of Catholic thought and culture through examples from selected times and places.
    a. Explain orally and in writing informing principles of Catholic thought and culture.
    b. Explain orally and in writing how these principles are instantiated in various times and places.
2. Explain how expressions of Catholic faith and thought influence surrounding cultures and, in turn, are influenced by them.
    a. Explain orally and in writing how Catholic faith and thought influences at least one culture in which they are found.

   b. Explain orally and in writing how at least one culture in which Catholic faith and thought are found has influenced that faith and thought.

3. Explain how Catholic faith and thought inform social justice and service.

   a. Engage in an applied internship in a Catholic social service setting.

   b. Engage in analysis and systematic reflection on the connection between that internship and the principles of Catholic thought and culture, both orally and in writing.

Capstone Experience

Students pursuing the Catholic studies minor will participate in a three-credit Capstone Seminar in Catholic Studies and Social Justice that includes students completing their social justice capstone experience. This seminar requires all participants to engage in an applied internship in a social service setting. Students in the Catholic studies program are required to do their internship in a Catholic social justice setting and to write a final paper in which they identify the Catholic principles that inform the agency for which they work, how the work they did was an expression of Catholic faith and thought, and how this Catholic service agency influences the surrounding culture and is influenced by it. Students are also required to publicly present their papers.

Requirements

1. 18 credit hours of upper division PCS courses which must include: SJP 300 (Catholicism and the Religious and Theoretical Roots of Social Justice) and SJP 452 (Capstone Seminar in Catholic Studies and Social Justice), 3 credits from PCS courses in Catholic Thought, and 6 credits in PCS courses in Catholic Culture.
2. Attendance of at least two events sponsored by the Garaventa Center for Catholic Intellectual Life and American Culture, or by the Moreau Center for Service and Leadership. A brief summary and evaluation of the event will be submitted to the academic advisor for the program after attendance at the event.
3. Attendance of the final reception: There will be a final reception and the awarding of a certificate of completion for students in both the Catholic studies and social justice programs.

Neuroscience Minor

Advisors: Jacqueline Van Hoomissen, biology

Susan Baillet, psychology

Neuroscience is an interdisciplinary area of study that brings together courses in psychology, biology, and philosophy in seeking to understand how the brain and nervous system acquire, process, and integrate information from the environment, how this information brings about complex behaviors of the organism, and how this impacts our understanding of the nature of the human person.

Learning Outcomes for Neuroscience Minors

1. The student will be able to describe the basic anatomy and physiology of the nervous system, and application to and limitations in explaining the implications of neuroscience in higher functions such as learning, emotions, sexual behavior, memory, language, mental illness, and conceptions of freedom, consciousness and moral responsibility.
2. The student will be able to describe neuroscience phenomena at the molecular, cellular, systems and behavioral levels. This may include how external influences such as emotional experience, pre- and post-natal environment, and drug abuse alter the function and development of the nervous system.
3. The student will be able to critically evaluate the implications of neuroscience for the nature of the human person.

Requirements

Required prerequisite courses — 6 hours: PSY 101 (General Psychology) and BIO 205 (Foundations of Biology) or BIO 207 (Introductory Cell Biology and Genetics).

1. Required introductory course — 3 hours: PSY 310 (Behavioral Neuroscience).
2. Elective courses — 6 hours from the following courses: PSY 315 (Evolutionary Psychology), PSY 330 (Cognition), PSY 340 (Sensation and Perception), PSY 380 (Abnormal Psychology), PSY 430 (Psychology of Language), BIO 307 (Human Anatomy), BIO 308 (Human Physiology), BIO 347 (Animal Behavior).

3. Required supporting course — 3 hours: PHL 332 (Metaphysics: Philosophy of Mind).
4. Required summative course — 3 hours: BIO 342 (Neurobiology).

Note: In fulfillment of the minor, students must take at least 12 of the required 15 hours of upper division coursework outside their designated major. Students and advisors should note that only 3 hours can overlap between a major and minor. Typically, psychology majors would take 6 hours of biology electives and biology majors would take 6 hours of psychology electives. All students would take PHL 332.

Social Justice Program Minor

Academic Advisor: Lauretta C. Frederking, Ph.D., associate professor, political science

Program Administrator: Norah A. Martin, Ph.D., associate dean, college of arts and sciences

The social justice program is open to all students from any major or school at the University. The social justice program instills in students a commitment to work for justice and peace and for an approach to life that promotes social integrity, economic prosperity and defense of human rights for all.

The service dimension of learning at this university is expressed in a unique and effective way within the social justice program. It challenges students to place their personal development and career choices into an ethical world view within an interdisciplinary context.

This program is open to a wide range of religious denominations or to those with no explicitly religious affiliation. All participants, however, will study principles of social justice rooted in the principles of Catholic Christianity. All participants in this program prepare themselves to challenge unjust systems and become better leaders who will create a better world.

The program includes courses in is curriculum from disciplines such as business, education, English, history, mathematics, philosophy, political science, sociology, and theology. The program leads to a minor in social justice.

Learning Outcomes for Social Justice Minors

Social justice graduates at the University of Portland should be able to:

1. Demonstrate a broad understanding of the Catholic Church's social justice tradition and other systemic approaches to and conceptualizations of social justice.
    a. Identify and explain central concepts of the Catholic social tradition.
    b. Identify and explain the scriptural and doctrinal roots of the Catholic social tradition.
2. Articulate an understanding of social justice from a variety of perspectives; religious, psychological, historical, cultural, and organizational.
    a. Identify and explain a variety of non-Catholic religious approaches and perspectives on social justice.
    b. Identify and explain various non-religious approaches and perspectives on social justice.
3. Demonstrate leadership.
    a. Engage in an applied internship in a social service setting.
    b. Observe and examine how leaders can promote social responsibility in organizational settings.
    c. Engage in academic analysis and systematic reflection on the connection between that internship and conceptions of social justice, both orally and in writing.

Capstone Experience

Students pursuing the social justice minor will participate in a three-credit Capstone Seminar in Catholic Studies and Social Justice that includes students completing their Catholic studies capstone experience. This seminar requires all participants to engage in an applied internship in a social service setting. Students in the social justice program may choose the social service agency at which they pursue their internship from a wide variety of agencies. They are also required to write a final paper in which they engage in academic reflection and analysis on the connection between their internship and various conceptions of social justice, including, but not limited to, the Catholic Church's social justice tradition. Students are also required to publicly present their papers.

Requirements

1. 18 hours of upper division SJP courses from at least three different academic disciplines, including SJP 300 (Catholicism and the Religious and Theoretical Roots of Social Justice) and SJP 452 (Capstone Seminar in Catholic Studies and Social Justice).
2. Attendance of at least two events sponsored by the Garaventa Center for Catholic Intellectual Life and American Culture, or by the Moreau Center for Service and Leadership. A brief summary and evaluation of the event will be submitted to the academic advisor for the program after attendance at the event.
3. Attendance of the final reception: There will be a final reception and the awarding of a certificate of completion for students in both the Catholic studies and social justice programs.

Degrees and Programs

College Requirements, B.A. — 21-33 hours

Effective Communication – 3 credits

Choose one of the following

CST 107	Effective Public Speaking	3
ENG 107	College Writing	3
ENG 311	Advanced Writing	3
CST 332	Collaborative Group Leadership	3

Metaphysics – 3 credits

PHL 331-337	One course	

Upper division hours outside the primary major – 15 credits

9 of which must come from at least 3 different disciplines in the College of Arts and Sciences. This requirement is not fulfilled by the University core.

Intermediate level of one language 0-12 credits

Total Credit Hours: 21-33

College Requirements, B.S. — 6 hours

Effective Communication – 3 credits

Choose one of the following

CST 107	Effective Public Speaking	3
ENG 107	College Writing	3
ENG 311	Advanced Writing	3
CST 332	Collaborative Group Leadership	3

Metaphysics – 3 credits

PHL 331-337	One course	

Total Credit Hours: 6

Biology

Jacqueline D. Van Hoomissen, Ph.D., chair

Faculty: Ahern-Rindell, Alexander, Beadles-Bohling, Brown, Favero, Flann, Greaves, Kodadek, Lafrenz, Maginnis, O'Reilly, Sullivan, Taylor, Van Hoomissen

The Department of Biology strives to achieve excellence in the teaching of science to all levels of undergraduate students. Students majoring in biology achieve comprehensive preparation for careers as future scientists, health care practitioners, and technical personnel. Students in these majors acquire a breadth of knowledge along with technical and analytical skills, while reflecting on ethical values that link science and society. In an increasingly technological world, educated citizens need value-based scientific expertise and skills in critical thinking. Undergraduate research is emphasized throughout the curriculum, reinforcing independent learning and allowing students to develop talents in critical thinking and problem solving while refining advanced laboratory or field skills in observation and data collection. Students in nursing, education, and environmental studies complete biological coursework relevant to their professional training. B.S. and B.A. degrees in biology are offered; a minor is available in biology. A concentration in biology is offered through the environmental studies program.

Programs of coursework to prepare for post-graduate study or employment in many areas of health science, biology, and environmental studies are offered by the Department of Biology. Students should consult with their academic advisor or with the health professions advisors to develop a schedule of courses that will meet individual educational goals.

The Department of Biology oversees a comprehensive undergraduate program for students preparing to enter a variety of health professions, including medicine, dentistry, dental hygiene, pharmacy, occupational therapy, optometry, physical therapy, physician's assistant, podiatry, veterinary medicine, and biomedical research. The pre-health professions program at the University of Portland focuses on providing students with a solid foundation in the natural sciences within the context of a broad liberal arts education.

The University offers courses that satisfy the admission requirements for all accredited U.S. medical and dental schools, and for most other health professions programs and graduate programs in the biomedical sciences. Most professional and graduate programs require students to complete a set of prerequisite science courses, but students may complete these requirements while pursuing a degree in any academic major. The University encourages students to pursue a major of their choice and take a broad spectrum of coursework, while completing the specific requirements for a particular professional or graduate program. Students interested in the biological sciences may fulfill these requirements while completing a bachelor's degree in biology.

The Department of Biology offers supporting courses in the University's environmental studies63 program. Students interested in entering environmental careers at the bachelor degree level, or entering graduate programs in the environmental sciences may obtain a B.S. degree in environmental science with a concentration in biology. A description of this program and its requirements may be found in the environmental science section of this *Bulletin*.

Learning Outcomes for Biology Major

Biology graduates of the University of Portland should be able to:

1. Demonstrate knowledge of the levels of biological organization and the ability to integrate them: cellular/molecular, organismal, population;
    a. Demonstrate knowledge of each of the sub-disciplines of biological organization at the intermediate level and advanced level of one of the sub-disciplines.
    b. Demonstrate the ability to synthesize examples, facts, or hypotheses from more than one level of organization into a coherent whole.
2. Demonstrate the ability to integrate the physical sciences (chemistry, physics and mathematics) with biology;
    a. Demonstrate proficiency in quantitative reasoning.
    b. Demonstrate proficiency in technology literacy.
    c. Demonstrate knowledge of general chemistry and the principles of physics.
    d. Demonstrate knowledge at the introductory level of calculus, organic chemistry, and physics.
    e. Demonstrate the ability to use examples, facts, or theories from mathematics and the physical sciences in biology.

3. Employ appropriate experimental design and methods to solve problems in biology.
    a. Demonstrate the ability to apply the scientific method.
    b. Demonstrate inquiry and analytical skills.
    c. Demonstrate data gathering skills in the lab or field.
    d. Demonstrate the ability to work in teams.
4. Obtain, critically evaluate, and communicate biological information.
    a. Demonstrate information literacy.
    b. Demonstrate effective written communication.
    c. Demonstrate effective oral communication.
5. Demonstrate knowledge of contemporary social and ethical issues related to biology and the professional responsibilities of a biologist.
    a. Demonstrate ethical reasoning.
    b. Demonstrate knowledge of professional ethics and scientific integrity.

Scholarship Requirements

Students are required to complete BIO 206/276 and BIO 207/277 as part of the Biology major requirements for the B.A. and B.S. degrees, as well as the Biology minor. These courses represent foundational information for the upper-division biology curriculum. An average GPA of 1.7 (C-) or better in BIO 206 and BIO 207 is required of all Biology majors and minors for entrance into upper-division biology courses.

Biology, B.A.

Degree Requirements

The B.A. major in biology is designed to allow students to combine coursework in biology with classes towards a major or minor in a liberal arts field, business, or education. It is appropriate for students preparing for admission to doctoral or master's degree programs in physical therapy, hospital administration, and genetic counseling; it can also be used to meet admission requirements for programs in occupational therapy, optometry, environmental law, scientific illustration, public health, and science communication, among many possibilities. The degree program requires 120 credit hours.

University Core Requirements — 39 hours

See Core Curriculum9

The two core science and core mathematics requirements are satisfied by the major and degree requirement classes below.

College Requirements - 21-33 hours

See College Requirements BA45

Major Requirements — 35 hours

BIO 206	Organismal and Population Biology	3
	with	
BIO 276	Organismal and Population Biology Lab	1
	And	
BIO 207	Introductory Cell Biology and Genetics	3
	with	
BIO 277	Introductory Cell Biology and Genetics Lab	1
BIO 453	Evolution	3

24 credits - Upper-division biology electives including at least three labs (taken with corresponding lectures), one from each area:

Cell labs — choose one from:

BIO 333	Genetics Laboratory	1
BIO 372	Cell and Molecular Biology Laboratory	1
BIO 376	Developmental Biology Laboratory	1
BIO 379	Microbiology Laboratory	1

Organismal labs — choose one from:

BIO 368	Marine Biology Laboratory	1
BIO 377	Anatomy Laboratory	1
BIO 378	Physiology Laboratory	1

Field-Population labs — choose one from:

BIO 371	Field Botany	1
BIO 373	Freshwater Ecology Laboratory	1
BIO 375	Vertebrate Biology Laboratory	1
BIO 392	Lake and Stream Biology Lab	1
BIO 472	Ecology Laboratory	1

A maximum of six non-classroom hours (from BIO 397/493/497/499) may be used for completion of the major.

Degree Requirements — 11-12 hours

CHM 207	General Chemistry I	3
CHM 277	General Chemistry I Lab	1
CHM 208	General Chemistry II	3
CHM 278	General Chemistry II Lab	1
MTH 161	Elementary Statistics	3
	Or	
MTH 201	Calculus I	4

General Electives — 10-23 hours

Total Credit Hours: 120

Biology, B.S.

The B.S. major in biology is designed to give students a rigorous and comprehensive background in biology, with additional supporting coursework in the physical sciences and mathematics. The program is suitable for either a terminal degree or as preparation for medical or dental schools or graduate study in the biological sciences. The degree program requires 120 credit hours.

University Requirements - 39 hours

See Core Curriculum9

The two core science and core mathematics requirements are satisfied by the major and degree requirement classes below.

College Requirements - 6 hours

See College Requirements BS

Degree Requirements

Major Requirements — 35 hours

BIO 206	Organismal and Population Biology	3
	with	
BIO 276	Organismal and Population Biology Lab	1
	And	
BIO 207	Introductory Cell Biology and Genetics	3
	with	
BIO 277	Introductory Cell Biology and Genetics Lab	1
BIO 453	Evolution	3

24 credits - Upper-division biology electives including at least three labs (taken with corresponding lectures), one from each area:

Cell labs — choose one from:

BIO 333	Genetics Laboratory	1
BIO 372	Cell and Molecular Biology Laboratory	1
BIO 376	Developmental Biology Laboratory	1
BIO 379	Microbiology Laboratory	1

Organismal labs — choose one from:

BIO 368	Marine Biology Laboratory	1
BIO 377	Anatomy Laboratory	1
BIO 378	Physiology Laboratory	1

Field-Population labs — choose one from:

BIO 371	Field Botany	1
BIO 373	Freshwater Ecology Laboratory	1
BIO 375	Vertebrate Biology Laboratory	1
BIO 392	Lake and Stream Biology Lab	1
BIO 472	Ecology Laboratory	1

A maximum of six non-classroom hours (from BIO 397/493/497/499) may be used for completion of the major.

Degree Requirements — 27-28 hours

CHM 207	General Chemistry I	3
	with	
CHM 277	General Chemistry I Lab	1
CHM 208	General Chemistry II	3
	with	

CHM 278	General Chemistry II Lab	1
CHM 325	Organic Chemistry I	3
	with	
CHM 326	Organic Chemistry II	3
CHM 375	Organic Chemistry I Laboratory	1
	with	
CHM 376	Organic Chemistry II Laboratory	1
PHY 201	General Physics	3
	with	
PHY 202	General Physics	3
PHY 271	General Physics Lab	1
	with	
PHY 272	General Physics Lab	1
	Or	
PHY 204	General Physics Lecture and Lab	4
	with	
PHY 205	General Physics Lecture and Lab	4
MTH 161	Elementary Statistics	3
	Or	
MTH 201	Calculus I	4

General Electives - 21-22 hours

7 must be upper-division if HST is lower-division

Total Credit Hours: 120

Chemistry

Kevin Cantrell, Ph.D., chair

Faculty: R.R. Bard, R.S. Bard, Cantrell, Hoffman, S.G. Mayer, Urnezius, Valente, Wood

Chemistry majors at the University of Portland have unique opportunities to serve the university and their community and to grow in their pursuit of knowledge and application of experimental techniques. The University of Portland's American Chemical Society-certified chemistry program fosters active learning through hands-on experimentation and cultivates independent and critical thinking skills. The department maintains a large array of state-of-the-art facilities and instrumentation used for teaching and faculty-student research. The chemistry department is currently made up of eight full-time faculty members, all of whom are active scholars in their respective subdisciplines. There are three options available to students pursuing a bachelor of science degree in chemistry. Each of the options provides a solid preparation for professional practice in chemistry and a variety of related areas and for entrance to graduate school. Each option requires 120 total credit hours.

Learning Outcomes for Chemistry Majors

Chemistry graduates of the University of Portland should:

1. Possess a depth of knowledge and understanding of analytical, organic, physical inorganic and biochemistry.
    a. Demonstrate and understanding of the fundamental theories of chemistry.

   b. Demonstrate an understanding of the concepts and applications of chemistry.
   c. Demonstrate knowledge of important laboratory techniques, methods, and instrumentation.
2. Obtain and use data from the chemical literature
   a. be able to perform a literature search.
   b. be able to critically read the literature and extract useful information.
   c. be able to find the primary literature for a specific topic.
3. Work effectively and with a safety-conscious attitude
   a. be able to use modern instruments to elucidate chemical systems.
   b. be able to properly use personal protection (e.g. goggles, gloves, lab coat).
   c. be able to safely handle common laboratory equipment.
   d. be able to design experiments with proper safety features.
   e. be able to access material safety and disposal information.
4. Ask questions, design experiments, and interpret results according to established scientific theory
   a. use fundamental knowledge of chemistry to form hypotheses.
   b. create and use specialized equipment to prepare the appropriate conditions for the chemistry of interest.
   c. identify meaningful results from a data set.
5. Effectively communicate orally and in writing
   a. develop an effective presentation style.
   b. effectively use figures and data to communicate ideas and results.

Scholarship Requirements

A grade of C- or better in the first semester is required for continuation to the second semester of all sequence science courses (for example: CHM 207-208 or CHM 325-326). A grade of C or higher is required in CHM 208 to continue into CHM 325. An average G.P.A. of 2.0 must be maintained in all science, mathematics, and engineering courses required for the major.

Chemistry, B.S.

University Requirements - 39 hours

See Core Curriculum9

General Chemistry satisfies the core science requirement. Calculus satisfies the core mathematics requirement.

College Requirements - 6 hours

See College Requirements BS45

Degree Requirements

Major Requirements — 40 hours

CHM 207	General Chemistry I	3
CHM 208	General Chemistry II	3
CHM 277	General Chemistry I Lab	1
CHM 279	General & Analytical Chemistry Lab	1
CHM 314	Analytical Chemistry	3
CHM 379	Analytical Chemistry Laboratory	1

CHM 325	Organic Chemistry I	3
CHM 326	Organic Chemistry II	3
CHM 375	Organic Chemistry I Laboratory	1
CHM 376	Organic Chemistry II Laboratory	1
CHM 331	Physical Chemistry I	3
CHM 372	Physical Chemistry I Laboratory	1
MTH 201	Calculus I	4
MTH 202	Calculus II	4
PHY 204	General Physics Lecture and Lab	4
PHY 205	General Physics Lecture and Lab	4

Option 1

Requirements for Degree with American Chemical Society Certification

The department offers a curriculum for majors that is certified by the American Chemical Society. Upon notification by the department, the society issues a certificate recognizing the academic achievement of the student. In addition to the above common requirements, the following courses are required to earn an American Chemical Society certified degree.

Option 1 Requirements — 44 hours

CHM 332	Physical Chemistry II	3
CHM 373	Physical Chemistry II Laboratory	1
CHM 444	Inorganic Chemistry	3
CHM 473	Inorganic Synthesis and Characterization	1
CHM 477	Digital Data Acquisition and Instrument Control	1
CHM 412	Advanced Instrumental Methods	1
CHM 472	Advanced Instrumental Techniques	1
MTH 301	Vector Calculus	4
	Upper-division science engineering or mathematics electives	5

Upper-division science, engineering or mathematics electives (2 hours must be in chemistry). CHM 493: Research, strongly recommended.

General Electives — 24 hours

6 must be upper-division

Total Credit Hours: 120

Option 2

This curriculum is designed for the student who wants to complement an interest in chemistry with an interest in a related field such as engineering, business, computer science, education, patent law, science communication, or any of the liberal arts. Specific course recommendations are available from the department for those related areas. In addition to the core and college, and major requirements listed above, the requirements for this option are:

Option 2 Requirements — 44 hours

CHM 332	Physical Chemistry II	3
CHM 444	Inorganic Chemistry	3
CHM 473	Inorganic Synthesis and Characterization	1
	Or	
CHM 453	Biochemistry I	3
CHM 471	Biochemistry Laboratory	1
	Upper-division science, engineering, or mathematics electives	12

Upper-division science, engineering or mathematics electives (2 hours must be in upper-division chemistry). CHM 493: Research, strongly recommended.

General Electives — 25 hrs.

7 must be upper-division

Total Credit Hours: 120

Option 3

Biochemistry*

This curriculum is recommended for students who are interested in the molecular basis of biological problems and plan on pursuing advanced study in biochemistry or a medically related field. It leads to a B.S. in chemistry (biochemistry) degree. In addition to the core and college, and major requirements listed above, the requirements for this option are the following:

Option 3 Requirements — 44 hours

BIO 206	Organismal and Population Biology	3
BIO 276	Organismal and Population Biology Lab	1
BIO 207	Introductory Cell Biology and Genetics	3
BIO 277	Introductory Cell Biology and Genetics Lab	1
CHM 412	Advanced Instrumental Methods	1
CHM 472	Advanced Instrumental Techniques	1
CHM 453	Biochemistry I	3
CHM 454	Biochemistry II	3
CHM 471	Biochemistry Laboratory	1
CHM 444	Inorganic Chemistry	3
	Upper division biology electives	4
	Upper-division science engineering or mathematics electives	5

Upper-division biology electives: BIO 330/333, Human Genetics with lab, BIO 354/372, Cell and Molecular Biology with lab, BIO 359/379, Microbiology with lab, or BIO 460, Immunology strongly recommended.

Upper-division science electives (minimum of 1 in chemistry). CHM 493: Research, strongly recommended

General Electives — 15 hrs. (5 must be upper-division)

Total Credit Hours: 120

*For the ACS certified biochemistry program, students must also take CHM 332.

Communication Studies

Jeff Kerssen-Griep, Ph.D., chair

Faculty: Fletcher, Heath, Lattin, Lovejoy, Pierce, Shapiro, Simmons

The communication studies (CST) department at the University of Portland supports undergraduate and graduate degree programs in communication and organizational communication (see the Graduate School section for CST graduate degree program details), while also offering coursework that satisfies University and College of Arts and Sciences curricular requirements. The bachelor of arts degree in communication offers optional concentrations in rhetoric and media, leadership and advocacy, and journalism. The bachelor of science degree in organizational communication, crafted collaboratively with the Dr. Robert B. Pamplin, Jr. School of Business Administration, offers optional interdisciplinary concentrations in organizing and public relations, and in organizational leadership and global sustainability.

Graduates with these degrees often find work in professional communications, organizing, public relations, personnel management, social media, advertising, design, sales, development, print and online journalism, broadcasting, reporting, and technical and creative writing, among an increasing host of careers relying on advanced communication abilities of all kinds. For example, CST graduates from UP currently work in health care, journalism, environmental policy, and political advocacy; mediate collective bargaining agreements, manage employees, coordinate events, write grants, create media products, develop fundraising for nonprofits; provide training, manage and design social media, and are public relations professionals and entrepreneurs. Given the programs' global emphasis, CST graduates are also sought for Peace Corps, AmeriCorps, and other teaching positions; CST students also frequently attend graduate school and law school.

It is the mission of all communication studies (CST) programs at the University of Portland to produce ethically grounded students who apply theory and best practices in oral and written communication. The discipline is rooted in one of the original liberal arts, rhetoric, concerned with how people use symbols to reach agreements that permit coordinated efforts. CST degrees animate the heads, hearts, and hands of students who learn to facilitate meaningful interpersonal, workplace, journalistic, and public communication, mediate conflicts in contexts ranging from local to international, and advocate for truth and social good. Our undergraduates and masters degree programs rely on up-to-date scholarship to develop communication professionals invested in sustaining just relationships, organizations, and societies. Students prepare through faculty-collaborative and independent research and applied communication coursework; via internships and other community-based learning; and in co-curricular activities such as CST's Speech and Debate Union and a group, Teaching Our Leaders Civil Discourse and Service (T.O.L.C.S.), dedicated to creating experts who help facilitate sustainable civil discourse in society. The department's award-winning teaching faculty are active scholars committed to integrating social justice and reason in their work.

Learning Outcomes for Communication Studies Majors

Communication studies graduates of the University of Portland should be able to:

1. Demonstrate ability to apply communication concepts and theories to address everyday dilemmas within dimensions (ethical, social, legal, technological, relational, and cultural) central to the student’s major focus.
    a. Ability to write critical analysis papers about theories’ applications and validation.
    b. Ability to analyze communication variables in personal, professional, and community settings and propose competent communication strategies.
2. Demonstrate oral communication skills expected of a future professional in the field.
    a. Ability to speak in public settings.
    b. Ability to advance decision-making processes within groups.
    c. Ability to negotiate and collaborate.
3. Demonstrate written communication skills expected of a future professional in the field.
    a. Ability to write for specific audiences and situations.
    b. Ability to apply theory to justify conclusions, hypotheses, research questions, and/or need for further study.
    c. Ability to write informatively and persuasively.

   d. Ability to write with clarity, economy, and precision.
4. Demonstrate communication research skills expected of a future professional in the field.
   a. Ability to interpret, conduct, and evaluate the quality of communication research
5. Demonstrate understanding of ethical values central to the communication discipline.
   a. Ability to understand the value of respect for diverse societies.
   b. Ability to understand the value of broad civic participation.
   c. Ability to understand the value of freedom of expression.

Undergraduates earning the bachelor of science (B.S.) degree in organizational communication additionally should be able to:

1. Demonstrate the ability to integrate communication and business scholarship for application in work settings.
   a. Ability to apply organizational and interpersonal theories to work settings.
   b. Ability to integrate communication theories and skills with knowledge about business in marketing or human resources.

Communication studies major curricula are designed to develop the abilities embodied in these learning goals. Senior students' capstone projects are the primary means by which the department assesses how thoroughly students have met these learning goals. Critical analysis and term project papers from a variety of CST courses are additional means by which the department assesses whether students have achieved these learning targets.

Capstone Experience

The communication studies capstone project demonstrates each graduate's preparation in CST learning outcomes, and it gives students their most independent opportunity to explore a phenomenon of genuine interest with faculty mentorship. During the summer prior to the senior year, each rising senior is asked to choose the 400-level CST course within which s/he will accomplish a relatively independent capstone project during the coming year; such a project takes the place of that course's major assignment for that student and is mentored by that course's professor. Several project options may be available to such students in a given course, including a standard research project within that course's content realm. Alternative project options may include a deep case analysis project, community-based grant-writing project, or applying communication scholarship to explain, evaluate, and/or improve some aspect of a community-based learning situation in which the student gets involved. Each student's project is presented orally to the University community at one of two "CST Capstone Nights" held each academic year. These projects and presentations help expose students' achievement of the performance indicators associated with each departmental learning objective.

Communication, B.A.

The bachelor of arts in communication offers a general degree program as well as three optional concentrations in which students may choose to specialize. These include journalism, rhetoric and media, and leadership and advocacy. This degree teaches about the roles interpersonal and mediated messages play in shaping personal, group, and societal attitudes, values, beliefs, and actions.

For students who wish to specialize within this B.A. program, CST's journalism concentration engages students in the evolving forms and practices of the journalism profession, including print and online journalism. These include developing abilities to gather and assess information from a variety of sources, including interviews, public meetings, databases, and public records; writing news stories that are fair and accurate; and applying the standards of the Society of Professional Journalists Code of Ethics in all arenas of professional activity.

Students pursuing CST's rhetoric and media concentration develop critical understandings about the persuasive roles various forms of media play in shaping our economy, culture, and public, political discourse. This includes developing abilities to deconstruct media messages using rhetorical and media literacy tools, and to recognize and assess the economic underpinnings and performance of mass mediated forms—including journalism (online, print and broadcast), entertainment media, public relations and advertising—in advancing and inhibiting democratic practice.

Students pursuing CST's leadership and advocacy concentration gain competency in the means by which people influence the direction and outcomes of activities that pursue shared goals within relationships and communities. Learners develop abilities to explain and apply leadership knowledge, skills, and values focused on making a difference within particular situations and contexts, attend to ethical questions attached to leading in particular contexts, and become involved in contemporary dilemmas involving multiple stakeholders embedded in diverse social and historical contexts. These students take courses such as

argumentation and advocacy, social media and culture, negotiation and conflict management, and the rhetoric of politics and social change.

Students in all concentrations are encouraged to explore various occupations via the professional training available through a variety of community-based academic internships. This degree prepares students for professional communication work and for graduate study in a variety of fields.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Communication Requirements — 42 hours

Each of the following four courses (12 hours):

CST 101	Introduction to Communication Studies	3
CST 107	Effective Public Speaking	3
CST 225	Fundamentals of Interpersonal Communication	3
CST 301	Media and Society	3

6 credits - Two of the following three research methods courses (6 hours):

CST 300	Communication Research	3
CST 320	Rhetorical Theory and Criticism	3
CST 434	Examining Organizational Communication in Natural Settings	3

Beyond these courses, students may complete their CST B.A. degree in either of two ways:

24 credits - Eight upper-division CST courses students choose in consultation with their academic advisors; at least three of those must be 400-level courses.

or

12 credits - Four upper-division CST courses students choose in consultation with their academic advisors,

plus

12 credits - Four upper-division CST courses from any one of the following three concentrations. At least three of the resulting eight courses must be at the 400-level:

Choose Leadership and Advocacy

CST 327	Argumentation and Advocacy	3

plus any three of these:

CST 307	Advanced Public Speaking	3
CST 332	Collaborative Group Leadership	3
CST 333	Applied Organizational Communication Skills	3
CST 362	Introduction to Public Relations	3
CST 401	Rhetoric of Politics and Social Movements	3

CST 402	Social Media and Cultures	3
CST 403	Communication Law	3
CST 410	Communication Theory	3
CST 416/SJP 416	Negotiation and Conflict Management	3
CST 474	Communication Studies Internship	Credit arranged.
CST 391	Seminar	Variable
	Or	
CST 491	Seminar	Variable
	Or	
CST 492	Seminar	Variable

or Rhetoric and Media- Take any four of these:

CST 320	Rhetorical Theory and Criticism	3
CST 361	Introduction to Advertising	3
CST 364	Visual Communication	3
CST 402	Social Media and Cultures	3
CST 403	Communication Law	3
CST 435	Advanced Visual Persuasion	3
CST 440	Broadcast Criticism	3
CST 445	Cinema and Society	3
CST 474	Communication Studies Internship	Credit arranged.
CST 391	Seminar	Variable
	Or	
CST 491	Seminar	Variable
	Or	
CST 492	Seminar	Variable

CST 320 recommended as one research methods course choice.

Or Journalism

CST 352	News Writing and Reporting	3
	And	
CST 403	Communication Law	3

plus any two of these:

CST 363	Online Journalism	3
CST 327	Argumentation and Advocacy	3
CST 452	Public Affairs Reporting	3

CST 463	Opinion Writing	3
CST 464	Feature Writing	3
CST 474	Communication Studies Internship	Credit arranged.
CST 391	Seminar	Variable
	And	
CST 491	Seminar	Variable
	And	
CST 492	Seminar	Variable

General Electives - 6-18 hours

Total Credit Hours: 120

Organizational Communication, B.S.

The bachelor of science (B.S.) degree program in organizational communication provides specialized, interdisciplinary instruction in professional aptitudes associated with workplace and community roles, teaching students to communicate effectively and ethically in modern organizations. This degree program offers two concentration options in partnership with the Pamplin School of Business Administration, each explaining key concepts and practices that underlie human and technical organizational communication systems.

The leadership and global sustainability concentration teaches conceptual understandings and competencies in collaborative leadership skills for a variety of 21st century organizational contexts, where “global” references concern for community and local organizing as well as international relationships, and “sustainable” emphasizes sustainable workplaces, relationships, and environments.

The organizing and public relations concentration teaches the conceptual understandings and skill competencies needed to organize, coordinate, and promote for-profit and not-for-profit organizations as well as social issues.

This degree prepares students for specialized graduate study in communication and related fields, and for professional work in several organizational roles and contexts.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 6 hours

See College Requirements BS45

Degree Requirements

Organizational Communication Requirements — 54 hours

Each of the following six courses (18 hours):

CST 101	Introduction to Communication Studies	3
CST 107	Effective Public Speaking	3
CST 233	Introduction to Organizational Communication Theory	3
BUS 200	Principles of Marketing	3
CST 225	Fundamentals of Interpersonal Communication	3
CST 332	Collaborative Group Leadership	3

6 credits - Two of the following three CST research methods courses (6 hours):

CST 300	Communication Research	3
CST 320	Rhetorical Theory and Criticism	3
CST 434	Examining Organizational Communication in Natural Settings	3

9 credits - Three upper-division CST courses students choose in consultation with their academic advisors

21 Credits - In consultation with their academic advisors, students take seven upper-division courses from among CST and BUS courses listed within either of these advisory concentrations. Students can mix courses from either concentration. A minimum of 6 credit hours must be BUS courses; a maximum of 9 credit hours can be BUS courses (21 hours total).

Choose Organizing and Public Relations

Take any seven of these, honoring relevant prerequisites:

CST 307	Advanced Public Speaking	3
CST 327	Argumentation and Advocacy	3
CST 333	Applied Organizational Communication Skills	3
CST 361	Introduction to Advertising	3
CST 352	News Writing and Reporting	3
CST 362	Introduction to Public Relations	3
CST 364	Visual Communication	3
CST 402	Social Media and Cultures	3
CST 410	Communication Theory	3
CST 433	Advanced Organizational Communication	3
CST 435	Advanced Visual Persuasion	3
CST 452	Public Affairs Reporting	3
CST 474	Communication Studies Internship	Credit arranged.
CST 391	Seminar	Variable
	Or	
CST 491	Seminar	Variable
	Or	
CST 492	Seminar	Variable
BUS 370	Marketing Research	3
BUS 371	Consumer Behavior	3
BUS 376	Sustainable Marketing	3
BUS 385	Opportunity Assessment	3
BUS 443	International Marketing Management	3
BUS 471	Integrated Marketing Communications	3
BUS 472	Personal Selling	3

BUS 474	Digital Marketing	3

or Leadership and Global Sustainability

Take any seven of these, honoring relevant prerequisites:

CST 307	Advanced Public Speaking	3
CST 327	Argumentation and Advocacy	3
CST 333	Applied Organizational Communication Skills	3
CST 352	News Writing and Reporting	3
CST 401	Rhetoric of Politics and Social Movements	3
CST 402	Social Media and Cultures	3
CST 410	Communication Theory	3
CST 411/SJP 411	Communication Across Barriers	3
CST 416/SJP 416	Negotiation and Conflict Management	3
CST 431/SJP 431	Cross-cultural Communication and Identity	3
CST 433	Advanced Organizational Communication	3
CST 474	Communication Studies Internship	Credit arranged.
CST 391	Seminar	Variable
	Or	
CST 491	Seminar	Variable
	Or	
CST 492	Seminar	Variable
BUS 360	Cross-Cultural Organizational Behavior	3
BUS 364	Innovation	3
BUS 376	Sustainable Marketing	3
BUS 385	Opportunity Assessment	3
BUS 443	International Marketing Management	3
BUS 474	Digital Marketing	3
BUS 486	Venture Launch	3
BUS 487	Social Entrepreneurship	3

Total Credit Hours: 120

General Electives — 21-24 hours (3 hours of which must be upper-division coursework)

English

Molly Hiro, Ph.D., chair

Faculty: Asarnow, Brassard, Hannon, Hersh, Larson, McDonald, Orr, Weiger

The mission of the English program at the University of Portland is to guide practice in critical reading and competent writing for all levels of University students. In the courses provided for the University's liberal arts core, as well as in those of its own major and minor, the English program increases the breadth and depth of each student's literary experience, the development of appropriate reading and writing skills, the understanding of the humane values at the center of literary study, and the appreciation of the power and pleasure of literature.

English faculty members engage the intellects and imaginations of their students through careful attention to the reading and writing of literature, its context, and its art. In addition to their classroom teaching, faculty strive to model the personal and ethical qualities inherent in the University's mission, including the discipline and commitment necessary for scholarly research and creative expression. They are committed to student-centered instruction, which develops the skills and confidence English majors need to be successful in graduate programs, as well as in a variety of careers, including teaching, law, publishing, and business.

The department offers an English major and minor. The English program offers courses in British, American, and trans-national literatures in English, and in academic and creative writing. Prospective English majors and minors should consult with the department chair about designing their programs of study.

Learning outcomes for English Majors

English graduates of the University of Portland should be able to:

1. Read a range of literature in English and exhibit a knowledge of genres, literary history, and literary criticism.
    a. Understand literature in English as a body of knowledge open to multiple interpretations.
    b. Recognize and distinguish major genres and sub-genres of literature.
    c. Develop familiarity with major periods and movements, and the influence of previous trends and styles on later authors and texts.
    d. Develop familiarity with major theoretical trends and schools of literary criticism, as they impact the critical reception(s) of texts and authors.
2. Read texts closely and think critically, with openness, confidence, and acuity — understanding that literary texts are complex and resist simple interpretation.
    a. Distinguish between a passage's literal/factual content and its figurative/symbolic/interpretive content.
    b. Identify a range of means through which a textual passage communicates.
    c. Identify significant patterns in the way a textual passage is constructed.
    d. Extrapolate the larger implications (social, philosophical, ethical, argumentative) of these patterns.
    e. Connect a passage's formal structure and thematic content with the text as a whole.
3. Write with clarity and compose well-argued essays.
    a. Understand that writing is a process.
    b. Develop focused, compelling arguments about literary texts.
    c. Present these arguments in essays marked by conceptual coherence, correct usage, and a fresh writing style.
4. Conduct productive research in literary studies, equipped with a basic understanding of the major approaches of literary criticism.
    a. Use bibliographic tools to find primary and secondary source material.
    b. Employ secondary source material in the process of developing an original argument.
    c. Recognize major schools of literary criticism.

5. Experience literature as a powerful way of knowing about cultures and the lived life.
    a. Demonstrate knowledge of the relationship between literary texts and their cultural and historical contexts.
    b. Demonstrate an understanding of how the structures, language, characters, and actions in literary texts speak to fundamental life questions.

Capstone Experience

The senior capstone project serves as the culmination of a student's preparation in the study of literature and writing. This project provides students with an opportunity for extended exploration of a topic of interest, typically generated from a course taken in the senior year. For most students, the capstone will take the form of an extended research paper. This paper will be significantly longer than other research papers the student may have written, but more importantly, it will also be more substantive. Research will make the student something of an expert on the topic chosen, and the capstone project will represent the student's contribution to the critical conversation of the discipline of English. The Senior Capstone Project *Handbook* (via a link on English Department website at http://college.up.edu/english/) contains more details about the proposal process, types of projects that are acceptable, and the full timeline from junior to senior year.

English, B.A.

The English program provides students with courses of study that will develop both academic and creative writing, an understanding of language, and a critical engagement with literature. To achieve these objectives, English majors are expected to develop and refine their writing abilities and critical understanding of language and literature through extensive reading and discussion.

All students who desire to major in English will be required to complete 28 upper-division credit hours of English courses approved by the department chair and demonstrate satisfactorily their possession of the basic skills of literary criticism and research through completion of ENG 225. After being accepted as English majors the students will, in consultation with their advisors, decide upon a program of studies best suited to their needs and interests, whether in preparation for teaching, advanced study, professional writing, or other vocations in which their liberal education may prove an asset. In their senior year, all English majors write a senior paper as a Capstone experience.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Major Requirements — 31 hours

ENG 225	Introduction to Literary Studies	3

Three Historical Survey courses— 9 credit hours, total:

One Medieval-to-18th-century course:

ENG 320	Anglo-Saxon and Medieval Literature	3
ENG 324	Renaissance British Literature (1500-1660)	3
ENG 325	18th Century British Literature	3

One 19th-century course or one more from the list below:

ENG 344	Romantic Literature 1785-1830	3
ENG 345	Victorian Literature 1830-1900	3
ENG 354	American Literature Beginnings -1865	3
ENG 355	American Literature 1864-1914	3

One 20th-century course:

ENG 346	Modern British Literature 1900-1945	3
ENG 347	British Literature Since 1945	3
ENG 356	American Literature 1914-1945	3
ENG 357	American Literature 1945-Present	3

Two 400-level English courses— 6 credit hours, total:

which may also take care of the below Genre or Topics course requirement; Education/English majors must take ED 410 as one of these courses

ENG 420	Otherness in Early British Literature (1000-1700)	3
ENG 430/SJP 430	International Literature of Peace and Justice	3
ENG 460	Contemporary American Poetry	3
ENG 461	Oregon and Northwest Writers	3
ENG 470	City Life in American Literature	3
ENG 471	American Romanticism	3
ENG 473	African American Writers	3
ENG 480/SJP 480	Postcolonial Literature and Culture	3
ENG 491	Two one-time courses	3

ENG 493, 497, and 499 do not count toward this requirement

Two genre or topics courses— 6 credit hours, total

includes 400-level courses and all 300-level courses not listed above

Two English elective courses— 6 credit hours, total

Capstone Project

ENG 499	Senior Thesis	Variable

One ENG 499

for honors, 3 credit hours

General Electives — 17-29 hours

Total Credit Hours: 120

Historical survey courses broadly approach the literature of historical periods studying the major genres in the context of their time and place. Genre/topic courses focus more narrowly on a single topic, genre, or author.

300-level courses: emphasize close readings of primary texts and introduce the critical conversation surrounding the course topic. 400-level courses: increase the amount and intensity of reading and writing, requiring students to enter the critical conversation through a guided research project.

Environmental Science

Steven A. Kolmes, Ph.D., chair

Russell Butkus, Ph.D., B.A. track director

Barnes, Butler, Butkus, Hill, Wasowski

We live in an era of climate change, concerns about environmental toxins, and diminishing forests and fisheries. We also live in an era of alternate energy innovations, vibrant public discourse, and a new ethos of sustainability. The environmental science department prepares B.A. majors in environmental ethics and policy and B.S. majors in environmental science to serve as leaders in this 21st century of challenges and opportunities. The department gives all its majors, regardless of the track they pursue, an understanding of the scientific implications of environmental concerns, and the theological, philosophical, economic, and political issues at the heart of this challenge. The department is also dedicated to creative interaction with other schools of the University, such as the environmental engineering track in the civil engineering degree program, and the sustainable entrepreneurship offerings in the Pamplin School of Business Administration. Taken together, this encourages a rich and constructive conversation on our campus that centers on the place of humankind and human activities in an environmentally sustainable future.

The goal of the environmental science department program is to graduate students who have gained enough insight into the present environmental situation, and the interconnected elements involved in discerning a path towards sustainability, to provide leadership as environmental professionals. As Oregon's Catholic university, the University of Portland is perfectly situated as a place where the discussion of moral and ethical dimensions of environmental decisions is part of normal discourse.

B.A. and B.S. majors are brought together several times in the course of their undergraduate work: in the University's core curriculum courses, in environmental science courses, laboratories, field trips, and in a senior capstone seminar which involves case studies and team-approach problem-solving in regional environmental issues.

Minors are available in environmental science and in environmental policy.

Learning Outcomes for Environmental Science Majors

Environmental ethics and policy and environmental science graduates of the University of Portland should be able to:

1. Demonstrate a proficient understanding of the ethical and social dimensions of environmental issues, in a manner consistent with the curriculum of their specific major program.
    a. Level of sophistication indicating mastery of ethics and policy material that is contributed to group discussions of environmental issues for the BA majors.
    b. Level of sophistication indicating a broad understanding of ethics and policy material that is contributed to group discussions of environmental issues for the B.S. majors.
2. Demonstrate a proficient understanding of the scientific dimensions of environmental issues, in a manner consistent with the curriculum of their specific major program.
    a. Level of sophistication indicating mastery of scientific material that is contributed to group discussions of environmental issues for B.S. majors.
    b. Level of sophistication indicating a broad understanding of scientific material that is contributed to group discussions of environmental issues for B.A. majors.
3. Obtain and use scholarly information related to environmental issues and sustainability.
    a. Demonstrate facility in finding and using scholarly materials.
    b. Reference scholarly materials properly in written reports.
4. Effectively communicate orally and in writing.
    a. Develop well-constructed, researched and presented Powerpoint presentation in a research group.
    b. Write a well-constructed and researched report.
5. Synthesize and integrate material in an interdisciplinary team-structured project.
    a. Contribute to a group product, as demonstrated by synthesizing and integrating material from that project in written reports.
    b. Connect to materials provided by group members with varied backgrounds.

Capstone Experience

It is required that students earning a B.A. or B.S. degree in environmental science participate in an environmentally-oriented capstone experience during the spring semester of their junior or senior year. This capstone experience provides students with an opportunity to synthesize their diverse course material into a cohesive and integrated body of knowledge. The capstone

experience in environmental science is achieved through the ENV 400— Integrating Seminar in Environmental Studies course. Students research a current environmental issue in the Pacific Northwest, working on sub-tasks as interdisciplinary teams, each of which includes both ethics/policy and science majors. Their findings, conclusions and recommendations are presented on Founders Day near the end of the spring semester.

Environmental Ethics and Policy, B.A., Requirements

The University's bachelor of arts in environmental ethics and policy is designed to provide students with a firm foundation in environmental science and ecology and the influence these sciences have on the development of political policy, environmental ethics, and recent theological reformulation within the Judeo-Christian tradition. The program culminates in a capstone experience designed to challenge students to apply their area of study to specific issues germane to the Pacific Northwest.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Major Requirements — 55 hours

ENV 182	Environmental Science	3
ECN 322	Environmental Economics	3
	Or	
ECN 325/ENV 325	Economics and Metrics for Sustainability	3
ENV 400/PCS 400	Integrating Seminar in Environmental Studies	3

4 credits from below:

BIO 363	Freshwater Ecology	3
	with	
BIO 373	Freshwater Ecology Laboratory	1
BIO 341	The Nature of Plants	3
BIO 371	Field Botany	1
BIO 338	Marine Biology of the Pacific Northwest	3
BIO 368	Marine Biology Laboratory	1
BIO 345	Vertebrate Biology	3
BIO 375	Vertebrate Biology Laboratory	1
BIO 391	Lake and Stream Biology	3
	with	
BIO 392	Lake and Stream Biology Lab	1
BIO 391	Conservation Biology	3
BIO 391	Entomology	3
BIO 442	Ecology	3
	with	

BIO 472	Ecology Laboratory	1

3 credits from below:

ENV 383	Environmental Geoscience	3

3 credits from below:

THEP 482/PCS 482/ENV 482	Theology in Ecological Perspective	3
THE 353/PCS 353/THE 453	Religion and Science	3
THE 453/THE 353	Religion and Science	3

3 credits from below:

PHL 434/SJP 434	Environmental Ethics	3
THE 427/THE 327	Theological Environmental Ethics	3

3 credits from below:

ENV 110	Earth Systems Science	3
ENV 111	Natural Hazards in the Pacific Northwest	3
ENV 162	Introduction to Oceanography	3

21 credits from below:

ECN 322	Environmental Economics	3
ECN 325/ENV 325	Economics and Metrics for Sustainability	3
ENV 349/SJP 349/POL 349	Environmental Policy	3
ENV 493	Environmental Research	1-3
ENV 497	Environmental Internship	Variable
HST 357/SJP 357	Technology, Resources, and Environment in World History	3
PHL 434/SJP 434	Environmental Ethics	3
POL 320	United States Urban Politics	3
POL 335/SJP 335	American Public Policy	3
POL 338	Food, Politics and Policy	3
POL 351/SJP 351	International Law and Organizations	3
POL 356/SJP 356	Building World Peace	3

POL 372	Politics of Modern Europe	3
POL 379	Business in a Political World	3
POL 405	Law and the American Judiciary	3
POL 462	North-South Relations in a Globalized World	3
SW 456/SJP 456	Social Work for Sustainable Communities	3
THE 302/PCS 302/SJP 302/THE 402	Poets, Prophets, Divas, and Diviners	3
THE 327/THE 427	Theological Environmental Ethics	3
THE 358/THE 458	Intercultural Feminist Theology	3
THE 427/THE 327	Theological Environmental Ethics	3

Major Electives — 9 hours

Courses selected from the following:

CST 301	Media and Society	3
CST 327	Argumentation and Advocacy	3
CST 401	Rhetoric of Politics and Social Movements	3
ENG 363	The Literature of Nature and the Out-of-Doors	3
ENG 461	Oregon and Northwest Writers	3
ENV 384/BIO 384	Remote Sensing and Geographic Information Systems	3
ENV 385/BIO 385	Environmental Microbiology	3
ENV 386/CHM 386	Environmental Chemistry	3
ENV 387	Environmental Laboratory	1
ENV 493	Environmental Research	1-3
ENV 497	Environmental Internship	Variable
HST 314	American Frontier	3
HST 359	The Modern City	3
PHL 412/SJP 412	Philosophy of Law	3
PHL 413/SJP 413	Socio-Political Philosophy	3
SJP 413/PHL	Socio-Political Philosophy	3

413		
PHL 414/SJP 414	Philosophy and Feminism	3
SJP 414/PHL 414	Philosophy and Feminism	3
PHL 422	Philosophy of Science	3
PHL 434/SJP 434	Environmental Ethics	3
POL 320	United States Urban Politics	3
POL 356/SJP 356	Building World Peace	3
POL 379	Business in a Political World	3
SOC 434	Urban Society	3
SW 466/SJP 466	Violence, Poverty and the Environment	3
SJP 466/SW 466	Violence, Poverty, and the Environment	3
THE 345/THE 445	Human Development in Theological Perspective	3
THE 354/THE 454	God and the Theological Imagination	3
THE 358/THE 458	Intercultural Feminist Theology	3
BUS 376	Sustainable Marketing	3

General Electives — 14-26 hours

Total Credit Hours: 120

48 hours of total credits must be upper-division.

Environmental Science, B.S., Requirements

The B.S. majors with concentrations in biology, chemistry, and physics let students of varying interests develop both breadth and depth in their training as environmental scientists. Students in all of these concentrations will take 48 semester hours of core courses and 36 semester hours in the sciences in common, along with their varied advanced scientific courses.

University Requirements - 39 hours

Environmental Science majors may only take THE 427 or THEP 482 to fulfill the upper division theology core requirement.

See Core Curriculum9

College Requirements - 6 hours

See College Requirements BS45

Degree Requirements

Major Requirements — 28 hours

BIO 206	Organismal and Population Biology	3
	with	

BIO 276	Organismal and Population Biology Lab	1
BIO 207	Introductory Cell Biology and Genetics	3
	with	
BIO 277	Introductory Cell Biology and Genetics Lab	1
CHM 207	General Chemistry I	3
	with	
CHM 277	General Chemistry I Lab	1
CHM 208	General Chemistry II	3
	with	
CHM 279	General & Analytical Chemistry Lab	1
ENV 383	Environmental Geoscience	3
ENV 400/PCS 400	Integrating Seminar in Environmental Studies	3
POL 200	Introduction to United States Politics	3
THE 353/PCS 353/THE 453	Religion and Science	3
	Or	
THE 327/THE 427	Theological Environmental Ethics	3
	Or	
THE 328/THE 428	Ecology in Theological Perspective	3
	Or	
THEP 482/PCS 482/ENV 482	Theology in Ecological Perspective	3

Concentration Options:

Biology Concentration Requirements — 36 hours

BIO 442	Ecology	3
	with	
BIO 472	Ecology Laboratory	1
	Or	
BIO 391	Lake and Stream Biology	3
	with	
BIO 392	Lake and Stream Biology Lab	1
CHM 325	Organic Chemistry I	3
	with	

CHM 375	Organic Chemistry I Laboratory	1
CHM 326	Organic Chemistry II	3
	with	
CHM 376	Organic Chemistry II Laboratory	1
CHM 314	Analytical Chemistry	3
	with	
CHM 379	Analytical Chemistry Laboratory	1
MTH 201	Calculus I	4
PHY 201	General Physics	3
	with	
PHY 271	General Physics Lab	1
PHY 202	General Physics	3
	with	
PHY 272	General Physics Lab	1

8 credit hours of the following courses:

BIO 341	The Nature of Plants	3
BIO 371	Field Botany	1
BIO 345	Vertebrate Biology	3
BIO 375	Vertebrate Biology Laboratory	1
BIO 347	Animal Behavior	3
BIO 363	Freshwater Ecology	3
BIO 373	Freshwater Ecology Laboratory	1
BIO 338	Marine Biology of the Pacific Northwest	3
BIO 368	Marine Biology Laboratory	1
BIO 391	Conservation Biology	3
BIO 391	Entomology	3
ENV 382	Air Pollution	3
ENV 384/BIO 384	Remote Sensing and Geographic Information Systems	3
ENV 385/BIO 385	Environmental Microbiology	3
ENV 387	Environmental Laboratory	1
ENV 493	Environmental Research	1-3
ENV 497	Environmental Internship	Variable
CE 367	Environmental Engineering	3
CS 203	Introduction to Computer Science	3
	with	

CS 273	Computer Science Laboratory	1

General Electives — 20 hours

Chemistry Concentration Requirements — 38 hours

CHM 314	Analytical Chemistry	3
	with	
CHM 379	Analytical Chemistry Laboratory	1
CHM 325	Organic Chemistry I	3
	with	
CHM 375	Organic Chemistry I Laboratory	1
CHM 326	Organic Chemistry II	3
	with	
CHM 376	Organic Chemistry II Laboratory	1
CHM 412	Advanced Instrumental Methods	1
	with	
CHM 472	Advanced Instrumental Techniques	1
MTH 201	Calculus I	4
MTH 202	Calculus II	4
PHY 201	General Physics	3
	with	
PHY 271	General Physics Lab	1
PHY 202	General Physics	3
	with	
PHY 272	General Physics Lab	1

4 hours major electives from the following:

BIO 363	Freshwater Ecology	3
	with	
BIO 373	Freshwater Ecology Laboratory	1
BIO 341	The Nature of Plants	3
	with	
BIO 371	Field Botany	1
BIO 338	Marine Biology of the Pacific Northwest	3
	with	
BIO 368	Marine Biology Laboratory	1
BIO 345	Vertebrate Biology	3
	with	
BIO 375	Vertebrate Biology Laboratory	1

BIO 391	Lake and Stream Biology	3
	with	
BIO 392	Lake and Stream Biology Lab	1
BIO 391	Entomology	3
BIO 391	Conservation Biology	3
BIO 442	Ecology	3
	with	
BIO 472	Ecology Laboratory	1

4 hours major electives from the following:

CHM 331	Physical Chemistry I	3
	with	
CHM 372	Physical Chemistry I Laboratory	1
CHM 453	Biochemistry I	3
	with	
CHM 471	Biochemistry Laboratory	1
ENV 382	Air Pollution	3
ENV 386/CHM 386	Environmental Chemistry	3
	with	
ENV 387	Environmental Laboratory	1
ENV 493	Environmental Research	1-3
CS 203	Introduction to Computer Science	3
	with	
CS 273	Computer Science Laboratory	1
ENV 497	Environmental Internship	Variable

General Electives — 17 hours

Physics Concentration Requirements — 41 hours

MTH 201	Calculus I	4
MTH 202	Calculus II	4
MTH 301	Vector Calculus	4
MTH 321	Ordinary Differential Equation	3
PHY 204	General Physics Lecture and Lab	4
PHY 205	General Physics Lecture and Lab	4
PHY 306	Modern Physics	3
	with	
PHY 376	Modern Physics Lab	1

4 credit hours from the list below:

BIO 338	Marine Biology of the Pacific Northwest	3
	with	
BIO 368	Marine Biology Laboratory	1
BIO 341	The Nature of Plants	3
	with	
BIO 371	Field Botany	1
BIO 345	Vertebrate Biology	3
	with	
BIO 375	Vertebrate Biology Laboratory	1
BIO 391	Lake and Stream Biology	3
	with	
BIO 392	Lake and Stream Biology Lab	1
BIO 363	Freshwater Ecology	3
	with	
BIO 373	Freshwater Ecology Laboratory	1
BIO 442	Ecology	3
	with	
BIO 472	Ecology Laboratory	1

4 credit hours from the list below:

PHY 371	Analog and Digital Electronics	2
PHY 471	Advanced Laboratory	2
PHY 472	Advanced Optics Laboratory	2

6 credit hours of the following courses:

ENV 382	Air Pollution	3
PHY 322	Optics	3
CE 367	Environmental Engineering	3
ENV 384/BIO 384	Remote Sensing and Geographic Information Systems	3
ENV 493	Environmental Research	1-3
ENV 497	Environmental Internship	Variable
CS 203	Introduction to Computer Science	3
	with	
CS 273	Computer Science Laboratory	1

General Electives — 15 hours

Total Credit Hours: 120

48 hours of total credits must be upper-division.

General Studies, B.A., B.S.

Though most students will develop a depth of knowledge in their upper-division work through concentrated study in a single area, the college recognizes that some students may better attain their personal objectives through a broader program of studies. Such students may opt to follow the general studies program, which requires 24 semester hours of upper-division work in two areas within the College of Arts and Sciences. All other requirements for the B.A. or B.S. degree must be fulfilled. General studies majors are under the guidance of the dean or associate deans.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45 and College Requirements BS45

History

Elise Moentmann, Ph.D., chair

Faculty: Eifler, Els, Franco, Hancock, Wheeler, Woodard

The history program offers all the University's undergraduates the opportunity to acquire a working familiarity with the history of Western civilization, the United States, and other areas of the world, together with the institutions and structures of organized society. Its major curriculum is designed to inculcate a knowledge of particular periods and issues in the past, an understanding of the discipline of history, and the ability to use historical inquiry for analysis of contemporary self and society. History graduates enter such diverse careers as lawyers, professors, teachers, archivists, librarians, foreign service officers, public administrators, and investment bankers.

Beyond the history major, the program meets such goals as a part of both the University core as well as the upper-division electives for bachelor of arts majors. Furthermore, the program includes courses which provide vital knowledge for students in other programs, including secondary education, political science, international languages and cultures, theology, ROTC, social justice, Catholic studies, environmental studies, overseas studies, and the Moreau Center.

Learning Outcomes for History Majors

History graduates of the University of Portland should be able to:

1. Demonstrate knowledge of key historical facts, values, and ideas that have shaped civilizations throughout history.
    a. Identify major developments in the history of Western Civilization.
    b. Demonstrate comprehension of basic historical developments in a variety of civilizations.
    c. Demonstrate understanding of connections between historical events, ideas, and values over time.
2. Analyze primary sources in their historical context.
    a. Identify and gather appropriate primary sources.
    b. Demonstrate awareness of connections between sources and their historical context.
3. Analyze secondary sources and identify various approaches to historical interpretation through critical reading.
    a. Demonstrate the ability to read a secondary source to understand author's basic argument.
    b. Demonstrate the ability to explain author's approach to topic and its connection to primary sources used.
4. Construct arguments using the historical method and based on evidence from primary sources.
5. Demonstrate the ability to conduct independent historical research.
    a. Identify a thesis topic.
    b. Identify, collect, and analyze historiography on the topic.
    c. Identify, collect, and analyze primary sources on the topic (using library, archival, and other appropriate material).

d. Develop topic into a viable historical argument.

e. Based on sources identified, write original interpretation of chosen historical research.

f. Present results of research in both oral and written form.

Capstone Experience

Each history major completes a senior thesis as their capstone experience. In preparing a thesis, students become historians themselves by conducting primary source research on a historical topic of their choice. Through this process, students demonstrate their mastery of a specific time period or event in history, independent research skills, the critical reading of both primary and secondary sources, and the ability to construct and publicly present a historical argument based on primary source evidence. Several of the most outstanding theses are chosen each year to be published in the department's student history journal, *Northwest Passages*.

History, B.A.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Major Requirements — 36 hours (33 beyond University core requirement)

	Lower-division history	9
HST 300	Introduction to Historical Methods	3
	Upper-division history courses	15
	400-level seminars	6
HST 471	Senior Seminar	3

Lower-division history: HST 220 and 221 required, plus any other 200-level history course

Upper division history courses: (must include at least one course each in American, European, and non-Western history at 300-level)

400-level seminars: (excluding 471)

General Electives — 15-27 hours

Total Credit Hours: 120

International Languages and Cultures

Maria Echenique, Ph.D., chair

Faculty: Booth, Chen, Fernandez, Hill, Looney, McLary, Regan, Warshawsky

The mission of the international languages and cultures program (Spanish, German, French, and Chinese) is to prepare and motivate students to understand, live, study, and work in international communities at home and abroad. In the international languages courses required of all B.A. students, as well as in those of its major and minors, the program:

1. Builds proficiency in speaking, listening, reading, and writing the target language.
2. Fosters appreciation for other cultures and the international global community.
3. Develops the critical thinking skills and humane values inherent in the University's liberal arts tradition.

International languages and cultures faculty members guide and inspire students to experience other cultures through the study of language and literature, and through periods of total immersion abroad. In their teaching and in their research, faculty are

dedicated to the study of language and literature for its own power and pleasure, and as a means of promoting understanding and enjoyment of cultural differences. They are committed to student-centered instruction, which develops the international language proficiency and confidence majors and minors need to be successful in graduate programs, as well as in a wide range of careers, such as business, government, education, social work, and health care.

The Department of International Languages and Cultures offers a German studies major, Spanish major, a French studies major, and minors in French, German, and Spanish. The international languages and cultures program offers courses in Chinese language and in French, German, and Spanish language, literature, and culture. Students interested in an international languages and cultures major or minor should consult with the department chair.

All students beginning their study of French, German, or Spanish at the University of Portland are encouraged to take a free online placement test. After taking the test, the student will receive information indicating which course will provide the best fit for the student's level of proficiency. Students should contact the chair of the international languages and cultures department for information on how to access the exam.

Learning Outcomes for Language Majors

Oral Proficiency

Students graduating from the University of Portland with a B.A. in French studies, German studies, or Spanish are required to take the computerized Oral Proficiency Interview (OPIc) before graduation. Majors will be contacted to take the exam during the spring semester. The OPIc, based on standards set by the American Council for the Teaching of Foreign Languages (ACTFL) and administered by Language Testing International (LTI), is individualized to the test taker and is designed to elicit twenty to thirty minutes of ratable speech via the Internet. The student's digitally recorded speech is double rated by an ACTFL Certified Rater according to one of seven possible proficiency levels ranging from Novice to Advanced. By the time they graduate, German Studies majors should demonstrate intermediate-mid speaking proficiency; French Studies and Spanish majors should demonstrate intermediate-high speaking proficiency. The 2012 ACTFL Proficiency Guidelines for the intermediate level are described in general terms here, and all the levels are described in full on the ACTFL website: http://actflproficiencyguidelines2012.org/.

Intermediate Level

Speakers at the Intermediate level are distinguished primarily by their ability to create with the language when talking about familiar topics related to their daily life. They are able to recombine learned material in order to express personal meaning. Intermediate- level speakers can ask simple questions and can handle a straightforward survival situation. They produce sentence-level language, ranging from discrete sentences to strings of sentences, typically in present time. Intermediate-level speakers are understood by interlocutors who are accustomed to dealing with non-native learners of the language.

Intercultural Competence

Language proficiency is the key to interacting with and understanding a culture, therefore, students completing a major in French studies, German studies, or Spanish are uniquely prepared to engage with the target cultures. Study abroad and other immersion experiences can result in a transformative process in which one develops greater awareness of cultural differences and how they relate to one's self.

Before they graduate, language majors will demonstrate intercultural competence by means of an electronic portfolio, consisting of coursework, which each student is required to compile and maintain from the time the major is declared. Each course syllabus will state which assignments to place in the electronic portfolio and offer direction as to the compilation and maintenance of the electronic portfolio. During the final semester before graduation, students will be randomly selected to reflect on their electronic portfolios through a final reflection paper designed for this purpose. The final portfolio will serve to demonstrate the student's intercultural competence as described by these learning outcomes:

1. Knowledge.
    a. Demonstrates knowledge of the target cultures, especially cultural practices, and identifies current as well as past major social and political issues.
    b. Demonstrates in target language knowledge of target cultures through samples of course assignments in the eportfolio including exams, papers, presentations, and performances.
2. Skills.
    a. Uses the target language, in written and spoken form, as well as experiential knowledge, to work with a variety of cultural products in order to engage with, reflect on and compare the target cultures.

b. Demonstrates engagement with a variety of cultural products and experiences, and the ability to reflect on this engagement through course assignments in the electronic portfolio including exams, papers, presentations, and performances, as well as the final reflection paper.

3. Transformation.

a. Realizes that differences exist between behaviors in one's own culture and that of the target cultures. Recognizes the social complexity of culture including differences according to age, gender, ethnicity, socio-economic background, religion, and region in the target cultures. While the understanding of differences may still be developing, accepts challenges to explore ideas and ways of knowing that are outside of one's own paradigm of individual and cultural understanding. Demonstrates a willingness to seek out international and intercultural opportunities.

b. Shows curiosity towards and a growing understanding of the social complexity of cultural differences through a demonstrated willingness to challenge one's worldview in the final reflection paper based on the electronic portfolio.

French Studies, B.A.

The French studies major is an interdisciplinary major which combines courses from the department of French with those from other disciplines, the content of which directly relates to France and French-speaking countries.

The program is designed to offer its majors the opportunity to achieve proficiency in writing, speaking, comprehending, and reading the French language, while at the same time broadening and deepening their knowledge, understanding, and appreciation of the cultures of France and the francophone world.

Since the goal of the French studies major is to focus on the acquisition of language proficiency and to incorporate contributions from more than one field of study, it prepares students for careers in international law, teaching, government services, foreign missions, translating, the non-profit sector, and for positions in business that require a knowledge of the French language and culture.

Students pursuing a B.A. degree in French studies are required to complete 18 upper-division credit hours of French courses and 9 upper-division credit hours from at least two of the following disciplines: history, philosophy, fine arts, and political science. Students pursuing a B.A. degree in French studies also must spend a minimum of six weeks studying French in France or a francophone country. Should a student be unable to study abroad, the department chair in consultation with the French faculty may approve a substitute language immersion experience such as a local internship. Study abroad opportunities include IES programs in Paris (summer or semester), Nantes (semester only) and Arles (summer only).

The French Studies major requires at least six weeks of study abroad in a French-speaking country. If a student studies in France for six weeks in the summer, he or she may earn up to six credits towards the French studies major. If a student studies abroad for one semester, he or she may earn up to 15 credits towards the major. Should a student be unable to study abroad, the department chair, in consultation with the French Studies faculty, may approve a substitute language immersion experience such as a local internship.

Students graduating from the University of Portland with a B.A. in French studies are required to take the computerized Oral Proficiency Interview (OPIc) for graduation. Majors will be contacted to take the exam during the spring semester. The testing of the students' oral proficiency will give the students national certification of their actual skill level; such certification should provide students and employers with an accurate comparative indicator of a student's oral competency in the language. See statement on learning outcomes for language majors for further details on OPIc.75

University Requirements - 39 hours

See Core Curriculum9

College Requirements 21-33 hours

See College Requirements BA

Degree Requirements

Major Requirements — 33 hours (including 6 hours study abroad)

It is possible to begin studying French as a first-year student and still complete all requirements for the French studies major.

18 Upper-division credit hours in French

9 Hours outside the French program from at least two different disciplines chosen from the following list:

HST 347	Modern France	3
HST 333/PCS 333	Medieval Europe	3
HST 343/SJP 343	Europe in the Age of Dictatorship	3
HST 342	Europe in the Age of Nationalism	3
POL 358	Politics of the European Union	3
POL 372	Politics of Modern Europe	3
POL 453	Great Powers and Their Foreign Policies	3
PHL 414/SJP 414	Philosophy and Feminism	3
PHL 469/PCS 469	Great Philosophers	3
PHL 479	Existentialism	3

PHL 414 only when focusing on a French philosopher

PHL 469 only when focusing on a French philosopher

Students may also take other courses containing significant content relating to francophone countries with the approval of the French studies advisor.

Study Abroad — 6 hours

General Electives — 15-27 hours

Total Credit Hours: 120

Students may also take courses containing significant content relating to francophone countries offered on a one-time basis or subsequently added to permanent course offerings. Students must seek the approval of the French studies advisor before counting such courses toward the French studies major.

German Studies, B.A.

The German Studies major provides students with the opportunity to become proficient in the German language while also becoming knowledgeable about social, historical, and political factors that shape and define German-speaking cultures. The German studies major in particular is interdisciplinary, and it creates connections among a number of disciplines which are cornerstones of the liberal arts tradition. The combination of these courses under a cohesive curriculum allows students to gain proficiency in the German language while also learning to think and reason across disciplinary boundaries. Additionally, the current trend toward globalization means that students must become not only informed citizens and leaders within their own community and country but also in the world at large. By becoming knowledgeable in global political and social processes through German, students will learn to understand complex international relationships and gain an appreciation for different cultures. The German studies major supports students in their developing roles as leaders in their community and the world.

Students pursuing the German Track must complete 27 upper-division credit hours of German courses. All students pursuing the German studies track must complete 18 upper-division credit hours of German courses and 9 upper-division credit hours from at least two of the following disciplines: philosophy, history, political science, fine arts, and theology. Students pursuing a German major (either track) are also required to spend at least six weeks studying German in a German-speaking country. Should a student be unable to study abroad, the department chair, in consultation with the German faculty, may approve a substitute language immersion experience such as a local internship. Options for study abroad include the University’s year-long program in Salzburg, Austria; German-immersion courses in Salzburg during a summer session; and IES German-immersion programs in Freiburg, Vienna, and Berlin.

Both tracks of the German Studies major require at least six weeks of study abroad in a German-speaking country or participation in the University's programs in Salzburg.

Students studying abroad in Salzburg will take the *Österreichisches Sprachdiplom* (ÖSD), an internationally recognized standardized language test at no cost to the student. In addition, students graduating from the University of Portland with a B.A. in German studies are required to take the computerized Oral Proficiency Interview (OPIc) for graduation. Majors will be contacted to take the exam during the spring semester. The testing of the students' oral proficiency will give the students national certification of their actual skill level; such certification should provide students and employers with an accurate comparative indicator of a student's oral competency in the language. See statement on learning outcomes for language majors for further details on OPIc.75

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33

See College Requirements BASee statement on learning outcomes for language majors for further details on OPIc.45

Degree Requirements

Major Requirements — 27 hours

***German Track* — 33 hours (including 6 hours study abroad)**

27 upper-division credits in German (GRM 301 and above). Students are required to take at least 6 of the 27 upper-division German credit hours at the 400-level, excluding GRM 479 and 497.

German Studies Track — 33 hours (including 6 hours study abroad)

18 upper-division credits in German (GRM 301 and above). Students are required to take at least 6 of the 18 upper-division German credit hours at the 400-level, excluding GRM 479 and 497. Students must also take three courses outside the German program from at least two different disciplines, chosen from the following list:

PHL 474/SJP 474	Hegel and 19th Century Philosophy	3
THE 433/THE 333	Theological Implications of the Holocaust	3
POL 358	Politics of the European Union	3
HST 370	Early Modern Europe	3
POL 372	Politics of Modern Europe	3
HST 342	Europe in the Age of Nationalism	3
HST 343/SJP 343	Europe in the Age of Dictatorship	3
HST 346/SJP 346	Modern Germany	3
FA 304	Development of the Fine Arts In Europe	3

THE 333: Salzburg only

FA 304: Salzburg only

Students may also take courses containing significant content relating to German- speaking countries offered on a one-time basis or subsequently added to permanent course offerings. Students must seek the approval of the German studies advisor before counting such courses toward the German studies major.

6 hours - Study Abroad

Spanish, B.A.

The Spanish program seeks to prepare students for living and working with individuals from Spanish-speaking countries either overseas or within the borders of the United States. The program includes courses which develop language proficiency in

listening comprehension, speaking, writing, and reading. Courses focus on pertinent cultural issues, literary analysis and history, and professional terminology. This major will prepare students for careers in education, social services, business, and medicine.

The Spanish major requires that the student complete 27 credit hours which must include SPN 301, SPN 302, one survey of Spanish literature or culture class, and one Latin American literature or culture course. The Spanish major requires at least six weeks of study abroad in a Spanish-speaking country or participation in the University's programs in Granada or Segovia, Spain. Spanish majors may earn three credit hours towards the major for a course taught in English related to Spain or Latin America subject to approval by the department chair. Should a student be unable to study abroad, the department chair, in consultation with Spanish faculty, may approve a substitute language immersion experience such as a local internship.

Students studying abroad in Granada will take the D.E.L.E. (Diplomas of Spanish as a Foreign Language), an internationally recognized standardized language test at no cost to the student. In addition, students graduating from the University of Portland with a B.A. in Spanish are required to take the computerized Oral Proficiency Interview (OPIc) for graduation. Majors will be contacted to take the exam during the spring semester. The testing of the students' oral proficiency will give the students national certification of their actual skill level; such certification should provide students and employers with an accurate comparative indicator of a student's oral competency in the language. See statement on learning outcomes for language majors for further details on OPIc.75

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33

See College Requirements BA45

Degree Requirements

Major Requirements — 33 hours (including 6 hours study abroad)

SPN 301	Advanced Spanish Composition and Culture	3
SPN 302	Advanced Spanish Conversation and Culture	3
	Culture/Literature of Spain	3
	Culture/Literature of Latin America	3
	Major electives	15

Culture/Literature of Spain: SPN 303, 304, 320, 407, 408, 410, 412, 422, 480, 482, 484, 485, or 486

Culture/Literature of Latin America: SPN 303, 315, 316, 380, 416, 421, 422, 424, 430, 480, 481, 484, or 486

Study Abroad — 6 hours

General Electives — 15-27 hours

Total Credit Hours: 120

Mathematics

Gregory M. Hill, Ph.D., chair

Faculty: Callender, Hallstrom, Lum, McCoy, McQuesten, Niederhausen, Nordstrom, Peterson, Salomone, Swinyard, Wootton

Mathematics is a gateway to virtually every human endeavor. It lays the foundation for the study and practice of physics, chemistry, engineering, and computer science and has proven to be an essential tool not only in biology, ecology, medicine, and economics, but also in management, marketing, and politics. Our professors conduct research in pure mathematics and apply mathematics and statistics to research in biology, physics, robotics, ecology and business. Every math major can work one-on-one with professors, often on independent study or even research projects. Mathematics majors learn problem-solving and analytical skills preparing them for leadership in a wide variety of disciplines.

Since students study mathematics for a variety of reasons, the mathematics department offers both bachelor of arts (B.A.) and bachelor of science (B.S.) degrees. The B.A. degree is appropriate for those majoring in mathematics as part of a broader interdisciplinary program or for those pursuing a second major in science, engineering, business, the humanities, or education. The B.S. degree is intended for students who want an in-depth mathematical training in preparation for a professional career in mathematics or a closely related field. In particular, students planning to attend graduate school in mathematics, applied mathematics or a mathematically intensive scientific field should strongly consider the B.S. degree. As well, a large number of University of Portland engineering, physics, and chemistry students choose to obtain at least a minor in mathematics.

Learning Outcomes for Mathematics Majors

Mathematics graduates of the University of Portland should be able to:

1. Demonstrate depth of knowledge in the core content areas of the discipline.
    a. Demonstrate knowledge of important definitions and results.
    b. Adequately construct elementary proofs using relevant definitions and foundational results.
2. Apply content knowledge to solve complex mathematical problems.
    a. Identify the nature of the problem, organize relevant information and mathematical tools.
    b. Devise a strategy to develop a solution to the problem.
    c. Implement the strategy, performing relevant actions and computations, keeping an accurate record of work.
    d. Reflect on whether a strategy was successful, checking for correctness and plausibility of the solution.
3. Demonstrate ability to construct rigorous logical arguments.
    a. Write complete, coherent, concise proofs demonstrating mathematical rigor.
    b. Employ a variety of proof techniques including direct proof, proof by contradiction and proof by induction.
    c. Write proofs involving quantified statements.
4. Effectively communicate mathematics.
    a. Demonstrate the ability to understand professional mathematical writing.
    b. Adequately communicate mathematical ideas orally and/or in writing.

Mathematics, B.A.

This degree is appropriate for students who wish to major in mathematics as part of a broader inter-disciplinary program. In particular, this course of study would be suitable for students who wish to couple a mathematics major with a second major in a liberal arts field, business, or education.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Major Requirements (Mathematics Courses) — 37 hours

Prerequisites (12 hours)

MTH 201	Calculus I	4
	with	
MTH 202	Calculus II	4
CS 203	Introduction to Computer Science	3

	with	
CS 273	Computer Science Laboratory	1

Required courses for the major (25 hours)

MTH 301	Vector Calculus	4
MTH 311	Discrete Structures	3
MTH 341	Introduction to Linear Algebra	3
MTH 401	Real Analysis I	3
MTH 441	Modern Algebra I	3
	At least 9 units of elective upper-division mathematics credit	9

It is recommended (but not required) that mathematics B.A. students enroll in at least one of the following to fulfill their two-course core science commitment:

PHY 204	General Physics Lecture and Lab	4
	with	
PHY 205	General Physics Lecture and Lab	4
CHM 207	General Chemistry I	3
	with	
CHM 277	General Chemistry I Lab	1
CHM 208	General Chemistry II	3
	with	
CHM 278	General Chemistry II Lab	1
BIO 206	Organismal and Population Biology	3
	with	
BIO 276	Organismal and Population Biology Lab	1
BIO 207	Introductory Cell Biology and Genetics	3
	with	
BIO 277	Introductory Cell Biology and Genetics Lab	1

General Electives — 14-26 hours

Total Credit Hours: 120

Mathematics, B.S.

The B.S. degree is intended for students who want an in-depth mathematical training in preparation for a professional career in mathematics or a closely related field. In particular, students planning to attend graduate school in mathematics or a mathematically intensive scientific field should strongly consider the B.S. degree.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 6 hours

See College Requirements BS45

Degree Requirements

Required Courses for the Major — 48 hours

MTH 201	Calculus I	4
	with	
MTH 202	Calculus II	4
CS 203	Introduction to Computer Science	3
	with	
CS 273	Computer Science Laboratory	1
PHY 204	General Physics Lecture and Lab	4
PHY 205	General Physics Lecture and Lab	4
MTH 301	Vector Calculus	4
MTH 311	Discrete Structures	3
MTH 321	Ordinary Differential Equation	3
MTH 341	Introduction to Linear Algebra	3
MTH 361	Applied Statistics I	3
MTH 401	Real Analysis I	3
MTH 441	Modern Algebra I	3

At least 6 units of additional upper division mathematics credit.

Electives (15 cr. hrs.)

At least 15 upper division credits from courses in the physical sciences, biological sciences, engineering or business (prefixes among the following: MTH, PHY, CHM, BIO, CE, EE, ME, CS, EGR, ECN, ENV, BUS.)

General Electives — 15 hours

Total Credit Hours: 120

Performing and Fine Arts

Lawrence Larsen M.F.A., chair

Faculty: Connolly, De Lyser, Ghyselinck, Golla, Hunter, Kleszynski, Leupp, M. Logan, Murphy, Pulver

The Department of Performing and Fine Arts (PFA) is dedicated to fostering an appreciation of the best of human creative expression. Its major programs in music and drama, along with its enrichment offerings in dance and the visual arts, are integral to the University's commitment to the liberal arts. Each area in the department extends an open invitation to all University students to participate and does so in an atmosphere that is personal and supportive.

Within the department, majors are offered in drama and music. The department is an accredited institutional member of the National Association of Schools of Music (NASM) and the National Association of Schools of Theatre (NAST). Although the degree programs are separate, there is considerable flexibility between them, allowing the possibility for students in one degree program to take courses in the other. There is a minor program in the Visual Arts and elective offerings in Dance.

The drama graduate program offers the M.F.A. in directing202. (See Graduate School section.)

Drama, B.A.

The drama program at the University of Portland is dedicated to providing a broad-based generalist foundation for undergraduate students with the knowledge, skills, and opportunities necessary for establishing a life-long association with the theatre as actors, directors, teachers, designers, theater managers, and patrons. Furthermore, its aim is to demonstrate a strong commitment to teaching and learning in a personal, energetic, interactive, liberal arts environment. This is accomplished by offering a broad-based curriculum of theatre courses that provides a common knowledge base and skill level. Beyond that, the program provides advanced course work in three areas of specialization that prepare students for a myriad of career and educational options in performance, tech/design, and production management. Finally, the program provides a variety of production opportunities open to the entire campus student community. Students are encouraged, mentored, and supervised in these productions, where they are challenged to use their academic background and technical training in the real laboratory of live theatre.

As a nationally accredited member of the National Association of Schools of Theatre, the drama program is committed to its role within the University's mission (especially the development of the whole person), its connection, through its theatrical productions, to many of the disciplines within the College of Arts and Sciences, and its broader outreach to the University community.

The program produces four main stage productions a year in the 300-flexible-seat Mago Hunt Center Theater and two to four student directed productions in the Mehling Studio Black Box Theater. For further information on curriculum, degrees, images of past productions, please go to the *Student Handbook* under "Curriculum" on the drama program's website: http://college.up.edu/pfa/drama

The program also participates strongly in the Kennedy Center's American College Theatre Festival. All theatrical productions are entered to compete and be evaluated by peers within the region. Student actors, designers, directors and production managers are selected to compete in the regional KCACTF competitions where winners are chosen to compete at the Kennedy Center in Washington, DC. The drama program has been fortunate to have winners on both the regional and national level, highlighting the strength and training of its students.

Program scholarships are available to new and transfer students through audition and interview. Scholarships are awarded only to declared majors and maintained through ongoing participation on drama program productions. Please contact the drama program director to set up an audition.

Learning Outcomes for Drama Majors

Drama graduates of the University of Portland should be able to:

1. Know the individuals who have influenced contemporary world theatre and understand and articulate the fundamental theories and conventions that helped shape it.
    a. Identify the names and time periods of specific theatre artists, playwrights and their work from the ancient Greeks to modern day.
    b. Describe the various theories, and stylistic conventions that have shaped theatre production from the time of the ancient Greeks to modern day.
2. Demonstrate the fundamental skills and techniques required of a modern theatre practitioner: performer, designer, or manager.
    a. Performer
        i. Be able to score a script for circumstances, acting relationships, objectives and actions.
        ii. Use and produce effective vocal characteristics necessary for a theatrical production with correct pronunciations.
        iii. Develop a personal approach to embody the emotional life and physical characteristics of a character in a theatrical production.
    b. Designer
        i. Be able to create visual sketches, models, drawings, diagrams to communicate their visual ideas and designs for theatrical production.
        ii. Apply construction skills and technology to the process of turnings sketches, models, drawings and diagrams into 3-dimensional forms.

iii. Develop an aesthetic process that allows for personal artist vision and approach for theatrical design.

c. Production Manager

i. Be able to document and use effective communication as it applies to the model of creative theatrical process and production management.

ii. Apply the variety of skills and management theories necessary to work as a stage manager, a general manager, a development manager, a production manager and artistic manager in a professional theatrical organization.

iii. Develop an individual approach to managing an artistic process from conception to actual theatrical production.

3. Work in an environment of collaboration in a variety of production experiences.

a. Demonstrate skills necessary to act effectively in production assignments within the creation of several theatrical productions in positions both on and off stage.

b. Document and evaluate the experience as it applies to the holistic process of theatre production and its necessary collaboration.

4. Apply critical thinking and analytical skills to dramatic literature as it applies to production; performance, design and management.

a. Performer

i. Be able to research and analyze a script for character and period style as it applies to performance.

ii. Be able to score a script for understanding and approaching the plot, theme and the arc of action and apply it to production.

b. Designer

i. Be able to research and analyze a script for an aesthetic mood, character, period style, and required necessary elements to support the action of a production and its conceptual approach.

ii. Be able to create a visual form that supports the ideas presented by the playwright in terms of plot, theme and the arc of action and apply it to production.

c. Production Manager

i. Be able to research and analyze a script for management issues and challenges as they apply to the process and creation of a theatrical production.

ii. Be able to create a prompt book that incorporates the ideas of the playwright, director, designers and performers and apply this tool to production.

Capstone Experience

The senior capstone in drama is fulfilled with one of four types of projects: acting, directing, design, and production management. Students register for DRM 498294. All projects allow students to demonstrate the development of their skills and a synthesis of their training in their chosen area of specialty. Students produce a written proposal for faculty approval, work with a faculty mentor to develop the project, and assess the strengths and weaknesses of the outcome of their projects through both a written evaluation and an oral presentation to the drama faculty and their peers. Details about capstones in each of the four areas are specified in the drama program's *Student Handbook* under "Curriculum" at: http://college.up.edu/pfa/drama.

University Requirements - 39 hours

See Core Curriculum9

College Requirements

See College Requirements BA45

Degree Requirements

Drama Major Common Requirements — 23 hours

DRM 210	Introduction to Theatre	3
DRM 272	Production Practicum I	1

DRM 310	Modern Production Theory	3
DRM 321	Acting Workshop I	3
DRM 350	Theatre Crafts	3
DRM 372	Production Practicum II	1
	with	
DRM 373	Management Practicum II	1
DRM 407	Survey of Theatre History I	3
DRM 408	Survey of Theatre History II	3
DRM 498	Senior Capstone Project	3

Emphasis Options:

Performance Emphasis — 15 hours

DRM 322	Acting Workshop II	3
DRM 335	Voice for Stage	3
DRM 422	Advanced Acting	3
DRM 337	Stage Combat/Movement-for the Actor	3

One design elective selected from:

DRM 351	Stage Lighting and Sound	3
DRM 353	Stage Design	3
DRM 363	Costume Design	3
DRM 365	Theatrical Makeup	3

Design/Technical Emphasis — 15 hours

DRM 351	Stage Lighting and Sound	3
DRM 353	Stage Design	3
DRM 363	Costume Design	3

One production elective selected from:

DRM 365	Theatrical Makeup	3
DRM 450	Production Management	3
DRM 456	Decorative Arts for Stage	3
DRM 467	Costume Construction	3
DRM 471	Principles of Theatre Management	3

One advanced design elective selected from:

DRM 451	Advanced Stage Lighting and Sound	3
DRM 453	Advanced Stage Design	3
DRM 463	Advanced Costume Design	3

Production Management Emphasis — 15 hours

DRM 333	Directing for Theatre	3
DRM 351	Stage Lighting and Sound	3
DRM 450	Production Management	3
DRM 471	Principles of Theatre Management	3
DRM 472	Management Internship	3

Basic Drama Endorsement for Education Certificate — 21 hours

DRM 210	Introduction to Theatre	3
DRM 321	Acting Workshop I	3
DRM 333	Directing for Theatre	3
DRM 350	Theatre Crafts	3
DRM 351	Stage Lighting and Sound	3
DRM 407	Survey of Theatre History I	3
	Or	
DRM 408	Survey of Theatre History II	3

One advanced design elective selected from:

DRM 353	Stage Design	3
DRM 363	Costume Design	3
DRM 365	Theatrical Makeup	3

General Electives — 10-22 hours

Total Credit Hours: 120

Music

The music program strives to advance the comprehensive formation of musicians who can perform music, organize music (composition), and analyze music (theory, history). The program accomplishes this aim through a wide range of teaching and performance situations, including private lessons, traditional classroom environments, and large group rehearsals. These opportunities are offered to the entire University.

As a nationally accredited unit of the College of Arts and Sciences, the music program is committed to its role within the University mission (especially the development of the whole person), compliance with the standards of the National Association of Schools of Music, and ongoing evaluation of the program in all its aspects.

The bachelor of arts degree in music provides students a broad education in the sciences and the humanities as they give particular emphasis to the comprehensive study of music. Three tracks are offered: instrumental, vocal, and general. The degree prepares students for careers in the music industry, church music, and education (teaching privately or seeking certification through programs such as the master of arts in teaching), as well as graduate study.

New students, including transfer students, will be accepted as music majors on a probationary status until they present a satisfactory audition at one of the following: 1) scholarship audition; 2) the performance final examination at the end of the first semester; or 3) by special arrangement with the faculty.

A variety of large and chamber ensembles are open to all University students with prior musical experience. These ensembles, which perform music of all types and styles, include the University Singers, University Wind Symphony, University Women's Chorale, University Community Orchestra, Jazz Band, Guitar Ensemble, Chamber Ensembles, and Chapel Music Ensemble. Each presents a series of performances throughout the academic year.

The *Music Study Handbook* contains details about the requirements for MUS 001 (Performance Attendance); and MUS 286, and MUS 486 (Private Lessons), and necessary information about the senior capstone. The handbook is made available online to all music majors at the beginning of each year. It is considered an addendum to the *University Bulletin***.** See the handbook at: http://college.up.edu/pfa/music.

Opportunities for individual performance are available through regularly scheduled student recitals. They are included as a part of Music at Midweek, a weekly series of professional and non-professional performances. Attendance at these and other designated campus performances is required of all music students (See MUS 001). Unsatisfactory attention to this requirement can result in delay or denial of graduation. Students choosing to work toward the bachelor of arts in music will complete their studies with a senior capstone supervised by a faculty member. The selection of a topic and work toward that completion will begin during the junior year.

Practice room use limited to students enrolled in music courses or by permission of the director of the music program.

Learning Outcomes for Music Majors

Music graduates of the University of Portland should be able to:

1. Perform capably as a soloist and within an ensemble.
    a. Demonstrate the ability to work both independently and with music faculty to prepare high quality performances.
    b. Demonstrate knowledge of literature applicable to the major performance medium.
    c. (Vocal track) Demonstrate the correct use of foreign language and diction.
    d. Participate in solo and ensemble performance.
    e. Present a senior capstone.
2. Organize the sounds of music through basic composition.
    a. Achieve a basic skill level in using rhythm, melody, harmony, and simple formal structures to develop a composition from concept to finished product.
    b. Demonstrate the ability to develop and defend musical decisions.
3. Understand the structure and style of compositions, as performers and listeners.
    a. Demonstrate the ability to hear, identify, and work conceptually with the elements of music.
    b. Demonstrate an acquaintance with a wide selection of music literature, the principal eras, genres, and cultural sources.
4. (B.M.Ed only) Apply sound principles of teaching music in the classroom.
    a. Perform with musical understand and technical proficiency.
    b. Play simple accompaniments.
    c. Sing with correct technique.
    d. Conduct.
    e. Supervise and evaluate the performance of others.
    f. Notate and arrange sounds for performances in school situations.
    g. Identify and explain compositional devices as they are employed in all types of music.
    h. Discuss the affective results of compositional devices.
    i. Describe the means by which the sounds used in music are created.
    j. Apply familiarity with contemporary educational thought and trends to the music classroom.
    k. Exemplify the role model of a comprehensive musician dedicated to teaching.

Capstone Experience

Music students demonstrate their development as musicians and scholars through the senior capstone. This project can take a variety of forms: a performance recital, lecture recital, performance of original compositions, a research presentation, or other

plan approved by the music faculty that includes a public presentation of at least 25 minutes. Proposals for capstone projects will be submitted to the director of the music program before spring break of the student's junior year. Faculty approval is required to move forward. Students register for MUS 498, Senior Capstone (or Honors Senior Thesis) during the fall or spring semester of their senior year. In this course they work with a faculty mentor in preparing the presentation and research. A preview of the capstone presentation will take place approximately one month in advance, after which the faculty will approve going ahead with the presentation or require more preparation. At the preview the student will submit complete program notes (500 words minimum) and perform the music/present the lecture presentation with the faculty in attendance. Senior capstones are generally scheduled during Music at Midweek (Wednesdays, 12:30-1:25) in March and April of the senior year.

Music, B.A.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Music Major Requirements: 39-40 credits

MUS 101	Music Theory I	3
MUS 102	Music Theory II	3
MUS 103	Aural Skills I	1
MUS 104	Aural Skills II	1
MUS 201	Music Theory III	3
MUS 202	Music Theory IV	3
MUS 301	Music History I	3
MUS 302	Music History II	3
MUS 309	World Music	3
MUS 331	Conducting	3
MUS 131	Introduction to Piano	1
MUS 231	Piano Skills	1

MUS 131: May be waived by the instructor

MUS 231: Must be completed by the sophomore year

6 semesters minimum, required every semester in residence

MUS 286	Private Lessons	1
MUS 486	Private Lessons	1

6 semesters minimum, required every semester in residence:

MUS 243	Wind Symphony	1
MUS 443	Wind Symphony	1
MUS 244	University Singers	1
MUS 444	University Singers	1
MUS 245	University Orchestra	1
MUS 445	University Orchestra	1

MUS 252	Women's Chorale	1
MUS 452	Women's Chorale	1

6 semesters minimum, enrolled every semester in residence:

MUS 001	Performance Attendance	0

Instrumental Performance Emphasis Requirements: 11 credits from below

Students require faculty permission to enter this track. A decision will be made at the end of the sophomore year.

MUS 447	Chamber Ensembles	1
MUS 253	University Jazz Ensemble	1
MUS 453	University Jazz Ensemble	1
MUS 498	Senior Capstone	1

Music Electives — 6 credits

upper division, including at least one 3-credit classroom course

General Electives — 0-13 hours

Instrumental Performance Emphasis Total Credit Hours: 123

Vocal Performance Emphasis Requirements: 11 credits

Students require faculty permission to enter this track. A decision will be made at the end of the sophomore year.

MUS 336	Diction for Singers	3
MUS 455/DRM 455	Musical Theatre Workshop	3
MUS 491	Seminar	Variable
MUS 498	Senior Capstone	1

Music Electives— 4 credits

upper division, including at least one 3-credit classroom course

Vocal Performance Emphasis Total Credit Hours: 123

General Emphasis Requirements: 4 credits

MUS 3/4XX	Music Elective Classroom Course	3
MUS 498	Senior Capstone	1

General Electives — 4-17 hours

General Emphasis Total Credit Hours: 120

Special Music Fees

$300 per semester hour of private lessons (MUS 286/MUS 486).

Philosophy

Andrew Eshleman, Ph.D., chair

Faculty: Andrews, Askay, Baillie, Evangelist, Faller, Gauthier, Logue, Martin, Santana, Trout

The Department of Philosophy at the University of Portland offers a comprehensive program of study leading to a bachelor of arts degree in philosophy, while also offering a range of courses that meet University and College of Arts and Sciences curricular requirements. Important departmental characteristics and aims are as follows:

1. The department endeavors to build a community of students and faculty who are dedicated to excellence in teaching and scholarship. In keeping with the integrating nature of its discipline, the philosophy department aims to provide students with the tools for achieving a sophisticated and reflective understanding of the assumptions and implications of their other studies at the University, as well as of their pursuits more generally, which we do in particular in our courses in the area of metaphysics. The department is committed in particular to the development of students' capacity for critical thinking in the area of ethics and values, as this ability is indispensable in fostering a concern with issues of social justice and ethical behavior. The department also encourages students, especially its majors, to critically explore some of the most important questions of human existence and human nature. It aims to provide students with the philosophical background and scholarly skills that are necessary for such an exploration.
2. The department embraces a pluralistic approach to the field. It embraces a stance of openness to diverse philosophical approaches, methods, sub-fields, and perspectives. It does this by aiming to cover all significant historical periods of philosophy, most major philosophical approaches and methods, and most major sub-fields in philosophy.
3. The department holds that development of the habits of scholarship necessary for such endeavors begins with faculty members who are active and committed in their own academic work. Accordingly, the department seeks to nurture and support the scholarly inquiry that befits an accomplished faculty.
4. The department plays an essential role in promoting the University's aim to provide service and leadership to the community. Philosophy provides tools to develop a critically reflective vision of the world, the human person, and ethical behavior. These are all necessary for leadership. The department is committed to furthering this aim by making its pedagogies and scholarship a resource to the University, the community, and the region. The University has the potential to be a premier Catholic institution for undergraduate philosophical instruction as well as a recognized center for inquiry and dialogue. It is the aim of the department to realize that potential and thereby to enhance the visibility and reputation of the University of Portland.

The major in philosophy is intended to meet the needs of various types of students, including those who plan to do graduate work in philosophy; those who plan to do graduate work in other fields such as law, medicine, business, journalism, ministry, or any of the liberal arts; those who wish to pursue a double major in philosophy and some other discipline of the humanities, sciences, or professional areas; and those who wish to get a solid liberal education. Philosophy may also be taken as a minor, as part of an interdisciplinary major, or within other programs such as the social justice program.

Learning Outcomes for Philosophy Majors

Philosophy graduates of the University of Portland should be able to:

1. Engage with significant philosophical problems.
    a. Explain why a philosophical problem is significant.
    b. Critically evaluate attempts to solve a problem.
    c. Engage and use primary philosophical texts in the context of addressing a philosophical problem.
2. Engage in the art of dialogue.
    a. Know how to identify and critically evaluate the presuppositions underlying their own questions and those of others.
    b. Demonstrate an ability to recognize views that oppose the ones for which they are arguing and to evaluate them in light of the positions they are holding.
3. Write technically competent philosophical essays.
    a. Give sustained and well-focused arguments for their positions.
    b. Write papers demonstrating conceptual coherence.
4. Integrate diverse views in developing their positions on an issue.
    a. Demonstrate an understanding of a diversity of philosophical positions/issues.
    b. Take a position with respect to some philosophical positions/issues.
    c. Place their positions in the context of various philosophical positions/issues in the history of philosophy.
5. Demonstrate proficiency in the basic concepts of logic.
    a. Distinguish between arguments and non-arguments.

b. Distinguish between deductive and inductive arguments.
c. Evaluate arguments in terms of their soundness or cogency.
d. Identify common formal and informal fallacies.
e. Translate ordinary language statements into various systems of logic (e.g. propositional logic and/or categorical logic).
f. Use various systems of logic to check arguments for validity (e.g. the square of opposition, rules for categorical syllogisms, truth tables, natural deductions).

Capstone Experience

The capstone experience is intended to be the final stage in a developmental process that students undertake as they move through the philosophy curriculum. It serves as the final demonstration of a student's preparation in the study of philosophy, and it provides students with an opportunity for extended exploration of a topic of interest under the guidance of a faculty member. For most students, the capstone experience will take the form of a one-credit student thesis completed in the senior year that grows out of a course taken in the junior or senior year. For students planning on graduate study in philosophy and for honors students, the capstone is a three-credit senior thesis written under the direction of a faculty mentor separate from any particular class.

Philosophy, B.A.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Philosophy Major Option 1

This curriculum features a strong emphasis on the history of philosophy and is designed for students planning to go on to graduate work in philosophy, or whose primary interest is in the history of philosophy.

Option 1 Requirements — 25 hours beyond core and college requirements

PHL 421	Logic	3
PHL 471	Ancient Philosophy	3
PHL 472/PCS 472	Medieval Philosophy	3
PHL 473	Modern Philosophy	3
PHL 474/SJP 474	Hegel and 19th Century Philosophy	3
	Elective — Any 300 or 400 level philosophy class, two of which must be 400-level	9
PHL 499	Senior Capstone	Variable

General Electives — 23-35 hours

Total Credit Hours: 120

Philosophy Major Option 2

Designed for students who desire to complement an interest in philosophy with an interest in a related field such as business, education, or any of the liberal arts. Students choosing this option should consult with their advisor for specific course recommendations to complement their interests in related fields of study.

Option 2 Requirements — 25 hours beyond core and college requirements

Logic – 3 credits

PHL 421	Logic	3

History – 6 credits

PHL 471	Ancient Philosophy	3
PHL 472/PCS 472	Medieval Philosophy	3
PHL 473	Modern Philosophy	3
PHL 474/SJP 474	Hegel and 19th Century Philosophy	3

Metaphysics or Epistemology - 3 credits

Student selects 3 credits of Metaphysics or 3 credits of Epistemology

PHL 331	Metaphysics: Asian Philosophy	3
PHL 332	Metaphysics: Philosophy of Mind	3
PHL 333	Metaphysics: Philosophy of Religion	3
PHL 334/PCS 334	Metaphysics: Problem of Being	3
PHL 335	Metaphysics: Self and Identity	3
PHL 422	Philosophy of Science	3
PHL 472/PCS 472	Medieval Philosophy	3
PHL 473	Modern Philosophy	3
PHL 479	Existentialism	3

Ethics or Politics – 3 credits

Student selects 3 credits of Ethics or Politics

PHL 410/SJP 410	Education and Politics	3
PHL 412/SJP 412	Philosophy of Law	3
PHL 413/SJP 413	Socio-Political Philosophy	3
PHL 414/SJP 414	Philosophy and Feminism	3
PHL 430	Advanced Ethics	3
PHL 434/SJP 434	Environmental Ethics	3
PHL 435/PCS 435	Bioethics	3

Electives - 9 credits

Any 300 or 400 level philosophy class, two of which must be 400-level

Capstone

PHL 499	Senior Capstone	Variable

General Electives — 23—35 hours

Total Credit Hours: 120

Philosophy Major Option 3: Philosophy, Politics, and Policy

This curriculum is designed for students with an interest in philosophy and political science with an emphasis on public policy. Students choosing this option will have a double major in philosophy and political science. A decision to follow this curriculum should be made before the end of the junior year.

Option 3 Requirements — 63 hours beyond core and college requirements

PHL 413/SJP 413	Socio-Political Philosophy	3
PHL 421	Logic	3
PHL 471	Ancient Philosophy	3
PHL 473	Modern Philosophy	3
ECN 120	Principles of Macroeconomics	3
ECN 121	Principles of Microeconomics	3
POL 200	Introduction to United States Politics	3
POL 205	World Politics	3
POL 203	Introduction to Political Theory	3
POL 300	Political Inquiry and Analysis	3
POL 335/SJP 335	American Public Policy	3
PHL 490	Directed Study	Variable
	Or	
POL 490	Directed Study	Variable
PHL 499	Senior Capstone	Variable
	Or	
POL 499	Senior Thesis	Variable

Note: ECN 120 and POL 200 meet the Core social science requirement

One of the following

Either POL 305 (Ancient and Medieval Political Thought), POL 306 (Modern Political Thought), or POL 307 (Contemporary Political Theory)

Electives – 21 credits

at least 12 credits must be from political science, with 6 being 400 level, and 9 credits must be from among the following philosophy courses: PHL 412, Philosophy of Law; PHL 414, Philosophy and Feminism; PHL 422, Philosophy of Science; PHL 430, Advanced Ethics; PHL 434, Environmental Ethics; PHL 435, Bioethics; PHL 472, Medieval Philosophy; PHL 474, Hegel and 19th Century Philosophy; PHL 479, Existentialism.

Total Credit Hours: 123

Physics

Osiel Bonfim, Ph.D., chair

Faculty: S.K. Mayer, More, Utlaut

The mission of the physics department is to provide students with the knowledge of the fundamental laws of physics and the skills to use these laws in physics, other fields of science, technological applications, and everyday life. Our program will also provide a solid background in both physics and mathematics to those students who wish to pursue physics or related fields at the graduate level. In broader terms, we wish to foster in our students the ability to question and discuss issues in all aspects of life with an unbiased scientific attitude.

Physics is the science that seeks to understand natural phenomena as simply as possible and so provide the foundation for the other sciences and engineering. Whatever questions they ask, physicists have discovered that the answers ultimately involve the same elegant general principles, such as symmetry, energy and momentum, mass and charge.

Rather than simply describe one observation, a physicist seeks to connect that observation with many others and apply or extend comprehensive theories. Physicists look for and study patterns among natural phenomena, including those that are readily apparent (like the orbits of planets) and those that are apparent only to deep analysis and careful observation (like the quantum transitions of atoms).

A physics major provides a rigorous grounding in the scientific process and a firm scientific understanding of the world. It fosters critical thinking and quantitative problem solving skills and provides broad practical training in science and technology. It can lead to graduate study and basic research (in a variety of disciplines), to stimulating jobs in industry, or to challenging and rewarding careers in teaching.

Our faculty members are engaged in original research, and physics majors are drawn early into collaborative research projects with the faculty. Students learn to think as physicists, not just work physics problems, and faculty welcome students' curiosity, questioning, and new perspectives.

A physics major is essential for students planning to pursue a graduate degree in physics. A physics major provides a solid foundation for students who anticipate careers in secondary education, engineering, or medical research. Students looking for a broad scientific grounding as part of a liberal arts education are also well served by the physics major.

Learning Outcomes for Physics Majors

Physics graduates of the University of Portland should be able to:

1. Demonstrate critical thinking in the context of science.
    a. Be able to model and solve real-world problems.
    b. Test solutions for limiting cases.
2. Demonstrate understanding of scientific literature, such as journal articles and textbooks.
    a. Communicate effectively in a scientific setting.
    b. Reproduce results published in a paper.
    c. Explain assumptions and justify approximations used in the readings.
3. Demonstrate quantitative problem solving skills.
    a. Use mathematical concepts, strategies, and procedures to derive and manipulate formal relationships between physical quantities.
    b. Incorporate the use of calculator and computer-based technology in problem-solving.
    c. Make appropriate approximations in problem-solving.
4. Demonstrate understanding of the general principles in physics and patterns in nature.
    a. Apply general principles to solving problems.
    b. Apply physics principles across disciplinary boundaries.
    c. Write and publicly present research, explaining experimental results to other students at a similar level.

5. Integrate the scientific method into problem-solving and experimentation.
    a. Set up an appropriate laboratory investigation addressing the principles and applications of an area of physics.
    b. Safely employ experimental apparatuses, make accurate physical measurements, and understand experimental uncertainty.
    c. Incorporate the use of calculator and computer-based technology in the collection, analysis and interpretation of data.

Physics, B.A.

The Department of Physics offers a program leading to the bachelor of arts degree in physics. The program is suited especially for students who are interested in combining a degree in physics with the study of another discipline (such as biology, life sciences, environmental science, or a major in the humanities).

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Major Requirements — 48 hours

MTH 201	Calculus I	4
MTH 202	Calculus II	4
MTH 301	Vector Calculus	4
CHM 207	General Chemistry I	3
	with	
CHM 277	General Chemistry I Lab	1
	Or	
BIO 206	Organismal and Population Biology	3
	with	
BIO 276	Organismal and Population Biology Lab	1
PHY 201	General Physics	3
	with	
PHY 271	General Physics Lab	1
	Or	
PHY 204	General Physics Lecture and Lab	4
	Or	
PHY 208	Integrated Physics/Math Lecture and Lab	4
PHY 202	General Physics	3
	with	
PHY 272	General Physics Lab	1
	Or	
PHY 205	General Physics Lecture and Lab	4

	Or	
PHY 209	Integrated Physics/Math Lecture and Lab	4
PHY 306	Modern Physics	3
	with	
PHY 376	Modern Physics Lab	1
PHY 356	Mathematical Methods for Science and Engineering	3

Major electives – 17 credits, taken from the following:

PHY 322	Optics	3
PHY 370	Special Physics Laboratory and Research	Variable
PHY 371	Analog and Digital Electronics	2
PHY 372	Optics Laboratory	1
PHY 404	Advanced Mechanics	3
PHY 405	Advanced Electrodynamics	3
PHY 411	Introduction to Quantum Mechanics	3
PHY 412	Introduction to Quantum Mechanics II	3
PHY 422	Solid State Physics	3
PHY 441	Thermal and Statistical Physics	3
PHY 470	Special Physics Laboratory and Research	Variable
PHY 471	Advanced Laboratory	2
PHY 472	Advanced Optics Laboratory	2

General Electives — 9-21 hours

Total Credit Hours: 120

Physics, B.S.

The Department of Physics offers a program leading to the bachelor of science degree in physics.

General Physics (PHY 204-205) satisfies the science requirement. The core requirement for mathematics is satisfied by Calculus (MTH 201).

University Requirements - 30 hours

See Core Curriculum9

College Requirements - 6 hours

See College Requirements BS45

Degree Requirements

Major Requirements — 75 hours

MTH 201	Calculus I	4
MTH 202	Calculus II	4
MTH 301	Vector Calculus	4

MTH 321	Ordinary Differential Equation	3
MTH 341	Introduction to Linear Algebra	3
CS 203	Introduction to Computer Science	3
	with	
CS 273	Computer Science Laboratory	1
PHY 204	General Physics Lecture and Lab	4
	Or	
PHY 208	Integrated Physics/Math Lecture and Lab	4
PHY 205	General Physics Lecture and Lab	4
	Or	
PHY 209	Integrated Physics/Math Lecture and Lab	4
CHM 207	General Chemistry I	3
	with	
CHM 277	General Chemistry I Lab	1
CHM 208	General Chemistry II	3
	with	
CHM 278	General Chemistry II Lab	1

37 credits - Upper division science, math or engineering credit hours with a minimum of 28 hours in physics, including:

PHY 306	Modern Physics	3
PHY 356	Mathematical Methods for Science and Engineering	3
PHY 376	Modern Physics Lab	1
PHY 371	Analog and Digital Electronics	2

Two of the following advanced labs

PHY 372	Optics Laboratory	1
PHY 470	Special Physics Laboratory and Research	Variable
PHY 471	Advanced Laboratory	2
PHY 472	Advanced Optics Laboratory	2

Additional courses in science, math or engineering, of which 15 hours must be in physics – 24 credits

General Electives — 9 hours

Total Credit Hours: 120

Political Science

Gary Malecha, Ph.D., chair

Faculty: Curtis, Frederking, Pomerleau, Santiago, Stabrowski

The mission of the political science program is to provide majors a solid foundation in the discipline and prepare students to become engaged citizens and leaders in political societies. The department equips students with the analytical tools necessary to understand a complex and dynamic world and engage in informed and active civic involvement. The department offers

introductory courses to all students and prepares its majors for careers in business, education, journalism, law, government, religious organizations, and for local, national, and international service.

The political science major offers students a broad and analytically rigorous liberal arts curriculum and prepares them for graduate studies in political science, law, and other professional disciplines. The major, which covers the fields of American politics, comparative politics, international relations, and political theory, is designed to provide an understanding of the discipline centered around a set of specific strategies for gathering and analyzing information about political life. These strategies — conceptual, historical, structural, institutional, behavioral and normative — are explored in the light of their respective theoretical materials.

Learning Outcomes for Political Science Majors

Our political science major provides students with a solid foundation in the discipline as well as opportunities to extend their learning through participation in internships. Political science graduates of the University of Portland should be able to:

1. Possess the analytical skills necessary to think critically about political life.
    a. Identify and demonstrate the importance of political science research questions.
    b. Demonstrate an understanding of normative and empirical political analysis.
    c. Identify the strengths and weaknesses of governmental policy.
2. Develop literacy in the discipline of political science.
    a. Demonstrate an ability to recognize and apply concepts and theories of subfields — American politics, comparative politics, international relations, and political theory — of political science.
    b. Demonstrate knowledge of important research in political science.
    c. Identify and critically evaluate the argument of scholarly research in the discipline.
    d. Write papers with a clear thesis supported by relevant research.
    e. Demonstrate comprehension of the development of western political thought.
3. Develop an understanding of their place in the world as engaged citizens.
    a. Exhibit an awareness and concern for their role as citizens in a liberal democracy.
    b. Recognize and demonstrate an understanding of their role as members of a global community.

Capstone Experience

The political science capstone experience provides students an opportunity to demonstrate proficiency in scholarly inquiry and analysis. This is carried out in 400 level courses where students explore the scholarly literature and conduct analytically focused research projects. Students who are interested in graduate school or who are in the honors program also have the option of completing a senior thesis under the direction of a member of the faculty.

Political Science, B.A.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Major Requirements — 36 hours

POL 200	Introduction to United States Politics	3
POL 203	Introduction to Political Theory	3
POL 205	World Politics	3

POL 300	Political Inquiry and Analysis	3
POL 305	Ancient and Medieval Political Thought	3
	Or	
POL 306	Modern Political Thought	3
	Or	
POL 307	Contemporary Political Thought	3

21 credits - Major electives

- Must include at least one course each in American Politics, International Relations, and Comparative Politics
- Two courses (6 credit hours) must be at the 400 level
- POL 497 does not count for this 400 level requirement

General Electives — 12-24 hours

Total Credit Hours: 120

Philosophy, Politics, and Policy

Students interested in integrating an emphasis on policy with a double major in political science and philosophy should consult the chairs of the philosophy and political science programs.

Psychology

Nick McRee, Ph.D., chair

Faculty: Baillet, Downs, Guest, Julka, Pitzer

The psychology program serves the mission of the College of Arts and Sciences and the University of Portland through excellence in teaching, scholarship, and service. Housed in a multidisciplinary department with sociology and social work, our program offers an undergraduate major and minor that prepare students for graduate work, occupations in the helping professions, and many other career paths. Our goal is to promote good scholarship and citizenship within a community of learners. To do this, we develop collaborative academic endeavors between students and faculty, and foster intellectual engagement with the field of psychology and the world at large.

Learning Outcomes for Psychology Majors

Psychology graduates of the University of Portland should be able to:

1. Demonstrate a sophisticated understanding of behavior, thought, and emotion.
    a. Identify and explain key psychological terms and constructs.
    b. Draw on research and theory to inform understandings of behavior, thought, and emotion.
    c. Distinguish among theoretical approaches within the field of psychology.
2. Think critically about behavior, question assumptions, and consider alternatives.
    a. Demonstrate an ability to recognize multiple influences on behavior, thought, and emotion.
    b. Identify relevant questions and make predictions about psychological phenomena.
    c. Critically evaluate psychological problems and controversies.
3. Understand, interpret, and design psychological research.
    a. Distinguish the strengths and weaknesses of types of research.
    b. Identify relevant ethical and cultural issues related to psychological research.
    c. Design and implement research relevant to psychological phenomena.

   d. Distinguish between empirical and theoretical claims.
4. Express themselves competently both orally and in writing.
   a. Craft effective reviews of scholarly literature.
   b. Give presentations that articulate psychological understandings.
   c. Integrate theory and research to make a coherent argument.

Capstone Experience

Senior seminar is designed as a capstone experience to help students integrate major contemporary psychological methods, theories, and research findings. Through intensive research, participation and discussion, students also learn skills of professional presentations. From a combination of these experiences students achieve an integration of diverse psychological theories and professional applications. Students planning on graduate study in psychology and honors students may elect to complete a three-credit senior thesis written under the direction of a faculty member separate from any particular class as their capstone experience. Psychology-sociology double majors may do a combined thesis with joint supervision.

Psychology, B.A.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Psychology Major Requirements — 30 hours

PSY 214/SOC 214/SW 214	Research Methods: Design	3
PSY 215/SOC 215	Research Methods: Analysis	3
PSY 498	Senior Seminar	3
	Or	
PSY 499	Senior Thesis	3

21 credits - Upper-division psychology electives, including 6 credits from group 1: PSY 310, 320, 330, 340; and 6 credits from group 2: PSY 350, 360, PSY 370, 380

Students must take PSY 101 as one of their core social science courses. A maximum of six non-classroom hours may be used for completion of the major.

General Electives — 18-30 hours

Total Credit Hours: 120

Social Work

Nick McRee, Ph.D., chair

Faculty: Gates, Jones, Rogers

In keeping with the missions of the University of Portland and of the College of Arts and Sciences, the Dorothy Day Social Work Program offers an academically rigorous program enriched by intensive, educationally-directed field experiences and is committed to service, leadership, and social justice. The goals of the program are to prepare students to become culturally competent, ethical social work practitioners in a wide range of settings and to assume leadership roles in diverse societies. Based upon Catholic social teachings, the social work program is dedicated to work with vulnerable and marginal populations such as women, older adults, and people with disabilities. It affirms the values of human diversity, self-determination, and

community and global solidarity and sustainability. To achieve its goals, the social work program integrates a liberal arts foundation with social work values, skills, and knowledge to prepare students for service that is reflective, responsible, informed by scholarly knowledge, and responsive to the communities they serve.

Learning Outcomes for Social Work Majors

Social work graduates of the University of Portland should be able to:

1. Articulate social work values that form the foundation of practice such as advocacy for human rights and social and economic justice.
    a. Identify with the social work profession.
    b. Advocate for human rights and social and economic justice.
2. Utilize critical thinking and ethical conceptualization skills when addressing social problems and approaches to working with those problems.
    a. Apply ethical principles in practice.
    b. Apply critical thinking in practice.
3. Competently apply social work skills that are informed by theory, research, and best practices and that consider the cultural and other contexts in which practice occurs.
    a. Incorporate diversity in practice.
    b. Engage in informed research.
    c. Apply knowledge of human behavior and the social environment.
    d. Engage in policy practice to advance social and economic well-being.
    e. Respond to contexts that shape practice.
    f. Engage, assess, intervene, evaluate with individuals, families, groups, organizations, and communities.

Student Handbook and Program Standards

The *Social Work Program Student Handbook* is available on the social work website at this link. Students have the responsibility to acquaint themselves with its contents and are held accountable for all statements therein. To remain in good standing with the program and to enter the senior year practicum, students must maintain a minimum G.P.A. of 2.5 in all courses required for the major, among other standards outlined in the handbook.

Capstone Experience

During the senior year, students complete a year-long practicum placement in a community agency. Students also take two corequisite Theory and Methods of Social Work Practice courses, which focus on helping students learn to apply skills and knowledge to their work with individuals, groups, communities, and organizations.

Social Work, B.A.

University Requirements - 39 hours

See Core Curriculum9

For the social work major, students must take SW 205, PSY 101, and SOC 101. Two of these three will fulfill their core social science courses.

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Major Requirements — 42 hours

SW 205	Social Welfare and Social Justice	3
SW 214/PSY	Research Methods: Design	3

214/SOC 214		
SW 313	Social Welfare Policy	3
SW 325/SOC 325/SJP 325	Cultural Diversity and Cultural Competence	3
SW 343	Human Behavior in the Social Environment	3
SW 386	Interviewing and Counseling	3
SW 480	Theory and Methods of Social Work Practice I	3
SW 481	Theory and Methods of Social Work Practice II	3
SW 482	Social Work Practicum I	6
SW 483	Social Work Practicum II	6
	Major electives	6

General Electives — 6-18 hours

Total Credit Hours: 120

Sociology

Nick McRee, Ph.D., chair

Faculty: Duff, McRee, Monto, Rookey

The sociology program serves the academic mission of the University of Portland by offering a strong undergraduate major program in sociology, a specialized track of that major in criminology, and an essential university core offering: SOC 101, Introduction to Sociology. Consistent with the principles of a Catholic and Holy Cross education, the faculty is committed to the development of students as socially responsible, informed citizens with an awareness of social problems, an appreciation for individuals of diverse backgrounds, the ability to look critically and analytically at social life, and a commitment to contribute to positive change in the world.

Sociology contributes to a multidisciplinary department that includes psychology and social work. Faculty of the entire department are committed to offering rigorous core and major courses, regularly assessing the quality of our programs, and working to support the education of students across disciplines.

Majors in sociology receive coursework and personalized advising that prepares them for graduate studies, leadership, and service in areas such as criminal justice, law, education, industry, human services, government, journalism, and non-profit organizations. The curriculum imparts to students an understanding of society and culture as it is organized in various social institutions and provides training in the methods and theories of social research. Topics of study include marriage and family, criminology, urban society, gerontology, race and ethic relations, social psychology, gender, social inequality, and the study of culture.

Learning Outcomes for Sociology Majors

Graduates from the University of Portland with a sociology major should be able to:

1. Demonstrate an understanding of the major theories and concepts in sociology.
    a. Describe and apply central theoretical concepts and ideas through analysis papers.
    b. Identify fundamental insights of the field of sociology.
2. Understand, interpret, and design social research.
    a. Distinguish the strengths and weaknesses of types of research.
    b. Identify relevant ethical and cultural issues related to sociological research.

   c. Successfully conduct sociological research projects.
3. Express themselves through the written and spoken word.
   a. Justify conclusions, hypotheses, research questions, and need for further study.
   b. Write with clarity, economy, and precision.
   c. Clearly covey ideas and information in public settings.
4. Think critically about social life, question assumptions, and consider alternatives.
   a. Describe social factors shaping human behavior and social change.
   b. Identify relevant questions and make predictions about sociological phenomena.
   c. Critically analyze and evaluate contemporary social institutions, organizations, and policies, recognizing their strengths and weaknesses.
5. Demonstrate an understanding of the ways that social class, race, ethnicity, and gender affect individuals and shape their perceptions of the world.
   a. Identify the fundamental insights of sociology into issues of race, ethnicity, and gender.
   b. Articulate the fundamental concepts of sociology regarding minority-majority interaction and the basic characteristics of the genders, and racial and ethnic groups in the United States.

Graduates of the criminology track of the sociology major should also be able to:

6. Demonstrate an understanding of the operation of the criminal justice system and the social and psychological causes of criminal activity.
   a. Articulate social and individual causes of crime, recognizing the importance of social environment and socialization.
   b. Critically analyze and evaluate the criminal justice system and other social control mechanisms in society.

Capstone Experience

The capstone experience for the sociology program is provided by the course SOC 498, Senior Project Seminar. This course is taken in fall of the senior year and provides a structured opportunity to demonstrate and learn more about the complexity of sociological knowledge. While upper division courses in sociology normally focus on a particular issue, problem, institution, etc., the senior seminar examines the discipline of sociology as a whole, what it offers graduates, what it offers society, and what debates and conflicts it contains. Over the course of the semester, each student is also expected to complete a significant research project utilizing the knowledge and skills gained in their earlier coursework.

Sociology, B.A.

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Sociology Major Requirements — 30 hours

SOC 214/PSY 214/SW 214	Research Methods: Design	3
SOC 215/PSY 215	Research Methods: Analysis	3
SOC 380	Sociological Theory	3
SOC 498	Senior Project	3

Students must take SOC 101 as one of their core requirements. Students may substitute SOC 499, Thesis, for SOC 498, Senior Project Seminar. Psychology-sociology double majors may do a combined thesis with joint supervision in place of SOC 498.

18 credits - Upper-division hours of sociology electives

At least 6 hours must be taken from SOC 430-439, 491-492. A maximum of 6 non-classroom hours may be used for the completion of the major.

General Electives — 18-30 hours

Total Credit Hours: 120

Criminology Track of Sociology Major

This is a track of the sociology major that encourages a critical exploration of criminal behavior and the criminal justice system. The program, which includes a one-semester internship in the senior year, is particularly appropriate for students interested in working in law enforcement or the corrections system.

Degree Requirements

Criminology Track Requirements — 39 hours

SOC 214/PSY 214/SW 214	Research Methods: Design	3
SOC 215/PSY 215	Research Methods: Analysis	3
SOC 305	Sociology of Crime and Justice	3
SOC 336/SJP 336	Race and Ethnic Relations	3
SOC 360	Criminology	3
SOC 380	Sociological Theory	3
SOC 446	Criminology Internship	3
SOC 498	Senior Project	3

Students may substitute SOC 499, Thesis, for SOC 498, Senior Project Seminar. Psychology-sociology double majors may do a combined thesis with joint supervision in place of SOC 498.

15 credits - Additional upper-division hours in sociology or relevant psychology courses (PSY 380, 470, or Forensic Psychology)

At least 3 hours must be SOC 344 or 438, and at least 6 hours must be taken from SOC 430-439 or 491-492.

General Electives — 9-21 hours

Total Credit Hours: 120

Theology

Will Deming, Ph.D., chair

Faculty: Allison, Baasten, Butkus, Cameron, Cooper, Dempsey, Gaudino, Gordon, Hosinski, McManus, Park, Poorman, Sanchez

The Department of Theology is one of the most direct and visible ways in which the University promotes its mission as an independent, Catholic university committed to the tenets of faith and service. From both Catholic and ecumenical perspectives, it provides an education in the content and methods of Catholic theology across the major sub-disciplines of the field: biblical studies, historical theology, systematic theology, theological ethics, liturgical and sacramental theology, and spirituality. It also offers interdisciplinary courses, listed in the course offerings under “Theological Perspectives” (THEP). The interdisciplinary courses are co-taught by a theologian and member of another department, such as history, communication studies, or sociology.

A degree in theology provides a foundation for critical, spiritual, and ethical reflection; for scholarship and scholarly dialogue; for teaching; and for pastoral service and administration.

Learning Outcomes for Theology Majors

Theology graduates of the University of Portland should be able to:

1. Demonstrate an understanding of the content and methodologies of the major sub-disciplines of Catholic theology by examining issues through the lenses of each of the sub-disciplines.
2. Demonstrate an understanding of how these sub-disciplines inform and support one another by approaching a particular issue through the combined lenses of two or more of these sub-disciplines.
3. Demonstrate a theological understanding of the ethical aspects of both individual and social actions by writing essays that examine the ethical side of human actions in a manner that is coherent, analytical, and theologically reflective.
4. Demonstrate an understanding of religious faith.
    a. Discern the place of faith in one's own life.
    b. Discern the place of faith in the lives of others.

Capstone Experience

In the fall of his or her senior year, a theology major will write a formal paper of substantive length, usually 12-18 pages, whose thesis and thesis development integrate the methodologies and perspectives of at least two sub-disciplines of theology, e.g., ethics and spirituality, or biblical studies and systematics. At the end of the fall semester this paper will be submitted to the theology faculty for evaluation. In the spring semester of his or her senior year, the student will enroll in the one-credit capstone course (THE 499).

300 vs. 400-Level Courses

Most theology (THE) courses are offered on a 300 and a 400 level. Both designations satisfy the University core requirement for an "upper-division" theology course. Courses under the 300 designation are intended for students taking their third theology course in fulfillment of the University core requirements (i.e., the majority of students). The 400 designation is intended for theology majors, minors, and other students with a special interest in theology. Courses at the 400-level do not entail more work, but provide assignments more suited to students interested in theology beyond just the core requirements.

Theological perspectives (THEP) courses carry either a 300 or a 400 level designation, depending on the needs of the cross-listed discipline. The number does not indicate the relative difficulty of the course. Both are considered "upper-division" courses.

Theology, B.A.

In addition to THE 101 and THE 205, theology majors take 28 hours of upper-division courses. Of these 28 hours, 21 must be taken as 400-level offerings, with at least 3 of these hours coming from each of the six sub-disciplines of theology: biblical studies, historical theology, systematic theology, theological ethics, liturgical and sacramental theology, and spirituality. Of the remaining 7 hours, one hour is fulfilled by taking the capstone (THE 499), and the other 6 may be fulfilled either by taking courses at the 300-level or the 400-level, or by taking a 300 or 400-level course and a THEP offering. (Courses taken at a 300-level may not be retaken at a 400-level, or vice versa.)

University Requirements - 39 hours

See Core Curriculum9

College Requirements - 21-33 hours

See College Requirements BA45

Degree Requirements

Major Requirements — 34 hours total (28 upper-division hours)

	Biblical Studies	3
	Historical Theology	3
	Systematic Theology	3

	Theological Ethics	3
	Sacramental and Liturgical Theology	3
	Spirituality	3
	Upper-Division Theology Electives	9
	Capstone	1

General Electives — 21-33 hours

Total Credit Hours: 120

DR. ROBERT B. PAMPLIN, JR. SCHOOL OF BUSINESS ADMINISTRATION

Robin D. Anderson, Ed.D., dean

Lisa J. Reed, J.D., associate dean

Brian J. Adams, Ph.D., associate dean

Jon Down, Ph.D., assistant dean

Faculty: Adams, Adrangi, Anderson, Barnes, Beauchamp, Bernard, Chatrath, Down, Eom, Feldman, Gritta, Gudigantala, Hanig, Holloway, Jurinski, Kolay, Lewis, Lin, Lippman, McKittrick, Mitchell, Meckler, Pickett, Reed, Seal, Sebastiao, Stephens, Yu

Introduction

The Dr. Robert B. Pamplin, Jr. School of Business Administration was founded in 1939, and is one of the few schools of business in Oregon accredited by the Association for the Advancement of Collegiate Schools of Business (AACSB). The school offers the bachelor of business administration (B.B.A.) degree and the bachelor of arts in economics (B.A.) degree at the undergraduate level and the master of business administration (M.B.A.) degree, the master of science in finance (M.S.F.) degree, and the M.B.A./M.S.F. dual degree at the graduate level.

Mission

The Pamplin School of Business Administration's innovative curriculum is an outgrowth of its mission statement. This mission is to create a collaborative learning environment that develops our students' knowledge of effective business practices, enhances their analytic and interpersonal skills, and enables them to be successful and ethical leaders in their communities and the changing world. This mission challenges the Pamplin School of Business Administration to provide students with:

- The opportunity to obtain a comprehensive understanding of business and sustainable business practices;
- The leadership skills needed to manage organizations — communication, problem-solving, teamwork, and the utilization of technology;
- A series of professional development activities throughout the four years to provide self-insight and assessment of career expectations and opportunities;
- State-of-the-art curricula taught by highly motivated and concerned faculty on the leading edge of their disciplines; and
- An entrepreneurial mindset to recognize and seize opportunities.

Programs of Study

The School of Business and the Graduate School offer the following degrees and programs:

Bachelor of Business Administration in Accounting

Bachelor of Business Administration in Economics

Bachelor of Arts in Economics

Bachelor of Business Administration in Entrepreneurship and Innovation Management

Bachelor of Business Administration in Finance

Bachelor of Business Administration in Global Business

Bachelor of Business Administration in Marketing

Bachelor of Business Administration in Operations and Technology Management

Master of Business Administration (see Graduate School)

Master of Science in Finance (see Graduate School)

Additional and Specialized Programs

Minor in Business Administration

Minor in Economics

Minor in Entrepreneurship

Entrepreneurship Scholars Program

Executive M.B.A. in Nonprofit Management (see Graduate School181)

Dual B.B.A./M.B.A. Program for Accounting (see Graduate School181)

Technology Entrepreneurship Certificate Program (See Graduate School181)

Post M.B.A. Certificate Program (see Graduate School181)

See Also

The General Education Component110

School of Business Undergraduate Degree Requirements

The undergraduate program in the School of Business Administration includes seven majors leading to a B.B.A. degree and one major in economics leading to a B.A. degree. The B.B.A. majors include accounting, economics, entrepreneurship and innovation management, finance, global business, marketing, and operations and technology management. Both the B.B.A. and B.A. degrees include a general education component based on the University core curriculum. This is followed by other foundation and major courses depending upon the specific major. Minors are offered in business administration, economics, and entrepreneurship.

School of Business Learning Goals and Outcomes

Graduates of the School of Business Administration should be able to:

1. Demonstrate a broad core of business knowledge and specific knowledge and skills within a functional area of business and be able to integrate and apply this knowledge to identify, analyze, and recommend solutions to complex business problems.
2. Use written and oral communication effectively.
3. Use appropriate statistical and other mathematical techniques to support decision making.
4. Develop the range of interpersonal skills needed in business settings.
5. Analyze international business environments and formulate global adaptation strategies.
6. Make ethical and socially responsible choices in business and community leadership.

Pamplin Professional Preparation Program (P4)

Students in the Pamplin School of Business are required to engage in a series of professional development activities throughout their four years in the program. This will include vocational assessment, leader development, and professional-experiential activities. Students will complete résumé-building sessions, job shadows, mock and informational interviewing, service projects, an internship, attend an etiquette dinner, complete a portfolio, and attend other related career-development activities.

Honors Pledge

The faculty of the Pamplin School of Business encourages students to acknowledge the ethical component of teaching and learning that is an essential factor in fulfilling the University's mission in the classroom. Students are asked to reflect upon the core value of academic integrity and make this an integral part of their work at the University. Students are also asked to sign an honors pledge and attach it to submitted course work to affirm the integrity of their scholarship to all concerned.

Common Business Requirements for B.B.A. degrees — 51-54 hours

In addition to the University core requirements, students in the seven B.B.A. majors take similar non-business and business courses. The non-business courses taken in the College of Arts and Sciences assist in developing essential skills in speaking, writing, and mathematics.

The common business foundation is composed of lower and upper division courses taken by all B.B.A. majors. (The B.A. degree in economics includes different foundation courses centered in the arts and sciences curriculum.) Lower division courses

are sequenced to provide students foundational skills in leadership, software, economics, accounting, and management information systems, as well as broader perspectives on marketing, and the legal and social responsibilities of business. Upper-division foundation courses further develop business skills in finance, decision modeling, cross-cultural organizational behavior, and operations and technology management. A final course involves integrating these various foundational skills in managing overall company policy and operations.

Degree Requirements

Before declaring a major in business and taking upper-division major courses, students must complete the following:

1. Mathematics requirements for all majors: Statistics (MTH 161) and Finite Mathematics (MTH 141) with a minimum grade of C in each class;
    a. Some approved higher level mathematics courses can be substituted for these courses.
    b. All students must enroll in a mathematics course every semester until the mathematics requirements are completed.
2. Additional mathematics requirement for economics, finance, operations and technology management majors or global business majors who select these concentrations: Calculus (MTH 121) with a minimum grade of C.
3. All of the lower-division business foundation courses (BUS 100, ECN 120, ECN 121, BUS 200, BUS 209, BUS 210, BUS 250 & BUS 255) with a minimum combined GPA of 2.0.
    a. Students who elect to fulfill one social science core requirement with ECN 120 will need to complete an additional 3-credit course to fulfill the graduation requirement of 120 semester hours.
    b. BUS 100 — Introduction to Leadership must be completed in the student's first two semesters in the program. Students who transfer into the program after freshman year are also required to complete this course in the spring unless they have completed 60 or more college semester hours at the time of their admission into the program.

To qualify for the degree, students must complete the following:

1. A minimum of 120 semester hours of study;
2. All coursework with a minimum cumulative G.P.A. of 2.0;
3. All required major coursework with a minimum cumulative G.P.A. of 2.0; and
4. All Pamplin Professional Preparation Program (P4) requirements.

School of Business – The General Education Component

The general education component of the program is driven by the philosophy in the University's common curriculum where three interrelated educational goals are established:

- Discovering and acquiring knowledge of the world and the place of the individual in it;
- Identifying and developing personal and social values and goals; and
- Developing and refining skills, abilities, and ways of knowing.

University Core Requirements – 39 hours

Literature – 3 credits

ENG 112	Introduction to Literature	3

Fine Arts – 3 credits

FA 207	Introduction to Fine Arts	3

Math – 3 credits

MTH 141	Finite Mathematics	3

Science electives – 6 credits

History – 3 credits

Any 200 or 300-level course

Social Science – 6 credits

Chosen from two different discipline areas

CST 225	Fundamentals of Interpersonal Communication	3
ECN 120	Principles of Macroeconomics	3
POL 200	Introduction to United States Politics	3
POL 203	Introduction to Political Theory	3
POL 205	World Politics	3
PSY 101	General Psychology	3
SOC 101	Introduction to Sociology	3
SW 205	Social Welfare and Social Justice	3

Philosophy – 6 credits

PHL 150	Introductory Philosophy	3
	And	
PHL 220	Ethics	3

Theology – 9 credits

THE 101	An Introduction to Religion and Theology	3
THE 205	Biblical Tradition and Culture	3

and an upper-division theology elective

Total Credit Hours: 39

Degrees and Programs

Bachelor of Business Administration in Accounting

The University offers both a four-year B.B.A. and a five-year B.B.A./M.B.A. option for students considering a degree in accounting. The four-year, 120 credit hour B.B.A. degree is appropriate for students who wish to pursue:

1. Professional certification, such as a certified management accountant (CMA), certified internal auditor (CIA), and certified financial planner (CFP), for which an undergraduate degree is sufficient, or
2. A career in accounting or related field for which no certification is required.

Students who wish to pursue the certified public accountant (CPA) certification, which necessitates 150 semester credit hours, can obtain the required credit hours at the University by:

1. Completing the five-year B.B.A./M.B.A. degree, or
2. Obtaining additional credit hours while at the University through summer school or additional coursework during the regular academic year. Under this option, students can elect to complete a double major, complete a minor to enhance the student's skill set, or complete courses that match students' interests.

See University Core Requirements Error! Bookmark not defined.

Degree Requirements

Common Business Requirements — 52 hours

In conjunction with the general education requirements, all business students regardless of major take the common business requirements.

Non-Business Courses

CST 107	Effective Public Speaking	3
ENG 107	College Writing	3
MTH 161	Elementary Statistics	3

P4 Professional Development Requirements

BUS 101	Software Applications Workshop	1
BUS 202	Professional Development	1
BUS 302	Professional Development Internship	1
BUS 402	Professional Development Workshop	1

Business Foundation Lower Division

BUS 100	Introduction to Leadership	3
ECN 120	Principles of Macroeconomics	3
ECN 121	Principles of Microeconomics	3
BUS 200	Principles of Marketing	3
BUS 209	Financial Accounting	3
BUS 210	Managerial Accounting	3
BUS 250	Legal and Social Responsibility in Business	3
BUS 255	Management Information Systems	3

Business Foundation Upper Division

BUS 305	Business Finance	3
BUS 355	Decision Modeling	3
BUS 360	Cross-Cultural Organizational Behavior	3
BUS 361	Technology and Operations Management	3
BUS 400	Management Decisions and Policy	3

Major Requirements — 30 hours

BUS 310	Intermediate Accounting I	3
BUS 311	Intermediate Accounting II	3
BUS 312	Cost Accounting	3
BUS 365	Accounting Information Systems	3
BUS 411	Advanced Accounting I	3
BUS 450	Advanced Business Law	3
BUS 464	Business Taxation	3

BUS 465	Auditing	3
BUS 466	Advanced Accounting II	3
BUS 467	Personal Taxation	3

Additional Electives — 0-3 hours (depending upon whether ECN 120 is used to fulfill one social science requirement)

Total Credit Hours: 120

Bachelor of Business Administration in Economics

The economics major trains students to have strong technical skills and be well-versed in policy analysis and implementation. Throughout the curriculum, we discuss managing and allocating scarce natural, human, and financial resources, environmental policies and sustainable economic growth.

See University Core Requirements

Degree Requirements

Common Business Requirements — 55 hours

In conjunction with the general education requirements, all business students regardless of major take the common business requirements.

Non-Business Courses

CST 107	Effective Public Speaking	3
ENG 107	College Writing	3
MTH 121	Calculus for Business and Social Science	3
MTH 161	Elementary Statistics	3

P4 Professional Development Requirements

BUS 101	Software Applications Workshop	1
BUS 202	Professional Development	1
BUS 302	Professional Development Internship	1
BUS 402	Professional Development Workshop	1

Business Foundation Lower Division

BUS 100	Introduction to Leadership	3
ECN 120	Principles of Macroeconomics	3
ECN 121	Principles of Microeconomics	3
BUS 200	Principles of Marketing	3
BUS 209	Financial Accounting	3
BUS 210	Managerial Accounting	3
BUS 250	Legal and Social Responsibility in Business	3
BUS 255	Management Information Systems	3

Business Foundation Upper Division

BUS 305	Business Finance	3
BUS 355	Decision Modeling	3

BUS 360	Cross-Cultural Organizational Behavior	3
BUS 361	Technology and Operations Management	3
BUS 400	Management Decisions and Policy	3

Major Requirements — 24 hours

ECN 310	Econometrics	3
ECN 319	Intermediate Microeconomics	3
ECN 320	Intermediate Macroeconomics	3

Five of the following electives:

ECN 322	Environmental Economics	3
ECN 325/ENV 325	Economics and Metrics for Sustainability	3
ECN 424/SJP 424	Income Inequality	3
ECN 426/PCS 426	Comparative Economics	3
ECN 427	Sports Economics	3
ECN 428	Public Finance	3
ECN 429	Development Economics	3
BUS 431	Financial Markets and Institutions	3
ECN 440	International Economics	3

Additional Electives — 3-6 hours (depending upon whether ECN 120 is used to fulfill one social science requirement)

Total Credit Hours: 120

Bachelor of Arts in Economics

A second economics major is offered in the School of Business based on a foundation of courses in Arts and Sciences. Students in the B.A. degree take three prerequisite economics and statistics courses, followed by three required and five elective courses in economics.

See University Core Requirements

Degree Requirements

College of Arts and Sciences Requirements — 30-42 hours

ENG 107	College Writing	3
MTH 161	Elementary Statistics	3
	Foreign language competency at the intermediate level	0-12

12 credits - Upper-division in one of the following disciplines: Mathematics, Philosophy, Political Science, Psychology, or Sociology.

12 credits - Upper-division in CAS courses, 9 of which must come from 3 different disciplines.

Business Requirements — 12 hours

BUS 100	Introduction to Leadership	3

ECN 120	Principles of Macroeconomics	3
ECN 121	Principles of Microeconomics	3
MTH 121	Calculus for Business and Social Science	3

P4 Professional Development Requirements — 4 hours

BUS 101	Software Applications Workshop	1
BUS 202	Professional Development	1
BUS 302	Professional Development Internship	1
BUS 402	Professional Development Workshop	1

Major Requirements — 24 hours

ECN 310	Econometrics	3
ECN 319	Intermediate Microeconomics	3
ECN 320	Intermediate Macroeconomics	3

Five of the following electives:

ECN 322	Environmental Economics	3
ECN 325/ENV 325	Economics and Metrics for Sustainability	3
ECN 424/SJP 424	Income Inequality	3
ECN 426/PCS 426	Comparative Economics	3
ECN 427	Sports Economics	3
ECN 428	Public Finance	3
ECN 429	Development Economics	3
BUS 431	Financial Markets and Institutions	3
ECN 440	International Economics	3

Additional Electives — 3-15 hours (depending upon whether ECN 120 is used to fulfill one social science requirement; and the number of language courses needed to reach foreign language intermediate level competency)

Total Credit Hours: 120

Bachelor of Business Administration in Entrepreneurship and Innovation Management

The entrepreneurship and innovation management (EIM) major provides students with a course of study that will develop their ability to create and manage new ventures as stand alone entities or as part of established organizations.

Students in the Entrepreneur Scholars (E-Scholars) program pursuing the EIM major will be required to take the three E-Scholars courses, four additional required courses and one additional elective course.

See University Core Requirements

Degree Requirements

Common Business Requirements — 52 hours

In conjunction with the general education requirements, all business students regardless of major take the common business requirements.

Non-Business Courses

CST 107	Effective Public Speaking	3
ENG 107	College Writing	3
MTH 161	Elementary Statistics	3

P4 Professional Development Requirements

BUS 101	Software Applications Workshop	1
BUS 202	Professional Development	1
BUS 302	Professional Development Internship	1
BUS 402	Professional Development Workshop	1

Business Foundation Lower Division

BUS 100	Introduction to Leadership	3
ECN 120	Principles of Macroeconomics	3
ECN 121	Principles of Microeconomics	3
BUS 200	Principles of Marketing	3
BUS 209	Financial Accounting	3
BUS 210	Managerial Accounting	3
BUS 250	Legal and Social Responsibility in Business	3
BUS 255	Management Information Systems	3

Business Foundation Upper Division

BUS 305	Business Finance	3
BUS 355	Decision Modeling	3
BUS 360	Cross-Cultural Organizational Behavior	3
BUS 361	Technology and Operations Management	3
BUS 400	Management Decisions and Policy	3

Major Requirements — 24 hours

BUS 364	Innovation	3
BUS 370	Marketing Research	3
BUS 483	New Venture Operations and Control	3
BUS 484	New Venture Finance and Accounting	3

Non-E-Scholars

BUS 385	Opportunity Assessment	3
BUS 486	Venture Launch	3

Choose two courses from the list of **EIM electives** below (6 credits)

E-Scholars

BUS 480	Creating a World-Class Venture	3
BUS 481	Entrepreneur Apprenticeship	3
BUS 482	Global Entrepreneurship	3

Choose one course from the list of **EIM electives** below (3 credits)

EIM Electives:

BUS 376	Sustainable Marketing	3
BUS 443	International Marketing Management	3
BUS 452	Project Management	3
BUS 453	Supply Chain Management	3
BUS 456	Systems Analysis and Design	3
BUS 458	Operations Management for Competitive Advantage	3
BUS 471	Integrated Marketing Communications	3
BUS 487	Social Entrepreneurship	3

Additional Electives — 6-9 hours (depending upon whether ECN 120 is used to fulfill one social science requirement)

Total Credit Hours: 120

Bachelor of Business Administration in Finance

The finance major prepares students for careers as a chief financial officer, treasurer, investment analyst, or portfolio manager. Students of finance develop an understanding of a broad range of topics: financial statement analysis, the effects of financial leverage, stock and bond valuation, risk and return in the global capital markets, risk management, portfolio theory and management, security legislation, structure of capital markets, and ethics.

See University Core Requirements

Degree Requirements

Common Business Requirements — 55 hours

In conjunction with the general education requirements, all business students regardless of major take the common business requirements.

Non-Business Courses

CST 107	Effective Public Speaking	3
ENG 107	College Writing	3
MTH 121	Calculus for Business and Social Science	3
MTH 161	Elementary Statistics	3

P4 Professional Development Requirements

BUS 101	Software Applications Workshop	1
BUS 202	Professional Development	1
BUS 302	Professional Development Internship	1
BUS 402	Professional Development Workshop	1

Business Foundation Lower Division

BUS 100	Introduction to Leadership	3
ECN 120	Principles of Macroeconomics	3
ECN 121	Principles of Microeconomics	3
BUS 200	Principles of Marketing	3
BUS 209	Financial Accounting	3
BUS 210	Managerial Accounting	3
BUS 250	Legal and Social Responsibility in Business	3
BUS 255	Management Information Systems	3

Business Foundation Upper Division

BUS 305	Business Finance	3
BUS 355	Decision Modeling	3
BUS 360	Cross-Cultural Organizational Behavior	3
BUS 361	Technology and Operations Management	3
BUS 400	Management Decisions and Policy	3

Major Requirements — 24 hours

BUS 330	Managerial Finance	3
BUS 430	Investments	3
BUS 431	Financial Markets and Institutions	3
BUS 441	International Finance	3

Four of the following electives:

BUS 310	Intermediate Accounting I	3
BUS 311	Intermediate Accounting II	3
BUS 312	Cost Accounting	3
BUS 365	Accounting Information Systems	3
BUS 371	Consumer Behavior	3
BUS 385	Opportunity Assessment	3
BUS 411	Advanced Accounting I	3
BUS 432	Personal Financial Planning	3
BUS 450	Advanced Business Law	3
BUS 452	Project Management	3
BUS 453	Supply Chain Management	3
BUS 464	Business Taxation	3
BUS 467	Personal Taxation	3
BUS 472	Personal Selling	3
BUS 484	New Venture Finance and Accounting	3

	Choice of one upper-division Economics course	3

Additional Electives — 3-6 hours (depending upon whether ECN 120 is used to fulfill one social science requirement)

Total Credit Hours: 120

Bachelor of Business Administration in Global Business

As with the other business majors, global business has a foundation of four required courses that cover different but interrelated business disciplines. However, the business electives are reduced to six credit hours to allow for a language requirement of up to twelve credit hours (all students must complete a foreign language at the intermediate level as a minimum). Finally, the cultural immersion requirement can be met through study abroad programs sponsored by the University or by participating in programs offered through the Institute for the International Education of Students (IES). Students are strongly advised to study in a country that will help them further their language proficiency.

Study Abroad Requirement

Global business majors are required to study abroad in a summer, semester, or year-long program approved by University of Portland. The University does not guarantee that the students who wish to major in global business will be chosen to participate in a program abroad. The selection process is competitive and is based on factors which include, but are not limited to, academic performance, disciplinary record, maturity, flexibility, and potential for success in the environment abroad as judged by faculty, staff, and others who have come into contact with the applicant. Global business majors are responsible for maintaining strong academic credentials, as well as a positive profile in the other areas, to position themselves to be selected for a study abroad program. Ultimately, it is solely the student's responsibility to fulfill this requirement. Students who do not meet the requirements to be selected for a study abroad program will not be allowed to graduate with a global business major. Finally, students who intend to study abroad are encouraged to begin researching programs and planning ahead during their freshman year. Application deadlines fall well in advance of most programs' start dates, and students who plan ahead usually can integrate overseas study into their four-year plan without delaying their graduation. After narrowing down their choices, students should meet with business school staff to plan their remaining course schedules so as to avoid duplication of courses offered abroad and to assess any additional ramifications (for example, the need for summer school).

Language Requirement

Students must demonstrate proficiency through the intermediate level of one language (other than their native language) as determined by the foreign languages department. If proficiency at intermediate level is attained in less than six hours, students must take additional electives to meet the six hour minimum for language. Students are strongly encouraged to take courses with an international flavor, including additional language classes.

See University Core Requirements

Degree Requirements

Common Business Requirements — 52-55 hours

In conjunction with the general education requirements, all business students regardless of major take the common business requirements.

Non-Business Courses

CST 107	Effective Public Speaking	3
ENG 107	College Writing	3
MTH 121	Calculus for Business and Social Science	3
MTH 161	Elementary Statistics	3

MTH 121: (required for Global Business majors concentrating in Economics, Finance or Operations and Technology Management)

P4 Professional Development Requirements

BUS 101	Software Applications Workshop	1

BUS 202	Professional Development	1
BUS 302	Professional Development Internship	1
BUS 402	Professional Development Workshop	1

Business Foundation Lower Division

BUS 100	Introduction to Leadership	3
ECN 120	Principles of Macroeconomics	3
ECN 121	Principles of Microeconomics	3
BUS 200	Principles of Marketing	3
BUS 209	Financial Accounting	3
BUS 210	Managerial Accounting	3
BUS 250	Legal and Social Responsibility in Business	3
BUS 255	Management Information Systems	3

Business Foundation Upper Division

BUS 305	Business Finance	3
BUS 355	Decision Modeling	3
BUS 360	Cross-Cultural Organizational Behavior	3
BUS 361	Technology and Operations Management	3
BUS 400	Management Decisions and Policy	3

Major Requirements — 24-30 hours

ECN 440	International Economics	3
BUS 441	International Finance	3
BUS 443	International Marketing Management	3

6-12 Foreign language (competency at the intermediate level or beyond)

Major electives must be chosen from one of the six concentration areas below.

Accounting:

BUS 310	Intermediate Accounting I	3
BUS 311	Intermediate Accounting II	3
BUS 312	Cost Accounting	3

Economics*:

ECN 310	Econometrics	3
ECN 319	Intermediate Microeconomics	3
ECN 320	Intermediate Macroeconomics	3

Entrepreneurship Innovation and Management:

BUS 364	Innovation	3
BUS 385	Opportunity Assessment	3

BUS 486	Venture Launch	3

Finance*:

BUS 330	Managerial Finance	3
BUS 430	Investments	3
BUS 431	Financial Markets and Institutions	3

Marketing:

BUS 370	Marketing Research	3
BUS 371	Consumer Behavior	3
BUS 376	Sustainable Marketing	3

Operations and Technology Management* (Choose 3 of the following; the first 3 are highly recommended):

BUS 452	Project Management	3
BUS 453	Supply Chain Management	3
BUS 456	Systems Analysis and Design	3
BUS 356	Database Management	3
BUS 364	Innovation	3
BUS 454/BUS 548	Project Management Processes and Certification	3
BUS 457	Inventory Management	3
BUS 458	Operations Management for Competitive Advantage	3

Additional Electives — 0-9 hours (depending upon whether ECN 120 is used to fulfill one social science requirement; whether MTH 121 is required)

*The economics, finance, and operations and technology management concentrations require that a student completes MTH 121 — Calculus for Business and Social Science as part of their business math requirements.

Total Credit Hours: 120-126

Bachelor of Business Administration in Marketing

Students who choose to study marketing will learn how to identify and gain insight into customers in order to develop products and services that meet both customer needs and organizational goals.

See University Core Requirements

Degree Requirements

Common Business Requirements — 52 hours

In conjunction with the general education requirements, all business students regardless of major take the common business requirements.

Non-Business Courses

CST 107	Effective Public Speaking	3
ENG 107	College Writing	3
MTH 161	Elementary Statistics	3

P4 Professional Development Requirements

BUS 101	Software Applications Workshop	1
BUS 202	Professional Development	1
BUS 302	Professional Development Internship	1
BUS 402	Professional Development Workshop	1

Business Foundation Lower Division

BUS 100	Introduction to Leadership	3
ECN 120	Principles of Macroeconomics	3
ECN 121	Principles of Microeconomics	3
BUS 200	Principles of Marketing	3
BUS 209	Financial Accounting	3
BUS 210	Managerial Accounting	3
BUS 250	Legal and Social Responsibility in Business	3
BUS 255	Management Information Systems	3

Business Foundation Upper Division

BUS 305	Business Finance	3
BUS 355	Decision Modeling	3
BUS 360	Cross-Cultural Organizational Behavior	3
BUS 361	Technology and Operations Management	3
BUS 400	Management Decisions and Policy	3

Major Requirements — 24 hours

BUS 370	Marketing Research	3
BUS 371	Consumer Behavior	3
BUS 443	International Marketing Management	3
BUS 471	Integrated Marketing Communications	3

Four of the following electives, at least two of which must be in Business:

BUS 364	Innovation	3
BUS 376	Sustainable Marketing	3
BUS 385	Opportunity Assessment	3
BUS 452	Project Management	3
BUS 453	Supply Chain Management	3
BUS 472	Personal Selling	3
BUS 474	Digital Marketing	3
CST 301	Media and Society	3
CST 332	Collaborative Group Leadership	3
CST 352	News Writing and Reporting	3

CST 361	Introduction to Advertising	3
CST 362	Introduction to Public Relations	3
CST 364	Visual Communication	3
CST 402	Social Media and Cultures	3
ECN 322	Environmental Economics	3
ECN 325/ENV 325	Economics and Metrics for Sustainability	3
ENV 349/SJP 349/POL 349	Environmental Policy	3

Additional Electives — 6-9 hours (depending upon whether ECN 120 is used to fulfill one social science requirement)

Total Credit Hours: 120

Bachelor of Business Administration in Operations and Technology Management

Operations and technology management (OTM) is a hybrid major involving information technology (IT) and operations management (OM). OTM is an innovative, quantitative major designed to equip students with the tools necessary to guide them as they face the growing challenges and constant changes in managing global operations. The OTM major prepares students for careers as supply chain analysts, management consultants, quality engineers, data/information analysts, business systems analysts, etc.

Degree Requirements

University Core Requirements

Common Business Requirements — 55 hours

In conjunction with the general education requirements, all business students regardless of major take the common business requirements.

Non-Business Courses

CST 107	Effective Public Speaking	3
ENG 107	College Writing	3
MTH 121	Calculus for Business and Social Science	3
MTH 161	Elementary Statistics	3

P4 Professional Development Requirements

BUS 101	Software Applications Workshop	1
BUS 202	Professional Development	1
BUS 302	Professional Development Internship	1
BUS 402	Professional Development Workshop	1

Business Foundation Lower Division

BUS 100	Introduction to Leadership	3
ECN 120	Principles of Macroeconomics	3
ECN 121	Principles of Microeconomics	3
BUS 200	Principles of Marketing	3
BUS 209	Financial Accounting	3

BUS 210	Managerial Accounting	3
BUS 250	Legal and Social Responsibility in Business	3
BUS 255	Management Information Systems	3

Business Foundation Upper Division

BUS 305	Business Finance	3
BUS 355	Decision Modeling	3
BUS 360	Cross-Cultural Organizational Behavior	3
BUS 361	Technology and Operations Management	3
BUS 400	Management Decisions and Policy	3

Major Requirements — 24 hours

BUS 364	Innovation	3
BUS 452	Project Management	3
BUS 453	Supply Chain Management	3
BUS 456	Systems Analysis and Design	3

Four of the following electives: (choose at least two of the first four listed)

BUS 356	Database Management	3
BUS 454/BUS 548	Project Management Processes and Certification	3
BUS 457	Inventory Management	3
BUS 458	Operations Management for Competitive Advantage	3
BUS 312	Cost Accounting	3
BUS 330	Managerial Finance	3
BUS 441	International Finance	3
BUS 483	New Venture Operations and Control	3
ECN 319	Intermediate Microeconomics	3
ECN 440	International Economics	3

Additional Electives — 3-6 hours (depending upon whether ECN 120 is used to fulfill one social science requirement)

Total Credit Hours: 120

Double Majors

Students who want to major in two areas of business must complete the majority of these programs through separate electives. Only two upper-division electives may be cross counted for double majors.

Additional and Specialized Programs

To be awarded a minor at graduation, students must achieve an average G.P.A. of 2.50 or better in their minor classes. Students desiring to minor in business administration, economics, or entrepreneurship must declare their intent with the Pamplin School of Business Administration by the beginning of their junior year. Only one upper-division elective can be cross counted with

major courses for a minor requirement. Only one course may be transferred from another institution and must be pre-approved by the School of Business.

Minor in Business Administration

The business administration minor is open to students outside the Pamplin School of Business Administration.

Minor Requirements

Prerequisites — 6 hours

BUS 200	Principles of Marketing	3
BUS 209	Financial Accounting	3

Students should take ECN 120 as one of their social science requirements. Financial Accounting (BUS 209) and Statistics (MTH 161, MTH 361, or EGR 360) are both prerequisites to Business Finance (BUS 305).

Required Courses — 15 hours

BUS 305	Business Finance	3
BUS 360	Cross-Cultural Organizational Behavior	3

9 credits - Three upper-division business electives

may include one upper-division economics elective, and one Entrepreneur Scholars Program elective; some electives require calculus as a prerequisite

Minor in Economics

An economy is a system that produces output and distributes it among members of a society. Economics studies show how that system functions and how it can be improved. For a student majoring in another social science, the study of economics is a way to broaden their analysis of society. For a student majoring in business, the study of economics will expand their understanding of the business environment.

Minor Requirements

The minor in economics is open to students both inside and outside the Pamplin School of Business. It requires completing two lower-division and five upper-division elective courses, listed below. Only one upper-division economics course can be cross-counted in both the minor and another major.

Prerequisites — 6 hours

ECN 120	Principles of Macroeconomics	3
ECN 121	Principles of Microeconomics	3

Required Courses — 15 hours

Five of the following electives (one of the first two is required):

ECN 319	Intermediate Microeconomics	3
ECN 320	Intermediate Macroeconomics	3
ECN 310	Econometrics	3
ECN 322	Environmental Economics	3
ECN 325/ENV 325	Economics and Metrics for Sustainability	3
ECN 424/SJP 424	Income Inequality	3
ECN	Comparative Economics	3

426/PCS 426		
ECN 427	Sports Economics	3
ECN 428	Public Finance	3
ECN 429	Development Economics	3
BUS 431	Financial Markets and Institutions	3
ECN 440	International Economics	3

Minor in Entrepreneurship

This program provides students with an understanding of the entrepreneurial process and the tools necessary to develop and present a plan for a new business. The entrepreneurship minor is open to all students on campus except those with a major in entrepreneurship and innovation management. Those students in the Entrepreneur Scholars program have a modified course of study as shown below.

Minor Requirements

Non-Entrepreneur Scholar Minor Required Courses

Prerequisite — 3 hours

BUS 200	Principles of Marketing	3

Required Courses — 15 hours

BUS 364	Innovation	3
BUS 385	Opportunity Assessment	3
BUS 486	Venture Launch	3

Choose two elective courses from the following:

BUS 370	Marketing Research	3
	Or	
BUS 472	Personal Selling	3
BUS 452	Project Management	3
BUS 483	New Venture Operations and Control	3
BUS 484	New Venture Finance and Accounting	3
BUS 487	Social Entrepreneurship	3
CST 333	Applied Organizational Communication Skills	3
DRM 471	Principles of Theatre Management	3
ENV 400/PCS 400	Integrating Seminar in Environmental Studies	3
CS 481	Senior Design Project	3
	Or	
CE 482	Civil Engineering Senior Design Project II	3
	Or	
EE 481	Senior Design Project	3

	Or	
EGR 481	Capstone Project I	2
	with	
EGR 482	Capstone Project II	2
	Or	
ME 481	Mechanical Engineering Project I	2
	with	
ME 482	Mechanical Engineering Project II	2

Entrepreneur Scholar Minor Required Courses — 15 hours

BUS 364	Innovation	3
BUS 480	Creating a World-Class Venture	3
BUS 481	Entrepreneur Apprenticeship	3
BUS 482	Global Entrepreneurship	3

Choose one elective course from the following:

BUS 483	New Venture Operations and Control	3
BUS 484	New Venture Finance and Accounting	3
BUS 487	Social Entrepreneurship	3

Entrepreneur Scholars Program (E-Scholars)

The program matches each student with an entrepreneurial mentor and provides the opportunity for domestic and international travel to meet with business leaders and practice global business. Students who are selected for this program can participate in their junior or senior year.

Application to this competitive program is open to all University of Portland students and consists of:

BUS 480	Creating a World-Class Venture	3
BUS 481	Entrepreneur Apprenticeship	3
BUS 482	Global Entrepreneurship	3

B.B.A./M.B.A Program for Accounting Majors

Degree Outcomes

Candidates who plan to sit for the CPA exam in Oregon (and most other states) must have completed 150 semester credit hours before taking the test. To provide these students with the necessary hours, the Pamplin School of Business Administration has developed a separate five-year B.B.A./M.B.A. program that allows students to complete both degrees (120 semester credit hour B.B.A. and 30 semester credit hour M.B.A.) in five years. This abbreviated M.B.A. program is intended only for students who will be completing their undergraduate accounting degree including taking BUS 465 and BUS 466. The latter are cross-listed as graduate courses, thus making the program the equivalent of 36 hours. Because specific requirements for CPA licensing vary by state, students should review their state's CPA requirements.

Eligibility

Students who wish to obtain CPA certification must complete 150 semester credit hours prior to taking the CPA exam. Students enrolled as undergraduates at the University can complete the five-year B.B.A./M.B.A. program to complete the 150 semester credit hours. Eligibility for this five-year program include:

Degree Requirements

1. Complete a B.B.A. at the University of Portland with a major in accounting, earning a B average in the following:

ECN 120	Principles of Macroeconomics	3
ECN 121	Principles of Microeconomics	3
MTH 161	Elementary Statistics	3
BUS 200	Principles of Marketing	3
BUS 209	Financial Accounting	3
BUS 210	Managerial Accounting	3
BUS 255	Management Information Systems	3
BUS 305	Business Finance	3
BUS 355	Decision Modeling	3
BUS 361	Technology and Operations Management	3
BUS 365	Accounting Information Systems	3

2. Earn a cumulative G.P.A. of at least 3.0 through fall semester of senior year.

3. Earn at least 500 on the Graduate Management Admissions Test (GMAT). An admissions index score is calculated as 200 times the applicant's undergraduate G.P.A. plus the GMAT test score. An index of 1100 is required for admission.

4. Formally apply to the M.B.A. program through the graduate school by April 1 of the senior year. Students must have been accepted into the M.B.A. program prior to enrolling in any courses at the graduate level. Students should note that admission to the M.B.A. program is based on the entire application, not merely quantitative factors. Application requirements may be subject to change.

5. Enter the M.B.A. program within two semesters after the completion of their B.B.A. requirements at the University of Portland.

6. Students should note that the B.B.A./M.B.A. is composed of two separate programs. Undergraduate financial aid and scholarships do not continue in the M.B.A. program. However, financial aid is available in the graduate program.

M.B.A. Program Requirements — 30-33 graduate credit hours

Prerequisite

BUS 500/NRS 500	Statistical and Quantitative Analysis	3

BUS 500 — Statistical and Quantitative Analysis: can be waived with a waiver exam

Values Perspective — 6 hours

Students select two courses from the list below. The other courses may be taken as electives.

BUS 510	Economics and Metrics for Sustainability	3
BUS 511	Cross-Cultural Management	3
BUS 512	Leadership and Higher Level Management	3
BUS 513	Social Responsibility in Organizations	3

Core courses — 12 hours

Students may waive a core course and take an advanced course in the same field with the preapproval of the M.B.A. program director.

BUS 520	Applied Marketing Strategies	3

BUS 530	Corporate Finance	3
	Operations Management elective	3
	International course	3

Capstone Component — 3 hours

BUS 580	Strategic Issues and Applications in Management	3

Elective Courses — 9 hours

	Students may take any three graduate business courses beyond the core courses.	9

SCHOOL OF EDUCATION

John L. Watzke, Ph.D., dean

Bruce N. Weitzel, Ph.D., associate dean

Faculty: Anctil, Arwood, Carroll, Christen, Egby, Eifler, Greene, Grote, Hood, Ilsovay, Kalnin, Merk, Morrell, Owens, Thacker, Waggoner, Weitzel

Introduction

The School of Education is accredited through the National Council for Accreditation of Teacher Education and its programs are approved by the Oregon Teacher Standards and Practices Commission. The school receives further recognition by the University of Portland's accreditation from the Northwest Schools and Colleges. The School of Education is a member of the American Association of Colleges for Teacher Education, the Association of Teacher Educators, and the Association of Independent Liberal Arts Colleges of Teacher Education and several other professional organizations.

Federal law requires that all schools of education report required teacher licensure exams and the percentage of graduates from their programs passing those exams. All candidates within our initial teacher preparation programs must achieve passing scores on the following tests:

1. NES EAS (National Evaluation Series Essential Academic Skills) subtest I, II, and III (basic skills)
2. NES EAS Elementary Education subtest I and II (multiple subjects).

Middle and high school candidates must also achieve passing scores on the ORELA subject area test (TSPC determines passing scores). Since passing scores are required on all licensure exams as a program completion requirement, all candidates who complete University of Portland School of Education programs have received passing scores on each licensure exam.

Mission

Affirming an ethos that each individual is a learner, that dignity and justice are achieved through education, and that education is a community responsibility, the School of Education continues a Holy Cross mission begun two centuries ago to prepare teachers and leaders to "educate the whole child: the heart, the mind, the hands" (Moreau, 1856). Through programs of professional preparation, service, and community building, the School engages society both in the present, and in the future, through generations of alumni in the pursuit of the common good.

"Education is the art of helping young people to completeness."
Rev. Basil Moreau,
Founder of the Congregation of Holy Cross

Guided by the University commitment to be a premier comprehensive Catholic university, the School of Education prepares individuals at all stages of their careers to become exceptional professional educators, who teach and lead. Such educators, the School of Education believes, demonstrate an array of knowledge, skills, and professional dispositions. They are life-long learners who are empathetic and respectful of others. They are exceptional communicators and can work effectively with others. Knowledgeable of both theory and practice, they have a broad and deep knowledge about students, the curriculum, and learning, and the concomitant skills to organize classrooms and employ instructional strategies to meet the diverse needs of learners.

Program Objectives

The objective of all programs in the School of Education stem from the mission statement to create teachers and administrators who exhibit the characteristics mentioned in the following principles of the conceptual framework and allow these principles to guide their practice.

- Exceptional professional educators are lifelong learners.
- Exceptional professional educators are empathetic and respectful.
- Exceptional professional educators communicate and work effectively with others.
- Exceptional professional educators have a broad knowledge about the diversity of individuals and world around them.
- Exceptional professional educators have deep knowledge about content.

- Exceptional professional educators have deep knowledge about how people learn.
- Exceptional professional educators have deep knowledge and skills necessary to use instruction and the organization of classrooms, schools, and school systems to assist all learners to succeed.
- Exceptional professional educators fuse theory and practice.

Programs of Study

The School of Education and the Graduate School offer the following degrees and programs:

Bachelor of Arts in Elementary Education

Bachelor of Science in Secondary Education

Master of Arts (see Graduate School204)

Master of Arts in Teaching (see Graduate School204)

Master of Education (see Graduate School204)

Additional and Specialized Programs:

Minor in Education

Reading Endorsement

Special Education Endorsement

English for Speakers of Other Languages Endorsement

Neuroeducation Certificate (see Graduate School204)

Initial and Continuing Administrative License (see Graduate School204)

School of Education Undergraduate Requirements

The undergraduate teacher education programs have two strategic points during the four-year program, namely: (1) admission to the School of Education and (2) advancement to the professional year.

Admission to the School of Education

Freshmen: Because teachers work closely with minors, admission to the School of Education requires all candidates to have recent fingerprinting clearance. Thus, all freshman and transfer candidates must be cleared before participating in any P-12 field based experiences.

Admission of freshman candidates is based upon a derived matrix score which includes a combination of predictors of probable success: SAT scores (or equivalent basic skills test scores approved by the associate dean), academic records (including grade point average), essay sample, and a personal recommendation.

Transfer Candidates: Admission of transfer candidates is determined on the evaluation of college transcripts (high school transcripts if fewer than 26 semester or 39 quarter hours of college work have been completed), essays, and passage of National Evaluation System's Essential Academic Skills (passing scores are set by TSPC); scores must be submitted as a prerequisite for admission.

Advancement to the Professional Year

The professional year is a two-semester student teaching experience, beginning with fall semester clinical placement including concurrent professional education coursework. The spring semester completes the professional coursework and culminates with full-time student teaching responsibilities in a classroom.

Ordinarily, elementary and secondary undergraduate majors must take a minimum of 12 semester hours in education courses at the University of Portland in order to enter the professional year. In addition, secondary candidates must take and successfully complete 75 percent of the courses required in their endorsement area at the University of Portland. The permission of the associate dean must be obtained for an exception.

Candidates may not advance to the professional year until all appropriate classes required in the endorsement area and all content courses required by TSPC have been completed. Should it be necessary, a clear plan for completing these requirements by the summer before the beginning of the professional year must be filed before application to the University Teacher Education Committee (UTEC) is made.

The school will advance to student teaching only those candidates who satisfy the requirements for scholarship and personal qualification suitable for teaching. Candidates must successfully meet the requirements of all course work while demonstrating academic integrity. In addition, ethical, competent behavior is required during all field experiences and practica.

The process of advancement to the professional year entails review by the School of Education assistant dean and approval by the University Teacher Education Committee (UTEC). Ordinarily, placements occur only in districts where professional year candidates do not have personal relationships with employees of the district.

Prerequisites apply to all candidates desirous of advancing to the professional year:

1. Passage of NES EAS (National Evaluation Series Essential Academic Skills) subtest I, II, and III for all levels of authorization. Passage of ORELA Multiple Subjects subtest I and II (TSPC determines passing scores) for Early Childhood/Elementary levels of authorization. Passage of ORELA subject area tests (TSPC determines passing scores) for Middle School/High School levels of authorization.
2. Minimum of 2.50 cumulative G.P.A. for all academic work at the University of Portland.
3. A minimum cumulative 2.70 G.P.A. in all education classes.
4. A grade of C or better in all education courses (candidates who receive a grade of C- or lower in any education course must repeat the course).
5. Minimum 2.70 G.P.A. in the teaching specialty (secondary/endorsement) area; with a minimum grade of C in all endorsement courses.
6. Passage of ENG 107 and CST 107 or equivalent course with a grade of B- or better.
7. Satisfactory completion of all field experiences prior to the professional year.
8. Recommendations from two University of Portland School of Education faculty for elementary education candidates. For secondary education candidates, an additional recommendation from a faculty member in the endorsement area is required.
9. All paperwork and approvals necessary for student teaching must be completed by June 1 prior to fall semester for site placement in the professional year.

Requisites of the Professional Year:

1. Candidates must enroll in designated program of study courses;
2. Courses outside the designated program of study may be taken only with written permission of the associate dean;
3. Candidates must continue to maintain a C or better in all fall semester education or endorsement courses.

Multiple Endorsements A candidate may earn more than one subject area endorsement when the prescribed program of study has been completed, related tests are passed, and a practicum including a work sample are completed. Permission of the associate dean is required to enroll in the related practicum.

The School of Education faculty involves the candidates in continuous assessment of their progress in attaining the program objectives and retains only those candidates who satisfy the requirements of scholarship, health, and personal suitability. Candidates must fulfill the requirements for the theoretical and field components of the major.

Requirements

School of Education Requirements

University Core Requirements – 39 hours

Fine Arts – 3 credits

FA 207	Introduction to Fine Arts	3

History – 3 credits

HST 210	United States: Early America	3
	Or	
HST 211	United States: Modern America	3

Literature – 3 credits

ENG 112	Introduction to Literature	3

Mathematics – 3 credits

MTH 161	Elementary Statistics	3

Philosophy – 6 credits

PHL 150	Introductory Philosophy	3
PHL 220	Ethics	3

Science – 6 credits

PHY 109	Powerful Ideas in Physical Science	3
ENV 110	Earth Systems Science	3

Secondary Education: Choose ENV 182 and any other science course.

Social Science electives – 6 credits

Theology – 9 credits

THE 101	An Introduction to Religion and Theology	3
THE 205	Biblical Tradition and Culture	3

plus upper-division theology elective

Degrees and Majors

Bachelor of Arts in Elementary Education

Learning Outcomes

The bachelor of arts in education degree leads to recommendation for Oregon licensure at two levels of authorization: early childhood and elementary education or elementary and middle level education. Additional endorsements may also be completed with additional hours of study. General degree outcomes are listed below. Candidates for the degree will be able to:

- Plan instruction that supports student progress in learning in multiple subject areas and is appropriate for the early childhood, elementary, or middle developmental levels.
- Establish a classroom climate conducive to learning.
- Engage students in planned learning activities.
- Evaluate, act upon, and report student progress in learning.
- Exhibit professional behaviors, ethics, and values.

Degree Requirements

To qualify for the degree and recommendation for Oregon licensure, the following requirements must be met:

1. Passage of NES EAS (National Evaluation Series Essential Academic Skills) subtest I, II, and III and ORELA Multiple Subjects subtest I and II (TSPC determines passing scores) *;
2. Completion of a minimum of 120 semester hours of study;

3. Successful completion of all coursework with a minimum cumulative GPA of 2.50;
4. A minimum cumulative GPA of 2.70 in all education classes;
5. A grade of C or better in all education courses (Candidates who receive a grade of C or lower in any education course must repeat the course.);
6. Successful completion of student teaching to include two work samples- one at each authorization level;
7. Recommendation for licensure from the associate dean;
8. Subject to approval by the dean, candidates who are not able to complete student teaching and student teaching seminar and/or other licensure requirements may be recommended for graduation without licensure by substituting upper division educational coursework which meets University requirements for a degree.

*Candidates for Elementary/Middle Level authorizations must also pass the ORELA middle grades subject area test (TSPC determines passing scores).

See University Core Requirements132

Degree Requirements

Major Requirements — 81 hours

ED 150	Introduction to Education	3
ED 230	ECE/ELEM Human Development	3
ED 300	ECE/ELEM Psychology of Learning	3
ED 320/SJP 320	Foundations of Education	3
ED 330	Policies and Practices for Diverse Learners	3
ED 340	ECE/ELEM Physical Education	3
ED 400	ECE/ELEM Curriculum and Instruction	3
ED 411	Assessment	3
ED 414	Children's and Adolescent Literature and Library	3
ED 426	ECE/ELEM Classroom Relationships and Management	3
ED 442	ECE/ELEM Reading and Language Arts Methods	3
ED 445	EC/ELEM Mathematics and Science Methods	3
ED 447	Fostering Creativity in the Classroom	3
ED 470	ECE/ELEM Student Teaching	3
ED 472	ECE/ELEM Student Teaching	3
ED 476	ECE/ELEM Student Teaching: Advanced	3
ED 481	Reading, Language, and Cultural Diversity in Schools	3
ED 487	ECE/ELEM Seminar for Student Teachers	3
ENG 107	College Writing	3
MTH 105	Mathematics for Elementary Teachers I	3

MTH 106	Mathematics for Elementary Teachers II	3
CST 107	Effective Public Speaking	3
BIO 103	Human Biology	3
	Electives	12

Total Credit Hours: 120

Sample Program for Bachelor of Arts in Elementary Education

Freshman Year - Fall Semester

ED 150	Introduction to Education	3
ENG 107	College Writing	3
MTH 105	Mathematics for Elementary Teachers I	3
HST 210	United States: Early America	3
	Or	
HST 211	United States: Modern America	3
PHL 150	Introductory Philosophy	3

Freshman Year - Spring Semester

ED 230	ECE/ELEM Human Development	3
CST 107	Effective Public Speaking	3
MTH 106	Mathematics for Elementary Teachers II	3
PHY 109	Powerful Ideas in Physical Science	3
THE 101	An Introduction to Religion and Theology	3

Sophomore Year - Fall Semester

ED 330	Policies and Practices for Diverse Learners	3
ED 340	ECE/ELEM Physical Education	3
ENG 112	Introduction to Literature	3
PHL 220	Ethics	3
	Electives	6

Sophomore Year - Spring Semester

ED 320/SJP 320	Foundations of Education	3
ED 300	ECE/ELEM Psychology of Learning	3
FA 207	Introduction to Fine Arts	3
THE 205	Biblical Tradition and Culture	3
MTH 161	Elementary Statistics	3
ENV 110	Earth Systems Science	3

Junior Year - Fall Semester

BIO 103	Human Biology	3
ED 400	ECE/ELEM Curriculum and Instruction	3
ED 414	Children's and Adolescent Literature and Library	3
	Social science elective	3
	Electives	6

Junior Year - Spring Semester

ED 481	Reading, Language, and Cultural Diversity in Schools	3
ED 426	ECE/ELEM Classroom Relationships and Management	3
ED 442	ECE/ELEM Reading and Language Arts Methods	3
	Theology Electives	3
	Social science elective	3

Professional Year - Fall Semester

ED 411	Assessment	3
ED 445	EC/ELEM Mathematics and Science Methods	3
ED 470	ECE/ELEM Student Teaching	3
	Elective	3

Professional Year - Spring Semester

ED 447	Fostering Creativity in the Classroom	3
ED 472	ECE/ELEM Student Teaching	3
ED 476	ECE/ELEM Student Teaching: Advanced	3
ED 487	ECE/ELEM Seminar for Student Teachers	3

Total Credit Hours: 120

Bachelor of Science in Secondary Education

Learning Outcomes

The bachelor of science in secondary education leads to recommendation for Oregon licensure for two levels of authorization: middle level and high school education. Subject area endorsements are available in biology, chemistry, French, German, language arts, advanced mathematics, music, physics, social studies, and Spanish. We also offer a course of study to prepare high school religion teachers.

General degree outcomes are listed below. Candidates for the degree will be able to:

- Plan instruction that supports student progress in learning in content areas and is appropriate for the middle school and high school developmental levels.
- Establish a classroom climate conducive to learning.
- Engage students in planned learning activities.

- Evaluate, act upon, and report student progress in learning.
- Exhibit professional behaviors, ethics, and values.

Degree Requirements

To qualify for the degree and recommendation for Oregon licensure, the following requirements must be met:

1. Passage of NES EAS (National Evaluation Series Essential Academic Skills) subtest I, II, and III (TSPC determines passing scores);
2. Completion of a minimum of 120 semester hours of study;
3. Successful completion of all coursework with a minimum cumulative G.P.A. of 2.50;
4. A minimum cumulative G.P.A. of 2.70 in all education classes;
5. A grade of C or better in all education courses (candidates who receive a grade of C- or lower in any education course must repeat the course);
6. Completion of a teaching endorsement (major) in at least one of the secondary endorsement areas with a cumulative G.P.A. of at least 2.70 in that area and a grade of a C in all endorsement classes. Ordinarily, a minimum of 75 percent of the credits in an endorsement area of the secondary specialty area must be taken at the University of Portland for a secondary undergraduate major to student teach in that area. The permission of the associate dean must be obtained for an exception;
7. Passage of ORELA subject area tests (TSPC determines passing scores);
8. Successful completion of student teaching to include two work samples;
9. Recommendation for licensure from the associate dean;
10. Subject to approval by the dean, candidates who are not able to complete student teaching and student teaching seminar and/or other licensure requirements may be recommended for graduation without licensure by substituting upper-division educational coursework which meets University requirements for a degree.

See University Core Requirements132

Degree Requirements

Major Requirements — 81 hours

ED 150	Introduction to Education	3
ED 231	MS/HS Human Development	3
ED 301	MS/HS Psychology of Learning	3
ED 320/SJP 320	Foundations of Education	3
ED 330	Policies and Practices for Diverse Learners	3
ED 411	Assessment	3
ED 427	MS/HS Classroom Relationships and Management	3
ED 450	Models of Teaching and Literacy Development	3
ED 452	MS/HS Content Methods: Language Arts	3
	Or	
ED 453	MS/HS Content Methods: Math	3
	Or	
ED 454	MS/HS Content Methods: World	3

	Language	
	Or	
ED 456	MS/HS Content Methods: Social Studies	3
	Or	
ED 457	MS/HS Content Methods: Science	3
ED 471	MS/HS Student Teaching	3
ED 473	MS/HS Student Teaching	3
ED 475	MS/HS Student Teaching: Advanced	3
ED 486	MS/HS Seminar for Student Teachers	3
ENG 107	College Writing	3
	Electives	6
	Endorsement courses	30

Total Credit Hours: 120

Sample Program for the Bachelor of Science in Secondary Education

Freshman Year - Fall Semester

ED 150	Introduction to Education	3
HST 210	United States: Early America	3
	Or	
HST 211	United States: Modern America	3
ENG 107	College Writing	3
PHL 150	Introductory Philosophy	3
	Endorsement course	3

Freshman Year - Spring Semester

ED 231	MS/HS Human Development	3
CST 107	Effective Public Speaking	3
MTH 161	Elementary Statistics	3
THE 101	An Introduction to Religion and Theology	3
	Endorsement course	3

Sophomore Year - Fall Semester

ED 301	MS/HS Psychology of Learning	3
ED 330	Policies and Practices for Diverse Learners	3
ENG 112	Introduction to Literature	3
PHL 220	Ethics	3
	Endorsement course	3
	Endorsement course	3

Sophomore Year - Spring Semester

ED 320/SJP 320	Foundations of Education	3
FA 207	Introduction to Fine Arts	3
ENV 182	Environmental Science	3
THE 205	Biblical Tradition and Culture	3
	Endorsement course	3
	Endorsement course	3

Junior Year - Fall Semester

ED 427	MS/HS Classroom Relationships and Management	3
	Endorsement course	3
	Endorsement course	3
	Theology Electives	3
	Social Science	3

Junior Year - Spring Semester

ED 450	Models of Teaching and Literacy Development	3
	Endorsement course	3
	Endorsement course	3
	Social science electives	6

Professional Year - Fall Semester

ED 452	MS/HS Content Methods: Language Arts	3
	Or	
ED 453	MS/HS Content Methods: Math	3
	Or	
ED 454	MS/HS Content Methods: World Language	3
	Or	
ED 456	MS/HS Content Methods: Social Studies	3
	Or	
ED 457	MS/HS Content Methods: Science	3
ED 471	MS/HS Student Teaching	3
	Elective	3
	Endorsement course	3

Professional Year - Spring Semester

ED 411	Assessment	3
ED 473	MS/HS Student Teaching	3

ED 475	MS/HS Student Teaching: Advanced	3
ED 486	MS/HS Seminar for Student Teachers	3

Total Credit Hours: 120

Education Minor

The education minor is for candidates interested in general educational studies and those preparing for advanced study in education related areas such as law, social work, and politics.

Minor Requirements — 18 hours

ED 230	ECE/ELEM Human Development	3
	Or	
ED 231	MS/HS Human Development	3
ED 320/SJP 320	Foundations of Education	3
ED 330	Policies and Practices for Diverse Learners	3
	Upper-division education electives	9

Field experience is required in some courses. Candidates interested in this minor should declare intent with the School of Education.

Education Minor (Preparation for 5th Year M.A.T.) Requirements — 18 hours

This minor is for candidates who wish to major in a content area while preparing to enter an augmented Master of Arts in Teaching program (M.A.T.) after graduation.

ED 230	ECE/ELEM Human Development	3
	Or	
ED 231	MS/HS Human Development	3
ED 300	ECE/ELEM Psychology of Learning	3
	Or	
ED 301	MS/HS Psychology of Learning	3
ED 320/SJP 320	Foundations of Education	3
ED 330	Policies and Practices for Diverse Learners	3
ED 426	ECE/ELEM Classroom Relationships and Management	3
	Or	
ED 427	MS/HS Classroom Relationships and Management	3
ED 442	ECE/ELEM Reading and Language Arts Methods	3
	Or	
ED 450	Models of Teaching and Literacy Development	3

Field experience is required in some courses. Candidates interested in this minor must declare intent with the School of Education. Candidate must comply with specific G.P.A. and testing requirements in order to qualify for the M.A.T. program.

Health and Physical Education Minor in Sport Exercises and Fitness

This minor is for those interested in aspects of physical education beyond participation in sports and those interested in meeting graduate school requirements in athletic training programs.

Minor Requirements - 29 hours

BIO 103	Human Biology	3
NRS 202	Nutrition	3
HPE 204	Introduction to Athletic Training	3
HPE 210	Lifetime Health and Fitness	3
BIO 307	Human Anatomy	3
HPE 405	Kinesiology for Physical Educators	3
BIO 308	Human Physiology	3
HPE 406	Medical Aspects of Athletic Injuries	3
HPE 408	Exercise Physiology for Physical Educators	3
BIO 377	Anatomy Laboratory	1
BIO 378	Physiology Laboratory	1

Candidates interested in this minor should declare intent with the School of Education.

Endorsements in Reading, Special Education, and English for Speakers of Other Languages

Candidates may add any of the following special endorsements to initial licenses at any authorization level: basic mathematics, English for speakers of other languages, reading, special educator, or speech. Details on requirements may be obtained through the School of Education at (503) 943-7135.

Reading Endorsement

The reading endorsement advances teachers' abilities to provide reading instruction and to diagnose and remediate reading problems in diverse instructional settings. Coursework leads to reading endorsement.

Endorsements in Reading

Candidates will know and understand the fundamental applications and concepts related to the following standards:

- Foundational knowledge and professional dispositions.
- Instructional strategies and curriculum materials.
- Assessment, diagnosis and evaluation.
- Creating a literate environment.
- Professional development.
- Leadership: Guidance and supervision of paraprofessionals.

Reading Endorsement Learning Outcomes

1. Candidate is a lifelong learner.
    a. Candidates analyze his/her ideas about change and the change process.
2. Candidate is empathetic and respectful.
    a. Candidates will value the importance of adopting relational strategies that are appropriate for the individual circumstances, cultures, and abilities of students.
    b. Candidates will exhibit thoughtful, responsible, and participatory attitudes and behaviors characteristic of a professional educator and a reflective practitioner.
3. Candidate communicates and works effectively with others.
    a. Candidates will understand techniques for collaborative work.
    b. Candidates will know the role of meditation in the coaching/supervision process.
    c. Candidates will collaborate with colleagues on extending understanding and implementing new teaching strategies.
    d. Candidates will acquire strategies for helping students to expand their response repertoire for problem solving and positive, fair choice making.
4. Candidate had a broad knowledge about the individuals and world around him/her.
    a. Candidates analyze data from her/his school to justify a possible change goal.
    b. Candidates will understand how diversity among individuals and communities impacts their school.
    c. Candidates will understand how diversity impacts reform efforts at the school, district, and national level.
5. Candidate has a deep knowledge about the subjects he or she teaches.
    a. Candidates know and use theory base of teacher leadership.
    b. Candidates understand the nature of knowledge and how a teacher's paradigm of knowledge and assumptions shape their instructional decision-making.
6. Candidate has a deep knowledge about how people learn.
    a. Candidates will use course concepts and recommended strategies to formulate a framework for making changes in management and instructional practices.
    b. Candidates will understand the neurological basis of student learning and of the impact of specific instructional strategies.
7. Candidate has a deep knowledge and skills necessary to use instruction and the organization of classrooms to assist all learners to succeed.
    a. Candidates will gain insight into the role the teacher plays in cultivating the relationship the learner has with the object of study.
    b. Candidates will become skilled in reflectively analyzing and monitoring the development of personal classroom practices, beliefs, and style of leadership.
8. Candidate fuses theory and practice.
    a. Candidates analyze school data and develop a personal theory of action.
    b. Candidates will understand the relationship between the theory base of teacher leadership and school culture.
    c. Candidates conduct peer coaching cycles, incorporating insights and techniques from cognitive coaching and clinical supervision.
    d. Candidates give skilled assistance to a colleague in analyzing and developing a lesson or learning activity.
    e. Candidates will use course concepts and recommended strategies to formulate a framework for making changes in management and instructional practices.

f. Candidates will modify existing instructional practices and adopt new ones capable of engaging all students in the learning process.

Reading Endorsement Requirements — 18 hours

ED 464	Reading Practicum PK-12	3
ED 480	Elements of Reading PK-12	3
ED 481	Reading, Language, and Cultural Diversity in Schools	3
ED 482	Content Area Literacy	3
ED 483	Diagnosis and Instruction of Learning Problems Related to Reading and Language Differences PK-12	3
ED 584	Administration and Evaluation of Reading Programs	3

Special Education Endorsement

The special educator endorsement advances teachers' abilities to assess special needs children and develop and design appropriate instruction support for these children. Coursework leads to a special education endorsement. Candidates must complete ED 330 before beginning special educator endorsement courses.

Endorsements in Special Education

Candidates will:

- Understand the field as an evolving and changing discipline based on philosophies, evidence-based principles and theories, relevant laws and policies, diverse and historical points of view, and human issues that have historically influenced and continue to influence the field of special education and the education and treatment of individuals with exceptional needs both in school and society;
- Know and demonstrate respect for their students first as unique human beings;
- Understand the effects that an exceptional condition can have on an individual's learning in school and throughout life;
- Possess a repertoire of evidence-based instructional strategies to individualize instruction for individuals with exceptional learning needs;
- Actively create learning environments for individuals with exceptional learning needs that foster cultural understanding, safety and emotional well being, positive social interactions, and active engagement of individuals with exceptional learning needs;
- Understand typical and atypical language development and the ways in which exceptional conditions can interact with an individual's experience with and use of language;
- Understand that individualized decision-making and instruction is at the center of special education practice;
- Understand that assessment is integral to the decision-making and teaching of special educators and candidates use multiple types of assessment information for a variety of educational decisions;
- Be guided by the profession's ethical and professional practice standards; and
- Routinely and effectively collaborate with families, other educators, related service providers, and personnel from community agencies in culturally responsive ways. This collaboration assures that the needs of individuals with exceptional learning needs are addressed throughout schooling.

Special Educator Endorsement Learning Outcomes

1. Candidate is a lifelong learner.
    a. Candidates analyze his/her ideas about change and the change process

2. Candidate is empathetic and respectful.
    a. Candidates will value the importance of adopting relational strategies that are appropriate for the individual circumstances, cultures, and abilities of students.
    b. Candidates will exhibit thoughtful, responsible, and participatory attitudes and behaviors characteristic of a professional educator and a reflective practitioner.
3. Candidate communicates and works effectively with others.
    a. Candidates will understand techniques for collaborative work.
    b. Candidates will know the role of meditation in the coaching/supervision process.
    c. Candidates will collaborate with colleagues on extending understanding and implementing new teaching strategies.
    d. Candidates will acquire strategies for helping students to expand their response repertoire for problem solving and positive, fair choice making.
4. Candidate has a broad knowledge about the individuals and world around him/her.
    a. Candidates analyze data from her/his school to justify a possible change goal.
    b. Candidates will understand how diversity among individuals and communities impacts their school.
    c. Candidates will understand how diversity impacts reform efforts at the school, district, and national level.
5. Candidate has a deep knowledge about the subjects he/she teaches.
    a. Candidates know and use theory base of teacher leadership.
    b. Candidates understand the nature of knowledge and how a teacher's paradigm of knowledge and assumptions shape their instructional decision-making.
6. Candidate has a deep knowledge about how people learn.
    a. Candidates will use course concepts and recommended strategies to formulate a framework for making changes in management and instructional practices.
    b. Candidates will understand the neurological basis of student learning and of the impact of specific instructional strategies.
7. Candidate has a deep knowledge and skills necessary to use instruction and the organization of classrooms to assist all learners to succeed.
    a. Candidates will gain insight into the role the teacher plays in cultivating the relationship the learner has with the object of study.
    b. Candidates will become skilled in reflectively analyzing and monitoring the development of personal classroom practices, beliefs, and style of leadership.
8. Candidate fuses theory and practice.
    a. Candidates analyze school data and develop a personal theory of action.
    b. Candidates will understand the relationship between the theory base of teacher leadership and school culture.
    c. Candidates conduct peer coaching cycles, incorporating insights and techniques from cognitive coaching and clinical supervision.
    d. Candidates give skilled assistance to a colleague in analyzing and developing a lesson or learning activity.
    e. Candidates will use course concepts and recommended strategies to formulate a framework for making changes in management and instructional practices.
    f. Candidates will modify existing instructional practices and adopt new ones capable of engaging all students in the learning process.

Special Educator Endorsement Requirements — 18 hours

ED 403	Language and Communication: Support and Strategies	3
ED 404	School, Parent, and Community Relations	3
ED 405	Behavior Support: Consultative and Collaborative	3
ED 406	Academic Assessment: Curriculum and Instruction for Diverse Learners	3
ED 408	Functional Assessment: Curriculum and Instruction for Diverse Learners	3
ED 468	Special Education Practicum PK-12	3

English for Speakers of Other Languages

The English for speakers of Other Languages (ESOL) endorsement advances teachers' abilities to provide assessment, instruction, and evaluation of English language learners. Coursework leads to an English for speakers of other languages endorsement.

Endorsements in ESOL

Candidates will:

- Know, understand, and use the major concepts, theories, and research related to the nature and acquisition of language to construct learning environments that support English speakers of other languages (ESOL) and bilingual students' language and literacy development and content area achievement;
- Know, understand, and use the major concepts, principles, theories, and research related to the nature and role of culture and cultural groups to construct learning environments that support ESOL and bilingual students' cultural identities, language and literacy development, and content area achievement;
- Know, understand, and use standards-based practices and strategies related to planning, implementing, and managing ESL and content instruction, including classroom organization, teaching strategies for developing and integrating language skills, and choosing and adapting classroom resources;
- Understand issues of assessment and use standards-based assessment measures with ESOL and bilingual students;
- Demonstrate knowledge of the history of ESL teaching. Candidates keep current with new instructional techniques, research results, advances in the ESL field, and public policy issues. Candidates use such information to reflect upon and improve their instructional practices. Candidates provide support and advocate for ESOL and bilingual students and their families and work collaboratively to improve the learning environment; and
- Use information technology to enhance learning and to enhance personal and professional productivity.

English for Speakers of Other Languages Learner Outcomes

1. Candidate is a lifelong learner.
    a. Candidates analyze his/her ideas about change and the change process.
2. Candidate is empathetic and respectful.
    a. Candidates will value the importance of adopting relational strategies that are appropriate for the individual circumstances, cultures, and abilities of students.
    b. Candidates will exhibit thoughtful, responsible, and participatory attitudes and behaviors characteristic of a professional educator and a reflective practitioner.
3. Candidate communicates and works effectively with others.
    a. Candidates will understand techniques for collaborative work.
    b. Candidates will know the role of meditation in the coaching/supervision process.

c. Candidates will collaborate with colleagues on extending understanding and implementing new teaching strategies.

d. Candidates will acquire strategies for helping students to expand their response repertoire for problem solving and positive, fair choice making.

4. Candidate has a broad knowledge about the individuals and world around him/her.
   a. Candidates analyze data from her/his school to justify a possible change goal.
   b. Candidates will understand how diversity among individuals and communities impacts their school.
   c. Candidates will understand how diversity impacts reform efforts at the school, district, and national level.
5. Candidate has a deep knowledge about the subjects he/she teaches.
   a. Candidates know and use theory base of teacher leadership.
   b. Candidates understand the nature of knowledge and how a teacher's paradigm of knowledge and assumptions shape their instructional decision-making.
6. Candidate has a deep knowledge about how people learn.
   a. Candidates will use course concepts and recommended strategies to formulate a framework for making changes in management and instructional practices.
   b. Candidates will understand the neurological basis of student learning and of the impact of specific instructional strategies.
7. Candidate has a deep knowledge and skills necessary to use instruction and the organization of classrooms to assist all learners to succeed.
   a. Candidates will gain insight into the role the teacher plays in cultivating the relationship the learner has with the object of study.
   b. Candidates will become skilled in reflectively analyzing and monitoring the development of personal classroom practices, beliefs, and style of leadership.
8. Candidate fuses theory and practice.
   a. Candidates analyze school data and develop a personal theory of action.
   b. Candidates will understand the relationship between the theory base of teacher leadership and school culture.
   c. Candidates conduct peer coaching cycles, incorporating insights and techniques from cognitive coaching and clinical supervision.
   d. Candidates give skilled assistance to a colleague in analyzing and developing a lesson or learning activity.
   e. Candidates will use course concepts and recommended strategies to formulate a framework for making changes in management and instructional practices.
   f. Candidates will modify existing instructional practices and adopt new ones capable of engaging all students in the learning process.

English for Speakers of Other Languages Endorsement Requirements — 18 hours

ED 403	Language and Communication: Support and Strategies	3
ED 404	School, Parent, and Community Relations	3
ED 409	Methods and Materials for Teaching ESOL	3
ED 410	Linguistics	3
ED 481	Reading, Language, and Cultural Diversity in Schools	3
ED 469	ESOL Practicum PK-12	3

DONALD P. SHILEY SCHOOL OF ENGINEERING

Sharon A. Jones, Ph.D., P.E., dean

Tammy VanDeGrift, Ph.D., associate dean

Faculty: Albright, Crenshaw, Dillon, Doughty, Hoffbeck, A. Inan, M. Inan, Jones, Kennedy, Khan, Kuhn, Lu, Lulay, Male, Murty, Nuxoll, Osterberg, Schenberger, Schulz, Takallou, VanDeGrift, Vegdahl, Ward, Yamayee

Introduction

Engineering is a dynamic and creative profession dedicated to achieving the technological aims of society and helping humankind progress to a better standard of living and well-being. It is a profession in which the knowledge of natural sciences and mathematics is applied with judgement to develop ways to utilize, economically and with concern for the environment and society, the materials and forces of nature for the benefit of humankind. Engineers enjoy a unique professional satisfaction. They can usually point to tangible evidence of their efforts. For example, every skyscraper, bridge, television set, VCR, computer, robot, airplane, or automobile is a lasting testimonial to the engineers responsible for its design and creation.

Mission

The Donald P. Shiley School of Engineering continues its progress within the framework of the University of Portland mission.

The Donald P. Shiley School of Engineering is committed to providing the best possible engineering education to its students, thus enabling the students to become competent practicing engineers and computer scientists. The programs also provide a base for both graduate study and lifelong learning in support of evolving career objectives. These objectives include being informed, effective, and responsible participants in the engineering profession and society. The school endeavors to develop qualities that are essential for the practice of engineering and beneficial service to the community. These qualities include a knowledge of engineering principles, the ability to apply those principles to solve problems, and the development of professional, personal, and social values.

The school provides a personalized and caring learning environment for its students, enhanced by high quality faculty, staff, facilities, and equipment. The environment includes exceptional instruction; frequent opportunities for relevant laboratory experience; practice of communication and teamwork skills; the challenge of undertaking realistic engineering projects; and the personal attention, guidance, and example of faculty and administrators. This environment is also enhanced by students who have an aptitude and motivation for engineering study, as well as general intellectual curiosity.

Educational Objectives

The primary goal of the Shiley School of Engineering is to provide an excellent engineering and computer science education consistent with the mission, goals, and objectives of the University of Portland as articulated in the *University Bulletin* . To achieve this goal, the engineering school has established a set of program educational objectives. These objectives are listed next.

Program Educational Objectives:

The Shiley School of Engineering prepares graduates who will:

1. Be successful as practicing professionals in diverse career paths or in graduate school.
2. Distinguish themselves in breadth of perspective and the ability to solve complex problems.
3. Be effective communicators and team members, with many assuming leadership roles.
4. Be active in their profession and participate in continuing education opportunities to foster personal and organizational growth.
5. Demonstrate a concern for justice, ethical behavior, and societal improvement through participation in professional and civic organizations.

The Shiley School of Engineering offers both undergraduate and graduate degree programs. In the undergraduate studies, the curriculum progresses from mathematics and science courses in the first year to engineering science topics in the sophomore year. Junior and senior year studies concentrate more on the analysis, design, and synthesis aspects of the topics learned in the first two years. This process of synthesis culminates in the capstone design projects in the senior year. Here, students embark on

an in-depth study of a particular device, structure, or system and design it from the ground up using the knowledge they have gained in previous years.

Professional Societies

Student chapters of the following professional societies currently are active on campus:

American Society of Civil Engineers (ASCE)

American Society of Mechanical Engineers (ASME)

ASM—International

Association for Computing Machinery (ACM)

Engineers Without Borders—USA

Engineering World Health

Institute of Electrical and Electronics Engineers (IEEE)

Society of Automotive Engineers (SAE)

Society of Women Engineers (SWE)

All students are encouraged to join organizations of interest to them.

The University of Portland Oregon Gamma Chapter of Tau Beta Pi, the national engineering honor society, offers admission to the top upper-division engineering students.

Community College Transfers

Transfers from community colleges are accepted regardless of whether they have completed a course of study or not. Students from engineering transfer programs can generally complete the B.S. degree requirements with no loss of time. Students who are interested in transferring to the University are encouraged to seek individual counseling both at their community college and at the University. Discussions at the University can be used both to develop a suitable academic plan and to develop a suitable financial plan.

Prospective transfer students are strongly urged to counsel at the University at least one semester before they plan to transfer. In this way potential deficiencies can be spotted. Deficiencies can cause sequencing problems and delay graduation. In some cases students can save a full semester by taking a key course in the summer preceding planned entry.

Requirements

School of Engineering Requirements

Core and College Requirements —39 hours

Literature – 3 credits

ENG 112	Introduction to Literature	3

Fine Arts – 3 credits

FA 207	Introduction to Fine Arts	3

History – 3 credits

Social science – 6 credits

Philosophy – 6 credits

PHL 150	Introductory Philosophy	3
PHL 220	Ethics	3

Theology – 9 credits

THE 101	An Introduction to Religion and Theology	3

THE 205	Biblical Tradition and Culture	3
	upper-division theology elective	3

The upper-division theology elective may be a Theological Perspectives (THEP) class that can be used to satisfy the distribution requirements of both theology and a companion subject.)

Mathematics and science requirements in the core curriculum are satisfied by Calculus and General Physics.

Degrees and Programs

The Shiley School of Engineering offers four-year bachelor of science degrees in civil engineering (B.S.C.E.), computer science (B.S.C.S.), electrical engineering (B.S.E.E.), engineering management (B.S.E.M.), and mechanical engineering (B.S.M.E.). The electrical engineering program offers a "computer track" and the civil engineering program offers an “environmental track” under their respective degree programs.

Because the University believes in a broad education for all students, the engineering program includes studies in history, fine arts, literature, social sciences, theology, and philosophy.

A master of engineering degree is offered in the Shiley School of Engineering. It combines courses from engineering, business, and communication studies. Details of this degree program are given in the graduate section217 of this bulletin.

Undergraduate Curriculum

The first semester of the freshman year is common to all engineering curricula. During the freshman year the student lays the foundation for later engineering studies. This foundation consists of courses in mathematics, science, introduction to engineering, and core curriculum. During the second year the study of mathematics and science continues, and courses in basic engineering theory and application are introduced. In the junior and senior years the curriculum consists primarily of courses in the student’s specialization. There is a progression from analysis-oriented courses to design and manufacturing-oriented courses. In all programs a capstone design project is required in the senior year. Some variation in the order in which courses are taken is permissible, so long as the prerequisites are satisfied.

Throughout the four years, the student takes liberal arts courses to broaden his or her education and to improve communication skills.

Students are encouraged to take the Fundamentals of Engineering Examination prior to graduation. This nationwide examination is a step toward registration as a Professional Engineer (P.E.). Our students’ passing rates have been well above the national average in this examination.

Civil Engineering

Mehmet I. Inan, D.C.E., P.E., chair

The Civil Engineering program has made as its primary goal the preparation of civil engineers whose education meets the objectives of the Shiley School of Engineering as well as those set in the mission of the University.

Civil Engineering, B.S.C.E.

See Core and College Requirements148

Program Educational Objectives:

The civil engineering program prepares graduates who will:

1. Be successful as practicing professionals in diverse career paths or in graduate school.
2. Distinguish themselves in breadth of perspective and the ability to solve complex problems.
3. Be effective communicators and team members, with many assuming leadership roles.
4. Be active in their profession and participate in continuing education opportunities to foster personal and organizational growth.

5. Demonstrate a concern for justice, ethical behavior, and societal improvement through participation in professional and civic organizations.

The civil engineering program offers two optional paths of study: the civil engineering track and the environmental engineering track, both leading to a bachelor of science in civil engineering.

Civil engineering encompasses a wide range of technological matters of vital concern to modern society. The basic areas include: structural analysis and design, environmental protection and control, water resources, transportation, geotechnical engineering, and construction engineering.

The course of study provides a progression of course work from basic science and mathematics through engineering analysis and design. The curriculum includes each aspect of civil engineering: surveying, structures, construction materials, geotechnical engineering, hydromechanics, environmental engineering, transportation, and engineering economics. The program integrates communication, teamwork, experimentation, analysis, and design, and provides a cohesive experience aimed at preparing the graduate to function as a successful engineer.

The first two semesters are common for all civil engineering students. In addition, all students take courses in the areas of structural engineering, geotechnical engineering, transportation engineering, and environmental engineering, allowing students to become proficient in each of these major areas. Students in the civil track take additional courses in construction materials, structural analysis and design, while students in the environmental track take courses in the basics of environmental microbiology, environmental chemistry, and water and wastewater treatment plant design.

Both tracks in the civil engineering program lead to a bachelor of science in civil engineering (B.S.C.E.) degree. The degree program is accredited by the Engineering Accreditation Commission of ABET.

Degree Requirements

Common Engineering Requirements — 34 hours

CHM 207	General Chemistry I	3
CHM 277	General Chemistry I Lab	1
EGR 110	Introduction to Engineering	2
EGR 351	Engineering Economics	3
EGR 360	Analysis of Engineering Data	2
MTH 201	Calculus I	4
MTH 202	Calculus II	4
MTH 301	Vector Calculus	4
MTH 321	Ordinary Differential Equation	3
PHY 204	General Physics Lecture and Lab	4
PHY 205	General Physics Lecture and Lab	4

EGR 110: For transfer students who have not had an Introduction to Engineering course, the dean may approve the substitution of another technical course, provided these students transfer in 30 or more hours of technical courses.

Common Civil Engineering Requirements — 51 hours

CE 200	Civil Engineering Seminar	1
CE 201	Civil Engineering Design Graphics	2
CE 223	Surveying	2
CE 315	Transportation Engineering	3
CE 321	Geotechnical Engineering	3
CE 351	Structural Analysis I	3
CE 362	Hydraulic Engineering	3

CE 367	Environmental Engineering	3
CE 371	Geotechnical Laboratory	1
CE 376	Environmental Engineering Laboratory	1
CE 401	Computational Methods in Civil Engineering	3
CE 481	Civil Engineering Senior Design Project I	2
CE 482	Civil Engineering Senior Design Project II	3
EGR 211	Engineering Mechanics-Statics	3
EGR 322	Strength of Materials	3
ME 311	Mechanics of Fluids I	3
	Technical Electives	12

Technical Elective: Approved upper-division technical electives (12 Hours — 9 hours in CE).

Civil Track Requirements — 15 hours

CE 224	Surveying Laboratory	1
CE 301	Construction Materials	2
CE 352	Structural Analysis II	3
CE 372	Construction Materials Laboratory	1
CE 442	Reinforced Concrete Design	3
EGR 212	Engineering Mechanics-Dynamics	3
	Science elective	3

Science Elective: Approved science elective

Environmental Track Requirements — 15 hours

CE 400	Environmental Engineering Seminar	1
CE 466	Water and Wastewater Design	3
CHM 208	General Chemistry II	3
EGR 213	Introduction to Dynamics	1
ENV 385/BIO 385	Environmental Microbiology	3
ENV 386/CHM 386	Environmental Chemistry	3
ENV 387	Environmental Laboratory	1

Total Credit Hours: 127

Sample Program — Civil Track

Freshman Year - Fall Semester

EGR 110	Introduction to Engineering	2
MTH 201	Calculus I	4

PHL 150	Introductory Philosophy	3
PHY 204	General Physics Lecture and Lab	4
THE 101	An Introduction to Religion and Theology	3

EGR 110: For transfer students who have not had an Introduction to Engineering course, the dean may approve the substitution of another technical course, provided these students transfer in 30 or more hours of technical courses.

Freshman Year - Spring Semester

CE 200	Civil Engineering Seminar	1
CHM 207	General Chemistry I	3
CHM 277	General Chemistry I Lab	1
ENG 112	Introduction to Literature	3
MTH 202	Calculus II	4
PHY 205	General Physics Lecture and Lab	4

Technical Elective: Approved upper-division technical electives (12 Hours — 9 hours in CE).

Sophomore Year - Fall Semester

CE 201	Civil Engineering Design Graphics	2
CE 223	Surveying	2
CE 224	Surveying Laboratory	1
EGR 211	Engineering Mechanics-Statics	3
MTH 301	Vector Calculus	4
	Science elective	3

Science Elective: Approved science elective

Sophomore Year - Spring Semester

EGR 212	Engineering Mechanics-Dynamics	3
EGR 322	Strength of Materials	3
EGR 360	Analysis of Engineering Data	2
MTH 321	Ordinary Differential Equation	3
PHL 220	Ethics	3
THE 205	Biblical Tradition and Culture	3

Junior Year - Fall Semester

CE 301	Construction Materials	2
CE 321	Geotechnical Engineering	3
CE 351	Structural Analysis I	3
CE 371	Geotechnical Laboratory	1
CE 372	Construction Materials Laboratory	1
ME 311	Mechanics of Fluids I	3
	Theology Electives	3

Theology electives: If the theology elective is a theological perspectives course that also satisfies a companion subject core requirement, a 3-credit free elective must be taken to attain a total of 130 semester hours.

Junior Year - Spring Semester

CE 315	Transportation Engineering	3
CE 352	Structural Analysis II	3
CE 362	Hydraulic Engineering	3
CE 367	Environmental Engineering	3
CE 376	Environmental Engineering Laboratory	1
EGR 351	Engineering Economics	3

Senior Year - Fall Semester

CE 401	Computational Methods in Civil Engineering	3
CE 442	Reinforced Concrete Design	3
CE 481	Civil Engineering Senior Design Project I	2
	Social Science	3
	Technical Elective	3
	Technical Elective	3

Technical Elective: Approved upper-division technical electives (12 Hours — 9 hours in CE).

Senior Year - Spring Semester

CE 482	Civil Engineering Senior Design Project II	3
FA 207	Introduction to Fine Arts	3
	History	3
	Social Science	3
	Technical Elective	3
	Technical Elective	3

Technical Elective: Approved upper-division technical electives (12 Hours — 9 hours in CE).

Total Credit Hours: 130

Sample Program — Environmental Track

Freshman Year - Fall Semester

EGR 110	Introduction to Engineering	2
MTH 201	Calculus I	4
PHL 150	Introductory Philosophy	3
PHY 204	General Physics Lecture and Lab	4
THE 101	An Introduction to Religion and Theology	3

EGR 110: For transfer students who have not had an Introduction to Engineering course, the dean may approve the substitution of another technical course, provided these students transfer in 30 or more hours of technical courses.

Freshman Year - Spring Semester

CE 200	Civil Engineering Seminar	1
CHM 207	General Chemistry I	3
CHM 277	General Chemistry I Lab	1
ENG 112	Introduction to Literature	3
MTH 202	Calculus II	4
PHY 205	General Physics Lecture and Lab	4

Sophomore Year - Fall Semester

CE 201	Civil Engineering Design Graphics	2
CE 223	Surveying	2
CHM 208	General Chemistry II	3
EGR 211	Engineering Mechanics-Statics	3
MTH 301	Vector Calculus	4
THE 205	Biblical Tradition and Culture	3

Sophomore Year - Spring Semester

EGR 213	Introduction to Dynamics	1
EGR 322	Strength of Materials	3
EGR 360	Analysis of Engineering Data	2
ENV 385/BIO 385	Environmental Microbiology	3
MTH 321	Ordinary Differential Equation	3
PHL 220	Ethics	3

Junior Year - Fall Semester

CE 321	Geotechnical Engineering	3
CE 351	Structural Analysis I	3
CE 371	Geotechnical Laboratory	1
EGR 351	Engineering Economics	3
ME 311	Mechanics of Fluids I	3
	Theology Electives	3

Theology elective: If the theology elective is a theological perspectives course that also satisfies a companion subject core requirement, a 3-credit free elective must be taken to attain a total of 130 semester hours.

Junior Year - Spring Semester

CE 315	Transportation Engineering	3
CE 362	Hydraulic Engineering	3
CE 367	Environmental Engineering	3
CE 376	Environmental Engineering Laboratory	1
ENV	Environmental Chemistry	3

386/CHM 386		
	Technical Elective	3

Senior Year - Fall Semester

CE 401	Computational Methods in Civil Engineering	3
CE 466	Water and Wastewater Design	3
CE 481	Civil Engineering Senior Design Project I	2
	History	3
	Social Science	3
	Technical Elective	3

Senior Year - Spring Semester

CE 400	Environmental Engineering Seminar	1
CE 482	Civil Engineering Senior Design Project II	3
ENV 387	Environmental Laboratory	1
FA 207	Introduction to Fine Arts	3
	Technical Elective	3
	Technical Elective	3
	Social Science	3

Total Credit Hours: 130

Computer Science

Steven R. Vegdahl, Ph.D., chair

The academic program of computer science is established within the mission of the Shiley School of Engineering to provide high quality professional specialization in the context of a strong liberal arts education at the University of Portland.

Computer Science, B.S.C.S.

Computer science is a dynamic field of study and practice that encompasses many aspects including programming languages, data structures, computer organization, theory, and software design and development.

The faculty has established a set of program educational objectives which are listed below.

Program Educational Objectives:

The computer science program prepares graduates who will:

1. Be successful as practicing professionals in diverse career paths or in graduate school.
2. Distinguish themselves in breadth of perspective and the ability to solve complex problems.
3. Be effective communicators and team members, with many assuming leadership roles.
4. Be active in their profession and participate in continuing education opportunities to foster personal and organizational growth.
5. Demonstrate a concern for justice, ethical behavior, and societal improvement through participation in professional and civic organizations.

The program of study provides both breadth and depth of topics in a progression of course work, beginning with a foundation of mathematics and computer science fundamentals during the freshman and sophomore years. Courses during the junior year provide additional theoretical and practical background in computer science. Capstone course work during the senior year enables students to pursue their areas of interest through in-depth analysis, experimentation, and design. Development of written and oral communication skills and teamwork are incorporated as important components of the educational experience.

The computer science program leads to a bachelor of science in computer science degree. The program is accredited by the Computing Accreditation Commission of ABET.

See Core and College Requirements148. (For CS majors, the upper-division theology elective may be a Theological Perspectives (THEP) class. If a student uses a single THEP course to satisfy two core requirements, three additional credits of humanities and social sciences, approved by the CS program chair, must be taken.)

Degree Requirements

Computer Science Requirements — 93-94 hours

CS 203	Introduction to Computer Science	3
CS 273	Computer Science Laboratory	1
CS 301	Object-oriented Design	3
CS 303	Data Structures I	3
CS 304	Data Structures II	3
CS 352	Programming Languages	3
CS 371	Object-oriented Design Laboratory	1
CS 373	Data Structures Laboratory	1
CS 374	Computing Systems Laboratory	1
CS 400	Seminar	2
CS 411	Analysis of Algorithms	3
CS 441	Software Engineering	3
CS 446	Operating Systems	3
CS 451	Theory of Computation	3
CS 452	Compiler Design	3
CS 480	Senior Design Project Preparation	3
CS 481	Senior Design Project	3
EE 231	Logic Design	3
EE 333	Computer Organization	3
EGR 110	Introduction to Engineering	2
MTH 201	Calculus I	4
MTH 202	Calculus II	4
MTH 311	Discrete Structures	3
MTH 341	Introduction to Linear Algebra	3
MTH 461	Probability and Statistics I	3
PHY 204	General Physics Lecture and Lab	4
PHY 205	General Physics Lecture and Lab	4

	Computer Science electives	6
	Applied Elective	3
	Technical Elective	3
	Restricted science elective and laboratory	4
EGR 360	Analysis of Engineering Data	2
	Or	
MTH 361	Applied Statistics I	3

EGR 110: For transfer students who have not had an Introduction to Engineering course, the dean may approve the substitution of another technical course, provided these students transfer in 30 or more hours of technical courses.

Computer science, applied, and technical electives: Each computer science elective must be an upper-division CS course. The technical elective may be an upper-division CE, CS, EE, EGR, ME, or MTH course or a 200-level EE course. The applied elective may be any course approved by the student's advisor as being relevant to their future career.

Restricted science elective and laboratory: BIO 206/276, CHM 207/277, or PHY 306/376.

Total Credit Hours: 123-124

Sample Program - Computer Science

Freshman Year - Fall Semester

EGR 110	Introduction to Engineering	2
MTH 201	Calculus I	4
PHL 150	Introductory Philosophy	3
PHY 204	General Physics Lecture and Lab	4
THE 101	An Introduction to Religion and Theology	3

EGR 110: transfer students who have not had an Introduction to Engineering course, the dean may approve the substitution of another technical course, provided these students transfer in 30 or more hours of technical courses.

Freshman Year - Spring Semester

CS 203	Introduction to Computer Science	3
CS 273	Computer Science Laboratory	1
ENG 112	Introduction to Literature	3
MTH 202	Calculus II	4
PHY 205	General Physics Lecture and Lab	4

Sophomore Year - Fall Semester

CS 301	Object-oriented Design	3
CS 371	Object-oriented Design Laboratory	1
FA 207	Introduction to Fine Arts	3
MTH 311	Discrete Structures	3
THE 205	Biblical Tradition and Culture	3
	Restricted science elective and laboratory	4

Restricted science elective and laboratory: 206/276, CHM 207/277, or PHY 306/376.

Sophomore Year - Spring Semester

CS 303	Data Structures I	3
CS 373	Data Structures Laboratory	1
EE 231	Logic Design	3
EGR 360	Analysis of Engineering Data	2
	Or	
MTH 361	Applied Statistics I	3
MTH 341	Introduction to Linear Algebra	3
PHL 220	Ethics	3

Junior Year - Fall Semester

CS 304	Data Structures II	3
CS 374	Computing Systems Laboratory	1
	Computer track elective	3
EE 333	Computer Organization	3
	History	3
MTH 461	Probability and Statistics I	3

Computer science elective: Approved upper-division technical electives (9 hrs.)

Junior Year - Spring Semester

CS 352	Programming Languages	3
CS 411	Analysis of Algorithms	3
CS 446	Operating Systems	3
	Computer Science elective	3
	Social Science	3

Computer science elective: Approved upper-division technical electives (9 hrs.)

Senior Year - Fall Semester

CS 400	Seminar	2
CS 441	Software Engineering	3
CS 451	Theory of Computation	3
CS 480	Senior Design Project Preparation	3
	Applied Elective	3

Applied elective: Approved upper-division technical electives (9 hrs.)

Senior Year - Spring Semester

CS 452	Compiler Design	3
CS 481	Senior Design Project	3
	Social Science	3
	Technical Elective	3

400 level	Theology elective	3

Total Credit Hours: 123-124

Computer Science Minor

A minor in computer science is available for those students who may want to add this option to their major program of study.

Minor Requirements – 18 hours

CS 203	Introduction to Computer Science	3
CS 273	Computer Science Laboratory	1
CS 301	Object-oriented Design	3
CS 371	Object-oriented Design Laboratory	1
CS 303	Data Structures I	3
CS 373	Data Structures Laboratory	1
	Upper division computer science courses	6

Electrical Engineering

Robert J. Albright, Ph.D., P.E., chair

The academic program of electrical engineering is established within the mission of the Shiley School of Engineering to provide high quality professional specialization in the context of a strong liberal arts education at the University of Portland.

Electrical Engineering, B.S.E.E.

Electrical engineering is a broad field of study and practice that encompasses many specialties, including electronics, computers, communication systems, control systems, and power systems.

The faculty has established a set of program educational objectives which are listed below.

Program Educational Objectives:

The electrical engineering program prepares graduates who will:

1. Be successful as practicing professionals in diverse career paths or in graduate school.
2. Distinguish themselves in breadth of perspective and the ability to solve complex problems.
3. Be effective communicators and team members, with many assuming leadership roles.
4. Be active in their profession and participate in continuing education opportunities to foster personal and organizational growth.
5. Demonstrate a concern for justice, ethical behavior, and societal improvement through participation in professional and civic organizations.

The program of study provides both breadth and depth of topics in a progression of course work, beginning with a foundation of mathematics, science, and engineering fundamentals during the freshman and sophomore years. Courses during the junior year provide additional theoretical foundation and laboratory experience. Capstone course work during the senior year enables students to pursue special areas of interest through in-depth analysis, experimentation, and design. Development of written and oral communication skills and teamwork are incorporated as important components of the educational experience.

The electrical engineering program offers study in two tracks: the electrical track and the computer track. The tracks have a common foundation of study and differ only in emphasis, primarily during the senior year. Students selecting the electrical track can focus on two or more complementary subject areas of electrical engineering. Students selecting the computer track of electrical engineering can focus on the hardware, software, and application aspects of computers.

The electrical engineering program leads to a bachelor of science in electrical engineering degree, regardless of the chosen track. The program is accredited by the Engineering Accreditation Commission of ABET.

See Core and College Requirements

Degree Requirements

Common Engineering Requirements — 34 hours

CHM 207	General Chemistry I	3
CHM 277	General Chemistry I Lab	1
EGR 110	Introduction to Engineering	2
EGR 351	Engineering Economics	3
EGR 360	Analysis of Engineering Data	2
MTH 201	Calculus I	4
MTH 202	Calculus II	4
MTH 301	Vector Calculus	4
MTH 321	Ordinary Differential Equation	3
PHY 204	General Physics Lecture and Lab	4
PHY 205	General Physics Lecture and Lab	4

EGR 110: For transfer students who have not had an Introduction to Engineering course, the dean may approve the substitution of another technical course, provided these students transfer in 30 or more hours of technical courses.

Common Electrical Engineering Requirements — 48 hours

CS 203	Introduction to Computer Science	3
CS 273	Computer Science Laboratory	1
CS 303	Data Structures I	3
EE 111	Introduction to Multimedia Processing	2
EE 231	Logic Design	3
EE 261	Electrical Circuits	3
EE 271	Electrical Circuits Laboratory	1
EE 301	Electromagnetic Fields	3
EE 332	Digital Systems Design	3
EE 333	Computer Organization	3
EE 351	Electronic Circuits I	3
EE 352	Electronic Circuits II	3
EE 371	Electronic Circuits Laboratory	1
EE 373	Digital Logic Laboratory	1
EE 480	Senior Design Project Preparation	3
EE 481	Senior Design Project	3
ME 331	Fundamental Thermodynamics	3
	Restricted science or math elective	3

Restricted science or math elective: A 200-level or above science or mathematics course approved by the faculty advisor.

Electrical Track Requirements — 18 hours

EE 403	Communication Systems	3
EGR 404	Automatic Control Systems	3
	Electrical track electives	12

Electrical track electives: Chosen from a list of approved EE technical elective courses.

Computer Track Requirements — 18 hours

CS 304	Data Structures II	3
EE 433	Microprocessor Interfacing and Communications	3
CS 446	Operating Systems	3
	Computer track electives	9

Computer track elective: Chosen from a list of approved EE technical elective courses.

Total Credit Hours: 130

Sample Program: Electrical Track

Freshman Year - Fall Semester

EGR 110	Introduction to Engineering	2
MTH 201	Calculus I	4
PHL 150	Introductory Philosophy	3
PHY 204	General Physics Lecture and Lab	4
THE 101	An Introduction to Religion and Theology	3

EGR 110: For transfer students who have not had an Introduction to Engineering course, the dean may approve the substitution of another technical course, provided these students transfer in 30 or more hours of technical courses.

Freshman Year - Spring Semester

CHM 207	General Chemistry I	3
CHM 277	General Chemistry I Lab	1
EE 111	Introduction to Multimedia Processing	2
ENG 112	Introduction to Literature	3
MTH 202	Calculus II	4
PHY 205	General Physics Lecture and Lab	4

Sophomore Year - Fall Semester

CS 203	Introduction to Computer Science	3
CS 273	Computer Science Laboratory	1
EE 231	Logic Design	3
EE 261	Electrical Circuits	3
EE 271	Electrical Circuits Laboratory	1
MTH 321	Ordinary Differential Equation	3

THE 205	Biblical Tradition and Culture	3

Sophomore Year - Spring Semester

CS 303	Data Structures I	3
EE 262	Signals and Systems	3
EE 332	Digital Systems Design	3
EE 373	Digital Logic Laboratory	1
MTH 301	Vector Calculus	4
PHL 220	Ethics	3

Junior Year - Fall Semester

EE 333	Computer Organization	3
EE 351	Electronic Circuits I	3
EGR 360	Analysis of Engineering Data	2
EGR 404	Automatic Control Systems	3
ME 331	Fundamental Thermodynamics	3
	Theology Electives	3

Theology Elective: If the theology elective is a theological perspectives course that also satisfies a companion subject core requirement, then an EE technical elective course from an approved list must be taken.

Junior Year - Spring Semester

EE 301	Electromagnetic Fields	3
EE 352	Electronic Circuits II	3
EE 371	Electronic Circuits Laboratory	1
EE 403	Communication Systems	3
	Electrical track electives	12
	Social Science	3

Electrical track electives: Chosen from a list of approved EE technical elective courses.

Senior Year - Fall Semester

EE 480	Senior Design Project Preparation	3
EGR 351	Engineering Economics	3
	Electrical track electives	12
	Restricted science or math elective	3
	Social science elective	3

Electrical track elective: Chosen from a list of approved EE technical elective courses.

Restricted science or math elective: A 200-level or above science or mathematics course approved by the faculty advisor.

Senior Year - Spring Semester

EE 481	Senior Design Project	3
	Electrical track electives	6

FA 207	Introduction to Fine Arts	3
	History	3

Electrical track electives: Chosen from a list of approved EE technical elective courses.

Sample Program: Computer Track

Freshman Year - Fall Semester

EGR 110	Introduction to Engineering	2
MTH 201	Calculus I	4
PHL 150	Introductory Philosophy	3
PHY 204	General Physics Lecture and Lab	4
THE 101	An Introduction to Religion and Theology	3

EGR 110: transfer students who have not had an Introduction to Engineering course, the dean may approve the substitution of another technical course, provided these students transfer in 30 or more hours of technical courses.

Freshman Year - Spring Semester

CHM 207	General Chemistry I	3
CHM 277	General Chemistry I Lab	1
EE 111	Introduction to Multimedia Processing	2
ENG 112	Introduction to Literature	3
MTH 202	Calculus II	4
PHY 205	General Physics Lecture and Lab	4

Sophomore Year - Fall Semester

CS 203	Introduction to Computer Science	3
CS 273	Computer Science Laboratory	1
EE 231	Logic Design	3
EE 261	Electrical Circuits	3
EE 271	Electrical Circuits Laboratory	1
MTH 321	Ordinary Differential Equation	3
THE 205	Biblical Tradition and Culture	3

Sophomore Year - Spring Semester

CS 303	Data Structures I	3
EE 262	Signals and Systems	3
EE 332	Digital Systems Design	3
EE 373	Digital Logic Laboratory	1
MTH 301	Vector Calculus	4
PHL 220	Ethics	3

Junior Year - Fall Semester

CS 304	Data Structures II	3
EE 333	Computer Organization	3
EE 351	Electronic Circuits I	3
EGR 360	Analysis of Engineering Data	2
ME 331	Fundamental Thermodynamics	3
	Theology Electives	3

Theology electives: If the theology elective is a theological perspectives course that also satisfies a companion subject core requirement, then an EE technical elective course from an approved list must be taken.

Junior Year - Spring Semester

CS 446	Operating Systems	3
EE 301	Electromagnetic Fields	3
EE 352	Electronic Circuits II	3
EE 371	Electronic Circuits Laboratory	1
EE 433	Microprocessor Interfacing and Communications	3
	Social Science	3

Senior Year - Fall Semester

EE 480	Senior Design Project Preparation	3
EGR 351	Engineering Economics	3
	Computer track elective	3
	Restricted science or math elective	3
	Social Science	3

Computer track elective: For transfer students who have not had an Introduction to Engineering course, the dean may approve the substitution of another technical course, provided these students transfer in 30 or more hours of technical courses.

Restricted science or math elective: A 200-level or above science or mathematics course approved by the faculty advisor.

Senior Year - Spring Semester

EE 481	Senior Design Project	3
	Computer track electives	6
FA 207	Introduction to Fine Arts	3
	History	3

Computer track electives: Chosen from a list of approved EE technical elective courses.

Total Credit Hours: 130

Mechanical Engineering

Kenneth E. Lulay, Ph.D., P.E., chair

The mechanical engineering program at the University of Portland is an integral part of the Shiley School of Engineering, and as such provides for an excellent engineering education based on a strong liberal arts foundation. The faculty has established a set of program educational objectives which are listed below.

Mechanical Engineering, B.S.M.E.

Program Educational Objectives:

The mechanical engineering program prepares graduates who will:

1. Be successful as practicing professionals in diverse career paths or in graduate school.
2. Distinguish themselves in breadth of perspective and the ability to solve complex problems.
3. Be effective communicators and team members, with many assuming leadership roles.
4. Be active in their profession and participate in continuing education opportunities to foster personal and organizational growth.
5. Demonstrate a concern for justice, ethical behavior, and societal improvement through participation in professional and civic organizations.

To achieve the above objectives, the curriculum has been designed with the goals of educating students in engineering analysis, design, computational methods and modern experimental and data analysis techniques. The students develop the ability to formulate problems, synthesize information, think creatively, communicate clearly and effectively, and work in teams.

Mechanical engineering encompasses a wide variety of specialties ranging from machinery, surface and space vehicles, material handling systems, and manufacturing complexes to energy conversion and utilization and fluid power.

The program offers coursework in all of the above areas beginning with mathematics and science topics in the freshman year and engineering science courses in the sophomore year. Junior and senior year curriculum is devoted to analysis and design aspects of mechanical engineering. Technical electives in various specialties are available for students to pursue their particular fields of interest.

Throughout the four-year curriculum, emphasis is placed on teamwork and cooperation, good oral and written communication skills, and hands-on laboratory and project work to graduate well-rounded engineers from the program.

The mechanical engineering program leads to a bachelor of science in mechanical engineering (B.S.M.E.) degree accredited by the Engineering Accreditation Commission of ABET.

See Core and College Requirements

Degree Requirements

Common Engineering Requirements — 34 hours

CHM 207	General Chemistry I	3
CHM 277	General Chemistry I Lab	1
EGR 110	Introduction to Engineering	2
EGR 351	Engineering Economics	3
EGR 360	Analysis of Engineering Data	2
MTH 201	Calculus I	4
MTH 202	Calculus II	4
MTH 301	Vector Calculus	4
MTH 321	Ordinary Differential Equation	3
PHY 204	General Physics Lecture and Lab	4
PHY 205	General Physics Lecture and Lab	4

EGR 110: transfer students who have not had an Introduction to Engineering course, the dean may approve the substitution of another technical course, provided these students transfer in 30 or more hours of technical courses.

Mechanical Engineering Requirements — 65 hours

CS 201	Introduction to Scientific Programming	1
EE 261	Electrical Circuits	3
EE 271	Electrical Circuits Laboratory	1
EGR 211	Engineering Mechanics-Statics	3
EGR 212	Engineering Mechanics-Dynamics	3
EGR 221	Materials Science	3
EGR 270	Materials Laboratory	1
EGR 322	Strength of Materials	3
ME 111	Engineering Graphics	2
ME 301	Mechanical Engineering Analysis	2
ME 304	Finite Element Analysis	3
ME 311	Mechanics of Fluids I	3
ME 312	Mechanics of Fluids II	2
ME 331	Fundamental Thermodynamics	3
ME 332	Applied Thermodynamics	2
ME 336	Heat Transfer	3
ME 341	Modern Manufacturing Processes	3
ME 351	Mechanical Systems Laboratory	2
ME 374	Fluids Laboratory	1
ME 376	Thermodynamics Laboratory	1
ME 401	Machine Design	4
ME 481	Mechanical Engineerng Project I	2
ME 482	Mechanical Engineerng Project II	2
	Restricted Math or Science Elective	3
	Technical Electives	9

Restricted math or science elective: BIO 203, CHM 208, MTH 3xx, PHY 3xx, or any other science or mathematics course approved by ME faculty.

Technical electives: Approved upper-division technical electives (9 hrs.)

Total Credit Hours: 129

Sample Program for Mechanical Engineering

Freshman Year - Fall Semester

EGR 110	Introduction to Engineering	2
MTH 201	Calculus I	4
PHL 150	Introductory Philosophy	3
PHY 204	General Physics Lecture and Lab	4

THE 101	An Introduction to Religion and Theology	3

EGR 110: EGR 110: transfer students who have not had an Introduction to Engineering course, the dean may approve the substitution of another technical course, provided these students transfer in 30 or more hours of technical courses.

Freshman Year - Spring Semester

CHM 207	General Chemistry I	3
CHM 277	General Chemistry I Lab	1
ENG 112	Introduction to Literature	3
ME 111	Engineering Graphics	2
MTH 202	Calculus II	4
PHY 205	General Physics Lecture and Lab	4

Sophomore Year - Fall Semester

CS 201	Introduction to Scientific Programming	1
EGR 211	Engineering Mechanics-Statics	3
EGR 221	Materials Science	3
EGR 360	Analysis of Engineering Data	2
MTH 301	Vector Calculus	4
THE 205	Biblical Tradition and Culture	3

Sophomore Year - Spring Semester

EE 261	Electrical Circuits	3
EE 271	Electrical Circuits Laboratory	1
EGR 212	Engineering Mechanics-Dynamics	3
EGR 270	Materials Laboratory	1
EGR 322	Strength of Materials	3
MTH 321	Ordinary Differential Equation	3
PHL 220	Ethics	3

Junior Year - Fall Semester

ME 300	Junior Workshop	0
ME 301	Mechanical Engineering Analysis	2
ME 304	Finite Element Analysis	3
ME 311	Mechanics of Fluids I	3
ME 331	Fundamental Thermodynamics	3
ME 341	Modern Manufacturing Processes	3
ME 351	Mechanical Systems Laboratory	2

Junior Year - Spring Semester

ME 312	Mechanics of Fluids II	2
ME 332	Applied Thermodynamics	2

ME 336	Heat Transfer	3
ME 374	Fluids Laboratory	1
ME 401	Machine Design	4
	Theology Electives	3

Theology elective: If the theology elective is a theological perspectives course that also satisfies a companion subject core requirement, a 3-credit restricted elective must be taken to attain a total of 129 semester hours. Consultation with a faculty advisor is required.

Senior Year - Fall Semester

ME 376	Thermodynamics Laboratory	1
ME 481	Mechanical Engineering Project I	2
	Technical Elective	3
	Restricted Math or Science Elective	3
FA 207	Introduction to Fine Arts	3
	Social Science	3

Technical elective: Approved upper-division technical electives (9 hrs.)

Restricted math or science elective: BIO 203, CHM 208, MTH 3xx, PHY 3xx, or any other science or mathematics course approved by ME faculty.

Senior Year - Spring Semester

EGR 351	Engineering Economics	3
ME 482	Mechanical Engineering Project II	2
	Technical Elective	3
	Technical Elective	3
	History	3
	Social Science	3

Technical electives: Approved upper-division technical electives (9 hrs.)

Total Credit Hours: 129

Engineering Management

Khalid H. Khan, Ph.D., chair

Many engineering students wish to pursue a management-oriented career rather than a career in research or design. The engineering management program is aimed at these students. The faculty has established a set of program educational objectives which are listed below.

Engineering Management, B.S.E.M.

Program Educational Objectives:

The engineering management program prepares graduates who will:

1. Be successful as practicing professionals in diverse career paths or in graduate school.
2. Distinguish themselves in breadth of perspective and the ability to solve complex problems.
3. Be effective communicators and team members, with many assuming leadership roles.

4. Be active in their profession and participate in continuing education opportunities to foster personal and organizational growth.
5. Demonstrate a concern for justice, ethical behavior, and societal improvement through participation in professional and civic organizations.

Typical fields of activity for graduates are in manufacturing and production, scheduling, quality control, technical marketing, sales engineering, field work, contract supervision, and construction management. Some graduates will become entrepreneurs. Students who wish to lead research or design projects should obtain a bachelor's degree in an appropriate engineering specialization.

The course of study includes the same mathematics, science, basic engineering, and liberal arts courses as the other engineering disciplines. However, some of the upper-division engineering courses are replaced with courses in economics, accounting, and marketing and management. The student has ample opportunity to take electives. These can be chosen from civil, electrical, and mechanical engineering, and from marketing and management, accounting, and finance.

The engineering management program leads to a bachelor of science in engineering management (B.S.E.M.) degree.

See Core and College Requirements

Degree Requirements

Common Engineering Requirements — 34 hours

CHM 207	General Chemistry I	3
CHM 277	General Chemistry I Lab	1
EGR 110	Introduction to Engineering	2
EGR 351	Engineering Economics	3
EGR 360	Analysis of Engineering Data	2
MTH 201	Calculus I	4
MTH 202	Calculus II	4
MTH 301	Vector Calculus	4
MTH 321	Ordinary Differential Equation	3
PHY 204	General Physics Lecture and Lab	4
PHY 205	General Physics Lecture and Lab	4

EGR 110: For transfer students who have not had an Introduction to Engineering course, the dean may approve the substitution of another technical course, provided these students transfer in 30 or more hours of technical courses.

Engineering Management Requirements — 62 hours

BUS 200	Principles of Marketing	3
BUS 209	Financial Accounting	3
BUS 210	Managerial Accounting	3
BUS 305	Business Finance	3
BUS 360	Cross-Cultural Organizational Behavior	3
BUS 361	Technology and Operations Management	3
CS 201	Introduction to Scientific Programming	1
ECN 121	Principles of Microeconomics	3
EE 231	Logic Design	3
	Or	

EGR 322	Strength of Materials	3
EGR 211	Engineering Mechanics-Statics	3
EGR 221	Materials Science	3
EGR 270	Materials Laboratory	1
EGR 481	Capstone Project I	2
EGR 482	Capstone Project II	2
ME 111	Engineering Graphics	2
	Restricted Math or Science Elective	3
	Technical Electives	12
	Restricted Technical Elective	3
	Business Electives	6

Restricted math or science elective: BIO 203, CHM 208, MTH 3xx, PHY 3xx, or any other science or mathematics course approved by the program chair.

Technical electives: Technical electives approved by the program chair (12 hours).

Restricted technical elective: CE 301 and CE 372, EE 333, or ME 331.

Business electives: Business electives (6 hours) approved by the program chair.

Total Credit Hours: 126

Sample Program

Freshman Year - Fall Semester

EGR 110	Introduction to Engineering	2
MTH 201	Calculus I	4
PHL 150	Introductory Philosophy	3
PHY 204	General Physics Lecture and Lab	4
THE 101	An Introduction to Religion and Theology	3

Freshman Year - Spring Semester

CHM 207	General Chemistry I	3
CHM 277	General Chemistry I Lab	1
ENG 112	Introduction to Literature	3
ME 111	Engineering Graphics	2
MTH 202	Calculus II	4
PHY 205	General Physics Lecture and Lab	4

Sophomore Year - Fall Semester

BUS 209	Financial Accounting	3
CS 201	Introduction to Scientific Programming	1
EGR 211	Engineering Mechanics-Statics	3
EGR 221	Materials Science	3

MTH 301	Vector Calculus	4
THE 205	Biblical Tradition and Culture	3

Sophomore Year - Spring Semester

BUS 200	Principles of Marketing	3
EE 231	Logic Design	3
	Or	
EGR 322	Strength of Materials	3
EGR 270	Materials Laboratory	1
EGR 360	Analysis of Engineering Data	2
PHL 220	Ethics	3
	University Core	3

Junior Year - Fall Semester

BUS 305	Business Finance	3
BUS 360	Cross-Cultural Organizational Behavior	3
ECN 121	Principles of Microeconomics	3
MTH 321	Ordinary Differential Equation	3
	Theology Electives	3

Theology electives: If the Theology elective is a Theological Perspectives course that also satisfies a companion subject core requirement, a 3-credit restricted elective must be taken to attain a total of 126 semester hours. Consultation with the program chair is required.

Junior Year - Spring Semester

BUS 210	Managerial Accounting	3
EGR 351	Engineering Economics	3
	Restricted Math or Science Elective	3
	Technical Elective	3
	Or	
	Restricted Technical Elective	3
	University Core	3

Technical elective: Technical electives approved by the program chair (12 hours).

Restricted technical elective: CE 301 and CE 372, EE 333, or ME 331.

Senior Year- Fall Semester

BUS 361	Technology and Operations Management	3
EGR 481	Capstone Project I	2
FA 207	Introduction to Fine Arts	3
	Technical Elective	3
	Technical Elective	3
	Or	

	Restricted Technical Elective	3
	University Core	3

Technical electives: Technical electives approved by the program chair (12 hours).

Restricted technical elective: CE 301 and CE 372, EE 333, or ME 331.

Senior Year - Spring Semester

	Business Electives	6
	Technical Elective	3
	Technical Elective	3
EGR 482	Capstone Project II	2

Business electives: Business electives (6 hours) approved by the program chair.

Technical electives: Technical electives approved by the program chair (12 hours).

Total Credit Hours: 126

SCHOOL OF NURSING

Joanne R. Warner, Ph.D., dean

M. Katherine Crabtree, DNSc, associate dean

Carol Craig, Ph.D., associate dean

Faculty: Banks, Braband, Cameron, Cheung, Chorpenning, Crabtree, Craig, Davis Sills, Decker, Kindler, Krautscheid, Manthey, Moceri, Napolitano, Nelson, Oakes, O'Lynn, Pate, Potter, Rosenstiel, Shadburne, Simmons, Stillwell, Stragnell, Warner, Wilson-Anderson

Introduction

The School of Nursing offers a bachelor of science in nursing (B.S.N.), master of science, and doctor of nursing practice degree program. Convinced of the intrinsic dignity of the human person, the University believes that the best interests of nurses and, through them, of the persons to whom they minister, can most effectively be met and maintained by a program of study that integrates the professional courses with those primarily designed to develop the humane qualities of the students.

Professional nursing is a therapeutic profession with responsibilities of judgment, interpretive thinking, and critical analysis. Professional nurses must take their places as contributing, self-reliant members of the healthcare team. In order to do this they must develop a broad understanding of people, society, and current health needs. They need to be able to discern changes in the social patterns and to develop a readiness to meet problems of the future. The upper-division B.S.N. program coursework, in combination with a blend of humanities and science courses, enables students to construct a substantial framework on which to build through experience, further academic study and life-long learning. Further, Omicron Upsilon, the University of Portland School of Nursing's chapter of Sigma Theta Tau International Honor Society, invites to membership seniors and graduate students who have demonstrated superior academic achievement in nursing. Awarding membership encourages, fosters, and actively supports further professional development, thus promoting nursing scholarship, leadership, creativity, and commitment to nursing.

The baccalaureate program, courses and expected outcomes reflect professional standards and guidelines including *The Essentials of Baccalaureate Nursing Education for Professional Nursing Practice* (AACN, 2008). The B.S.N. curriculum is designed to prepare graduates for the practice of professional nursing in a variety of settings. Graduates of the program are eligible to sit for the NCLEX-RN, a requirement in all states to obtain professional Registered Nurse (R.N.) licensure, and may apply for appointments in the Air Force, Army or Navy nurse programs. The School of Nursing is approved by the Oregon State Board of Nursing, is accredited by the Commission on Collegiate Nursing Education (CCNE), and is a member of the American Association of Colleges of Nursing (AACN).

Mission

We are a diverse and innovative community who embody a passion for the profession by educating transformational leaders who intentionally practice the science, art and essence of nursing.

Vision: Educating nurses who make a difference.

Program Outcomes

The baccalaureate program in nursing at the University provides students with a liberal arts and science foundation followed by concentrated study in the professional nursing major. The program provides the students with the opportunity to develop competency in the assessment of health needs and in the promotion, maintenance, and restoration of health. A rich variety of settings are utilized to reflect the array of actual and potential health problems experienced by individuals, families, and communities throughout the life cycle.

The B.S.N. program outcomes are:

1. Knowledge user: Practices theory guided, evidence-based nursing care representative of the various ways of knowing.
2. Critical thinker: Demonstrates outcome-directed clinical reasoning in the delivery and management of safe client-centered nursing care.
3. Spiritual carer: Promotes the spiritual dimension of health directed toward issues of meaning, hope, and faith.
4. Culturally competent provider: Provides respectful and holistic care within a diverse and changing society.

5. Steward: Uses physical, fiscal, and human resources to achieve quality, safe, and effective outcomes.
6. Effective communicator: Communicates appropriately and effectively with clients, health care team members, stakeholders, policy-makers, and the public.
7. Healthcare leader: Provides leadership in the design, delivery, management, and evaluation of health care.
8. Healthcare advocate: Advocates for clients, society, and the nursing profession by applying principles of ethics, legal frameworks, and social justice in the provision of healthcare.
9. Professional nurse: Incorporates the values and standards of the nursing profession in practice.

Student Handbook

The School of Nursing undergraduate student handbook is available on the School of Nursing website. Students have the responsibility to acquaint themselves with its contents and are held accountable for all statements therein.

Providence Scholars Program

The Providence Scholars program, a partnership between Providence Health and Services (PHS) and the University of Portland, was created to address the national nursing shortage. Undergraduates selected to be Providence Scholars will have 75 percent of their tuition paid by PHS and the University of Portland. The Providence Scholars program applies to the junior and senior years of the undergraduate nursing program. Providence Scholars sign a three-year employment contract with PHS in exchange for tuition coverage.

Programs of Study

The School of Nursing and the Graduate School offer the following degrees and programs:

Bachelor of Science in Nursing

Alternate Entry Master's at University of Portland (see Graduate School222)

Master of Science — Clinical Nurse Leader (see Graduate School220)

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Registered Nurse to Master of Science — Clinical Nurse Leader (see Graduate School225)

Requirements

School of Nursing Requirements

University Core Requirements — 39 hours

Fine Arts – 3 credits

FA 207	Introduction to Fine Arts	3

History – 3 credits

Literature – 3 credits

Mathematics – 3 credits

MTH 161	Elementary Statistics	3

Science – 6 credits

BIO 307 Human Anatomy and BIO 308 Human Physiology satisfy the core science requirement

Social science – 6 credits

(2 different disciplines)

Philosophy – 6 credits

Theology – 9 credits

must include THE 348/448

Bachelor of Science in Nursing

School of Nursing Undergraduate Requirements

Admission

Admission for Freshmen

Freshman applicants for admission must meet the general entrance requirements of the University as set forth in the "Office of Admissions"233 section of this *Bulletin*. Freshman students admitted with transfer credits will be allowed entry into upper division courses at the discretion of the School of Nursing. All entering freshmen must complete a high school- or college-level general chemistry course prior to enrolling in BIO 205. All entering freshmen whose recentered verbal SAT score is 530 or below, or whose ACT score is 22 or below, must enroll in ENG 107.

For students admitted to the B.S.N. program as freshmen, progression into upper-division nursing courses is dependent upon:

1. A cumulative G.P.A. of 2.7 or above.
2. A cumulative G.P.A. of 2.7 or above in the required sciences with a minimum grade of C in each required science course. Pass/No Pass grades are not allowed.
3. A grade of C or better in NRS 101, NRS 202 and NRS 203.
4. Completion of all the prerequisite course work.
5. Students may repeat one required upper division science course one time.

Admission for Transfer Students

For transfer students, acceptance into the B.S.N. program is dependent upon:

1. A cumulative G.P.A. of 3.0 or above.
2. A cumulative G.P.A. of 3.0 or above in the required sciences.
3. Completion of all prerequisite courses. Lower division credit may be taken at any accredited college or university.
4. All prerequisite courses must be graded with a C or higher. Pass/No Pass is not allowed. Prerequisite courses may be taken at any accredited college or university.
5. Computer experience/literacy (ability to use a PC for word processing, e-mail, and access to the Internet) is required.

Degree Requirements

To qualify for the degree, the following requirements must be met:

1. Completion of all the prerequisite course work. Lower division credits taken prior to matriculation at University of Portland that meet the requirements of the University of Portland may be taken at any accredited college or university.
2. A cumulative G.P.A. of 2.7 or above in all lower-division courses for four-year students or a cumulative G.P.A. of 3.0 or above in all prerequisite courses for transfer students.
3. A cumulative G.P.A. of 2.7 or above in the required sciences for four-year students or a cumulative G.P.A. of 3.0 or above in the required sciences for transfer students. Grades of C- or lower or pass/no pass in any required science course are not allowed.
4. A grade of C or better or pass in all nursing courses.
5. A grade of Pass (P) in NRS 498.
6. Successful completion of both an oral and computerized comprehensive examination prior to being verified to sit for the National Council Licensure Examination for Registered Nurses (NCLEX-RN).
7. Completion of a minimum of 121 semester hours.

See University Core Requirements174

Degree Requirements

Major Requirements — 81 hours

BIO 205	Foundations of Biology	3
BIO 307	Human Anatomy	3
BIO 377	Anatomy Laboratory	1
BIO 308	Human Physiology	3
BIO 378	Physiology Laboratory	1
BIO 359	Microbiology	3
BIO 379	Microbiology Laboratory	1
MTH 161	Elementary Statistics	3
THE 348	Theological Dimensions of Suffering and Death	3
	Electives	6-10
NRS 101	Introduction to Nursing and Health Care	3
NRS 202	Nutrition	3
NRS 203	Life Processes Across the Lifespan	3
NRS 301	Nursing Theory and Knowing: Concepts and Issues	2
NRS 310	Population Health Promotion in a Multicultural Context	2
NRS 311	Communication in Nursing	2
NRS 312	Introduction to Professional Nursing Practice	5
NRS 313	Pathophysiology	3
NRS 315	Pharmacotherapeutics	3
NRS 321	Psychiatric Mental Health Nursing	4
NRS 322	Physiological Nursing	6
NRS 414	Evidence-based Nursing	3
NRS 418	Nursing of Families	2
NRS 421	Advanced Physiological Nursing	6
NRS 422	Maternal-Child Nursing	6
NRS 424	Applied Population Health Nursing in a Multicultural Context	5
NRS 429	Leadership in Professional Nursing	3
NRS 436	Personal Preparation for Licensure	1
NRS 498	Capstone Clinical Immersion	5

The following nursing courses include the following clinical/lab hours: NRS 312 - 45 lab hours, NRS 321 - 90 clinical hours, NRS 322 - 135 clinical hours, NRS 421 - 135 clinical hours, NRS 422 - 90 clinical hours, NRS 424 - 90 clinical hours and NRS 498 - 180 clinical hours.

Total Credit Hours: 121

Total credit hours includes 765 total clinical hours.

Sample Program of Study

Below is a sample schedule for students who enter the B.S.N. program as freshmen. Nursing students who wish to study abroad or to minor in another field of study need to work with the nursing program counselor.

Freshman Year - Fall Semester

NRS 101	Introduction to Nursing and Health Care	3
NRS 001	First Year Workshop	0
BIO 205	Foundations of Biology	3
BIO 005	BIO 205 Workshop	0
PHL 150	Introductory Philosophy	3
	Social Science	3
THE 101	An Introduction to Religion and Theology	3

Freshman Year - Spring Semester

FA 207	Introduction to Fine Arts	3
	History	3
	Social Science	3
MTH 161	Elementary Statistics	3
ENG 112	Introduction to Literature	3

Sophomore Year - Fall Semester

BIO 308	Human Physiology	3
BIO 378	Physiology Laboratory	1
BIO 359	Microbiology	3
BIO 379	Microbiology Laboratory	1
NRS 202	Nutrition	3
	Elective	3

Sophomore Year - Spring Semester

BIO 307	Human Anatomy	3
BIO 377	Anatomy Laboratory	1
THE 205	Biblical Tradition and Culture	3
NRS 203	Life Processes Across the Lifespan	3
	Elective	3

Junior Year - Fall Semester

NRS 301	Nursing Theory and Knowing: Concepts and Issues	2

NRS 310	Population Health Promotion in a Multicultural Context	2
NRS 311	Communication in Nursing	2
NRS 312	Introduction to Professional Nursing Practice	5
NRS 315	Pharmacotherapeutics	3

Junior Year - Spring Semester

NRS 313	Pathophysiology	3
NRS 321	Psychiatric Mental Health Nursing	4
NRS 322	Physiological Nursing	6

Senior Year - Summer Session

NRS 414	Evidence-based Nursing	3
NRS 421	Advanced Physiological Nursing	6

Senior Year - Fall Semester

NRS 422	Maternal-Child Nursing	6
NRS 424	Applied Population Health Nursing in a Multicultural Context	5
THE 348	Theological Dimensions of Suffering and Death	3

Senior Year - Spring Semester

NRS 418	Nursing of Families	2
NRS 429	Leadership in Professional Nursing	3
NRS 436	Personal Preparation for Licensure	1
NRS 498	Capstone Clinical Immersion	5

Total Credit Hours: 121

Social Work and Nursing Double Major

Below is a sample program of study for students who enter the B.S.N. program as freshmen and wish to double major in social work. Students should work closely with the nursing program counselor, the social work program director, and the financial aid office to ensure that requirements for financial aid and both programs are met.

Sample Program of Study for Nursing and Social Work

Freshman Year

NRS 101	Introduction to Nursing and Health Care	3
BIO 205	Foundations of Biology	3
BIO 005	BIO 205 Workshop	0
PHL 150	Introductory Philosophy	3
	Social Science	3
THE 101	An Introduction to Religion and Theology	3

Freshman Year - Spring Semester

FA 207	Introduction to Fine Arts	3
	History	3
SW 205	Social Welfare and Social Justice	3
MTH 161	Elementary Statistics	3
ENG 112	Introduction to Literature	3

Sophomore Year - Fall Semester

BIO 308	Human Physiology	3
BIO 378	Physiology Laboratory	1
THE 205	Biblical Tradition and Culture	3

Sophomore Year - Fall Semester

BIO 359	Microbiology	3
BIO 379	Microbiology Laboratory	1
SW 325/SOC 325/SJP 325	Cultural Diversity and Cultural Competence	3
SW 343	Human Behavior in the Social Environment	3
NRS 202	Nutrition	3
PHL 220	Ethics	3

Sophomore Year - Spring Semester

BIO 307	Human Anatomy	3
BIO 377	Anatomy Laboratory	1
NRS 203	Life Processes Across the Lifespan	3
SW 214/PSY 214/SOC 214	Research Methods: Design	3
SW 313	Social Welfare Policy	3
SW 386	Interviewing and Counseling	3

Junior Year - Fall Semester

NRS 301	Nursing Theory and Knowing: Concepts and Issues	2
NRS 310	Population Health Promotion in a Multicultural Context	2
NRS 311	Communication in Nursing	2
NRS 312	Introduction to Professional Nursing Practice	5
NRS 315	Pharmacotherapeutics	3

Junior Year - Spring Semester

NRS 313	Pathophysiology	3
NRS 321	Psychiatric Mental Health Nursing	4

NRS 322	Physiological Nursing	6

Senior Year - Summer Semester

NRS 414	Evidence-based Nursing	3
NRS 421	Advanced Physiological Nursing	6

Senior Year - Fall Semester

NRS 418	Nursing of Families	2
NRS 422	Maternal-Child Nursing	6
SW 480	Theory and Methods of Social Work Practice I	3
SW 482	Social Work Practicum I	6

Senior Year - Spring Semester

NRS 424	Applied Population Health Nursing in a Multicultural Context	5
SW 481	Theory and Methods of Social Work Practice II	3
SW 483	Social Work Practicum II	6
THE 348	Theological Dimensions of Suffering and Death	3

Senior Year - Summer Semester II

NRS 429	Leadership in Professional Nursing	3
NRS 436	Personal Preparation for Licensure	1
NRS 498	Capstone Clinical Immersion	5
SW 491	Seminar	Variable

Total Credit Hours: -151

GRADUATE SCHOOL

Matthew J. Baasten, Ph.D., interim dean

Introduction

The Graduate School currently offers 12 degree programs in seven academic areas. The courses, curricula, and faculty are provided cooperatively by the Pamplin School of Business Administration, the Shiley School of Engineering, the schools of Education and Nursing, and the College of Arts and Sciences. Each program is administered by a director within its school or department. These directors, together with the dean of the Graduate School, comprise the Graduate School Council. The Graduate School was established in 1950 and has awarded over 10,000 degrees since then, including 191 doctoral degrees.

Mission

The Graduate School offers rigorous educational experiences in a personalized learning environment. The University of Portland's graduate curricula are designed to provide candidates with the cutting-edge knowledge and skills they need to provide insightful, global, and ethical leadership within their professions, both now and into the future. Graduate programs at the University of Portland have the following objectives:

[I] Expand and deepen applied and conceptual knowledge in a particular discipline or profession, while also fostering the interdisciplinary exploration that can uncover new knowledge at intersections of disciplines and professional fields.

[II] Offer an environment that supports degree completion and candidate success through rigorous and relevant coursework, personalized attention, and manageable program length.

[III] Foster instructional experiences that are embedded with professional ethical practices promoting respect, justice, sustainability, and other Catholic social teachings, while also wrestling with the paradoxes.

[IV] Be accessible to all exceptionally qualified candidates.

[V] Connect respective industries, employers, and professions to the classroom to encourage entrepreneurship, professional internships, and practica.

[VI] Employ innovative approaches that demand team-work, develop leadership through expert service, and require the highly developed communication and collaboration aptitudes necessary for global work and living.

[VII] Conduct research and develop performance and capstone projects that integrate multiple domains of knowledge and promote lifelong learning and habits of mind.

Programs of Study

The degrees currently offered in the Graduate School are:

Business:

Executive M.B.A. in Nonprofit Management (E.M.B.A.)

Master of Business Administration (M.B.A.)

Master of Science in Finance (M.S.)

Communications Studies:

Master of Arts (M.A.)

Master of Science (M.S.)

Drama:

Master of Fine Arts (M.F.A.)

Education:

Master of Arts (M.A.)

Master of Education (M.Ed.)

Master of Arts in Teaching (M.A.T.)

Engineering:

Master of Engineering (M.Eng.)

Nursing:

Master of Science (M.S.)

Doctorate of Nursing Practice (D.N.P.)

Theology:

Master of Arts in Pastoral Ministry (M.A.)

Academic Regulations

The academic regulations listed in the opening section of this University Bulletin also apply to graduate students with the following modifications:

1. No student may register for more than 12 semester hours of credit in a semester without the consent of the dean of the Graduate School and the program director.
2.
    a. The grade of C is the lowest grade that carries with it graduate credit. Courses receiving lower grades (e.g. C-) will not carry graduate credit, but will be included in the student's cumulative grade point average (G.P.A.) calculated according to the point system described in the University Academic Regulations (V. Grades and Credits26).
    b. Only courses in which a grade of C-, D+, D, or D- has been received may be repeated at the University of Portland for academic credit. In such cases the new grade and credit will replace the original in the calculation of grade point average; however both courses and grades will remain on the permanent record, with the original course denoted by the symbol RP.
3. Students who receive an IP in Thesis 599 or a graduate course are normally expected to comply with the academic regulation that the work be completed within one year. However, in exceptional cases the dean of the Graduate School may, upon recommendation of the graduate program director, extend the period of time which a student has to complete his or her thesis or the course and receive a grade.
4. No course or practicum numbered above 499 may be taken on a "pass/no pass" basis for hours required toward an advanced degree except Thesis 599.
5. Students may not use credits obtained by challenge or advanced placement toward the hours required for an advanced degree.
6. Thirty semester hours of courses numbered 500 and above are the minimum requirements for a master's degree. (Consult the individual programs for the precise requirements as some programs require more than 30 hours.)
7. Students must have a cumulative G.P.A. of 3.00 to earn a degree.
8. A student must maintain a G.P.A. of 3.00 to remain in good standing. A student who is not in good standing will be given specific conditions by the program director. If these conditions are not fulfilled, the student will be dismissed from the Graduate School by the dean of the Graduate School.
9. Master's degrees requiring 30 to 36 semester hours must normally be completed within a period of five years. Master's degrees requiring 37 or more semester hours must normally be completed within a period of six years. In exceptional cases these periods may be extended by the dean of the Graduate School upon recommendation of the graduate program director.
10. Students completing a master's degree with a thesis requirement must complete the thesis in compliance with regulations adopted by the Graduate School Council. Copies are available from the Graduate School or the graduate program director for your degree program.
11. Transfer of credits:

a. With the approval of the dean of the Graduate School, a maximum of nine semester hours may be transferred to a master's degree program from an accredited institution if they are acceptable for graduate degree credit in the source institution. (Consult the individual graduate programs for details as some allow less than nine hours of transfer credit.) However, credits or courses used to satisfy the requirements of any other degree cannot be applied to the fulfillment of a subsequent degree in the Graduate School.

b. Only those courses graded B or better are eligible for transfer.

c. No credits transferred from another institution may be applied to a master's degree if they were earned in courses that began more than five years before the date that will appear on the degree.

d. Graduate credits earned through distance learning will be considered for transfer, subject to the same criteria as traditional courses with respect to quality, relevance, and timeliness as well as the accreditation of the source institution, including the provisions of regulation 10[g] below.

e. Normally credits should be transferred at the time of the applicant's original acceptance into a graduate program so they may be integrated into the planning of a program. A request for a later transfer may be denied.

f. To transfer graduate credits taken at another university during the time of a student's graduate work at the University of Portland requires written authorization before such work is taken.

g. Where the University of Portland graduate program has a special accreditation, the source institution may be required to have the same or an equivalent accreditation.

h. M.B.A. students who qualify for admission may transfer more than nine hours of graduate credit under provisions of multilateral admission agreements.

12. Students may not accumulate more than nine hours of credit in the nonmatriculated status. After nine credit hours, a student must seek admission to a program in order to have the hours apply to a degree.

13. A student who expects to receive a degree at the end of a semester or the summer session must apply for the degree within the time limits set by the registrar.

14. Unless excused by the dean of the Graduate School, the candidate for a master's degree is expected to attend commencement exercises at which the degree is conferred.

Student Classification

All students, regardless of classification, must apply for admission.

Graduate degree student is one who has been accepted into a program leading to a master's degree.

Postbaccalaureate student is one who is admitted to the University for postbaccalaureate work but not into a degree program. Admission as a postbaccalaureate student does not imply acceptance to a graduate degree program. Regular admission to the Graduate School must be obtained from the dean of the Graduate School before any work will be accepted towards a graduate degree.

Nonmatriculated graduate student is one who applies for admission in order to register for credit but who is not a degree-seeking student at the University. Enrollment as a nonmatriculated student implies no commitment on the part of the University regarding regular admission at a later time. Credits earned while in the nonmatriculated classification do not necessarily apply toward requirements for a degree should a student later be accepted into a degree program. Regular admission to the Graduate School must be obtained from the dean of the Graduate School before coursework will be accepted toward a graduate degree.

Admission as a nonmatriculated student requires that the student submit a nonmatriculated student application to the Graduate School along with a $50.00 application fee, relevant transcripts, and other requested documents prior to their initial registration.

Accumulation of more than 9 hours of graduate credit in the nonmatriculated status is not permitted, and any such student who accumulates 9 semester hours is required to seek regular admission to a degree program in keeping with procedures determined by the Graduate School.

Post graduate student is one admitted into a certificate program or graduate coursework extending educational experiences beyond the master's degree.

Doctoral student is one who is fully admitted to a doctoral degree program.

Application and Admission

1. Correspondence concerning admission to the Graduate School under any classification should be addressed to the Graduate School, 5000 N. Willamette Blvd., Portland, OR 97203-5798; phone: (503) 943-7107; toll free: (800) 227-4568; e-mail: gradschl@up.edu.
2. Before applicants will be considered for admission as degree students the following must have been received or met:
   a. Completed and signed application forms (online or paper)
   b. The non-refundable admission fee. (Graduates of the University of Portland are exempt from this fee.)
   c. An official transcript sent directly to the University of Portland Graduate School showing all college credit attempted and/or completed from each college and university previously attended. Transcripts from foreign universities must be in English or be accompanied by an English translation certified as authentic. Evidence of possession of a bachelor's degree from an accredited institution is required. All official transcripts submitted become the property of the University and cannot be copied or returned to the applicant.
   d. Three recommendations from persons knowledgeable of the applicant's ability. Two should normally be from former professors. Note: The M.A.T. program requires four letters of recommendation and a résumé. The M.Ed. program requires three letters of recommendation, a résumé, and a copy of the teaching certificate. The post master specialty program requires two letters of recommendation, a résumé, and a copy of the teaching certificate. Nursing requires two letters of recommendation.
   e. Evidence of scholastic background that indicates ability to do satisfactory graduate work. Usually this is considered to be a B average.
   f. Appropriate score on a standardized test. The Graduate Management Admission Test is required in business. For the school of education's M.A.T. program a Basic Skills Test, and the Oregon Educator Licensure Assessment Test (ORELA) and the appropriate PRAXIS Specialty Test (if applicable) are required. M.A.T. applicants who wish to teach at the Early Childhood, Elementary and Middle levels must take the NES EAS Elementary Education subtest I and II (multiple subjects). For all other programs the General Test of the Graduate Record Examination is required. The Test of English as a Foreign Language is required for applicants whose native language is not English. A minimum score of 550 is required except for the master's programs in business administration (where the score is 570) and communication studies and music (where the minimum score is 600).
   g. A statement of academic or professional goals, appropriate to the specific program.
   h. Specific admission requirements, including undergraduate G.P.A., of individual degree programs are listed in the individual programs' information.
3. Admission to a program leading to a master's degree is given only by the dean of the Graduate School when the following conditions are fulfilled:
   a. The documentation required above is complete.
   b. A positive recommendation is received from the graduate program director of the department or school involved. (A personal interview may be required.)
4. Applications should be complete not later than one month before the student's beginning class at the University to provide time for adequate consideration and program arrangement. Some programs have a fixed deadline for submission of all materials.
5. Students who fail to register in the first semester after admission, or who in the regular year-round program fail to register for a semester, or who in a summer-only program fail to register for a summer session, must seek re-admission from the dean of the Graduate School.
6. The graduate student who desires to change to a different degree program must submit a formal change of program application to the dean of the Graduate School.
7. If offered a seat in the AEM UP or M.A.T. programs, a non-refundable $500 deposit is required and will be credited towards the first semester tuition.

2012-2013 Tuition and Fees

Programs

Business Administration

Brian Adams, Ph.D., director of graduate business programs

Melissa McCarthy, director of M.B.A. program

Howard Feldman, Ph.D., director of E.M.B.A. program

Faculty: Adams, Adrangi, Anderson, Barnes, Beauchamp, Bernard, Chatrath, Down, Easton, Eom, Feldman, Gritta, Gudigantala, Hanig, Holloway, Jurinski, Kolay, Lewis, Lin, Lippman, McKittrick, Meckler, Mitchell, Pickett, Reed, Seal, Sebastiao, Stephens, Yu

Introduction

The Dr. Robert B. Pamplin, Jr. School of Business Administration was founded in 1939, and the master's program in business administration (M.B.A.) began in 1959. The University of Portland's program is one of only a few graduate universities in the State of Oregon that is accredited by AACSB, the Association for the Advancement of Collegiate Schools of Business.

Mission

The Pamplin School of Business Administration's innovative curriculum is an outgrowth of its mission statement. This mission is to create a collaborative learning environment that develops our students' knowledge of effective business practices, enhances their analytic and interpersonal skills, and enables them to be successful and ethical leaders in their communities and the changing world.

Master of Business Administration, M.B.A.

Melissa McCarthy, director

Degree Outcomes

The M.B.A. curriculum focuses on contemporary leadership by challenging graduate students to think cross-functionally about a variety of large and small business issues. To operationalize these objectives, the basic structure of our M.B.A. program consists of the following components:

- A prerequisite class in statistical and quantitative analysis.
- Values perspective courses introducing students to issues of leadership, sustainability, understanding cultural differences and developing multicultural skills, and the role of business in society.
- Core courses exploring the application of analytic tools in economic analysis, marketing, finance, operations and accounting to identify and solve contemporary business problems.
- A concentration component allowing students to specialize in an area of interest in entrepreneurship, finance, health care management, marketing, operations and technology management, or sustainability. Students may also choose to design their own concentration by selecting courses from more than one field.
- A capstone course providing a final integration of the themes covered in the M.B.A. program with an emphasis on the strategic role played by top management in integrating corporate policies.

Learning Goals and Objectives for Master of Business Administration Graduates

Students who successfully complete all requirements for a master of business administration should be able to:

1. Demonstrate a broad core of business knowledge and be able to integrate and apply this knowledge to business situations requiring interdisciplinary and global perspectives. M.B.A. graduates will be able to demonstrate competency in the underlying concepts, theory and tools taught in the core curriculum of our M.B.A. program. They will be able to use their knowledge of different business disciplines to identify, analyze, and recommend solutions to complex business problems requiring interdisciplinary and global perspectives.
2. Demonstrate analytical and critical thinking skills needed by middle and upper-level managers. M.B.A. graduates will acquire the analytical and critical thinking skills to identify, analyze, and evaluate alternatives solutions to business

problems. They will develop the skills needed to craft and implement strategic and tactical plans. M.B.A. graduates will be able to articulate and defend their analysis solutions to a business audience.

3. Demonstrate research skills necessary to study business problems and evaluate the impact of managerial actions. M.B.A. graduates will be proficient in data collection using surveys, electronic databases, the World Wide Web, library, and other sources. They will be adept at creating and interpreting statistical and financial tables and appropriately presenting facts, analysis, and conclusions.
4. Demonstrate interpersonal skills needed to be effective managers and leaders. M.B.A. graduates will be skilled at leadership, team building, interpersonal influence, and the management of change. M.B.A. graduates will be able to communicate and work effectively with others in work settings involving cultural and demographic diversity.
5. Evaluate the ethical and societal implications of managerial decisions. M.B.A. graduates will be able to identify the important ethical dilemmas facing business enterprises, analyze them from multiple ethical and stakeholder perspectives, and recommend appropriate resolutions to those dilemmas. They will be able to identify and evaluate the economic, social, and environmental tradeoffs resulting from business decisions.

Admission Requirements

M.B.A. applicants should have a bachelor's degree from an accredited college or university recognized by the University of Portland and an admissions index of 1100 or higher. This index is the sum of the applicant's Graduate Management Admissions Test (GMAT) and 200 times the applicant's undergraduate grade point average (G.P.A.) on a 4-point scale. Current admissions standards are a score of 500 on the GMAT and a G.P.A. of 3.00. The Graduate Record Examination (GRE) can be accepted in place of the GMAT exam. The minimum GRE score must be equivalent to earning 500 on the GMAT using the comparison tool. Admission to the M.B.A. program is based on the entire application including two letters of recommendation, a resume, and a statement of goals, not merely quantitative factors. It is strongly recommended that applicants have two to three years of professional experience after their bachelor's degree to fully benefit from the program. Application requirements may be subject to change.

Applicants whose native language is not English or who did not complete their degree at a university where all courses were taught in English must achieve a minimum score on the Test of English as a Foreign Language (TOEFL) of 88 iBT (internet-based test) or 570 (paper-based) or the International English Language Testing System (IELTS) of 7.0. See the M.B.A. program director for specific requirements.

Jesuit Transfer Agreement

The University of Portland is a participant in an educational consortium with more than twenty other faith-based and AACSB-accredited institutions. This program allows M.B.A. students exceptional flexibility if their education is affected in such a way as to require a move to another geographic location.

Under this agreement, students who have completed at least 50 percent of their credits at the University of Portland may attend another AACSB-accredited M.B.A. program at one of the participating schools involved in this consortium and transfer units back to the University of Portland to complete their degree. If a student has less than 50 percent of the credits required to award an M.B.A. degree, they may apply to a participating school and transfer the credits already earned at the University of Portland to that university. Under this agreement, the student transferring out of the University of Portland is required to meet all application and admission criteria of the receiving school and will, in turn, earn their degree from that school. For further details please see the M.B.A. program director.

Honors Pledge

The faculty of the Pamplin School of Business Administration encourages students to acknowledge the ethical component of teaching and learning that is an essential factor in fulfilling the University's mission in the classroom. Students are asked to reflect upon the core value of academic integrity and make this an integral part of their work at the University. Students are asked to sign an honors pledge and attach it to all submitted course work to affirm the integrity of their scholarship to all concerned.

Prerequisite Course and Waiver Exam

All students must take the prerequisite course BUS 500 (Statistics) or pass a statistics waiver exam in one of the first two semesters in the program. A student passing this exam will have the BUS 500 class waived from their course requirements and will have a 36 hour program. (See the M.B.A. program director for details on the statistics waiver exam.) Please note: students are expected to have some familiarity with statistics and a basic proficiency with Excel applications before entering the BUS 500 class.

Values Perspective

The values perspective courses are designed to provide a common set of managerial experiences that foster thinking across functional disciplines. The courses provide a framework for considering ethics, sustainability, social responsibility, diversity and multiculturalism, and the changing role of managers.

Core Classes

Students complete core courses in five discipline areas. If the basic course is waived then a more advanced course must be completed to fulfill the requirement of five core classes.

The core courses are designed to provide students with the quantitative and qualitative tools used in business problem solving. Students take economic analysis, marketing, finance, operations management, and accounting. The emphasis in these courses is on applying analytic tools and concepts to emerging issues in business practices.

Students may be waived from one or more of the basic core courses if they have completed comparable courses from an AACSB-accredited school with a grade of B or better within eight years of acceptance to the M.B.A. program. Where appropriate, work experience directly related to the core course will be taken into account. These waivers must be approved by the M.B.A. program director. If a waiver is approved, students will substitute an advanced course in that discipline from a list of eligible courses. If a student has coursework from a non-AACSB accredited school, it will be further reviewed for acceptability by the M.B.A. program director.

Concentrations

Students may select a concentration from one of six areas: entrepreneurship, finance, health care management, marketing, operations and technology management, and sustainability. Alternatively, students who do not want to focus in one particular area may select courses from two or more fields. Many students find that a specialized concentration helps in marketing their degree to prospective employers. Others find that selecting courses from different fields gives them a broader foundation for management. Students choosing not to concentrate in one area may select any four elective courses.

Capstone Class

The M.B.A. program closes with the capstone strategy course (BUS 580) taken in the student's last semester. This course brings together the skills learned within the program through a final interdisciplinary look at problem solving strategies and solutions.

International Component

All M.B.A students, beginning with those admitted for fall 2012, are required to take an international-experience course before they graduate. The courses with the international experience will be identified prior to the beginning of each academic year. The international experience will focus on a course-related project that will require a week-long trip to a foreign destination. Additional travel fees will be collected at the beginning of the course.

Degree Requirements

The M.B.A. program consists of 36 to 39 hours of course work: a 3 credit hour prerequisite in statistics (if necessary), 6 credit hours of values perspective courses, 15 hours of core courses, 12 hours of electives, and a 3 credit hour capstone course.

Prerequisite—3 hours

BUS 500/NRS 500	Statistical and Quantitative Analysis	3

Values Perspective— 6 hours

Choose 2 of the 4 courses below:

BUS 510	Economics and Metrics for Sustainability	3
BUS 511	Cross-Cultural Management	3
BUS 512	Leadership and Higher Level Management	3
BUS 513	Social Responsibility in Organizations	3

Core Courses — 15 hours

BUS 501	Economic Analysis	3
BUS 505	Operations Management	3
BUS 506	Principles of Accounting	3
BUS 520	Applied Marketing Strategies	3
BUS 530	Corporate Finance	3

BUS 501: if waived based on completion of microeconomics and macroeconomics, students can substitute any business elective.

BUS 505: if waived based on completion of three OTM courses including operations management, students may substitute any OTM elective.

BUS 506: if waived based on completion of managerial and financial accounting, students may substitute BUS 560.

BUS 520: if waived based on completion of three marketing courses, students may substitute any marketing elective.

BUS 530: if waived based on completion of three finance courses, students may substitute any finance elective.

Capstone Component — 3 hours

BUS 580	Strategic Issues and Applications in Management	3

M.B.A. Concentrations—12 hours

Entrepreneurship

BUS 523	Negotiation and Persuasion Strategies	3
BUS 544	Managing Innovation and Technology	3
BUS 561	New Venture Funding	3
BUS 570	Social Entrepreneurship	3
BUS 571	New Venture Management	3
BUS 572	Family Business Planning	3
BUS 577	Technology, Entrepreneurship and Law	3

Finance

BUS 531	International Finance	3
BUS 532	Security and Portfolio Analysis	3
BUS 533	Financial Markets and Institutions	3
BUS 534	Derivatives and Risk Management	3
BUS 535	International Economics and Trade	3
BUS 536	Personal Financial Planning	3
BUS 537	Applied Financial and Economic Forecasting	3
BUS 538	Corporate Financial Strategy: M&A and Restructure	3
BUS 539	Research Methods in Finance	3
BUS 553	Health Care Finance	3

BUS 561	New Venture Funding	3
BUS 562	Real Estate Finance	3
BUS 564	Macro Economics in the Global Economy	3
BUS 568	Income Tax Planning	3

Health Care Management

BUS 551	Introduction to Healthcare Management	3
BUS 552	Health Care Marketing	3
BUS 553	Health Care Finance	3
BUS 554	Health Care Information Systems	3
BUS 556	Ethical Issues in Health Care	3

Marketing

BUS 521	Consumer Behavior	3
BUS 522	Marketing Research	3
BUS 523	Negotiation and Persuasion Strategies	3
BUS 524	Integrated Marketing Communications	3
BUS 525	Sales and the Global Market	3
BUS 526	Sustainable Marketing	3
BUS 552	Health Care Marketing	3

Operations and Technology Management

BUS 540	Management Information Systems	3
BUS 542	Systems Analysis and Design	3
BUS 543	Decision Modeling	3
BUS 545	Project Management	3
BUS 546	Supply Chain Management	3
BUS 547	Inventory Management	3
BUS 548/BUS 454	Project Management Processes and Certification	3
BUS 549	Business Data Communications & E-Commerce	3
BUS 550	Excel Spreadsheet Modeling	3

Sustainability

BUS 510	Economics and Metrics for Sustainability	3
BUS 526	Sustainable Marketing	3
CST 591	Seminar	Variable
ENV 501	Systems Thinking, Resilience and Sustainability	3

Additional Course Options

Other courses, such as BUS 581 (Advanced Business Communication) and special topic courses offered with a BUS 590-592 designation, may be used in a concentration with the approval of the M.B.A. program director.

Business Internship

A one-three credit business internship course is available for students who need to receive academic credit to be eligible for an internship due to company policy, visa requirement, or other employment regulations. Students should contact the internship coordinator for more information.

Master Science in Finance, M.S.

Brian Adams, Ph.D., director

Degree Outcomes

Master of science in finance programs are designed to provide specialized skills for those interested in careers in corporate finance, investments, financial analysis, and/or risk management. The master of science in finance program has a rigorous and quantitative curriculum in finance that integrates theories and applications from economics, accounting, mathematics, strategy, and other fields.

Admission Requirements

Master of science in finance applicants must have a bachelor's degree from an accredited college or university recognized by the University of Portland. Admissions guidelines include a preferred index of 1240 or higher. This index is the sum of the applicant's Graduate Management Admissions Test (GMAT) and 200 times the applicant's undergraduate grade point average (G.P.A.) on a four-point scale. Preferred admissions standards are a score of 600 on the GMAT and an undergraduate G.P.A. of 3.2 or higher. The Graduate Record Examination (GRE) can be accepted in place of the GMAT exam. The minimum GRE score must be equivalent to earning 600 on the GMAT using the comparison tool. Admission may be considered for those not strictly meeting these criteria but having extensive work experience in finance. Admission to the M.S.F. program is based on the entire application, including two letters of recommendation, a statement of goals, and a resume, not merely quantitative factors. It is strongly recommended that applicants have at least three to four years of professional experience after their bachelor's degree to fully benefit from the program. Application requirements may be subject to change.

Applicants whose native language is not English or who did not complete their degree at a university where all courses were taught in English must achieve a minimum score on the Test of English as a Foreign Language (TOEFL) of 88 iBT (internet-based test) or 570 (paper-based) or the International English Language Testing System (IELTS) of 7.0. See the M.B.A. program director for specific requirements.

Learning Goals and Objectives for Master of Science in Finance

Students who successfully complete all requirements for a master of science in finance should be able to:

1. Demonstrate the core of finance knowledge. M.S.F. graduates will be able to demonstrate competency in the key fields of corporate finance, investments, banking and financial institutions, and risk management when they apply the knowledge in the required courses to solve finance problems. M.S.F. graduates will be able to integrate the knowledge in the finance subfields to solve complex problems.
2. Demonstrate analytical and critical thinking skills. M.S.F. graduates will possess highly developed analytical and critical thinking skills needed by upper-level finance managers. M.S.F. graduates will be skilled in building and analyzing financial reports. They will be able to identify and evaluate complex financial problems by integrating the skills learned in the core finance area. M.S.F. graduates will be skilled to craft and implement strategic and tactical financial plans.
3. Demonstrate research skills necessary to study complex financial/economic problems. M.S.F. graduates will be able to employ appropriate statistical/econometric techniques to identify and evaluate complex financial problems. They will be able to write comprehensive research reports. M.S.F. graduates will be able to articulate and defend their financial analysis and recommend solutions to upper level managers and other stakeholders.
4. M.S.F. graduates will understand the importance of ethical financial governance to the sustainability of their business enterprise, and the impact of their decisions on all stakeholders.

M.S.F. Degree Requirements

Common body of knowledge prerequisites (CBK): The prerequisite courses provide incoming M.S.F. students with the basic knowledge necessary for graduate-level course work in the Pamplin School of Business. Students without the necessary background may take M.B.A. equivalent classes to fulfill the CBK requirements. The number of prerequisite courses required will be determined by the M.B.A. program director after reviewing the student's previous academic record. However, all students must take BUS 500 (Statistical and Quantitative Analysis) or pass a statistics waiver exam in their first two semesters in the program. A student passing this exam will have the BUS 500 class waived from their course requirements. Please note that students are expected to have some familiarity with statistics and a basic proficiency with Excel applications before entering the BUS 500 class.

Students may be waived from one or more of the core courses if they have completed comparable courses from an AACSB-accredited school with a grade of B or better within eight years of acceptance to the M.S.F. program. If a student has coursework from a non-AACSB accredited school, it will be reviewed for acceptability by the M.B.A. program director.

Common body of knowledge (CBK) requirements include: Financial Accounting, Managerial Accounting, Principles of Microeconomics, Principles of Macroeconomics, and Business Statistics.

Students can choose one of two tracks: a thesis option or a non-thesis option.

Students must complete 30 credit hours (ten courses) of finance coursework and must satisfy the common body of knowledge (CBK) required of the master of science in finance program.

All M.S.F. students, beginning with those admitted for fall 2012, are required to take an international-experience course before they graduate. The courses with the international experience will be identified prior to the beginning of each academic year. The international experience will focus on a course-related project that will require a week-long trip to a foreign destination. Additional travel fees will be collected at the beginning of the course.

Degree Requirements

Non-Thesis Option

A minimum of 30 hours beyond the common body of knowledge.

Prerequisite — 3 hours

BUS 500/NRS 500	Statistical and Quantitative Analysis	3

Required Courses — 15 hours

BUS 530	Corporate Finance	3
BUS 532	Security and Portfolio Analysis	3
BUS 533	Financial Markets and Institutions	3
BUS 534	Derivatives and Risk Management	3
BUS 563	Financial Statement Analysis	3

M.S.F. students will complete a "Trading-Room Project" in each required course.

Electives — 15 hours

BUS 531	International Finance	3
BUS 536	Personal Financial Planning	3
BUS 537	Applied Financial and Economic Forecasting	3
BUS 538	Corporate Financial Strategy: M&A and Restructure	3
BUS 539	Research Methods in Finance	3
BUS 545	Project Management	3

BUS 553	Health Care Finance	3
BUS 561	New Venture Funding	3
BUS 562	Real Estate Finance	3
BUS 568	Income Tax Planning	3
BUS 590	Directed Study	Variable

The maximum number of hours allowed for a directed study is three.

Thesis Option

A minimum of 27 hours beyond the common body of knowledge.

Prerequisite — 3 hours

BUS 500/NRS 500	Statistical and Quantitative Analysis	3

Required Courses — 15 hours

BUS 530	Corporate Finance	3
BUS 532	Security and Portfolio Analysis	3
BUS 533	Financial Markets and Institutions	3
BUS 534	Derivatives and Risk Management	3
BUS 563	Financial Statement Analysis	3

M.S.F. students will complete a “Trading-Room Project” in each required course.

Electives — 12 hours

BUS 531	International Finance	3
BUS 536	Personal Financial Planning	3
BUS 537	Applied Financial and Economic Forecasting	3
BUS 538	Corporate Financial Strategy: M&A and Restructure	3
BUS 539	Research Methods in Finance	3
BUS 545	Project Management	3
BUS 553	Health Care Finance	3
BUS 561	New Venture Funding	3
BUS 562	Real Estate Finance	3
BUS 568	Income Tax Planning	3

Thesis — 3 hours

BUS 599	Thesis	3

The thesis will follow the guidelines provided by the Graduate School of the University of Portland.

M.B.A./M.S.F. Dual Degree

Degree Outcomes

Please see "Degree Outcomes" and "Learning Goals and Objectives" in the M.B.A.185 and M.S.F.**Error! Bookmark not defined.** sections.

Admission Requirements

M.B.A./M.S.F. applicants must have a bachelor's degree from an accredited college or university recognized by the University of Portland. Admissions guidelines include a preferred index of 1240 or higher. This index is the sum of the applicant's Graduate Management Admissions Test (GMAT) and 200 times the applicant's undergraduate grade point average (G.P.A.) on a four-point scale. Preferred admissions standards are a score of 600 on the GMAT and an undergraduate G.P.A. of 3.2 or higher on a four-point scale. Admission may be considered for those not strictly meeting these criteria but having extensive work experience in finance. Admission to the M.B.A./M.S.F. program is based on the entire application and letters of recommendation, not merely quantitative factors. It is strongly recommended that applicants have at least three to four years of professional experience after their bachelor's degree to fully benefit from the program. Application requirements may be subject to change.

Applicants whose native language is not English or who did not complete their degree at a university where all courses were taught in English must achieve a minimum score on the Test of English as a Foreign Language (TOEFL) of 570 (paper-based version) or 88 iBT (internet based version) or the International English Language Testing System (IELTS) of 7.0. See the M.B.A. program director for specific requirements.

Degree Requirements

The Pamplin School of Business Administration offers a dual degree program of master of business administration and master of science in finance, or M.B.A./M.S.F. Taken separately, the M.B.A. and M.S.F. degrees require a total of 69 credits. The dual degree requires a minimum of 60 credit hours. Applicants to the program are encouraged to submit a single application for the dual degree, with the degrees being awarded when the requirements for both programs are fulfilled. The student earning the dual degree will receive two degrees: an M.B.A. degree with a specialization in finance, and an M.S.F. degree. Students take 33 M.B.A. hours and 27 M.S.F. hours.

M.B.A. Courses to be taken for the dual degree — 33 hours

Prerequisite — 3 hours

BUS 500/NRS 500	Statistical and Quantitative Analysis	3

may be waived via exam

Values Perspective — 6 hours

Students select 2 courses from the list below.

BUS 510	Economics and Metrics for Sustainability	3
BUS 511	Cross-Cultural Management	3
BUS 512	Leadership and Higher Level Management	3
BUS 513	Social Responsibility in Organizations	3

Required Core Courses — 15 hours

BUS 501	Economic Analysis	3
BUS 505	Operations Management	3
BUS 506	Principles of Accounting	3
BUS 520	Applied Marketing Strategies	3
BUS 530	Corporate Finance	3

Capstone Course — 3 hours

BUS 580	Strategic Issues and Applications in Management	3

Electives — 6 hours

M.S.F. Courses to be taken for the dual degree — 27 hours

Required M.S.F. Courses — 12 hours

BUS 532	Security and Portfolio Analysis	3
BUS 533	Financial Markets and Institutions	3
BUS 534	Derivatives and Risk Management	3
BUS 563	Financial Statement Analysis	3

Electives: Choose 5 from the following list — 15 hours

BUS 531	International Finance	3
BUS 536	Personal Financial Planning	3
BUS 537	Applied Financial and Economic Forecasting	3
BUS 538	Corporate Financial Strategy: M&A and Restructure	3
BUS 539	Research Methods in Finance	3
BUS 545	Project Management	3
BUS 553	Health Care Finance	3
BUS 561	New Venture Funding	3
BUS 562	Real Estate Finance	3
BUS 568	Income Tax Planning	3

Executive M.B.A. in Nonprofit Management (E.M.B.A.)

Howard D. Feldman, Ph.D., director

Degree Outcomes

The executive M.B.A. in nonprofit management provides nonprofit executives a cohort program combining the best managerial and leadership skills taught in our traditional M.B.A. with the specialized content necessary to successfully manage nonprofit organizations. The program gives students the skills, knowledge, and perspectives necessary to generate value in the nonprofit sector and to help nonprofits meet the current management and leadership challenges of the 21st century.

Learning Goals and Objectives for the Executive M.B.A. in Nonprofit Management

I. Broad Core of Business Knowledge

E.M.B.A. graduates will master a broad core of business knowledge and be able to integrate and apply this knowledge to problems requiring interdisciplinary and, when appropriate, global perspectives.

1. Learning Objectives: Broad Core of Business Knowledge
    a. E.M.B.A. graduates will be able to demonstrate competency in the underlying concepts, theory and tools taught in the core curriculum of our nonprofit M.B.A. program.

b. E.M.B.A. graduates will be able to use their knowledge of different business disciplines to identify, analyze, and recommend solutions to complex problems requiring interdisciplinary and global perspectives.

c. E.M.B.A. graduates will be familiar with the unique circumstances of the nonprofit sector, and how they impact decisions made by the general manager regarding funding, human resources, and other aspects of a nonprofit's value creation activities.

II. Analytical and Critical Thinking Skills

E.M.B.A. graduates will possess the highly developed analytical and critical thinking skills needed by middle and upper-level managers operating successfully within the nonprofit sector.

1. Learning Objectives: Analytical and Critical Thinking Skills

   a. E.M.B.A. graduates will acquire the analytical and critical thinking skills needed to identify, analyze, and evaluate alternative solutions to problems encountered in the nonprofit sector.

   b. E.M.B.A. graduates will develop the skills needed to craft and implement strategic and tactical plans.

   c. E.M.B.A. graduates will be able to articulate and defend their analysis and recommended solutions to an appropriate audience.

III. Research Skills

E.M.B.A. graduates will possess the research and technological skills necessary for data collection, analysis, interpretation and reporting (oral and written) of results to be used in managerial problem-solving.

1. Learning Objectives: Research Skills

   a. E.M.B.A. graduates will be proficient in data collection using surveys, electronic databases, the World Wide Web, library, and other sources.

   b. E.M.B.A. graduates will be adept at creating and interpreting statistical and financial tables and spreadsheets.

   c. E.M.B.A. graduates will have the ability to write and present comprehensive research reports, appropriately presenting facts, analysis, and conclusions, relevant to issues in the nonprofit sector.

IV. Interpersonal Skills

E.M.B.A. graduates will possess the interpersonal skills needed to be effective managers and leaders within the nonprofit sector.

1. Learning Objectives: Interpersonal Skills

   a. E.M.B.A. graduates will be skilled at governance, leadership, team building, interpersonal influence, and management of change.

   b. E.M.B.A. graduates will be able to communicate and work effectively with others in diverse work settings encompassing people of all ages, cultures, genders, races, ethnicity, religions, sexual orientations, socioeconomic backgrounds, and capabilities/disabilities.

V. Value System

E.M.B.A. graduates will be able to evaluate the ethical and social implications of managerial decisions within the nonprofit sector.

1. Learning Objectives

   a. E.M.B.A. graduates will be able to identify the important ethical dilemmas facing nonprofit enterprises, analyze them from multiple ethical and stakeholder perspectives, and recommend appropriate resolutions to these dilemmas.

   b. E.M.B.A. graduates will be able to identify and evaluate the economic, social, and environmental tradeoffs resulting from decisions in the nonprofit sector.

Admission Requirements

Applicants for the executive M.B.A. in nonprofit management should have a bachelor's degree from an accredited college or university recognized by the University of Portland. An undergraduate G.P.A. of 3.25 is the current admission guideline, however, it should be noted that acceptance is based on the entire application and letters of recommendation, not merely G.P.A.

standards. Admission will also be considered for those not strictly meeting our criteria but having extensive work experience and a record of career success in either the nonprofit or for-profit sector. It is strongly recommended that applicants have at least five years of executive/managerial experience to fully benefit from the program. Please check the E.M.B.A. website for a complete listing of application requirements, as these are subject to change.

Applicants whose native language is not English or who did not complete their degree at a university where all courses were taught in English must achieve a minimum score on the Test of English as a Foreign Language (TOEFL) of 88 iBT (Internet-based test) or 570 (paper-based) or the International English Language Testing System (IELTS) of 7.0.

Degree Requirements

The executive M.B.A. in nonprofit management requires students to take six consecutive semesters of classwork with six credits (two classes) offered each semester. A total of 36 credit hours will be completed before graduation and students will receive an E.M.B.A. degree.

Values Perspective — 9 hours

The values perspective courses introduce students to issues of leadership, understanding cultural differences and developing multicultural skills, sustainability, and the role of business in society.

BUS 510	Economics and Metrics for Sustainability	3
BUS 511	Cross-Cultural Management	3
BUS 512	Leadership and Higher Level Management	3

Managerial Tools — 9 hours

Students can enhance their communication and negotiation skills, learn to be more creative, and obtain an understanding of the entrepreneurial process.

BUS 523	Negotiation and Persuasion Strategies	3
BUS 571	New Venture Management	3
BUS 59X	Creativity	3

Nonprofit Required Classes—18 hours

BUS 514	Accounting and Financial Controls for the Nonprofit Organization	3
BUS 515	Management of Nonprofit Organizations	3
BUS 516	Social Entrepreneurship for Nonprofit Organization	3
BUS 517	Marketing for Nonprofit Organization	3
BUS 518	Financial Management for the Nonprofit Organization	3
BUS 598	Nonprofit Organization Field Project	3

Honors Pledge

The faculty of the Pamplin School of Business encourages students to acknowledge the ethical components of teaching and learning; essential factors in fulfilling the University's mission in the classroom. Students are asked to reflect upon the core value of academic integrity and make this an integral part of their work at the University. Students are asked to sign an honors pledge and attach it to all submitted course work to affirm the integrity of their scholarship to all concerned.

Cohort Program

The E.M.B.A. is a cohort program; in which a small group of students take the program together in lockstep. Thus, the entire group shares the same classroom and curricular experience. A cohort gives the student the opportunity to work with similar professionals and to connect and share an experience with them that transcends the classroom. By working together in a cohort,

students build a network of adult learners who share a commitment to the nonprofit field. In certain classes, the E.M.B.A. cohort will also be blended with students in our traditional M.B.A. program.

Self-tutorials

Once the student has been accepted to the program, they can begin taking the web-based self-tutorials. The self-tutorials provide foundational knowledge in statistics, finance, accounting, and information technology. A student will have up to a year to pass the tutorials, but until doing so cannot take classwork in the graduate program. Students with appropriate experience can be waived from taking one or more of the self-tutorials at the discretion of the E.M.B.A. program director. Students having difficulty with a self-tutorial also have the option of taking an equivalent M.B.A. class, however, doing so will add to the student's cost of tuition.

The cost of the self-tutorials is approximately $180 and is not part of the university's tuition and fees. The self-tutorials can be taken at the student's own convenience and pace and are taken individually and not with the cohort.

Technology Entrepreneurship Certificate Program

Peter Rachor, director

Certificate Outcomes

The program in technology entrepreneurship is jointly delivered by the University of Portland and Oregon Health and Science University (OHSU).This program may be taken as a stand-alone certificate program or as part of an individual's M.B.A degree program. Students are provided with a variety of opportunities to learn commercialization skills and with exposure to the region's entrepreneurship community in an environment that combines practice and theory. Over the course of a year, students will participate in and experience the entire spectrum of the commercialization process, starting with invention and product development, to technical and market feasibility analysis, through intellectual property acquisition and business planning, and culminating with venture funding and product launch.

Learning Goals and Objectives for the Technology Entrepreneurship Certificate Program

Students who successfully complete the requirements for the technology entrepreneurship certificate will be able to:

1. Demonstrate skilled analysis of new technology markets.
2. Demonstrate an understanding of fundamental concepts essential for successful technology. entrepreneurship from the fields of finance, law, marketing, strategy and management.
3. Formulate and present a comprehensive commercialization plan for a new technology.

Admission Requirements

Applicants for the technology entrepreneurship certificate should have a bachelor's degree from an accredited college or university recognized by the University of Portland. All applicants must submit a personal statement of interest in the program and two letters of recommendation.

Certificate Requirements

The program requires one calendar year and 12 semester credits. It provides a unique experiential learning opportunity for a small cohort of select graduate students. Training in the commercialization of technology is provided with the expectation that new ventures will be started by those completing the program. Courses include: Introduction to the Commercialization of Technology; External Programs and Networking; Technology, Entrepreneurship and Law; Management and Commercialization of Technology; and Technology Practicum. Courses for this program have been approved by the OHSU School of Medicine Graduate Council and the University of Portland. For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at http://business.up.edu/mba/default.aspx?cid=9273&pid=4284. (See the director of the Center for Entrepreneurship for further information.)

Technology Entrepreneurship Certificate Program — 12 hours

BUS 575	Introduction to Commercializaton of Technology	1
BUS 576	External Programs and Networking	1

BUS 577	Technology, Entrepreneurship and Law	3
BUS 578	Management and Commercializaton of Technology	3
BUS 579	Technology Practicum	4

Post M.B.A. Certificate Program

The Pamplin School of Business M.B.A. program has a wide array of elective coursework and offers rigorous courses in many specialized areas that provide a unique opportunity for training and scholarship to graduate students.

Students can update an older degree, gain additional training, and add a new specialty to their skills by completing the post M.B.A. certificate program.

Students complete a 12 credit hour program in one of the following areas: entrepreneurship, finance, health care management, marketing, operations and technology management, or sustainability, and then receive a post M.B.A. certificate in that area. To be admitted to this program, students must hold an M.B.A. degree from an AACSB accredited institution, and submit the following application components: an application, $50 application fee, official transcripts documenting graduate work, and a statement of goals. The courses to choose from are listed below. For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at http://business.up.edu/mba/default.aspx?cid=1210&pid=594.

Certificate Requirements

Entrepreneurship

BUS 523	Negotiation and Persuasion Strategies	3
BUS 544	Managing Innovation and Technology	3
BUS 561	New Venture Funding	3
BUS 570	Social Entrepreneurship	3
BUS 571	New Venture Management	3
BUS 572	Family Business Planning	3
BUS 577	Technology, Entrepreneurship and Law	3

Finance

BUS 530	Corporate Finance	3
BUS 531	International Finance	3
BUS 532	Security and Portfolio Analysis	3
BUS 533	Financial Markets and Institutions	3
BUS 534	Derivatives and Risk Management	3
BUS 535	International Economics and Trade	3
BUS 536	Personal Financial Planning	3
BUS 537	Applied Financial and Economic Forecasting	3
BUS 538	Corporate Financial Strategy: M&A and Restructure	3
BUS 539	Research Methods in Finance	3
BUS 545	Project Management	3
BUS 553	Health Care Finance	3

BUS 561	New Venture Funding	3
BUS 562	Real Estate Finance	3
BUS 568	Income Tax Planning	3

Health Care Management

BUS 551	Introduction to Healthcare Management	3
BUS 552	Health Care Marketing	3
BUS 553	Health Care Finance	3
BUS 554	Health Care Information Systems	3
BUS 556	Ethical Issues in Health Care	3

Marketing

BUS 520	Applied Marketing Strategies	3
BUS 521	Consumer Behavior	3
BUS 522	Marketing Research	3
BUS 523	Negotiation and Persuasion Strategies	3
BUS 524	Integrated Marketing Communications	3
BUS 525	Sales and the Global Market	3
BUS 526	Sustainable Marketing	3
BUS 552	Health Care Marketing	3

Operations and Technology Management

BUS 505	Operations Management	3
BUS 540	Management Information Systems	3
BUS 542	Systems Analysis and Design	3
BUS 543	Decision Modeling	3
BUS 545	Project Management	3
BUS 546	Supply Chain Management	3
BUS 547	Inventory Management	3
BUS 548/BUS 454	Project Management Processes and Certification	3
BUS 549	Business Data Communications & E-Commerce	3
BUS 550	Excel Spreadsheet Modeling	3

Sustainability

BUS 510	Economics and Metrics for Sustainability	3
BUS 526	Sustainable Marketing	3
CST 591	Seminar	Variable
ENV 501	Systems Thinking, Resilience and Sustainability	3

Communication Studies

Elayne Shapiro, Ph.D., director

Faculty: Fletcher, Heath, Kerssen-Griep, Lattin, Lovejoy, Pierce, Shapiro, Simmons

The Department of Communication Studies offers graduate programs leading to master of arts and master of science degrees. Both programs prepare students broadly for professional advancement or for doctoral academic work.

Areas of emphasis in the M.A. program include communication/rhetorical studies, journalism, and organizational communication. The M.S. program is a specialized course of study in management communication offered in conjunction with the Dr. Robert B. Pamplin, Jr. School of Business Administration. Combining advanced academic and professional study within communication and business, the M.S. is designed to educate public relations, human resources, and other organizational professionals regarding communication's important roles in developing organizations' personnel and public messaging.

Admission Requirements

In addition to the admission requirements previously cited, the standards for admission include a minimum 60th percentile score on the verbal portion of the Graduate Record Exam (GRE) and a 3.25 undergraduate grade point average. At the discretion of the graduate program director, a higher grade point average may compensate for a GRE result less than the stated minimum, and, conversely, a superior GRE score may compensate for a G.P.A. lower than the stated criterion. Applicants whose native language is not English must achieve a score of 100 on the Test of English as a Foreign Language (TOEFL iBT) or a 7.5 on the International English Language Testing System (IELTS).

Communication, M.A.

Learning Outcomes:

Students who successfully complete all requirements for a master's degree in the Department of Communication Studies should be able to:

1. Demonstrate skilled analysis of communication theory and praxis within the dimensions (ethical, social, legal, technological, relational, and/or cultural) most key to the student's chosen primary program focus.
2. Demonstrate appropriate and effective professional writing.
3. Demonstrate skilled independent decision-making relative to communication research and analysis, including abilities to conduct, interpret, and evaluate the quality of research and analytic designs.
4. Demonstrate understanding of ethical values central to the communication discipline.

The M.A. program requires a minimum of 36 hours of communication courses, including nine hours in core courses and six hours in each of two areas of emphasis. A thesis option (with related oral defense) is optional. Students must complete core course requirements with a minimum B average.

Degree Requirements

Core Requirements — 21 hours

CST 500	Research and Writing	3
CST 510	Communication Theory	3
CST 520	Rhetorical Theory and Criticism	3
	Communication Electives	12
	Communication Electives from any area	15

Communications electives: six hours each in two areas of selected emphasis

Thesis Option

If an M.A. or M.S. student chooses to write a thesis, 3-6 CST elective hours may be used for CST 599, the thesis.

Total Credit Hours: 36

Management Communication, M.S.

This degree requires a minimum of 36 hours of communication and business courses. A thesis option (with related oral defense) is optional. Students must complete the core course requirements with a minimum B average.

Learning Outcomes:

Students who successfully complete all requirements for a master's degree in the Department of Communication Studies should be able to:

1. Demonstrate skilled analysis of communication theory and praxis within the dimensions (ethical, social, legal, technological, relational, and/or cultural) most key to the student's chosen primary program focus.
2. Demonstrate appropriate and effective professional writing.
3. Demonstrate skilled independent decision-making relative to communication research and analysis, including abilities to conduct, interpret, and evaluate the quality of research and analytic designs.
4. Demonstrate understanding of ethical values central to the communication discipline.
5. Demonstrate appropriate and effective application of communication theory to oral communication practices.
6. Demonstrate ability to integrate communication and business scholarship to solve organizational problems.

Performance Indicators:

- Ability to speak in public settings.
- Ability to synthesize communication theories and skills with knowledge about business in marketing or human resources.
- Ability to diagnose and address leadership, team building, interpersonal challenges in work settings.

Degree Requirements

Core Courses — 12 hours

CST 500	Research and Writing	3
CST 510	Communication Theory	3
CST 533	Advanced Organizational Communication	3
CST 534	Examining Organizational Communication in Natural Settings	3

Program Electives (Communication Courses) — 12 hours

CST 502	Social Media and Cultures	3
CST 511	Communication Across Barriers	3
CST 516	Negotiation and Conflict Management	3
CST 525	Advanced Interpersonal Communication	3
CST 531	Cross-cultural Communication and Identity	3
CST 581/BUS 581	Advanced Business Communication	3
CST 574	Graduate Internship	3
CST 591	Seminar	Variable
CST 593	Advanced Research	Credit arranged.
CST 599	Thesis	Credit arranged.

Program Electives (Business Courses) — 12 hours

Students will pick (in consultation with their graduate program advisor) twelve hours of business electives from the following:

Public Relations/Advertising Track

BUS 517	Marketing for Nonprofit Organization	3
BUS 520	Applied Marketing Strategies	3
BUS 521	Consumer Behavior	3
BUS 522	Marketing Research	3
BUS 523	Negotiation and Persuasion Strategies	3
BUS 524	Integrated Marketing Communications	3
BUS 525	Sales and the Global Market	3
BUS 526	Sustainable Marketing	3
BUS 544	Managing Innovation and Technology	3
BUS 571	New Venture Management	3

Human Resources Track

BUS 511	Cross-Cultural Management	3
BUS 512	Leadership and Higher Level Management	3
BUS 513	Social Responsibility in Organizations	3
BUS 515	Management of Nonprofit Organizations	3
BUS 523	Negotiation and Persuasion Strategies	3
BUS 541	Human Resource Management	3
BUS 544	Managing Innovation and Technology	3

Total Credit Hours: 36

Course Offerings

See graduate courses in communication studies283 and graduate courses in business259 required for the M.S. in Management Communication.

Drama

Andrew W. Golla, director

Faculty: Golla, Hunter, Larsen, Logan, Pulver

The master of fine arts degree program in directing introduces the student to the need for a solid research-based foundation to support a common historical, theoretical, literary, and conceptual approach to theatre. In addition, the degree allows for a tightly focused emphasis on the practical skills in directing. This terminal degree program acknowledges the professional-level potential, while it also recognizes its educational applications. The requirements are evenly divided between the academic and the practical and systematically evaluated through an oral defense of both the practical and written aspects of the thesis directing project. Each student is given a minimum of two practical production opportunities, including the thesis project, which is done with full departmental support. The degree program also includes an internship in which the student serves in a production capacity with a regional professional theatre-related organization.

The graduate program in directing is the only master of fine arts (M.F.A.) in directing in the state of Oregon. The degree program offers a unique combination of generalized core courses, a specialized focus on the directing and acting courses,

outreach opportunities, and electives, all intended to provide excellent training for those seeking professional careers in the theatre.

The master of fine arts degree in directing is designed to be a three-year (6 semester) program which involves the student in a total experiential range of activity and study related to the understanding, creation, and production of drama for a live presentation. A broad range of productions are presented each season with the emphasis on exposure to a variety of theatrical periods and styles.

Admission Requirements

Applicants will be required to have an adequate preparation in dramatic literature and theatre production. A comprehensive résumé must be submitted demonstrating the applicant's background in the practical aspects of theatre production, which may include experience in acting, designing, stage management, or other areas in addition to directing. Normally, only two new applicants are accepted to the program each year. Members of the drama faculty will review the application along with the standard graduate school materials including undergraduate transcripts, a statement of purpose, and letters of recommendation. Applicants will be accepted into the M.F.A. directing program based on an assessment of the ability of the program to serve the student's goals and aspirations and of the student to contribute to the program. Once accepted, the student will work with the graduate program director on an appropriate plan, which may include prerequisite courses not carrying graduate credit.

Directing, M.F.A.

Learning Outcomes:

1. The M.F.A. candidate will recognize the need for and gain a solid historical, theoretical, literary foundation as a means to arriving at his or her own conceptual process for directing a specific play.
2. The M.F.A. candidate will attain an advanced level of theoretical, practical, and technical skills required for the highest level of creative expression as directors.
3. The M.F.A. candidate will explore and experience the educational and professional demands and expectations of directors from direct contact with practicing professional directors.
4. The M.F.A. candidate will experience a minimum of two practical production process opportunities from conception to performance, presented in a public forum.
5. The M.F.A. candidate will attain a working understanding of the primary collaborative areas of production support.

Degree Requirements

A minimum of 60 semester hours is required for the master of fine arts in directing.

Core Requirements — 39-45 hours

DRM 500/MUS 500	Research Techniques in the Performing Arts	3
DRM 507	Survey of Theatre History I	3
DRM 508	Survey of Theatre History II	3
DRM 510	Theories of Dramatic Criticism	3
DRM 531	Advanced Production Seminar	3
DRM 539	Production Process Qualifier	3
DRM 541	Script Analysis	3
DRM 571	Graduate Directors Practicum	3
DRM 572	Directors Workshop I	3
DRM 573	Directors Workshop II	3
DRM 579	Production Internship	3
DRM 599	Thesis	3

DRM 598	Thesis Production	3

Directing Focus Requirements — 12 hours

DRM 522	Advanced Acting	3
DRM 533	Advanced Play Direction	3
DRM 537	Advanced Directing Seminar	3
	Collaborative Design Elective	3

Enrichment — 9 hours

	Electives	9

Courses taken in an area of specialization of the student's choice. Areas could include music (voice study or other options), education, business or other specialized courses and projects in the drama program

Total Credit Hours: 60

Course Offerings

See graduate courses in Drama294.

Education

Bruce Weitzel, Ph.D., director Faculty: Anctil, Arwood, Carroll, Christen, Egby, Eifler, Greene, Grote, Hood, Ilosvay, Kalnin, Merk, Morrell, Owens, Thacker, Waggoner, Watzke, Weitzel

The School of Education offers advanced teacher preparation leading to the master of education (M.Ed.) degree as well as initial teacher preparation for graduate candidates leading to the master of arts in teaching (M.A.T.) degree. Professional multidisciplinary studies preparation may be found with the master of arts (M.A.) degree. All graduate degree programs within the School of Education are designed to include a sequence of courses and field experiences that focus on student learning and development, pedagogical knowledge, an understanding of cultural and special needs diversity, the use of technological skills, an integration of foundational theory with practice, a strong emphasis on reflection and inquiry, a research component, and a capstone exit project or thesis.

The School of Education offers courses in professional development for which credit is given but which are not applicable to requirements for degree programs. Such courses are indicated on individual transcripts with the prefix CED.

Federal law requires that all schools of education report required teacher licensure exams and the percentage of graduates from our programs passing these exams. Testing requirements vary depending upon program. Please see the Graduate School Academic Regulations181 section of the *Bulletin* for specific details.

Master's Degree Programs

Admission Requirements

The School of Education uses a holistic approach in evaluating application materials. Upon completion of all application materials submitted to the Graduate School, the School of Education associate dean reviews the materials and makes a recommendation to the dean of the Graduate School. The undergraduate cumulative grade point average, along with the appropriate test scores, letters of recommendation, and goals statements are used together to determine a candidate's preparation for admission to a graduate program. The M.A.T. and the post master initial administrator programs also require an interview before admission. All master's degree applicants must meet the specific requirements of the program of interest.

Admission requirements for each program are available through the Graduate School.

Master of Education (M.Ed.)

The master of education (M.Ed.) degree is designed for practicing educators to continue building upon professional knowledge and experience. This advanced preparation program is delivered on the University of Portland campus as well as at other approved off-campus sites. All M.Ed candidates complete an 15-hour core of professional knowledge and research courses. On-

campus candidates, in consultation with an academic advisor, choose a specialty option in educational leadership, reading, special education, English speakers of Other Languages, initial administrator licensure, or neuroeducator certificate. Off-campus candidates are expected to follow a two-year sequence of courses in the specialty option of educational leadership. Students in the off-campus M.Ed. (except for Guam) must complete a three-hour residency requirement at the University of Portland campus. Most School of Education degree programs are 36 credit hours in length.

Edmonton M.Ed. cohort program approval in Alberta

This program is offered pursuant to the written approval of the Minister of Advanced Education and Technology effective September 2010 having undergone a quality assessment process and been found to meet the criteria established by the Minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (for example, acceptable to potential employers, professional licensing bodies, or other educational institutions).

Student Learning Outcomes M.Ed. Core

1. Candidate is a lifelong learner:
    a. Candidates will learn the advantages and methods of sustaining life-long learning;
    b. Candidates will prepare for future professional growth and learning;
    c. Candidates will be able to use basic statistical procedures to analyze example data;
    d. Candidates will be able to locate and evaluate prior research;
    e. candidates demonstrate the ability to make data-driven decisions in the classroom.
2. Candidate is empathetic and respectful:
    a. Candidates will develop a firm understanding of their strengths and those of their cohort colleagues;
    b. Candidates will develop an understanding of major socio-cultural issues affecting education as they are experienced by the primary ethnic and cultural groups;
    c. Candidates will explore barriers to student success (especially cultural, racial and gender barriers).
3. Candidate communicates and works effectively with others:
    a. Candidates make explicit their values, goals and preferred learning/leadership/ teaching styles;
    b. Candidates will be able to complete an APA style introduction, literature review, and methods section;
    c. Candidates will develop an action plan for working with students from varied and minority cultures within their own classrooms;
    d. Candidates will apply knowledge and skills of designing, implementing, and writing classroom and/or school-based research studies by a capstone proposal;
    e. Candidates demonstrate professional written and oral communication skills.
4. Candidate has a broad knowledge about the individuals and world around him/her:
    a. Candidates will develop an understanding of the major theoretical issues that affect cultural diversity and education from the field of education;
    b. Candidates will understand how learners may differ in their cultural approaches to learning;
    c. Candidates will explore barriers to student success (especially cultural, racial and gender barriers).
5. Candidate fuses theory and practice:
    a. Candidates will be able to design a major classroom, school, or community-based research project that addresses the student's integration of professional knowledge;
    b. Candidates integrate past learnings, research, and professional experiences with best practice and data-driven solutions;
    c. Candidates will integrate current knowledge, relevant research, and past professional experiences with best practice and data driven solutions to the issue addressed in a capstone proposal;

d. Candidates will apply research skills including selection of appropriate methodologies, data collection, and reflective analysis procedures of capstone project outcomes.

Degree Requirements

Core Requirements — 15 hours

ED 550	Personal and Professional Growth and Development	3
ED 551	Social and Cultural Foundations	3
ED 555	Teacher as Researcher	3
ED 558	Educational Research for Improved Student Learning	3
ED 598	MED Capstone Project	3

Specialty Options:

Educational Leadership Requirements (on and off campus) — 21 hours

ED 570	Curriculum Development and Implementation	3
ED 571	Enhancing Classroom Relationships	3
ED 573	Quality Teaching and Peer Consultation	3
ED 574	Models of Leadership	3
ED 575	Transforming Schools and Systemic Change	3
ED 578	Improving the Instructional Process	3
ED 5XX	Elective	3

Reading Endorsement Requirements (on-campus) — 21 hours

ED 564	Reading Practicum PK-12	3
ED 580	Elements of Reading PK-12	3
ED 581	Reading, Language , and Cultural Diversity in Schools	3
ED 582	Content Area Literacy	3
ED 583	Diagnosis and Instruction of Learning Problems Related to Reading and Language Differences	3
ED 584	Administration and Evaluation of Reading Programs	3
ED 5XX	Elective	3

Special Educator Endorsement Requirements (on-campus) — 21 hours

ED 503	Language and Communication: Support and Strategies	3
ED 504	School, Parent, and Community Relations	3
ED 505	Behavior Support: Consultative and Collaborative	3
ED 506	Academic Assessments: Curriculum and	3

	Instruction for Diverse Learners	
ED 508	Functional Assessments: Curriculum and Instruction for Diverse Learners	3
ED 568	Special Education Practicum PK-12	3
ED 5XX	Elective	3

English for Speakers of Other Languages (ESOL) Endorsement Requirements (on-campus) — 21 hours

ED 503	Language and Communication: Support and Strategies	3
ED 504	School, Parent, and Community Relations	3
ED 506	Academic Assessments: Curriculum and Instruction for Diverse Learners	3
ED 509	Methods and Materials for Teaching ESOL	3
ED 569	ESOL Practicum PK-12	3
ED 581	Reading, Language, and Cultural Diversity in Schools	3
ED 5XX	Elective	3

Initial Administrator License Requirements (on-campus) — 21 hours

ED 544	Human Resource Development & Management	3
ED 545	Leadership and Organizational Change	3
ED 546	Policy, Ethics, and the Law	3
ED 547	Resource Allocation, Finance, and Management	3
ED 548	Supervision for Instructional Improvement	3
ED 549	IAL Leadership Practicum	3
ED 5XX	Elective	3

Neuroeducator Certificate — 21 hours

ED 585	Neuroscience and Learning	3
ED 586	Foundations of Cognitive Process in Learning	3
ED 587	Neuro-Biological Aspects of Learning in Diverse Populations	3
ED 588	Neuroeducation: A Cultural-Linguistic Translation	3
ED 589	Translational Studies and Research in Neuroeducation	3
ED 593	Readings and Topics in Neuroscience and Education	3
ED 5XX	Elective	3

For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at http://education.up.edu/default.aspx?cid=10399&pid=278

Master of Arts in Teaching (M.A.T.)

The master of arts in teaching program is an initial teacher preparation degree for those who want to obtain Oregon licensure at two of four levels of authorization: early childhood (Pre-K through grade 4), elementary (grades 3 through 8), middle (grades 5 through 9), or high school (grades 9 through 12). This includes coursework for a graduate degree and simultaneous preparation for initial licensure. Because teachers work closely with minors, admission to the School of Education M.A.T. program requires all candidates to have recent fingerprinting clearance. Thus all M.A.T. candidates must be cleared before participating in a P-12 field based experience. Candidates may not transfer credits into the program. The minimum number of hours for this degree is 36 semester hours.

Learning Outcomes

Candidates for the degree will be able to:

1. Plan instruction that supports student progress in learning in multiple subject areas and is appropriate for the early childhood, elementary, middle, or high school development levels.
2. Establish a classroom climate conducive to learning.
3. Engage students in planned learning activities.
4. Evaluate, act upon, and report student progress in learning.
5. Exhibit professional behaviors, ethics, and values.
6. Conduct and consume educational research.

Degree Requirements

3 Semester (On-Campus) Program

M.A.T. Requirements — 36 hours

ED 529	Summer Tutoring	1
ED 530	Dimensions of Education	3
ED 531	Theories of Development and Learning	3
ED 532	Assessment and Evaluation in Inclusive Classrooms	3
ED 533	Methods of Teaching and Learning	3
ED 534	Classroom Management and Organization	3
ED 535	Literacy Across Curriculum	3
ED 536	Student Teaching Seminar	2
ED 537	Research in Schools	3
ED 538	Master of Arts in Teaching Capstone Project	3
ED 540	Student Teaching	3
ED 541	Student Teaching	3
ED 542	Student Teaching - Advanced	3

Master of Arts (M.A.) General Program

This program is a professional degree, preparing candidates for work beyond the master's. Applicants for this degree are assigned to an academic advisor who assists in selecting the specific program of courses. The program of study is normally arranged at the beginning of the first semester of study.

Requirements for this degree include 18 semester hours in education and 18 semester hours in an emphasis option to be selected in consultation with the candidate's advisor, for a total of 36 hours.

The M.A. program has two options: Option A is for candidates who plan to continue beyond the master's level and wish to complete a thesis. Option B is for candidates who seek professional preparation as a practitioner and select to do a non-thesis capstone project.

The advisor may require the candidate to complete additional semester hours for this degree.

Student Learning Outcomes Master of Arts Core

1. Candidate is a lifelong learner:
    a. Candidates will learn the advantages and methods of sustaining life-long learning;
    b. Candidates will prepare for future professional growth and learning;
    c. Candidates will be able to use basic statistical procedures to analyze example data;
    d. Candidates will be able to locate and evaluate prior research;
    e. Candidates demonstrate the ability to make data-driven decisions in the classroom.
2. Candidate is empathetic and respectful:
    a. Candidates will develop a firm understanding of their strengths and those of their cohort colleagues;
    b. Candidates will develop an understanding of major socio-cultural issues affecting education as they are experienced by the primary ethnic and cultural groups;
    c. Candidates will explore barriers to student success (especially cultural, racial and gender barriers).
3. Candidate communicates and works effectively with others:
    a. Candidates make explicit their values, goals and preferred learning/leadership/ teaching styles;
    b. Candidates will be able to complete an APA style introduction, literature review, and methods section;
    c. Candidates will develop an action plan for working with students from varied and minority cultures within their own classrooms;
    d. Candidates will apply knowledge and skills of designing, implementing, and writing classroom and/or school-based research studies by a capstone proposal;
    e. Candidates demonstrate professional written and oral communication skills.
4. Candidate has a broad knowledge about the individuals and world around him/her:
    a. Candidates will develop an understanding of the major theoretical issues that affect cultural diversity and education from the field of education;
    b. Candidates will understand how learners may differ in their cultural approaches to learning;
    c. Candidates will explore barriers to student success (especially cultural, racial and gender barriers).
5. Candidate fuses theory and practice:
    a. Candidates will be able to design a major classroom, school, or community-based research project that addresses the student's integration of professional knowledge;
    b. Candidates integrate past learnings, research, and professional experiences with best practice and data-driven solutions;
    c. Candidates will integrate current knowledge, relevant research, and past professional experiences with best practice and data driven solutions to the issue addressed in a capstone proposal;

d. Candidates will apply research skills including selection of appropriate methodologies, data collection, and reflective analysis procedures of capstone project outcomes.

Degree Requirements

Core Requirements — 18 hours

ED 550	Personal and Professional Growth and Development	3
ED 551	Social and Cultural Foundations	3
ED 555	Teacher as Researcher	3
ED 558	Educational Research for Improved Student Learning	3
ED 563	Master of Arts Capstone Project	3
	And	
	Elective	3
	Or	
ED 599	Thesis	Credit arranged.

Emphasis Requirements — 18 hours

Emphasis option programs are constructed with the assistance of the academic advisor. The option program may include courses from the areas of business, communication studies, drama, education, health and physical education, history, mathematics, music, political science, or theology.

Total Credit Hours: 36

Master's and Post Master's Specialty Options

The School of Education offers advanced preparation specialty programs for candidates who are enrolled in either the masters of education or post master program. Post masters require a minimum of 12 graduate hours taken at the University of Portland. Successful completion of specialty programs must conform to the academic regulations of the graduate school.

Admission Requirements

1. Application with goals statement and fee.
2. Master's degree in education related area.
3. Current teaching license.
4. Two letters of recommendation.
5. Current résumé.
6. Interview for administrative licensure program.

Reading Endorsement Specialty

Advances teachers' abilities to provide reading instruction and to diagnose and remediate reading problems in diverse instructional settings. Successful completion of course work and passing scores on the appropriate Praxis test will result in an Oregon endorsement.

Student Learning Outcomes M.Ed. Reading

Foundational Knowledge

1. Candidates understand the theoretical and evidence-based foundations of reading and writing processes and instruction.

Curriculum and Instruction

2. Candidates use instructional approaches, materials and an integrated, comprehensive, balances curriculum to support student learning in reading and writing.

Assessment and Evaluation

3. Candidates use a variety of assessment tools and practices to plan and evaluate effective reading and writing instruction.

Diversity

4. Candidates create and engage their students in literacy practices that develop awareness, understanding, respect, and a valuing of differences in our society.

Literate Environment

5. Candidates create a literate environment that fosters reading and writing by integrating foundational knowledge, instructional practices, approaches and methods, curriculum materials, and the appropriate use of assessments.

Professional Learning and Leadership

6. Candidates recognize the importance of, demonstrate, and facilitate professional learning and leadership as a career-long effort and responsibility.

Reading Endorsement Specialty Requirements (on-campus) — 18 hours

ED 564	Reading Practicum PK-12	3
ED 580	Elements of Reading PK-12	3
ED 581	Reading, Language , and Cultural Diversity in Schools	3
ED 582	Content Area Literacy	3
ED 583	Diagnosis and Instruction of Learning Problems Related to Reading and Language Differences	3
ED 584	Administration and Evaluation of Reading Programs	3

Special Educator Endorsement Specialty

Advances teachers' abilities to assess special needs children and develop and design appropriate instructional support for these children. Successful completion of course work and passing scores on the appropriate ORELA test will result in an Oregon endorsement.

Student Learning Outcomes M.Ed. Special Education

Initial Content Standard 1: Foundations

1. Special educators understand the field as an evolving and changing discipline based on philosophies, evidence-based principles and theories, relevant laws and policies, diverse and historical points of view, and human issues that have historically influenced and continue to influence the field of special education and the education and treatment of individuals with exceptional needs in both.

Initial Content Standard 2: Development and Characteristics of Learners

2. Special educators know and demonstrate respect for their students first as unique human beings. Special educators understand the similarities and differences in human development and the characteristics between and among individuals with and without exceptional learning needs. Their students first as unique human beings. Special educators understand the similarities and differences in human development and the characteristics between and among individuals with and without exceptional learning needs.

Initial Content Standard 3: Individual Learning Differences

3. Special educators understand the effects that an exceptional condition can have on an individual's learning in school and throughout life. Special educators understand that the beliefs, traditions, and values across and within cultures can affect relationships among and between students, their families, and the school community.

Initial Content Standard 4: Instructional Strategies

4. Special educators possess a repertoire of evidence-based instructional strategies to individualize instruction for individuals with exceptional learning needs.

Initial Content Standard 5: Learning Environments and Social Interactions

5. understanding, safety and emotional well-being, positive social interactions, and active engagement of individuals with exceptional learning needs.

Initial Content Standard 6: Language

6. Special educators understand typical and atypical language development and the ways in which exceptional conditions can interact with an individual's experience with and use of language. Special educators use individualized strategies to enhance language development and teach communication skills to individuals with exceptional learning needs.

Initial Content Standard 7: Instructional Planning

7. Individualized decision-making and instruction is at the center of special education practice. Special educators develop long-range individualized instructional plans anchored in both general and special education curricula.

Initial Content Standard 8: Assessment

8. Assessment is integral to the decision-making and teaching of special educators and special educators use multiple types of assessment information for a variety of educational decisions.

Initial Content Standard 9: Professional and Ethical Practice

9. Special educators are guided by the profession's ethical and professional practice standards. Special educators practice in multiple roles and complex situations across wide age and developmental ranges.

Initial Content Standard 10: Collaboration

10. Special educators routinely and effectively collaborate with families, other educators, related service providers, and personnel from community agencies in culturally responsive ways.

Special Educator Endorsement Specialty Requirements (on-campus) — 18 hours

ED 503	Language and Communication: Support and Strategies	3
ED 504	School, Parent, and Community Relations	3
ED 505	Behavior Support: Consultative and Collaborative	3
ED 506	Academic Assessments: Curriculum and Instruction for Diverse Learners	3
ED 508	Functional Assessments: Curriculum and Instruction for Diverse Learners	3
ED 568	Special Education Practicum PK-12	3

English for Speakers of Other Languages Endorsement Specialty

Advances teachers' abilities to provide assessment, instruction, and evaluation of English language learners. Successful completion of course work and passing scores on the appropriate ORELA test will result in an Oregon endorsement.

Student Learning Outcomes M.Ed. ESOL

Domain 1: Language

Candidates know, understand, and use the major concepts, theories and research related to the nature and acquisition of language to construct learning environments that support ESOL students' language and literacy development and content area achievement.

Domain 2: Culture

Candidates know, understand and use the major concepts, principles, theories, and research related to the nature and role of culture and cultural groups to construct learning environments that support ESOL students' cultural identities, language and literacy development, and content area achievement.

Domain 3: Planning, Implementing, and Managing Instruction

Candidates know, understand, and use standards-based practices and strategies related to planning, implementing and managing ESL and content instruction, including classroom organization, teaching strategies for developing and integrating language skills, and choosing and adapting classroom resources.

Domain 4: Assessment

Candidates understand issues of assessment and use standards-based assessment measures with ESOL students.

Domain 5: Professionalism

Candidates demonstrate knowledge of the history of ESL teaching. Candidates keep current with new instructional techniques, research results, advances in the ESL field, and public policy issues. Candidates use such information to reflect upon and improve their instructional practices. Candidates provide support and advocate for ESOL students and their families and work collaboratively to improve the learning environment.

English for Speakers of Other Languages (ESOL) Endorsement Specialty Requirements — 18 hours

ED 503	Language and Communication: Support and Strategies	3
ED 504	School, Parent, and Community Relations	3
ED 509	Methods and Materials for Teaching ESOL	3
ED 510	Linguistics	3
ED 581	Reading, Language , and Cultural Diversity in Schools	3
ED 569	ESOL Practicum PK-12	3

Continuing Teaching License Specialty (CTL)

Allows teachers to demonstrate advanced teaching competencies and to examine classroom strategies at a graduate level. This specialty fulfills the coursework along with a master's degree component of the continuing licensure requirements for the State of Oregon.

Continuing Teaching License Requirements— 6 hours

ED 550	Personal and Professional Growth and Development	3
ED 562	Professional Development Process: Portfolio	3

Initial Administrator License Specialty

Provides teachers with experiences in addressing the leadership and management needs of contemporary schools. Successful completion of course work and a portfolio that documents the candidate's knowledge and skills related to the seven national administrative standards.

Student Learning Outcomes M.Ed. Initial Administrative License

Standard 1.0

Candidates who complete the program are educational leaders who have the knowledge and ability to promote the success of all students by facilitating the development, articulation, implementation, and stewardship of a school or district vision of learning supported by the school community.

Standard 2.0

Candidates who complete the program are educational leaders who have the knowledge and ability to promote the success of all students by promoting a positive school culture, providing an effective instructional program, applying the best practice to student learning, and designing comprehensive professional growth plans for staff.

Standard 3.0

Candidates who complete the program are educational leaders who have the knowledge and ability to promote the success of all students by managing the organization, operations, and resources in a way that promotes a safe, efficient, and effective learning environment.

Standard 4.0

Candidates who complete the program are educational leaders who have the knowledge and ability to promote the success of all students by collaborating with families and other community members, responding to diverse community interests and needs, and mobilizing community resources.

Standard 5.0

Candidates who complete the program are educational leaders who have the knowledge and ability to promote the success of all students by acting with integrity, fairly, and in an ethical manner.

Standard 6.0

Candidates who complete the program are educational leaders who have the knowledge and ability to promote the success of all students by understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context.

Standard 7.0

The internship provides significant opportunities for candidates to synthesize and apply the knowledge and practice and develop the skills identified in Standards 1-6 through substantial, sustained, standards-based work in real settings, planned and guided cooperatively by the institution and school district personnel for graduate credit.

Initial Administrator License Specialty Requirements —18 hours

ED 544	Human Resource Development & Management	3
ED 545	Leadership and Organizational Change	3
ED 546	Policy, Ethics, and the Law	3
ED 547	Resource Allocation, Finance, and Management	3
ED 548	Supervision for Instructional Improvement	3
ED 549	IAL Leadership Practicum	3

Continuing Administrative License Specialty

Provides administrators with experiences in developing abilities and skills in leadership and management of school districts. Successful completion of the program can lead to continuing administrator licensure in Oregon.

Continuing Administrative License Specialty Requirements — 18 hours

ED 552	Leadership for Sustaining the Vision	3
ED 553	Leadership for Instructional Improvement	3
ED 554	Leadership for Effective Data Driven Decision Making	3
ED 556	Leadership in the Socio-Political Context	3
ED 557	Ethical Leadership and Moral Imperative for Inclusive Practice	3
ED 559	CAL Leadership Practicum	3

Student Learning Outcomes M.Ed. Leadership Specialty

1. Candidate is a lifelong learner:
    a. Candidates analyze his/her ideas about change and the change process.
2. Candidate is empathetic and respectful:
    a. Candidates will value the importance of adopting relational strategies that are appropriate for the individual circumstances, cultures, and abilities of students;
    b. Candidates will exhibit thoughtful, responsible, and participatory attitudes and behaviors characteristic of a professional educator and a reflective practitioner.
3. Candidate communicates and works effectively with others:
    a. Candidates will understand techniques for collaborative work;
    b. Candidates will know the role of meditation in the coaching/supervision process;
    c. Candidates will collaborate with colleagues on extending understanding and implementing new teaching strategies;
    d. Candidates will acquire strategies for helping students to expand their response repertoire for problem solving and positive, fair choice making.
4. Candidate has a broad knowledge about the individuals and world around him/her:
    a. Candidates analyze data from her/his school to justify a possible change goal;
    b. Candidates will understand how diversity among individuals and communities impacts their school;
    c. Candidates will understand how diversity impacts reform efforts at the school, district, and national level.
5. Candidate has a deep knowledge about the subjects they teach:
    a. Candidates know and use theory base of teacher leadership;
    b. Candidates understand the nature of knowledge and how a teacher’s paradigm of knowledge and assumptions shape their instructional decision-making.
6. Candidate has a deep knowledge about how people learn:
    a. Candidates will use course concepts and recommended strategies to formulate a framework for making changes in management and instructional practices;
    b. Candidates will understand the neurological basis of student learning and of the impact of specific instructional strategies.

7. Candidate has a deep knowledge and skills necessary to use instruction and the organization of classrooms to assist all learners to succeed:
   a. Candidates will gain insight into the role the teacher plays in cultivating the relationship the learner has with the object of study;
   b. Candidates will become skilled in reflectively analyzing and monitoring the development of personal classroom practices, beliefs, and style of leadership.
8. Candidate fuses theory and practice:
   a. Candidates analyze school data and develop a personal theory of action;
   b. Candidates will understand the relationship between the theory base of teacher leadership and school culture;
   c. Candidates conduct peer coaching cycles, incorporating insights and techniques from cognitive coaching and clinical supervision;
   d. Candidates give skilled assistance to a colleague in analyzing and developing a lesson or learning activity;
   e. Candidates will use course concepts and recommended strategies to formulate a framework for making changes in management and instructional practices;
   f. Candidates will modify existing instructional practices and adopt new ones capable of engaging all students in the learning process.

Neuroeducator Certificate

Provides professionals an opportunity to study the relationship between the brain, the mind, and translational applications. Any professionals involved in human interaction, teaching, and learning; such as business executives, nurses, counselors, educators, speech-language pathologists, and psychologists, will find the information useful to their respective practices.

Student Learning Outcomes Neuroeducator Certificate

1. Identify and apply brain-based interventions using various theoretical frameworks including the bio-physical model (nutrition, genetics, environment interaction); the biological model (brain differences in anatomy and function); the neuro-semantic model (meaning of the neuroanatomy and the outcomes); and social-construct model (assigning meaning physically and neurobiologically).
2. Develop an educational infrastructure for application of brain-based models of learning including learning models based on the biological framework of the brain and apply to the learning differences in various populations including autism spectrum disorders, attention deficit disorders, mood disorders, conduct disorders; both DSM and IDEA definitions.
3. Define the cultural and linguistic assumptions used to interpret, analyze, and evaluate neuroscience research applied to education (e.g., contextual or field sensitive cultures verses non-contextual, non-sensitive cultures).
4. Describe and apply core cognitive psychological processes related to neuroscience foundations such as an explanation of the competing memory systems; the processes of decision making related to brain functions; and the development of motivation related to limbic system function.

Neuroeducator Certificate Requirements 12 - 18 hours

ED 585	Neuroscience and Learning	3
ED 586	Foundations of Cognitive Process in Learning	3
ED 587	Neuro-Biological Aspects of Learning in Diverse Populations	3
ED 588	Neuroeducation: A Cultural-Linguistic Translation	3
ED 589	Translational Studies and Research in Neuroeducation	3
ED 593	Readings and Topics in Neuroscience and	3

	Education	

For more information about our graduation rates, the median debt of students who completed the program, and other important information, please visit our website at http://education.up.edu/default.aspx?cid=10399&pid=278.

Engineering

Khalid H. Khan, Ph.D., director

Faculty: Albright, Crenshaw, Dillon, Doughty, Hoffbeck, A. Inan, M. Inan, Jones, Kennedy, Khan, Kuhn, Lu, Lulay, Male, Murty, Nuxoll, Osterberg, Schenberger, Takallou, VanDeGrift, Vegdahl, Ward, Yamayee

The Donald P. Shiley School of Engineering offers a graduate program leading to a master of engineering degree. Students in this innovative program can take courses in engineering, business, and communication. This program capitalizes on the strengths of both the Donald P. Shiley School of Engineering and the Dr. Robert B. Pamplin, Jr. School of Business Administration and caters to the individual needs of the graduate student. Courses in engineering are selected from civil, environmental, electrical, computer, and mechanical engineering as well as computer science. Courses in business are chosen in the areas of entrepreneurship, marketing and management, and new venture development. In addition, students can take a course in business communication from the Department of Communication Studies.

Student outcomes of the graduate program in engineering are as follows:

1. Students will receive cutting edge education in their chosen field of study.
2. Practical, hands-on education will be provided which will be relevant to the students' career goals.
3. Abundant opportunities will be available for interdisciplinary and intradisciplinary academic work.
4. Life-long learning will be encouraged in the overall graduate curriculum.

Admission Requirements

The following should be noted in addition to the general admission requirements of the Graduate School. Candidates who hold a bachelor's degree in engineering, mathematics, or physical science will be considered for graduate admission. Consultation with the graduate program director is highly recommended early in the process of applying for graduate admission. This could point out any deficiencies in the candidate's background and appropriate undergraduate courses could be taken to make up these deficiencies.

Degree Requirements

Thirty semester hours of graduate courses are required. Any undergraduate courses taken to make up deficiencies do not count toward these hours. Up to twelve semester hours may be taken in the area of business administration and may include a course in business communication from the communication studies department. All courses must be approved by the graduate program director or the student's graduate advisor. No thesis is required but an optional thesis or project may be used as part of the major requirements. A maximum of six hours of credit is allowed for thesis or projects.

Course Offerings

See graduate courses in Civil Engineering277; Computer Science289; Electrical Engineering316, and Mechanical Engineering346.

Nursing

M. Katherine Crabtree, DNSc, director

Faculty: Braband, Crabtree, Craig, Decker, Kindler, Moceri, Napolitano, Nelson, O'Lynn, Pate, Potter, Rosenstiel, Warner, Wilson-Anderson

The School of Nursing offers a doctor of nursing practice (D.N.P.) program with the family nurse practitioner (F.N.P.) population focus and a master of science (M.S.) degree in nursing with a clinical nurse leader (C.N.L.) focus, each designed to provide an opportunity for nurses to pursue advanced study and practice in nursing. The programs are open to nurses with baccalaureate and master's degrees in nursing and students currently enrolled in the the alternate entry master's at the University of Portland (AEM UP) program who successfully complete the pre-licensure component. The School of Nursing

graduate programs are approved by the Oregon State Board of Nursing and accredited by the Commission on Collegiate Nursing Education.

Graduate Degree Requirements

To complete the requirements for a graduate degree in nursing, students must:

1. Complete required semester credit hours for the program of study selected.
2. Maintain a cumulative G.P.A. of 3.0.
3. Earn a grade of B or above in all nursing courses with a clinical component.
4. Earn a grade of B- or above in all non-clinical courses.
5. Meet end of program competencies.
6. Complete residency.

Program Format and Computer Requirements

The D.N.P. and C.N.L. programs are offered in a blended format of monthly in-person immersion weekend sessions and web-based teaching and learning modalities. It is the responsibility of the students enrolled in these programs to ensure that they have consistent and full access to the internet and PilotsUP portal from their personal computers. Further, all graduate nursing students must download the most current version of Microsoft Office, the most up up-to-date Adobe Reader software, and the most current version of Internet Explorer and/or Mozilla Firefox on their machines. The University provides technical assistance for access issues through the help desk (help@up.edu) and the resources to download the latest version of Microsoft Office at no cost to enrolled students.

Student Handbook

The School of Nursing graduate student handbook is available on the School of Nursing website. Students have the responsibility to acquaint themselves with its contents and are held accountable for all statements within.

Doctor of Nursing Practice (D.N.P.)

The School of Nursing offers an innovative doctor of nursing practice (D.N.P.) program with a family nurse practitioner (F.N.P.) population focus. The program prepares nurses to provide health services at the highest level of clinical nursing practice. The curriculum is designed to develop leaders able to expand their impact on the health of society by improving quality of care, patient outcomes and health policy. The program features an integrative health component, which prepares graduates as holistic practitioners who understand many different healing methodologies and practice collaboratively with those who seek care. There is also an emphasis on caring for disadvantaged populations and eliminating health disparities. Students may choose a focus on serving the disadvantaged and have all their clinical experiences in sites with a majority of underserved and Medicaid patients.

The D.N.P. program includes 1,050 total hours of clinical experience for post-baccalaureate students and students who complete the pre-licensure component of the AEM UP program. The program incorporates professional standards and guidelines from *The Essentials of Doctoral Education for Advanced Nursing Practice* (AACN, 2006), the *Criteria for Evaluation of Nurse Practitioner Programs* (NTF, 2008), the *Nurse Practitioner Core Competencies* (NONPF, 2011), the *Nurse Practitioner Primary Care Competencies in Specialty Areas: Adult, Family, Gerontological, Pediatric, and Women's Health* (NONPF, 2002), and the Oregon State Board of Nursing in preparation of the curriculum and evaluation of outcomes. Students complete a comprehensive examination at mid-program to demonstrate progress towards achieving the D.N.P. essentials. Students complete an independent practice improvement project related to advanced nursing practice and prepare a manuscript for publication to disseminate the results. The D.N.P. residency is designed for students to demonstrate synthesis of knowledge and use evidence to improve practice or patient outcomes.

The program has two tracks: (1) post-baccalaureate, post completion of the AEM UP pre-licensure component at the University of Portland or non-nurse practitioner post-master's for nurses wanting the F.N.P. population focus, and (2) post-master's for nurses licensed and certified as nurse practitioners.

D.N.P. Goals and Program Outcomes

The goals and outcomes of the D.N.P.—F.N.P. program reflect the mission of the School of Nursing with the focus on the profession of nursing, leadership, high quality care for all populations, inquiry, and social justice. The goals, competencies and outcomes are in alignment with professional nursing standards and guidelines.

The goals and program outcomes of the D.N.P. program are to graduate competent, entry-level family nurse practitioners and experienced nurse practitioners who:

1. Practice independently in a variety of primary care health environments, translate best evidence into practice, employ a population focus, incorporate an integrative healthcare perspective, and collaborate with multiple disciplines with the goal of providing effective, comprehensive healthcare;
2. Demonstrate leadership in macro and micro healthcare system change and personal practice improvement; and
3. Proactively strive for social justice, actively address health disparities and function as culturally competent practitioners who relate effectively with diverse and underserved individuals, families and populations.

D.N.P. Admission Requirements

1. Bachelor of science in nursing or a master's degree in nursing from a school of nursing accredited by an appropriate national nursing accrediting body; or completion of the alternate entry master's at University of Portland (AEM UP) program pre-licensure component.
2. Cumulative G.P.A. of 3.0 or higher.
3. For B.S.N. to D.N.P. applicants: Graduate Record Examination (GRE) verbal score of 150 or above (500 or above if exam was completed prior to August 1, 2011) and an analytical writing score of 3.5 or above; or a score of 50 or greater on the Miller Analogies Test (MAT). Post-master's applicants are not required to submit GRE or MAT scores.
4. TOEFL iBT score of 100 or a IELTS score of 7.5, if native language is not English.
5. Current R.N. license to practice nursing in state of residence. R.N. licensure in Oregon is encouraged. Additional costs may be incurred for clinical placements outside of Oregon.
6. For post-master's nurse practitioner applicants: Current national and state nurse practitioner certification and currenly employed as a nurse practitioner in a clinical setting.
7. For post-baccalaureate applicants: Students admitted to the program must complete of a minimum of 2,000 hours of work as a registered nurse by the start of the 7th semester in the program (by the start of Year 3, Summer Session).
8. Written essay that reflects on the F.N.P. role, the D.N.P. role, and integrative health.
9. Three recommendations from persons able to evaluate current competency in nursing and potential for nursing practice at the most advanced level.
10. College-level statistics course.
11. Ability to use a PC for word processing, e-mail and Internet.
12. Current résumé.
13. An admission interview.

Degree Requirements

Doctor of Nursing Practice Curriculum

NRS 500	Statistical and Quantitative Analysis	3
NRS 501	Theoretical Foundations for Advanced Nursing Practice Leadership	3
NRS 502	Professional Role Development for Advanced Practice Nursing	2-3
NRS 520	Health Assessment for Advanced Practice	3
NRS 521	Nursing of Families for Advanced Practice	2
NRS 522	Management of Adults with Acute and Simple Chronic Conditions	5
NRS 523	Management of Pediatric Clients with	4

	Acute and Chronic Conditions	
NRS 525	Management of Conditions Common to Women	2
NRS 527	Management of Adults and Older Adults with Complex Chronic Illnesses	5
NRS 533	Management of Conditions Common to Men	2
NRS 537	Management of Common Mental Health Conditions in Primary Care	2
NRS 538	Focused Practicum on Wellness and Screening	1
NRS 543	Social and Health Policy	3
NRS 547	Organizational and Systems Leadership	3
NRS 566	Resources Management in the Micro Environment	3
NRS 567	Communication and Relationships	3
NRS 568	Information Knowledge Systems	2
NRS 569	Human Population Ecology	3
NRS 571	Advanced Pathophysiology I	2
NRS 572	Advanced Pathophysiology II	2
NRS 575	Advanced Pharmacotherapeutics	3
NRS 581	Integrative Health I: Concepts of Health and Healing	2
NRS 582	Integrative Health II: Approaches to Care	2
NRS 583	Integrative Health III: Nutrition and Herbal Therapy	2
NRS 584	Integrative Health IV: Mind Body Connections	2
NRS 589	Applied Research: Evaluation and Evidence-Based Practice	Variable
NRS 597	Practice Improvement Project	1
NRS 598	Residency for Post Baccalaureate FNP Students	6

Note that NRS 597 must be taken a minimum of 2 times.

The following D.N.P. courses include the following clinical/lab hours: NRS 520 - 45 lab hours, NRS 522 - 180 clinical hours, NRS 523 - 120 clinical hours, NRS 525 - 120 clinical hours, NRS 527 - 180 clinical hours, NRS 537 - 60 clinical hours, NRS 538 - 30 clinical hours and NRS 598 - 360 clinical hours.

Total Credit Hours: 83

Total credit hours includes 1,050 clinical hours.

Clinical Nurse Leader (C.N.L.)

The focus of the master's nursing program is the clinical nurse leader (C.N.L.). The graduate program prepares the nurse to function as an advanced generalist at the master's level. The C.N.L. provides leadership for the nursing care of clients at the point of care. A broad based graduate education prepares the C.N.L. to oversee the care coordination of a distinct group of clients—individuals, families, or populations. The curriculum is designed to develop clinically competent C.N.L.s who direct care at the point of service and are able to put evidence-based practice into action to ensure that clients benefit from the latest innovations in care delivery. Emphasis is on the collection and evaluation of client outcomes, assessment of cohort risk, and use of decision-making authority to make change to support quality and safety. The C.N.L. functions as part of an interdisciplinary team by communicating, planning, and implementing care directly with other health care professionals, including physicians, pharmacists, social workers, clinical nurse specialists, and nurse practitioners.

The program incorporates professional standards and guidelines from the *Essentials of Master's Education for Advanced Practice Nursing* (AACN, 2011) and the *End-of-Program Competencies & Required Clinical Experiences for the Clinical Nurse Leader* (AACN, 2006) in preparation of the curriculum and evaluation of outcomes. The C.N.L. program includes 500 hours of clinical experience.

The C.N.L. project is designed for the student to meet multiple AACN C.N.L. end-of-program competencies, including but not limited to clinician, educator, risk anticipator, and team manager. The project is designed to facilitate evidence-based organizational change identified through a systematic assessment of the microsystem. Projects integrate best practices, principles of effective leadership and negotiation skills, use of information systems to evaluate patient outcomes, and theories of organizational behavior in the design of their project. Examples of student projects may include evaluating and/or modifying current practice standards, increasing clinical application of evidence-based interventions, or adapting or designing a research based intervention. Students will develop, implement and evaluate the C.N.L. project in the three clinical courses (NRS 593, NRS 595 and NRS 596).

C.N.L. Goals and Program Outcomes

The goals and outcomes of the C.N.L. program reflect the mission of the School of Nursing with the focus on providing and managing quality and effective care at the point of care to individuals, clinical populations and communities. The goals, competencies, and outcomes are in alignment with professional nursing standards and guidelines.

The goals and outcomes of the C.N.L. program are to graduate advanced generalist nurses who:

1. Demonstrate leadership in the healthcare delivery system by effecting change through knowledge, advocacy and effective communication to achieve quality client outcomes and lateral integration of care for a cohort of clients;
2. Practice as care environment managers delegating and effectively using systems assessment, nursing, and interdisciplinary team resources and information systems and technology to improve health care outcomes, quality and safety at the point of care;
3. Manage clinical outcomes for a group of patients through advanced nursing practice utilizing designed care, evidence-based guidelines, and quality care standards, and use of best practices to facilitate client and provider teaching and learning.

C.N.L. Admission Requirements

1. Bachelor of science in nursing degree from a school of nursing accredited by an appropriate national nursing accrediting body; or completion of alternate entry master's at the University of Portland (AEM UP) program pre-licensure component.
2. Cumulative G.P.A. of 3.0 or above.
3. Graduate Record Examination (GRE) verbal score of 150 or above (500 or above if exam was completed prior to August 1, 2011) and an analytical writing score of 3.5 or above; or a score of 50 or greater on the Miller Analogies Test (MAT).
4. TOEFL iBT score of 100 or a IELTS score of 7.5 if native language is not English.
5. Current R.N. license to practice nursing in state of residence. R.N. licensure in Oregon is encouraged. Additional costs may be incurred for clinical placements outside of Oregon. Please note: Admitted students are expected to be employed or volunteering as a RN by the end of the second semester in the program (by the end of year 1, fall semester).
6. A written statement of personal nursing philosophy.
7. A 500-word statement that describes how becoming a C.N.L. will help achieve personal and professional goals.

8. Two recommendations from persons able to evaluate current and potential competency in nursing, preferably at least one from a recent employer.
9. A college-level statistics course.
10. Ability to use a PC for word processing, e-mail, and Internet.
11. Current résumé.
12. An interview upon request.

Degree Requirements

Clinical Nurse Leader Curriculum

NRS 500	Statistical and Quantitative Analysis	3
NRS 501	Theoretical Foundations for Advanced Nursing Practice Leadership	3
NRS 534	The Role of the CNL	3
NRS 566	Resources Management in the Micro Environment	3
NRS 567	Communication and Relationships	3
NRS 568	Information Knowledge Systems	2
NRS 569	Human Population Ecology	3
NRS 570	Advanced Clinical Foundations	4
NRS 585	Foundations of Integrative Health	1
NRS 586	Evidence for Integrative Health	1
NRS 587	Integrative Health Leadership	1
NRS 589	Applied Research: Evaluation and Evidence-Based Practice	Variable
NRS 593	Clinical Nurse Leader as Practice I	3
NRS 595	Clinical Nurse Leader as Practice II	3
NRS 596	Clinical Nurse Leader Residency	6

The following C.N.L. courses include the following clinical/lab hours: NRS 570 – 45 lab hours, NRS 593 – 100 clinical hours, NRS 595 – 100 clinical hours and NRS 596 – 300 clinical hours.

Total Credit Hours: 42

Total credit hours includes 500 clinical hours.

Alternate Entry Master's at University of Portland (AEM UP)

The alternate entry master's at University of Portland (AEM UP) program is for individuals with a non-nursing bachelor's degree who not only seek to enter the profession of nursing but also seek advanced preparation through graduate study. AEM UP students have the option to complete either the master of science — clinical nurse leader (M.S.-C.N.L.) program or the doctor of nursing practice — family nurse practitioner (D.N.P.-F.N.P.) program. The AEM UP program has two components:

1. Pre-licensure component — this component consists of 5 semesters of full-time study (6-13 semester hours per semester plus 765 clinical hours). It requires a full-time commitment for class and clinical experience. The pre-licensure component, courses and expected outcomes reflect professional standards and guidelines including *The Essentials of Baccalaureate Nursing Education for Professional Nursing Practice* (AACN, 2008).
2. Advanced graduate study component — this component includes advanced coursework and extensive clinical experience. There are two program options:

a. Master of Science — Clinical Nurse Leader (M.S.-C.N.L.): Students admitted to the M.S.-C.N.L. program complete the advanced graduate study component in approximately 2 years and are required to complete a minimum of 500 clinical hours.

b. Doctor of Nursing Practice—Family Nurse Practitioner (D.N.P.-F.N.P.): Students admitted to the D.N.P.-FNP program complete the advanced graduate study component in 4 years and are required to complete a minimum of 1,050 clinical hours.

Degree Requirements

AEM UP Pre-Licensure Component Curriculum

NRS 507	Population Health Nursing in a Multicultural Context/Pre-licensure AE	6
NRS 510	Nursing of Families/Pre-licensure AE	2
NRS 511	Physiological Nursing/Pre-licensure AE	4
NRS 512	Clinical Skills/Pre-licensure AE	2
NRS 513	Pathophysiology/Pre-licensure AE	3
NRS 515	Pharmacotherapeutics/Pre-licensure AE	3
NRS 516	Professional Role Development I/Pre-licensure AE	1
NRS 517	Advanced Physiological Nursing/Pre-licensure AE	7
NRS 518	Mental Health Nursing/Pre-licensure AE	4
NRS 524	Leadership and Health Policy for Advanced Nursing Practice/Pre-licensure AE	3
NRS 529	Practicum with Seminar/Pre-licensure AE	5
NRS 536	Professional Role Development II/Pre-licensure AE	2
NRS 545	Nursing of Childbearing and Childbearing Families/Pre-licensure AE	6
NRS 546	Evidence-based Nursing/Pre-licensure AE	3
NRS 563	Personal Preparation for Licensure/Pre-licensure AE	1

Subtotal: 52

Total credit hours includes 765 total clinical/lab hours. The following AEM UP pre-licensure courses include the following clinical/lab hours: NRS 507 – 90 clinical hours, NRS 511 – 90 clinical hours, NRS 512 – 90 lab and clinical hours, NRS 517 – 135 clinical hours, NRS 518 – 90 clinical hours, NRS 529 – 180 clinical hours and NRS 545 – 90 clinical hours.

At the end of the pre-licensure component, a cumulative grade point average of 3.0 must be achieved for entry into the advanced graduate study component. A current RN license to practice nursing in Oregon must also be obtained before entry into the advanced graduate study component of the program.

AEM UP Advanced Graduate Study Component Curriculum for Master of Science — Clinical Nurse Leader Program

NRS 500	Statistical and Quantitative Analysis	3
NRS 501	Theoretical Foundations for Advanced Nursing Practice Leadership	3
NRS 534	The Role of the CNL	3

NRS 566	Resources Management in the Micro Environment	3
NRS 567	Communication and Relationships	3
NRS 568	Information Knowledge Systems	2
NRS 569	Human Population Ecology	3
NRS 570	Advanced Clinical Foundations	4
NRS 585	Foundations of Integrative Health	1
NRS 586	Evidence for Integrative Health	1
NRS 587	Integrative Health Leadership	1
NRS 589	Applied Research: Evaluation and Evidence-Based Practice	Variable
NRS 593	Clinical Nurse Leader as Practice I	3
NRS 595	Clinical Nurse Leader as Practice II	3
NRS 596	Clinical Nurse Leader Residency	6

Subtotal: 42

Total credit hours includes 500 total clinical hours. The following M.S.-C.N.L. courses include the following clinical/lab hours: NRS 570 – 45 lab hours, NRS 593 – 100 clinical hours, NRS 595 – 100 clinical hours and NRS 596 – 300 clinical hours.

AEM UP Advanced Graduate Study Component Curriculum for Doctor of Nursing Practice — Family Nurse Practitioner Program

NRS 500	Statistical and Quantitative Analysis	3
NRS 501	Theoretical Foundations for Advanced Nursing Practice Leadership	3
NRS 502	Professional Role Development for Advanced Practice Nursing	2-3
NRS 520	Health Assessment for Advanced Practice	3
NRS 521	Nursing of Families for Advanced Practice	2
NRS 522	Management of Adults with Acute and Simple Chronic Conditions	5
NRS 523	Management of Pediatric Clients with Acute and Chronic Conditions	4
NRS 525	Management of Conditions Common to Women	2
NRS 527	Management of Adults and Older Adults with Complex Chronic Illnesses	5
NRS 533	Management of Conditions Common to Men	2
NRS 537	Management of Common Mental Health Conditions in Primary Care	2
NRS 538	Focused Practicum on Wellness and Screening	1

NRS 543	Social and Health Policy	3
NRS 547	Organizational and Systems Leadership	3
NRS 548	Translational Research	3
NRS 566	Resources Management in the Micro Environment	3
NRS 567	Communication and Relationships	3
NRS 568	Information Knowledge Systems	2
NRS 569	Human Population Ecology	3
NRS 571	Advanced Pathophysiology I	2
NRS 572	Advanced Pathophysiology II	2
NRS 575	Advanced Pharmacotherapeutics	3
NRS 581	Integrative Health I: Concepts of Health and Healing	2
NRS 582	Integrative Health II: Approaches to Care	2
NRS 583	Integrative Health III: Nutrition and Herbal Therapy	2
NRS 584	Integrative Health IV: Mind Body Connections	2
NRS 589	Applied Research: Evaluation and Evidence-Based Practice	Variable
NRS 597	Practice Improvement Project	1
NRS 598	Residency for Post Baccalaureate FNP Students	6
		Subtotal: 83

Total credit hours includes 1,050 total clinical hours. The following D.N.P.-F.N.P. courses include the following clinical/lab hours: NRS 520 - 45 lab hours, NRS 522 - 180 clinical hours, NRS 523 - 120 clinical hours, NRS 525 - 120 clinical hours, NRS 527 - 180 clinical hours, NRS 537 - 60 clinical hours, NRS 538 - 30 clinical hours and NRS 598 - 360 clinical hours.

R.N. to M.S.

This graduate program is for R.N.s whose highest nursing credential is an associate degree in nursing. Using a cohort model, this program offers associate degree-prepared nurses a creative opportunity to efficiently earn a master's degree and thereby increase their options for career mobility. All students in the R.N. to M.S. program must complete specific undergraduate general education courses and bridge courses before entry into the CNL master's curriculum. A master of science in nursing degree is awarded upon completion of the program; a bachelor of science in nursing (B.S.N.) is not granted. The R.N. to M.S. program courses are offered when a cohort of interested students is formed. For more information about this curricular option, see the School of Nursing website or call the School of Nursing at (503) 943-7211.

Theology

Elaine Park, Director

Faculty: Baasten, Butkus, Cameron, Cooper, Deming, Dempsey, Gordon, Hosinski, McManus, Sanchez

The master of arts in pastoral ministry program is a theological resource for the region, administered by the University of Portland. Classes are taught by members of the University's extensive theology faculty, whose individual areas of specialization encompass the various sub-disciplines of theology.

The program approaches theology not only as an interesting enterprise but also as a vitally important service to the Church. Students and faculty pursue theology in a manner that is spiritually and intellectually formative and relevant for the changing conditions of both Church and society.

The M.A.P.M. program embraces the understanding that theology is an effort to comprehend the mystery of God. This theological vision, recovered both through the Second Vatican Council and through ecumenical conversation, empowers the members of the Church to partake fully in its life and ministry.

Admission Requirements

In addition to the general admission requirements of the Graduate School previously cited, an applicant must have an undergraduate G.P.A. of 3.0 or higher. The M.A.P.M application supplement, including a statement of purpose, must also be completed.

Theology, M.A.P.M.

This is a professional graduate program designed to provide pastoral ministers, both lay ecclesial ministers and deacon aspirants, with sound theological foundations, basic ministerial skills, and resources for ministry. In addition, this program serves as a resource for other laity and for religious who are or will be involved in professional pastoral ministry. Students have an opportunity to develop personal spirituality and a professional ministerial network. Student groups form cohorts that learn together in the three year program. The program includes a practicum/internship.

Learning Outcomes

The curriculum for the M.A.P.M. program is designed to provide the following learning goals and outcomes. Upon graduation, students will be able to:

1. Examine faith, its place in one's own life and in the lives of others.
2. Integrate theological and ministerial knowledge and skills in the context of the everyday experience of ministry.
3. Understand and appreciate the Catholic connection of faith and justice in a local and global context.
4. Demonstrate the capacity to write and speak appropriately by: (a) speaking publicly with ease and clarity, and (b) producing written work adapted to specific audiences.
5. Identify and use appropriate theological resources within a ministerial setting.

Degree Requirements

Requirements — 39 hours

	Introductory Courses	6
	Theological Foundations	15
	Pastoral Skills	6
	Ministerial Resources	9
	Practicum/Internship	3

Introductory Courses: Studies in Old and New Testament, Studies in Theology

Theological Foundations: Christology, Contemporary Ecclesiology, Theological Ethics, Theology of Ministry, Sacramental and Liturgical Theology

Pastoral Skills: Pastoral Care, Faith Formation

Ministerial Resources: Theological Exploration of the Gospels, Church History, Christian Spirituality

The practicum should be closely related to a student's field of concentration and goals. Its design is the responsibility of the student with the assistance of an advisor or designated faculty member. The advisor must approve all placements and supervision. The student and on-site supervisor are to submit a full report and evaluation to the advisor.

UNIVERSITY SERVICES

Office of Student Accounts

2012-2013 Tuition and Fees

Tuition per Semester

Undergraduate — per semester/12 hours or more*	$17,560.00
Undergraduate — per semester hour/11 hours or fewer	$1,100.00
Graduate - Communications, Drama, Engineering and Nursing per credit hour	$980.00
Master of Business Administration - per credit hour	$1,030.00
Master of Arts in Teaching Program - per credit hour	$735.00
Master of Education Program - per credit hour	$490.00
Master of Arts - Education - per credit hour	$490.00
Master of Arts in Pastoral Ministry Program - per credit hour	$490.00
Education Post Master Specialty - per credit hour	$490.00
Auditor — 50% of tuition, 100% of course fees	
Business, Computer Science, Economics, Education ‡, Engineering, Nursing courses per credit hour fee	$50.00

*For foreign programs contact program director.

‡Graduate Education programs are exempt from professional fees unless noted under course descriptions.

A student who holds a degree from an accredited college or university is considered to be a graduate student for fee purposes.

Per Semester Fees

Health insurance—full-time undergraduate only unless waived before or during registration as explained under "Payment Schedule"	$1,072.00
Student Government Fee—Full-time undergraduate only	$70.00
Music—Private lessons, per semester hour	$300.00
Summer Session—Consult Summer Session Catalog tuition schedule and fees.	
Laboratory/Workshop Fees—See course listings.	

Residence Hall and Food Service Rates

The University offers the following on campus living options per semester:

All Residence Halls

Double or Triple Room with:	
Meal Plan 1	$5,020.00
Meal Plan 2	$5,188.00
Meal Plan 3	$5,303.00
Meal Plan 4	$6,119.00
Single Room at Double Occupancy with:	
Meal Plan 1	$5,570.00
Meal Plan 2	$5,738.00
Meal Plan 3	$5,853.00
Meal Plan 4	$6,669.00
Double Room as Single Occupancy with:	
Meal Plan 1	$6,045.00
Meal Plan 2	$6,213.00
Meal Plan 3	$6,328.00
Meal Plan 4	$7,144.00

Meal Plans— Declining Balance

Meal Plan 1: 1,375 Pilot Points
Meal Plan 2: 1,575 Pilot Points
Meal Plan 3: 1,775 Pilot Points
Meal Plan 4: 2,675 Pilot Points
(Pilot Points are equal to purchasing power)

Residence hall damage deposit	$100.00

Private Baths

1 person	$180.00
2 people	$90.00
3 people	$60.00
4 people	$45.00

Non-resident students may purchase a meal plan in the Office of Student Accounts.

Dining Points is a prepaid individually funded account for food service purchases on campus. Dining points accounts may be established at any time throughout the year by any University of Portland student at the food service office in the Commons. Students are limited to adding up to $200.00 at a time.

Housing/Food Service Contract Exclusions

Between fall and spring semesters, specifically during Christmas vacation, the residence halls are closed and food service is not available. All resident students must find accommodations off campus.

Entrance Fees/Deposits

Registration/Housing Deposit — $400.00

A non-refundable registration/housing deposit is required of all students. Ordinarily, this amount will be applied as a credit to the student's account. However, for students residing in a University residence hall, $100.00 of this deposit will be held as a room reservation deposit and, as such, will not appear as a credit on the student's account. This $100.00 will be held in escrow as long as the student continues to reside on campus. Minor maintenance services and hall damages over and above the normal occupancy usage will be deducted from the deposit. When the student leaves the residence hall system, any unpaid charges on the student's account will be deducted from the room reservation deposit first, then any balance will be refunded to the student.

Incidental Fees

Student parking permit, full year	$100.00
Student parking permit, one semester	$70.00
Haggerty and Tyson Hall parking permit, one semester	$100.00

Tuition due date for fall semester is August 10th, 2012.

Tuition due date for spring semester is January 4, 2013.

Students accounts not paid in full by Friday, August 31st, 2012 and January 18th, 2013 will be assessed a $75.00 late payment fee.

Lost or stolen ID card fee	$10.00
Returned check fee	$50.00
Thesis in progress fee	$50.00
Credit by examination fee for special comprehensive examinations given to students who challenge a course — per semester credit hour (non-refundable)	$50.00

Sample of Expenses

Per Semester 2012-2013 - All Students:

Tuition	$17,560.00
*Health Insurance	$1,072.00
†Average Fees	$260.00
†Average Books	$600.00
Standard Room/Meal Plan 3	$5,303.00
†Average Personal Expenses	$500.00
†Average Transportation	$500.00
Total	**$25,795.00**

*see Health Insurance229

†Amounts are estimated.

Payment Schedule

Payment in full for tuition, room, and board (where applicable), and any assessed fees are due on or before August 10th, 2012 for the fall 2012 semester and January 4, 2013 for the spring 2013 semester. Students must make financial arrangements for any unpaid portion of their bill with the Office of Student Accounts prior to the due date in order to be cleared for class. Payment for any special charges and adjustments incurred during the semester is due at the time of adjustment.

Student accounts creates an invoice in mid July for fall semester, in the last part of November for spring semester, and the first part of April for summer semester. The invoice reflects all current charges based on a student's registration at the time of invoicing for the new semester. Invoices are generated at the beginning of every month during the academic year and are e-mailed to the student at their up.edu email addresses.

Payment of tuition entitles the student to receive a validated student body card that permits: admission to the University library, gymnasium, and student recreational facilities; admission to concerts, lectures, and athletic events at no charge or a reduced rate; and free access to student publications. Full-time students are, additionally, entitled to use of the University health center services.

Parents or guardians will be held responsible for all bills contracted by their dependent students even though the student may be self-supporting. A student's account must be paid in full in order to register for upcoming classes. Accounts that are more than 90 days past due may be referred to an outside agency for collection. The student is then responsible for all charges due the University as well as all collection costs incurred by the agency. Degrees and transcripts will not be issued to any student whose account has not been paid in full. If a past due account is paid by personal check, the degree and transcript will be released two weeks after the receipt of payment.

Expenses incurred because of damage to University property will be billed to the student who caused the damage.

The University is not responsible for any loss of, or damage to, the personal property of a student.

Health Insurance

Participation in the health insurance program is required of all full-time undergraduate students. Students who are already covered by a health insurance program may have this requirement waived by submitting the online health waiver at www.aetnastudenthealth.com. A waiver is required for each academic year and must be received by the waiver deadline posted on the Student Account website. Any health waivers received after this timeline will not be accepted for the current semester.

Student Government Fee

The student government fee is used by the Associated Students of the University of Portland (ASUP) to promote activities.

Tuition and Fees Refund Policies

Students are admitted to the University of Portland with the understanding they will remain until the end of the semester. Students enrolled in off campus programs should refer to the program handbook.

When students register for classes, they incur charges and are responsible for payment of these charges whether or not they attend. The University of Portland, a non-profit institution of higher learning, in establishing any student account, extends credit to students solely for the purpose of financing their education. Any balance due is hereby acknowledged as a student loan and

will be considered non-dischargeable under Chapter 13 and 7 of the federal and state laws governing bankruptcy. To have the charge removed, students must process a drop or withdrawal through the registrar's office within the refund period. If a student is dismissed or suspended, no part of the tuition and fees, including room and board, for the remainder of the semester will be refunded. If a student finds it necessary to withdraw completely or from specific courses, the following policies apply:

Fall and Spring Semesters Tuition and Fees

In all cases of withdrawal, whether complete or partial, and counting from the first day courses begin each semester, the following refund schedule applies:

During the first week — 100% of tuition and fees

During the second week — 75% of tuition

During the third week — 50% of tuition

During the fourth week — 25% of tuition

After the fourth week — No refund

Tuition refunds are effective from the date a completed application to withdraw or drop courses is received in the Office of the Registrar, not from the last day of attendance. If you must withdraw after the refund period due to unusual circumstances, you may contact the Office of Student Accounts to apply for an exception to the refund policy.

Credit balances are reviewed twice a year and a refund is automatically generated for credit balances in excess of $10.00. Credit balances under $10.00 will not be refunded unless requested and will be written off if they are over one year old.

Hold Policy Accounts with an outstanding balance of $25 or greater will be encumbered. The hold will prevent registration changes, including section changes, release of transcripts, and diplomas. The hold will remain on the student account until the balance has been paid in full. A student that has a hold placed on their account is encouraged to contact the Office of Student Accounts.

Paying by Check Accounts paid by check creating a credit balance will have a minimum of two weeks postponement before releasing the credit balance.

Summer Session See current Summer Session Catalog for refund policy and enrollment status definitions for tuition and financial aid purposes.

Room Refund All students residing on campus are required to complete a residence hall and food service contract. This legal contract describes both University and student obligations and is for the entire academic year. Release from this contract will be granted only in the event of December graduation, voluntary withdrawal from the University, or serious extenuating circumstances beyond the student's control.

Food Service Meal plan charges may be prorated if a student withdraws from the University or is released from the residence hall and food service contract due to a medical condition approved by the University Health Center.

Athletics

Athletics/Intramurals

Scott R. Leykam, director

The mission of the University's athletics programs has four features:

- To educate the minds, hearts, and spirits of student-athletes, in such areas as fairness, discipline, teamwork, competitiveness, and sacrifice;
- To advance the University toward preeminence among its peers by fielding teams and student-athletes that are talented and competitive at the NCAA Division I level;
- To provide additional non-curricular "teaching moments" for all students;
- To formulate and perpetuate programs that reflect the University as a whole, and which symbolize the University's mission.

Since the University's founding over a century ago, sport has been both a central means of education for the student body and one of the many ways that the University is bound together as a community.

The University's inter-collegiate and intramural athletics programs have allowed many thousands of students a form of education respected since the time of the ancient Greeks. On playing fields and courts, University students have focused their physical, mental, and emotional efforts; learned the benefit of discipline and teamwork; channeled competitiveness, creativity, and energy toward goals both individual and common; and realized one aspect of the University's attempt to teach them what it means to be a wholly educated person, alert to knowledge of the mind, body, and spirit.

The University's athletics programs have also served as an important means of binding the University community together, in common support of the student-athletes representing the University, and in common support of the athletics staff charged with caring for and teaching the students on their teams. Coaches, trainers, and administrators in the athletics department are considered teachers of direct or indirect influence. Through their conversation, conduct, and personal and professional activities, athletics personnel are colleagues in the University's effort to educate mind, heart, and spirit.

The University's participation at the NCAA Division I level is characterized by adhering to the NCAA's standards of academic quality and degree completion and by striving for regional and national prominence. The University is committed to be an institution that abides by NCAA rules and regulations as well as those of the West Coast Conference (WCC).

Programs: The men's and women's inter-collegiate program competes in the WCC in basketball, tennis, soccer, cross country, and rowing. The men also compete in the WCC in baseball, and the women compete in the WCC in volleyball. The track program for both men and women competes as an independent.

The recreational services program offers a wide variety of organized sports and recreational activities for students, faculty, and staff. Two skill levels are offered in flag football, basketball, volleyball, bocce, indoor/outdoor soccer, ultimate frisbee, tennis, softball, and more. Activities include biking, camping, snow skiing, hiking, and snowshoeing. Fitness classes include many activities including body sculpting, zumba, salsa, scuba diving, yoga, spin, and more. Students can rent bikes and camping equipment. For more information, go to http://www.up.edu/recservices or call (503) 943-8755.

Campus Ministry

Rev. Gary S. Chamberland, C.S.C., director

The efforts of campus ministry further the University's mission of educating the whole person by anchoring the life of the University community in the knowledge of God's presence. Concerned for the dignity of every human being as God's cherished child, campus ministry assists all members of the University community to discover the deepest longing in their lives. Rooted in the Roman Catholic tradition, campus ministry respects and seeks to nurture the faith development of Catholics, other Christians, and all who seek God with a sincere heart. To this end, campus ministry offers a variety of activities open to all members of the University community.

Chapel of Christ the Teacher

The Chapel of Christ the Teacher is the spiritual center of campus and is open all day for quiet prayer. Most of the offices are elsewhere to maintain the atmosphere needed for solitude. The director of campus ministry, the program assistant, and the assistant director for faith formation are located in the St. Mary's Student Center which is located behind the chapel. An assistant director is also located in the Pilot House. The associate director for music is located on the upper level of the chapel.

The Chapel of Christ the Teacher is the principle place for worship on campus and is open for prayer and meditation to all members of the University community every day of the year. Eucharist is celebrated every Sunday at 10:30 a.m., as well as 9 p.m. when classes are in session. Mass is also celebrated every weekday at 12:05 p.m. Prayer and worship are the heartbeat of University life and students, faculty, and staff are encouraged to participate. Musicians, singers, readers, and Eucharistic ministers are always needed in order for campus ministry to offer well-planned and prayerful liturgies, prayer services, and other worship activities. Throughout the Church year, and especially in the privileged seasons of Advent, Lent, and Easter, appropriate liturgical services are planned to enhance the spiritual life of the University community.

Each year campus ministry offers to the University community a variety of retreat experiences. The Encounter Retreat is almost entirely planned and given by students themselves. Other retreats are organized with special groups in mind (e.g., people seeking silence & meditation, or students in sacramental preparation for full communion with the Catholic Church). Faculty and staff from the University are invited to participate in retreats.

Campus ministry provides sacramental preparation for students preparing for marriage. The Rite of Christian Initiation for Adults and preparation for the Sacrament of Confirmation are also offered.

The campus ministry staff assists with the organization and guidance of inter-denominational Bible study groups on campus. They also provide resources to the University community for prayer, meditation, and study groups.

Campus ministry collaborates closely with the Moreau Center for Service and Leadership because of the intimate connection between faith and service to those who are most in need. It also supports other University efforts to sensitize the community to the plight of the poor.

Campus ministry collaborates with the Office of Residence Life through its Pastoral Residents Program, which places committed Christian adults (usually Holy Cross priests and brothers) in residence in student residence halls. Pastoral residents are available to students for spiritual direction and pastoral counseling; they also are a resource for hall staffs. Campus ministry assists in the celebration of hall Masses on week nights.

Complete details are available by contacting the Director of Campus Ministry, University of Portland, 5000 N. Willamette Blvd., Portland, Oregon 97203-5798. Telephone (503) 943-7131. Toll free (800) 227-4568, ext. 7131.

ENROLLMENT MANAGEMENT

Rev. Mark L. Poorman, C.S.C., executive vice president

Admissions

Jason S. McDonald, M.Ed., dean

The University welcomes applicants for admission to any of our five undergraduate schools. Admission to the University of Portland is competitive. Students are selected on the basis of individual merit.

Applications for the 2013-2014 year may be submitted beginning September 1, 2012. The University encourages applicants to visit the campus and meet with an admissions counselor, members of the faculty, and students. To make an appointment call (503) 943-7147; toll free (888) 627-5601.

Documents

Official transcripts, sent directly from any institutions attended by the applicant to the Office of Admissions, University of Portland, and showing all high school and college work attempted, are required. Since all official transcripts that are submitted become property of the University of Portland and cannot be copied or returned to the student, students are encouraged to obtain unofficial copies of their transcripts for advising or personal purposes directly from the institutions they have attended.

Students who knowingly submit altered transcripts or falsified applications jeopardize their admission status and could have their acceptance canceled.

Entering Freshmen

Students admitted as freshmen must graduate from high school before enrollment. Admission is determined by the University's estimate of the student's probable success in college-level work. This estimate is based upon the number of and the grades in high school academic subjects, together with the SAT 1 or ACT test scores, recommendations, an essay, and the major the student plans to pursue. The best preparation for study at the University of Portland includes four years of English, three to four years of mathematics, three to four years of laboratory science, three to four years of social sciences/history, and two to four years of a foreign language.

To prepare for some majors, a more intensive background in certain academic areas is recommended. For example, one year of high school chemistry is required for students interested in the School of Nursing and one year of Pre-Calculus is the preferred minimum math requirement for the School of Engineering.

Candidates should complete the following procedures by January 15 for priority consideration. Additional admission decisions will be made to later applicants as space allows. In making an application for admission, candidates must complete the following procedures:

Application Form Submit a University of Portland application to the Office of Admissions. Attach a non-refundable processing fee of $50.00 to the application. Please note: any incoming student interested in a major in Nursing must indicate this intent on the application.

Pre-College Testing Take the Scholastic Aptitude Test (SAT 1) or the American College Test (ACT) prior to February of the senior year in high school. Submit official copies of your results to the Office of Admissions.

Advanced Placement

With Credit In recognition of the strength of many advanced programs in secondary schools, college credits can be awarded on the basis of satisfactory scores on Advance Placement (AP) and International Baccalaureate (IB). Three or more semester hours' credit may be granted for each AP examination passed with a score of 4 or 5, and higher level IB examinations passed with a score of 5 or better. These tests measure competence in specific college-level academic areas.

There is no grade attached to advanced placement or international baccalaureate. Therefore, it is not included in the grade point average of the student.

Without Credit Those who do not qualify for advanced placement with credit according to the provisions mentioned above, may, nevertheless, be assigned to advanced freshman or sophomore sections of certain classes if, in the judgment of the dean of the college or school, the student's preparation is adequate. In the event of such advanced placement no credit is given for any preparatory classes bypassed.

International Students

All international students, both freshmen and transfers, must submit official copies of their secondary school record. In addition to the regular admission procedures, international students are required to provide proof of English language competence through one of the following procedures: Test of English as a foreign language (TOEFL) or the International English Language Testing System (IELTS).

The TOEFL or the IELTS is required of all applicants whose native language is not English. A minimum composite score of 71 (or 6.5 on IELTS) must be attained for acceptance as an undergraduate student. Performance on TOEFL subsections will also be considered. A minimum of 79 (7.0 on IELTS) is required for acceptance as a graduate student, except for the master's programs in business administration, communication studies, music, and nursing. In business administration the minimum score is 88 (7.0 on IELTS); in communications, music, and nursing it is 100 (7.5 on IELTS). An I-20 document will not be issued until the student is accepted at the University. After the TOEFL or IELTS requirement is met, it is required that undergraduate students take the English placement examination at the University of Portland before registering for classes. If the score on this test is not satisfactory, the student will be required to take and pass, with at least a grade of C, the English class or classes in line with the deficiency. Until English proficiency is judged satisfactory, the student must take a reduced load in the major area of study. Thus, it may take the student an extra semester or more to obtain an undergraduate degree.

An exception to the above may be made in the following case: Applicants presenting GCE certificates in English language from the University of London, or GCE certificates from examining bodies recognized as equivalent to the University of London need not take the TOEFL test, but they will be required to take the University of Portland English placement examination with the conditions mentioned above.

Transfer Students

The upper division programs of the University are the center of increasing attention from students transferring from other four-year institutions and community colleges. Applications of such students will be given the fullest individual attention by the University.

Students seeking admission with fewer than 26 semester hours of acceptable transfer credit will be required to follow the same admission procedure as entering freshmen, in addition to furnishing the University a transcript from the colleges attended. Students planning to transfer 26 or more semester hours may be considered for admission if they have an overall grade point average of 3.0 and are in good academic standing in the college most recently attended. Admission to the University is determined by the dean's evaluation of the student's academic record. Many academic programs require specific course work and a college grade point average above 3.0.

When students transfer from an accredited college or university, all acceptable credits are counted in determining the class rating. (Students are classified as a sophomore if they have obtained at least 30 semester hours of credit; as juniors, 60 hours; as seniors, 90 hours.) Students transferring into the University as sophomores, juniors, or seniors will complete the requirements in the curriculum in which they are enrolled.

With the approval of the dean, credits designated as transfer (100-level or above) with a grade of C (2.00) or higher, may be accepted from community colleges and baccalaureate degree granting institutions accredited by regional accrediting associations, as well as by professional accrediting agencies when appropriate, subject to the limitations imposed by the degree requirements of a student's specific major. Academic credit for other courses and advanced placement may also be given with approval of the dean.

Transfer Applicant Information In making application for admission, the candidate must complete the following procedures at least one month prior to the semester of enrollment.

Application Form Submit a University of Portland application to the Office of Admissions. Attach a non-refundable processing fee of $50.00 to the application. Please note: transfer students interested in a major in nursing must indicate this intent on the admission application and must be prepared to enter the University as a junior (obtaining 60 or more semester hours with the appropriate prerequisites).

Transcripts Have official transcripts sent directly from all colleges attended to the Office of Admissions, University of Portland.

Essay Complete the essay as indicated on the application form. Submit with the application (for education majors only).

Nonmatriculated Students

Nonmatriculated students are students who apply for admission in order to register for credit but who are not degree-seeking students at the University. Enrollment as a nonmatriculated student implies no commitment on the part of the University regarding regular admission at a later time. Credits earned while in the nonmatriculated classification may but do not necessarily apply toward requirements for a degree should a student later be accepted into a degree program.

Admission as a nonmatriculated student requires that the student submit a nonmatriculated student application to the office of undergraduate admission if they do not have a bachelor's degree, or to graduate admission if they do. A $50.00 application fee is required, as well as relevant transcripts, and other requested documents prior to their initial registration. If a nonmatriculated student wishes to register for courses in business, nursing, engineering, education, or for upper-division courses in the College of Arts and Sciences, then evidence of adequate preparation for the desired courses will be required.

Nonmatriculated student status at the undergraduate level requires that the student reapply prior to each term. In no case is a student allowed to accumulate more than 15 semester hours or to be enrolled for more than two semesters, and, any such student who accumulates 15 semester hours or two semesters is required to seek regular admission to a degree program in keeping with procedures determined by the Office of Admissions.

Accumulation of more than 9 hours of graduate credit in the nonmatriculated status is not permitted, and any such student who accumulates 9 semester hours is required to seek regular admission to a degree program in keeping with procedures determined by the Graduate School.

Auditors

Students who wish to attend classes but who do not desire credit may enroll as auditors. Regularly matriculated students may audit courses with the approval of their respective deans. Auditors must furnish sufficient evidence of their ability to take the courses involved. They are not required to perform any of the work assigned in the course, nor may they take the examinations.

Registration for audit is done in the same manner as for credit. Those who audit courses are not eligible for credit by examination in such courses, nor may auditors register for credit after the last official day to add/drop a class. No changes to or from auditor status are permitted after the last day to add/drop a class. Courses taken by audit are entered on the student's permanent record and indicated with the symbol AD.

Veterans

Prospective students who are eligible for veterans' benefits should contact the veterans' coordinator in the registrar's office at the University at the time application for admission is made. Such students should also report to the veterans' coordinator no later than the first week of each semester's classes. The veterans' coordinator will submit the necessary application forms to the Department of Veterans Affairs (DVA) regional office for processing.

Recipients desiring advanced payment of the initial benefit check should know that the DVA requires application at least 30 days prior to the start of the term.

Veterans and others eligible for educational benefits from the DVA are subject to the standard of satisfactory progress as required by DVA rules and regulations.

Benefit recipients are required to notify the veterans' coordinator of any adds, drops, withdrawals, or changes of program of study.

The educational records of the students receiving benefits as well as other students not on benefits (for comparison), may be provided to authorized state and federal personnel without prior consent of the student under 45 CFR. Part 99.3 and Part 99.35 (Protection and the Right of Privacy of Parents and Students).

Additional information regarding Department of Veterans Affairs policies and programs may be obtained from the veterans' coordinator in the Office of the Registrar in Waldschmidt Hall, (503) 943-7321 or contact the Department of Veterans Affairs at (800) 827-1000.

Financial Aid

Janet Turner, director

The goal of the Office of Financial Aid is to serve students by recognizing that every student has unique financial needs. We help students invest in their futures to attain their educational goals by providing financial options through the financial aid awarding process.

The process for applying for financial aid begins in the admissions office, where various types of merit-based institutional aid are determined. The Office of Financial Aid then reviews the information that each student provides on their Free Application for Federal Student Aid (FAFSA) in order to determine eligibility for other aid options. This application is accessible at www.fafsa.gov.

After reviewing the FAFSA information for each student, financial aid counselors create individual financial aid packages based on applicant data. These financial aid packages can include grants, scholarships, loans, and work study.

Grants can be federal, state, or institutional and are awarded on the basis of need and fund availability to undergraduate students. Financial need is determined by the following formula: cost of attendance minus expected family contribution equals financial need.

Scholarships are a form of aid that help students pay for their education. Scholarships come from numerous sponsors; each with unique eligibility requirements. Some scholarships are reserved for students with special qualifications, such as academic, athletic, or artistic talent. Links to various outside scholarships can be found on our website at www.up.edu/finaid/scholarships.

Educational loans are a form of financial aid that must be repaid with interest. Undergraduate loans come in three major categories: federal student loans, federal parent loans, and private education student loans. For students attending graduate school there are federal graduate loans, as well as private education loans.

Work study is employment that provides students with an opportunity to work in a job that requires a small number of hours of work per week, making it easier to maintain a job while going to school. Job postings can be found at www.up.edu/finaid/studentjobs.

Detailed information covering eligibility, financial aid programs, and application procedures can be found in the Financial Aid Handbook located online at www.up.edu/finaid/handbook.

Additionally, every student should read and understand the financial aid satisfactory academic progress policy before accepting their financial aid award. This policy is included in the *Financial Aid Handbook* online at www.up.edu.finaid/handbook.

Please visit our website at www.up.edu/finaid for more information.

Withdrawal/Refund Policies

For detailed withdrawal and refund policies regarding federal, state, and institutional financial aid, please refer to the Financial Aid Handbook online at www.up.edu/finaid/handbook.

Contact Information: E-mail: finaid@up.edu. Telephone: 503-943-7311 or toll-free 800-227-4568. Fax: 503-943-7508.

Shepard Freshman Resource Center

Brenda Greiner, M.A., director

The Shepard Freshman Resource Center was established under the provost’s office by regent Steve Shepard. Its objective is to help first-year students make a successful transition to University life. The Center oversees counseling and advising for first-year students, helping them resolve issues with career planning, financial aid, registration, and social adjustment. The Center assists undeclared first-year students as they select a major course of studies.

The freshman center also directs a freshman seminar workshop program, led by upper-class students, to instruct first-year students in college learning strategies and to mentor them in University culture and procedures. Additionally, the center offers upper-class mentors for first-year students. First-year students of any major are welcome to use the center’s resources.

The Shepard Freshman Resource Center is located in 113 Buckley Center and can be reached at (503) 943-7895 or sfrc@up.edu. The center's webpage is located at www.up.edu/sfrc.

DIVISION OF STUDENT AFFAIRS

Rev. Gerard J. Olinger, C.S.C., vice president for student affairs

Rev. John Donato, C.S.C., Ed.D., associate vice president for student development

The Division of Student Affairs is charged with developing and maintaining a quality of student life consistent with the University's mission and Catholic identity, a quality that enhances the development and formation of the whole person and fosters an environment in which students learn from interactions with the University community and the larger world.

Policies and Regulations

The University community has developed regulations which describe the expectations and limitations of student behavior consistent with the objectives and purpose of the University. It is the responsibility of each student to be familiar with these regulations, which are published annually in *Life on the Bluff*, the official student handbook.

The vice president for student affairs has full and direct responsibility for implementing student life policies for all students. The policies have been established by the president and the regents of the University. For details contact the vice president for student affairs at (503) 943-8532.

Career Services

Amy E. Cavanaugh, M.S., director

The Office of Career Services assists students in all aspects of career development, including helping students identify and choose major fields of study, plan and develop careers, and apply effective job search skills for finding internships, summer jobs, and full-time employment; post-graduate volunteer service; and graduate and professional school applications.

Freshmen through seniors, as well as alumni, are encouraged to visit and use the career services facility, located in Orrico Hall. Professional staff are available for individual appointments or workshops to guide students and alumni through every stage of college and career development:

- Individual career advising and job search assistance;
- Guidance in choosing a major;
- Resources, including career publications, computers, copier, fax, phone for career search, extensive career library;
- Workshops on various topics, including résumé writing, job searching, how to work a job fair, and interviewing;
- On-campus recruiting and job fairs;
- Electronic job postings (website), internships, and summer jobs;
- Contacts with corporations and alumni for informational interviews;
- Assistance in all phases of graduate and professional school applications and post-graduate service applications.

For details contact the director, career services, 5000 N. Willamette Blvd., Portland, Oregon 97203-5798. Phone (503) 943-7201 or (800) 227-4568. E-mail: cavanaug@up.edu. Webpage: www.up.edu/career.

Early Alert Program

Rev. John Donato, C.S.C., Ed.D., director

Thomas Greene, Ed.D., director

The early alert program is intended to support undergraduate students and is accessed primarily by faculty and staff, but also by students and parents. While most students at the University experience success in their academic and social experiences, the University is committed to helping all students reach their potential. Students manifesting acute medical, mental, or academic issues can be referred to the Early Alert referral system. Early Alert personnel will then contact the student and if the student responds to the contact and agrees to the support, the student is referred to one of many support personnel on campus (campus

ministry, counseling, medical, Freshman Resource Center, academic centers, etc.) to activate the appropriate support. To refer a student to early alert, simply find "Early Alert" listed on the pull-down menu under "Academics" on the University's home page. The early alert webpage is http://www.up.edu/earlyalert/.

Contact numbers are:

Shepard Freshman Resource Center:	(503) 943-7895
Campus Ministry:	(503) 943-7131
Health and Counseling Center:	(503) 943-7134
Residence Life:	(503) 943-7205
Learning Assistance:	(503) 943-7134
Students With Disabilities:	(503) 943-7134

University Health Center

Paul R. Myers, Ph.D., director

The services and programs of the University health center are made available to all students to promote wellness and enhance the quality of life at the University. The focus of care is on the individual student with a concern for overall growth and development in academic, social-emotional, physical, vocational, and spiritual domains.

Confidential personal, spiritual, and learning assistance counseling, as well as health care are provided at no cost for professional services. Nominal fees are charged for psychological assessment, medication, laboratory studies, and medical supplies.

The health center is located in the upper level of Orrico Hall. For more information call (503) 943-7134 or go to the health center webpage at www.up.edu/healthcenter.

Health and Counseling Services

Advanced nursing services are available for most common health concerns. Referrals to community-based health care professionals are made as appropriate. (Emergencies are referred to public safety or to area hospitals.) Health promotion services offer challenges and opportunities for exploring lifestyle choices which impact health. Wellness counseling in areas such as nutrition, stress management, sexuality, AIDS awareness, and exercise is available. Counseling services are available to facilitate personal growth and development. Skillful professional counselors can assist in dealing with difficult personal issues, improve relationship skills, enhance coping effectiveness, assist in spiritual/ faith issues, improve decision-making, and facilitate personal success at the University. The health center also provides substance abuse prevention, assessment, and referral services.

Health History Form

All full-time students must submit a health history form before entering the first semester. This form is obtained from the University health center, the health center website, or the admissions office. The University also requires completed immunization records, including documentation of measles immunity (e.g., providing proof of having received two doses of MMR vaccine) in compliance with Oregon state law. Current tubercular testing is also required for all full-time international students. Information and vaccinations are available at the University health center website.

Persons 18 years or over may assume responsibility for their own health care in the State of Oregon.

Learning Assistance

The University health center provides a learning assistance program for individual assessment, workshop training, and counseling opportunities to help students make more efficient use of their time, energy, and personal resources. The program focuses on academic issues which generally confront all university students, such as:

- Understanding and meeting classroom expectations;
- Developing effective study strategies;
- Dealing with test anxiety;

- Enhancing test-taking abilities;
- Improving concentration and memory;
- Increasing academic motivation and self-confidence;
- Balancing work, school and social life;
- Improving reading or writing skills;
- Finding academic resources, support, and assistance.

Learning assistance is provided at the Learning Resource Center, Franz Hall. For more information contact the health center at (503) 943-7134 or go to the health center webpage at www.up.edu/healthcenter/, or the learning resource center webpage at http://www.up.edu/lrc.

Office for Students with Disabilities

Melanie J. Gangle, M.S., coordinator

In keeping with the University's mission, the Office for Students with Disabilities works in partnership with students with disabilities, faculty, and University offices to coordinate reasonable accommodations and access. Appropriate documentation of disability must be provided by the student before any consideration of accommodations or support can be provided. Guidelines for providing disability documentation are available from the OSWD website or from the coordinator upon request. Students with disabilities are encouraged to contact the coordinator for further information during the admission process and at the beginning of each semester at (503) 943-7134; TTY (503) 943-7484, or www.up.edu/healthcenter/oswd.

International Student Services

Michael J. Pelley, director

The Office of International Student Services provides services to more than 150 international students, scholars, and faculty from more than 40 sovereign nations. The director serves as liaison to The Department of Homeland Security, The Department of State, NAFSA: Association of International Educators, the Institute of International Education, and other local, state, national, and international programs and agencies.

The office advises international students and student groups, evaluates foreign transcripts, provides international students orientation, administers the international scholarship program, and sponsors a variety of programs including the Friendship Partners Program and the Campus Connector Program. Complete details are available by contacting the director, University of Portland, 5000 N. Willamette Blvd., Portland, Oregon 97203-5798. Contact the office by telephone at (503) 943-7367, toll free at (800) 227-4568, by e-mail at iss@up.edu, or on the web at up.edu/iss.

Moreau Center for Service and Leadership

Laura N. Goble, director

The Moreau Center for Service and Leadership gives students opportunities to provide direct service and work to improve communities in Portland, the broader United States, and globally. In doing so, the Moreau Center forms spiritually aware servant-scholars and global citizens committed to leading for the common good. From ongoing weekly service to one-time efforts, programs are complemented by educational opportunities to analyze and critique contemporary social issues and to probe the links between faith, service and social concern. The office also supports faculty and students in developing service-learning experiences which link course content and community service and organizes co-curricular service-learning immersions during each academic break.

Opportunities include tutoring children and recent refugees, mentoring, visiting the elderly, serving meals to the homeless, building and repairing homes, working with disabled children and adults, study of migrant farm worker issues, study of inner city problems, and more. Updated opportunities can be found at wordpress.up.edu/moreauvolunteerblog and wordpress.up.edu/moreauservelearn.

Students may be eligible to earn Community Service Work Study funds for their efforts. Vehicles are available for those needing help with transportation. More information can be found by calling (503) 943-7132, online at up.edu/moreaucenter, or by e-mail at moreaucenter@up.edu.

Public Safety/Parking

Gerald A. Gregg, director

Monday through Friday, from 8 a.m. to 4 p.m., during fall and spring semesters, all vehicles parking on campus must display a parking permit. This permit allows students to park in “general” parking areas. The lot around Waldschmidt Hall is restricted from student parking year round. Students may purchase a permit at the Office of Public Safety. Visitor parking permits may be obtained at the Pilot House Information Center during business hours or at the Office of Public Safety anytime.

Freshman resident students may not bring a car to campus nor may they park on city streets in the neighborhood surrounding campus. If this policy poses a hardship, an exception may be granted by public safety. The University also restricts parking in certain neighborhood areas by all members of the University community.

Students should familiarize themselves with campus traffic and parking regulations. A copy of these regulations is available at the Information Center, at the Office of Public Safety, and online at the public safety webpage under “Publications."

The public safety office is located at 5408 N. Warren St., across from Haggerty Hall, near the Chiles Center. The nonemergency (business) phone number for public safety is (503) 943-7161; for emergencies call (503) 943-4444.

Residence Life

Michael Walsh, director

The Office of Residence Life is committed to creating supportive Christian living and learning environments where an education of the heart and hands is as important as the education of the head. We are committed to formation of Christian community in the spirit of the Congregation of Holy Cross. We are also committed to the formation of individuals through caring relationships and interactions between staff, faculty, and students. Our students are called by this mission to involve themselves in faith, service, and leadership experiences for a continued education of the mind, heart, and hands.

Through their experience in the halls, students learn what it means to love thy neighbor while also caring for one’s self. Student and professional leadership provide residents with a safe, healthy environment enriched with opportunities to develop spiritually, ethically, and socially.

The residential community consists of nine buildings with a choice of single gender and co-ed. Each hall mixes freshman through senior students together, except for Haggerty and Tyson halls, which house only juniors, seniors, and graduate students.

Every community has a chapel and weekly Mass. Other communal amenities and programs include lounges, recreation rooms, storage, and laundry rooms. A reception desk offers security, services, and a friendly face for residents and their guests.

Leadership in the hall includes a professional hall director and assistant hall director, a resident assistant (junior and senior students), and one or more pastoral residents, usually Holy Cross priests, who work to build the hall’s faith community. Student leadership in the halls also consists of the hall council, the Residence Halls Association, and student administrative positions.

Student and professional leaders combine to offer a diverse experience out of the classroom that supports the overall teaching, faith, and service mission of the University.

The Office of Residence Life also manages more than 40 rental properties housing students. All houses and apartments are located in the immediate neighborhood of the University. For more information, please e-mail reslife@up.edu.

The residence life office is located in Buckley Center 101 and can be reached at (503) 943-7205. The residence life website is up.edu/housing/.

Student Activities

Jeromy Koffler, M.A., director

The University aims to enhance the educational experience of students by encouraging and supporting a wide range of student interests and organizations, including student government, student media, multicultural programs, and a rich variety of clubs. Students who take advantage of the activities and participate in organizations gain invaluable experience in leadership and organizational skills, technical and professional skills, political and social skills. The Office of Student Activities (OSA) serves the University's mission by active participation, by creating opportunities for students to learn and practice decision-making as it relates to their core values and the benefits of the community, and by forming productive relationships.

Approximately 70 student-run organizations are recognized by the University, including social clubs, academic honors and professional societies, club sports, service groups, and groups organized for cultural, academic, or special interests. As student interests change, the list of clubs changes; the most recent list is published in the Student Handbook each year and updated regularly on the student activities website (www.up.edu/activities). Student media include a weekly student newspaper, *The Beacon*; a yearbook, *The Log*; and a student radio station, KDUP, found at http://kdup.up.edu.

The Associated Students of the University of Portland (ASUP), the student government of the undergraduate student body, allocates the student government fee, providing support for many of the student-run organizations, and gives voice to student concerns. Campus Program Board (CPB), under the auspices of ASUP, coordinates a multi-faceted program of social, cultural, and educational programs. Other services provided by ASUP include ADvantage, a publicity service for campus events; Espresso UP, a free “latte break” on Wednesday evenings in St. Mary’s lounge; the Pilot Express, a shuttle service to the airport and train station in conjunction with official University breaks; and Pilot Audio and Lighting (PAL), an event production service.

The University celebrates cultural differences among students and values multicultural programs that enrich the educational experience for all students. OSA provides programs that encourage the sharing of different cultural traditions and values. Multicultural programs include: Ohana, the freshman pre-orientation program for multicultural students; UP Connections, a peer mentorship program; the Diversity Committee, a campus wide group who plan events and campus conversations on relevant topics; and other campus programs and initiatives that celebrate cultural heritage. OSA also serves as a resource to students over 25 years old who may have different needs and concerns than traditional college students.

The Office of Student Activities coordinates an orientation program for new undergraduates at the start of the fall and spring semesters, including events planned especially for transfer students and commuter freshmen. The department coordinates events for sophomores and Junior Parents and Families Weekend each spring, an event which gives juniors and their families time to spend together on The Bluff. Student activities staff coordinate the publication of the *Life On The Bluff*, which is an on-line resource including the Code of Student Conduct and other important policies and information.

The Office of Student Activities is located in St. Mary's Student Center and can be reached at (503) 943-7470. The student activities website is located at www.up.edu/activities.

INFORMATION SERVICES DIVISION

Paul Disbury, chief information officer

The University of Portland manages information technology to support an integrated, open, collaborative environment. The information services division pursues this vision by providing a technological environment that supports the access, analysis, and management of information benefiting all University constituencies. Information services provides high quality, reliable, contemporary, and integrated technology-based services to students, faculty, and staff to facilitate the University's mission of learning, teaching, research, and service. The personnel who provide these services are dedicated professionals ready to meet constituents' needs. University community members are encouraged to take the time to consult with them with questions, problems, or needs which relate to the use and application of information technology.

Help Desk

The help desk is the main point of contact for technology support. Located in Buckley Center in room 018, the help desk is open Monday through Thursday from 8 a.m. to 7:30 p.m., and Friday from 8 a.m. to 5 p.m. The help desk provides tier one support for network accounts, e-mail, UP hardware and software, telephony, web applications, and all other aspects of UP-supported technology. Contact the help desk at (503) 943-7000 or help@up.edu. Help sheets are also available on Pilots UP (pilots.up.edu) under the IS Support tab.

Media Services

Audiovisual equipment and services are available from media services, located in Buckley Center room 012. Hours of operation are 8 a.m. to 9 p.m., Monday through Thursday, and Friday from 8 a.m. to 5 p.m. Equipment such as overhead projectors, slide projectors, audio recording and playback decks, sound systems, VCRs, cameras, video (computer) projectors, screens, easels, flip charts, smart carts, laptop computers, and peripherals may be checked out or scheduled for delivery. Additional services include scanning equipment for multiple choice bubble tests and evaluations (faculty must provide their own bubble sheets), audiovisual equipment and services, and assistance and training with instructional media materials (e.g., audio tape recording, CD/DVD duplication, podcasting, video duplication, editing). Semester-long, standing orders should be made one week before the semester begins. One-time orders should be made at least 48 hours in advance. All requests are filled on a first-come, first-served basis. Students requiring the use of audiovisual equipment require a release form completed and signed by the sponsoring faculty. Voice teleconferencing equipment can be reserved on a limited basis. Video teleconferencing requires special equipment and circuit activations that must be funded by the individual college or school. Reservations can be made by calling (503) 943-7774; extension 7774 on campus; or media@up.edu.

Technology Training

Information services provides a variety of ongoing training and support opportunities for students, faculty, staff, and the University community to enable them to use technology creatively and effectively. For general or personal technology training requests, contact or visit the University help desk located in Buckley Center room 18 at (503) 943-7000, or via email at: help@up.edu. To request a class, training session, or to receive information on how to implement technology in the classroom, contact or visit the academic technology specialist and trainer located in Franz Hall room 113 at (503) 943-7850, or via e-mail at: training@up.edu. Visit the Information Services Support website for drop-in lab dates and times for help with web publishing, online form creation, Banner, data analysis, and electronic document management assistance.

Computer Classrooms

There are eight computer classrooms on campus with computers for students and an instructor's computer connected to a video projector. The computer classrooms are located in Franz 107 and 125; Buckley Center 015 and 211; Shiley Hall 249 and 206; and Romanaggi Hall 201 and 206. The computer classrooms contain personal computers (PCs) with the exception of Franz 125, which contain Macintosh computers with dual boot capability that allows for both Windows and iMac use. All computer classrooms have network and Internet access.

Smart Classrooms, Seminar Rooms, and Carts

There are 30 smart classrooms and 20 smart seminar classrooms on campus. Smart classrooms contain the latest in audiovisual technology to provide the utmost in interactive education. Smart classrooms are located in Franz 005, 006, 015, 018, 025, 026, 034, 038, 106, 108, 205, 206, 212, 214, 222, 223, 227, 229, 231 and 234; Buckley Center 019, 103, 106, 108, 110, 111, 112, 205, 206, 207, 209, 307, 310, 314, and auditorium; Shiley 101, 123, 124, 301, and 319. Smart rooms contain a computer, network and internet access, VCR/DVD player, video projector, screen, and overhead projector with sound system. Some smart class rooms also include a document camera, tape player and CD player. These rooms can be used for instructor lectures and student presentations. As a result of high demand for these rooms, information services continually adds more smart classrooms. By request, non-mediated classrooms can also be equipped with an interactive cart on a first-come, first-served basis. There are seven smart carts, each containing a laptop computer, VCR/DVD player, video projector, and sound system.

Computer Labs (General Purpose)

There are three open computer labs on campus, located in Franz 111, Shiley 208, and Buckley Center 212 (when not being used as a computer classroom). Each lab contains PCs or Macintosh computers or, in some cases, a mix of the two. Operating hours for the labs are posted on the information services website. Information services employs student workers as laboratory assistants, who are responsible for laboratory operations including answering questions, cleaning computers, filling printers with paper and toner, and reporting broken or missing equipment.

Access Computing

There are twenty full-featured kiosk PCs that provide quick-stop access to PilotsUP and the Internet. They are located in the Pilot House, St. Mary's Student Center lounge, Buckley Center, and Franz Hall. Additionally, each residence hall has a cluster of PCs available for use by residents and staff. PCs are available in the basements of Mehling, Kenna, Christie, and Shipstad Halls; in Corrado Hall on the second floor, both wings; in Haggerty and Tyson Hall in the University Village lobby; in Villa Maria on the second floor; and on the third floor of Fields and Schoenfeldt halls. View the online Campus Map for specific locations.

Pilots Wireless Network

Students, faculty, staff, and members of the University community can access the Pilots wireless network using 802.11b and 802.11g wireless devices such as laptops, notebooks, tablets, PDAs, handhelds, Palms, Pocket PCs, Blackberrys, and cell phones. The information services division has completed the installation of wireless access points that provide 100 percent coverage of University of Portland buildings and common areas.

PilotsUP

PilotsUP (pilots.up.edu) is the secure campus intranet that provides one-stop, single sign-on access to personalized University online resources and information. Log in to access e-mail, read announcements, and find out what is happening around campus. Click a QuickLink to work on course assignments in Moodle or register for classes in Self Serve. Organize your own web space and join club and community websites. Look up directory information, participate in blogs and discussion forums, and watch University videos. PilotsUP helps you connect with your University information in one online resource.

Moodle

Moodle is an online learning management system (LMS) used by faculty and students to manage class messages, announcements, assignments, online quizzes, course links, and discussion boards. Moodle is accessible via pilots.up.edu.

Gmail

Information services provides a secure, standards-based messaging environment for the student community with Google's Gmail messaging system. The Gmail service provides a web-based messaging environment that facilitates easy use, ubiquitous access, and virtually unlimited storage space for student e-mail. The Gmail solution utilizes standard @up.edu e-mail addresses and integrates with the University's internal Microsoft Exchange e-mail environment used by faculty and staff. Access to the

Gmail environment can be gained from any platform that provides a standards-compliant web browser, including Windows-based PCs, Apple Macintosh, web-enabled smartphones and personal digital assistant devices, as well as web-ready gaming consoles and portable gaming devices. Students can access their e-mail by logging into the PilotsUP portal and clicking the "e-mail" icon.

Web Services

Information services actively defines and communicates an integrated strategy for the development, maintenance, and use of the Web as a strategic tool for the University. In addition to content management and web application support and training, information services provides personalized web application services through the University Web Management Center for any individual, office, or group on campus. Contact web and administrative systems at (503) 943-7880 or extension 7880 on campus.

Software

Twice each year, information services asks faculty to provide their software requirements for the summer, fall, and spring computer classroom and lab software builds. Individual departments are responsible for funding specialized software. Information services requires compliance with all software copyright laws and regulations. Deep Freeze software has been installed on all computers in classrooms and labs that will bring the computers back to their original state when rebooted.

Telephone Service

Information services provides telephone service (including voicemail) to faculty and staff, and provides local dial tone to students in campus residence halls. Contact the help desk in Buckley Center 018 (7000 or help@up.edu) to reset voicemail or request telephone service.

Network Storage

Information services provides a 175 terabyte storage area network. This highly available storage area network enables information services to distribute and protect critical data to support increasing application requirements without system downtime. Each faculty or staff member has departmental data storage on the "U" drive and an additional four gigabytes of personal data storage on the "P" drive. Each student receives two gigabytes of personal data storage on the "P" drive. Files can be accessed off-campus via FileUP on the PilotsUP portal at pilots.up.edu.

Policies

The following policies are available on the information services website at www.up.edu/is or the policies page at www.up.edu/policies:

- Acceptable Use: reflects the ethical principles of the University community and indicates, in general, the privileges, responsibilities, and limitations of those using University computing resources.
- Backup: articulates information technology best practices which call for daily, weekly, monthly, and yearly system backups.
- Data standards: records University data standards so as to ensure data integrity, consistency, and completeness.
- Electronic letterhead: provides guidance for standardized University electronic letterhead as well as the template itself.
- E-mail: standardizes naming of e-mail accounts and file storage associated with these accounts.
- Information security: articulates the University's position involving the principles to which students, faculty, staff, and the University community must adhere when handling information owned by or entrusted to the University of Portland.
- Mass e-mail: articulates the University's position involving mass e-mail (sometimes called "bulk e-mail") to distribute official and commercial messages to members of the University community.
- Password: establishes a standard for the creation of strong passwords.
- Peer-to-peer: articulates the University's position involving any peer-to-peer application that promotes copyright infringement or the illegal sharing of copyrighted files without permission of the owner or distributor.

COURSES

AS - Aerospace Studies

AS 101 - Foundations of U.S. Air Force (1)

Survey course briefly treating topics relating to the Air Force and defense. Focuses on the structure and missions of Air Force organizations; officership and professionalism; and introduction to communication skills.

AS 102 - Foundations of U.S. Air Force (1)

Survey course briefly treating topics relating to the Air Force and defense. Focuses on the structure and missions of Air Force organizations; officership and professionalism; and introduction to communication skills.

AS 111 - Leadership Laboratory (0)

Taken in conjunction with AS 101 and 102, respectively. A weekly laboratory consisting of Air Force customs and courtesies, health and physical fitness, and drill and ceremonies.

AS 112 - Leadership Laboratory (0)

Taken in conjunction with AS 101 and 102, respectively. A weekly laboratory consisting of Air Force customs and courtesies, health and physical fitness, and drill and ceremonies.

AS 201 - The Evaluation of USAF Air & Space Power (1)

Survey course concerned with the beginnings of manned flight; development of aerospace power in the United States including the employment of air power in WWI, WWII, Korea, Vietnam, the Gulf War; and the peaceful employment of U.S. air power in humanitarian actions, scientific missions, and support of space exploration.

AS 202 - The Evaluation of USAF Air & Space Power (1)

Survey course concerned with the beginnings of manned flight; development of aerospace power in the United States including the employment of air power in WWI, WWII, Korea, Vietnam, the Gulf War; and the peaceful employment of U.S. air power in humanitarian actions, scientific missions, and support of space exploration.

AS 211 - Leadership Laboratory (0)

Taken in conjunction with AS 201 and 202. Provides students opportunities to demonstrate fundamental management skills and prepares cadets for Field Training.

AS 212 - Leadership Laboratory (0)

Taken in conjunction with AS 201 and 202. Provides students opportunities to demonstrate fundamental management skills and prepares cadets for Field Training.

AS 301 - Leadership & Management (3)

Anatomy of leadership and management examining the need for leadership, the role of discipline in leadership situations, and the variables affecting leadership. Students deal with actual problems and complete projects associated with planning and managing the Leadership Laboratory.

AS 302 - Leadership & Management (3)

Anatomy of leadership and management examining the need for leadership, the role of discipline in leadership situations, and the variables affecting leadership. Students deal with actual problems and complete projects associated with planning and managing the Leadership Laboratory.

AS 311 - Leadership Laboratory (0)

Taken in conjunction with AS 301 and 302. Provides students opportunities to use fundamental management skills while planning and conducting corps activities.

AS 312 - Leadership Laboratory (0)

Taken in conjunction with AS 301 and 302. Provides students opportunities to use fundamental management skills while planning and conducting corps activities.

AS 401 - National Security Affairs & Preparation for Active Duty (3)

Capstone course designed to prepare students for active duty as second lieutenants in the United States Air Force. Course covers the role of the military in the U.S. government, regional studies, the national defense structure, military law, ethics, and advanced communication skills.

AS 402 - National Security Affairs & Preparation for Active Duty (3)

Capstone course designed to prepare students for active duty as second lieutenants in the United States Air Force. Course covers the role of the military in the U.S. government, regional studies, the national defense structure, military law, ethics, and advanced communication skills.

AS 411 - Leadership Laboratory (0)

Taken in conjunction with AS 401 and 402. Provides students opportunities to use leadership skills in planning and conducting corps activities. Prepares students for commissioning and entry into the active duty Air Force.

AS 412 - Leadership Laboratory (0)

Taken in conjunction with AS 401 and 402. Provides students opportunities to use leadership skills in planning and conducting corps activities. Prepares students for commissioning and entry into the active-duty Air Force.

AS 421 - Leadership Laboratory (0)

Provides students opportunities to use management skills in planning and conducting corps activities. Prepares students for commissioning and entry into the active-duty Air Force.

AS 422 - Leadership Laboratory (0)

Provides students opportunities to use management skills in planning and conducting corps activities. Prepares students for commissioning and entry into the active-duty Air Force.

BIO - Biology

BIO 005 - BIO 205 Workshop (0)

This workshop is based on the Peer-Led Team Learning model (PLTL) with students working individually and in small groups to learn and exercise problem-solving techniques. Students participate in learning activities led by peer facilitators to further explore topics presented in the lecture course. This workshop is offered each semester.

Corequisite: BIO 205.

BIO 103 - Human Biology (3)

An introduction to the structure and function of the major systems of the body with an emphasis on issues that impact the individual and society.

BIO 104 - Biology of Food (3)

An introduction to the biological, chemical, and physical nature of food. Students will explore food chemistry, diet, human health, and societal issues through readings and lab activities.

BIO 106 - Genetics and Society (3)

Survey of the principles and methods of science as applied to the field of Genetics. Current topics pertaining to Biotechnology, the Human Genome Project, Gene Therapy and others will be discussed with an emphasis on their social, ethical, and legal implications. Three hours of lecture per week.

BIO 107 - Plants as Food and Medicine (3)

An introduction to the origin, history, biology, and utilization of plants important in human societies. Worldwide use of plants for food, medicine, spices, fibers, and many other purposes will be explored.

BIO 203 - Human Form and Function (3)

An exploration of how the human body's systems work in coordination with each other and in response to changes in the environment.

BIO 205 - Foundations of Biology (3)

Introductory principles of biology, including the nature of scientific inquiry, biochemistry, cell structure and function, genetics, and reproductive physiology. Three hours of lecture per week. Credit for BIO 205 will not be granted to students who have completed BIO 207.

BIO 206 - Organismal and Population Biology (3)

Introductory principles of biology including morphological and physiological analysis of plant and animal organisms, population biology, evolution, and ecology. Three hours of lecture per week.

Corequisite: BIO 276 may be taken concurrently.

BIO 207 - Introductory Cell Biology and Genetics (3)

Introductory principles of biology, including the nature of scientific inquiry, biochemistry and metabolism, protein structure and function, cell structure and function, and genetics and evolutionary mechanisms. Three hours of lecture per week. Credit for BIO 207 will not be granted to students who have completed BIO 205.

Corequisite: BIO 277 may be taken concurrently.

BIO 276 - Organismal and Population Biology Lab (1)

Laboratory investigation into the structure and function of living organisms. Three hours of laboratory per week. Fee: $60.

Corequisite: BIO 206.

BIO 277 - Introductory Cell Biology and Genetics Lab (1)

Laboratory investigation into the biochemistry, cellular structure and function, and genetics of cells and living organisms. Three hours of laboratory per week. Fee: $60.

Corequisite: BIO 207.

BIO 290 - Directed Study (Variable)

Independent study in a specialized field under the direction of a staff member. Maximum of eight credits under the number. Permission of the staff member is required.

BIO 307 - Human Anatomy (3)

Gross anatomy of the integumentary, skeletal, muscular, nervous, cardiovascular, respiratory, digestive, urinary, and reproductive systems will be covered. Emphasis is on associating function with structure, as well as integrating systems together and examining human anatomy in context. Three hours of lecture per week.

Prerequisite: BIO 205 or BIO 207. Corequisite: BIO 377 may be taken concurrently.

BIO 308 - Human Physiology (3)

This course emphasizes understanding the function of the human body as an integrated set of systems using homeostatic control mechanisms. Three hours of lecture per week.

Prerequisite: BIO 205 or BIO 207. Corequisite: BIO 378 may be taken concurrently.

BIO 320 - Biology of Exercise (3)

This course examines the mechanisms that underlie physiological changes following acute and chronic exercise and other forms of stress. Emphasis is placed on the interrelationships of the skeletal, muscular, nervous, respiratory, circulatory, endocrine, and digestive systems.

Prerequisite: BIO 206, BIO 207, BIO 276, BIO 277.

BIO 330 - Human Genetics (3)

This course examines genetic information storage, transmission and utilization, and the human impact resulting from technological advances in the field. Three hours of lecture per week.

Prerequisite: BIO 206, BIO 207 and CHM 207, CHM 208 or equivalent. Corequisite: BIO 333.

BIO 333 - Genetics Laboratory (1)

Overview of laboratory methodology in genetics and its practical application. Three hours of laboratory per week. Fee: $60.

Corequisite: BIO 330 or BIO 445.

BIO 336 - Developmental Biology (3)

An exploration of the fundamental cell biology and genetics that dictate embryonic development of all multicellular animals. Major developmental model systems examined include the fruit fly, frog, chicken, and mouse. Three hours of lecture per week.

Prerequisite: BIO 206, BIO 207, CHM 207. Corequisite: BIO 376 may be taken concurrently.

BIO 338 - Marine Biology of the Pacific Northwest (3)

Taxonomy, morphology, physiology, and ecology of Northwest marine fauna.

Prerequisite: BIO 206, BIO 207. Corequisite: BIO 368 may be taken concurrently.

BIO 341 - The Nature of Plants (3)

An exploration of the major groups of land plants, their diversity, life cycles, morphology, and ecological interactions. Three hours of lecture per week.

Prerequisite: BIO 206, BIO 207. Corequisite: BIO 371 may be taken concurrently.

BIO 342 - Neurobiology (3)

Course will examine anatomy and physiology of the nervous system with a particular focus on neurons as well as the electrical and chemical signaling used in neural communication. Three hours of lecture per week.

Prerequisite: BIO 205 or BIO 207.

BIO 345 - Vertebrate Biology (3)

Natural history of vertebrates including morphology, physiology, evolution, and taxonomy of the vertebrate classes. Three hours of lecture per week.

Prerequisite: BIO 206. Corequisite: BIO 375 may be taken concurrently.

BIO 347 - Animal Behavior (3)

Course will review the history of ethology and behavioral ecology, and examine the behavior of both invertebrate and vertebrate organisms in physiological, ecological, adaptive, and phylogenic contexts. Three hours of lecture per week.

Prerequisite: BIO 206, BIO 207.

BIO 354 - Cell and Molecular Biology (3)

The structure and function of cells and their components, including biochemistry and bioenergetics, cell communication, transport, motility, maintenance of the genetic material, and regulation of gene expression with a particular focus on animal cell biology.

Prerequisite: BIO 206, BIO 207, CHM 207, CHM 208 or equivalent. Corequisite: BIO 372 may be taken concurrently.

BIO 359 - Microbiology (3)

Structure, physiology, and genetics of cellular microorganisms and viruses, discussed in relation to the pathogenesis, treatment, and prevention of infectious diseases. Three hours of lecture per week.

Prerequisite: BIO 205 or BIO 207. Corequisite: BIO 379 may be taken concurrently.

BIO 363 - Freshwater Ecology (3)

The physical, chemical, and biological components of freshwater ecosystems.

Prerequisite: BIO 206. Corequisite: BIO 373.

BIO 368 - Marine Biology Laboratory (1)

Laboratory and field experience in the taxonomy, morphology, physiology, and ecology of Northwest marine fauna. Fee: $60.

Prerequisite: BIO 206. Corequisite: BIO 338.

BIO 371 - Field Botany (1)

A field and laboratory-based exploration of the vegetative and reproductive structures of plants, with an emphasis on the identification and ecology of plants native to the Pacific Northwest. Three hours of laboratory per week. Fee: $60.

Corequisite: BIO 341.

BIO 372 - Cell and Molecular Biology Laboratory (1)

An overview of current methodology in cell biology, including microscopy, cell culture, and macromolecular isolation/analysis techniques. Three hours of laboratory per week. Fee: $60.

Corequisite: BIO 354.

BIO 373 - Freshwater Ecology Laboratory (1)

Field and laboratory investigation of freshwater ecosystems. Fee: $60.

Corequisite: BIO 363.

BIO 375 - Vertebrate Biology Laboratory (1)

Field and laboratory experience in the natural history and taxonomy of vertebrate organisms. Three hours of laboratory per week. Fee: $60.

Corequisite: BIO 345.

BIO 376 - Developmental Biology Laboratory (1)

Experimental and microscopic examination of major developmental model systems including chick and fruit fly. May include zebrafish and/or amphibians and invertebrates including sea urchins, flatworms and/or hydra. Three hours of laboratory per week. Fee: $60.

Corequisite: BIO 336.

BIO 377 - Anatomy Laboratory (1)

Gross anatomy of the human body will be studied using human bones and cadavers. Three hours of laboratory per week. Fee: $60.

Corequisite: BIO 307.

BIO 378 - Physiology Laboratory (1)

Homeostatic control of body systems will be explored using the students' bodies and computer-interfaced physiological recording equipment. Three hours of laboratory per week. Fee: $60.

Corequisite: BIO 308.

BIO 379 - Microbiology Laboratory (1)

Laboratory investigation of microorganisms that affect human health, with an emphasis on proper handling of specimens, selective and differential cultivation, laboratory diagnosis, and evaluation of antimicrobial agents. Three hours of laboratory per week, and follow-up at times other than the scheduled lab period. Fee: $60.

Corequisite: BIO 359.

BIO 384 - Remote Sensing & Geographic Information Systems (3)

This course investigates environmental applications of multispectral remote sensing (RS) and geographic information systems (GIS). RS topics include sensor systems, digital image processing, and automated information extraction. GIS topics include spatial database management systems, data analysis, and environmental modeling. Emphasis is placed on biological applications including vegetation mapping, habitat identification and field data mapping.

Crosslisted as: ENV 384.

BIO 385 - Environmental Microbiology (3)

Morphology, physiology, and ecology of microorganisms, emphasizing their role in environmental processes such as nutrient cycling, bioremediation, waste treatment, and food production. Three hours of lecture per week.

Prerequisite: CHM 207, CHM 208. Crosslisted as: ENV 385.

BIO 387 - Service Learning in Biology (1)

Faculty-directed student outreach experience in community educational institutions. Before enrolling, a student must consult with a faculty member to define the project. May be repeated for credit.

Prerequisite: BIO 206, BIO 207 or permission of instructor.

BIO 391 - Seminar (Variable)

Credit arranged.

BIO 392 - Seminar (Variable)

Credit arranged.

BIO 397 - Internship (Credit arranged.)

Field experience in selected industries or agencies. Department permission and supervision is required. P/NP.

Prerequisite: BIO 206, BIO 207, BIO 276, BIO 277.

BIO 415 - Readings in Biology (1)

Seminar on topics in biology, including medicine, ecology, animal behavior, biochemistry, genetics and evolution. One hour of discussion per week.

Prerequisite: BIO 206, BIO 207, BIO 276, BIO 277 and permission of instructor.

BIO 423 - Computational Biology (3)

Algorithmic and analysis techniques for biological data such as DNA, RNA, proteins, and gene expression. Topics include molecular biology, alignment and searching algorithms, sequence evolution algorithms, genetic trees, and analysis of microarray data. This course is interdisciplinary and assumes programming skills. Course is taught in Fall of odd-numbered years.

Prerequisite: MTH 201 and CS 203, BIO 205 or BIO 207 or CS 303. Crosslisted as: CS 423.

BIO 442 - Ecology (3)

Principles of ecology including structure and function of ecosystems, ecosystem development, behavioral ecology, and population biology. Three hours of lecture per week.

Prerequisite: BIO 206. Corequisite: BIO 472 may be taken concurrently.

BIO 445 - Molecular Genetics (3)

Principles of eukaryotic and prokaryotic genetics, including the nature of the genetic material, gene expression and regulation, mutation and repair, and molecular genetics techniques.

Prerequisite: BIO 206, BIO 207, BIO 276, BIO 277, CHM 325. Corequisite: BIO 333 may be taken concurrently.

BIO 447 - Cancer Biology (3)

Exploration of the molecular and genetic changes that endow cancer cells with an enhanced ability to proliferate and migrate yields a deeper understanding of the biology of healthy cells and provides a basis for understanding rational approaches to cancer therapy.

Prerequisite: May include any of the following courses: BIO 330, BIO 336, BIO 354 (preferred), BIO 445, or permission of instructor.

BIO 453 - Evolution (3)

Principles of evolutionary theory are examined in the context of biological systems at all levels. Required capstone course for Biology majors. Three hours of lecture per week. Students are required to take the course during the senior year.

Prerequisite: BIO 206, BIO 207, BIO 276, BIO 277.

BIO 460 - Immunology (3)

Principles of immunology including structure and function of antibody molecules; the nature of antigens; development and function of B and T lymphocytes; humoral and cell mediated reactions with antigen in vivo and in vitro and immunological disorders.

Prerequisite: BIO 206, BIO 207, BIO 276, BIO 277, and BIO 359. Corequisite: BIO 470 may be taken concurrently.

BIO 470 - Immunology Laboratory (1)

Laboratory exercises on immunological techniques including cell tissue culture, ELISA immunoassay, agglutination, immunization, and antibody measurement. Three hours of laboratory per week. Fee: $60.

Corequisite: BIO 460.

BIO 472 - Ecology Laboratory (1)

Laboratory and field investigation of community structure, productivity, and population dynamics. Three hours of laboratory per week. Fee: $60.

Corequisite: BIO 442.

BIO 477 - Human Anatomy Dissection (1)

Completion of BIO 377 (Human Anatomy Lab) and permission of instructor required. Students engage in independent dissection of human cadavers to gain a more in-depth and comprehensive understanding of the human body. Appropriate techniques are taught to dissect and prepare cadavers as prosections for use in BIO 377. A minimum of 3 hours/week is required. Fee: $60.

Prerequisite: BIO 377 and permission of instructor.

BIO 493 - Research (1-3)

Faculty-directed student research. Before enrolling, a student must consult with a faculty member to define the project. May be repeated for credit. Fee: $60.

Prerequisite: BIO 206, BIO 207, BIO 276, BIO 277.

BIO 497 - Internship (Credit arranged.)

Intensive field experience in selected industries or agencies. Department permission and supervision is required.

Prerequisite: BIO 206, BIO 207, BIO 276, BIO 277.

BIO 499 - Senior Thesis (1-6)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the thesis area or good standing in the honors program.

BUS - Business Administration

BUS 100 - Introduction to Leadership (3)

Introduces students to the key skill bases in leadership (team building, communication, and problem solving). Covers these skills within global and ethical frameworks. Must be completed by all students during their first two semesters in the business program. Fee: $115.

Prerequisite: Business majors only.

BUS 101 - Software Applications Workshop (1)

Examines the coordinated usage of software applications commonly found in businesses today and approaches for utilizing them to enhance productivity. Covers analysis tools (e.g. Excel) including modeling and features of Word and PowerPoint that improve effectiveness.

BUS 200 - Principles of Marketing (3)

Covers fundamental marketing concepts and practices, including the roles of marketing in organizations, marketing strategy, macro-environmental influences, market research, and the development of a marketing plan.

Prerequisite: Sophomore status.

BUS 202 - Professional Development (1)

Introduces various expectations for professional careers and guides student career development activities. As part of the Pamplin Professional Preparation Program (P4), students will create a personal marketing plan, complete a job shadow, and participate in professional workshops. Fee $10.

Prerequisite: BUS 100, business majors only and Sophomore status. Graded on a Pass/No Pass basis.

BUS 209 - Financial Accounting (3)

Covers the preparation and interpretation of basic financial information. Includes the usage of information from the multiple perspectives of owners, creditors and investors of both large and small businesses who use this information in their lending and investing decisions.

BUS 210 - Managerial Accounting (3)

Examines the use of accounting information for planning, control, internal decision-making, and performance evaluation. Introduces mathematical tools and techniques for producing managerial information and considers the behavioral effects of the information.

Prerequisite: BUS 209.

BUS 250 - Legal and Social Responsibility in Business (3)

Provides an overview of the legal and ethical concerns of managers. Topics include governmental regulation of business, diversity in the workplace and the global legal environment. Explores private law topics including contracts and tort law. Designated as a writing enhanced course involving writing instruction and completion of several writing assignments.

Prerequisite: Sophomore status.

BUS 255 - Management Information Systems (3)

Introduces the technology, applications, and management of computer-based information systems in organizations with dual emphasis on the effective decision-making and database management systems. Provides the necessary frameworks, concepts, and principles to guide students to understand and effectively address the issues pertaining to the fast-growing field of information systems.

Prerequisite: BUS 101 and Sophomore status.

BUS 290 - Directed Study (Variable)

Credit arranged.

BUS 302 - Professional Development Internship (1)

Students attend P4 workshops and career development activities in their Junior year. Students will plan and lead a service project in the community, participate in networking events, and have an internship experience. Each student will arrange an internship experience of at least 40 hours. (Graded on a pass/no pass basis. IP grade allowed.) Fee: $50.

Prerequisite: BUS 202, Junior status.

BUS 305 - Business Finance (3)

Emphasizes the goal of value maximization and the financing, investment, and dividend decisions that lead to it. Topics include cash flow analysis, financial mathematics, capital budgeting, financial leverage, investment risk analysis, valuation of bonds and common stock, cost of capital to the firm, and dividend payout policies.

Prerequisite: BUS 209, EGR 360 or MTH 161.

BUS 310 - Intermediate Accounting I (3)

Examines theoretical issues involving the valuing, classifying, recording, and reporting of accounting transactions related to asset and revenue recognition. Includes the analysis of financial statements, in particular the statement of financial position and statement of profit and loss.

Prerequisite: BUS 210, Junior status. Corequisite: BUS 365 reccommended.

BUS 311 - Intermediate Accounting II (3)

Examines theoretical issues involving the valuing, classifying, recording, and reporting of accounting transactions related to liabilities and equity. Includes the analysis of financial statements, in particular the statement of financial position, the statement of changes in stockholder's equity, and the statement of cash flows.

Prerequisite: BUS 310.

BUS 312 - Cost Accounting (3)

Develops analytical skills used in cost and managerial accounting that are used for internal decision-making as distinct from external financial accounting. Topics include: the accountant's role in the organization, cost terms and purposes, cost-volume profit analysis, job costing, activity based costing, budgeting, variance analysis, direct costing and other relevant information for decision making.

Prerequisite: BUS 210.

BUS 330 - Managerial Finance (3)

Provides a conceptual and theoretical treatment to topics such as the role of risk in asset pricing, capital structure, currency-risk management, and dividend policy. Considers the function of finance in relation to the overall objectives of the organization.

Prerequisite: BUS 305.

BUS 354 - Decision Modeling Lab (0)

This optional lab serves as a complement to BUS 355. The lab time is used to clarify student questions, help students with Excel and statistical analysis software skills required to be successful in business, and provide feedback concerning assignments. There will not be any additional graded topics covered in the lab beyond those covered in BUS 355.

Corequisite: BUS 355.

BUS 355 - Decision Modeling (3)

Develops understanding of quantitative decision making by considering problems in accounting, finance, human resources, marketing, operations, and strategic business management. Examines the impact of uncertainty on business results and the tools and methods useful in making business decisions under uncertainty. Stresses use of Microsoft Excel and statistical software in business analysis.

Prerequisite: MTH 161 or EGR 360. BUS 255 strongly recommended.

BUS 356 - Database Management (3)

Examines how database technology supports business objectives and information technology initiatives. Focuses on the design and implementation of a business database using the relational database model and database life cycle methodology. Covers database skills including data flow diagrams, entity-relationship models, object-oriented modeling, e-business/internet integration, and database implementation skills in using Microsoft Access, Oracle, and Structural Query Language.

Prerequisite: BUS 255.

BUS 360 - Cross-Cultural Organizational Behavior (3)

Increases student understanding of human behavior in organizations and across cultures. Students gain a systematic understanding of cultural differences across and within nations and the impact thereof on business practice and managerial behavior. Topics include cultural sensitivity, communication, negotiations, values, motivation, teamwork, conflict management, decision-making, and leadership.

Prerequisite: Junior status.

BUS 361 - Technology and Operations Management (3)

Develops quantitative and theoretical knowledge of issues related to the design and management of operations and technology. Develops student understanding of the strategic importance and competitive market-place advantage from operations.

Prerequisite: BUS 355 or permission of instructor, Junior status.

BUS 362 - Technology and Operations Management Lab (0)

This optional lab serves as a complement to BUS 361. The lab time is used to clarify student questions, help students with Excel and statistical analysis software skills required to be successful in business, and provide feedback concerning assignments. There will not be any additional graded topics covered in the lab beyond those covered in BUS 361.

Corequisite: BUS 361.

BUS 364 - Innovation (3)

Examines the key elements of innovation generation and managing innovation from both individual/team and organizational perspectives. Positions successful innovation outcomes as contributing to a firm's competitive advantage. Explores innovation as a creative problem-solving capability that is applied to a wide variety of market opportunities and social/institutional challenges.

Prerequisite: Junior status. BUS 360 recommended.

BUS 365 - Accounting Information Systems (3)

Evaluates the design, implementation, and control of accounting information systems. Topics include understanding and documenting transaction cycles, evaluating internal control environment, and using resources-events-agents (REA) method to model information systems.

Prerequisite: BUS 210, BUS 255, Junior status. Corequisite: BUS 310 recommended.

BUS 370 - Marketing Research (3)

Surveys the field of marketing research, defined as all activities that provide information to guide marketing decisions. Provides understanding about informational objectives, data sources, design and implementation of data collection procedures, analysis of data, and presentation of results.

Prerequisite: BUS 200, MTH 161, Junior status.

BUS 371 - Consumer Behavior (3)

Provides an in-depth examination of the internal mental processes and external factors that shape consumers' responses to marketing strategies, purchase decisions, and product usage behavior. Emphasizes application of core concepts to marketing decisions.

Prerequisite: BUS 200, Junior status.

BUS 376 - Sustainable Marketing (3)

Explores the roles of marketing in a sustainable society. Sustainable marketing has two imperatives: 1) to conduct itself in way that advances an organization's economic success while creating a positive impact on society and the environment, and 2) to help bring about a society that values and practices social and environmental sustainability in all its behaviors.

Prerequisite: BUS 200, Junior status.

BUS 385 - Opportunity Assessment (3)

Examines the identification, creation, and assessment of opportunities that can produce economic and/or social value. Examines the key processes for assessing the feasibility and attractiveness of an opportunity, and the key processes and resources required to pursue and exploit an opportunity.

Prerequisite: BUS 200, Junior status.

BUS 391 - Seminar (Credit arranged.)

In the semesters in which offered, varying subject matter as business faculty deems appropriate for needs of the student in meeting the objectives of the undergraduate business program.

BUS 400 - Management Decisions and Policy (3)

The capstone course for all business majors, this course examines the process of managing the strategy, formulation, and implementation functions of a firm. Teaches students to think strategically and to consider the perspective of the total enterprise utilizing cases, readings, and professional presentations. Taken during one of the student's last two semesters. (Business majors only.)

Prerequisite: Senior status.

BUS 402 - Professional Development Workshop (1)

Students will complete a variety of career development activities that facilitate the transition from college student to business professional. Experiences include seminars, planning and leading a senior service project, and networking events. Students will finish their professional electronic portfolio. Fee: $20.

Prerequisite: BUS 302, Senior status.

BUS 411 - Advanced Accounting I (3)

Examines critical issues necessary to evaluate and report on business combinations, corporate consolidations, and partnerships. Includes accounting research methodology and case analysis.

Prerequisite: BUS 311.

BUS 430 - Investments (3)

Surveys the field of investment analysis and portfolio management. Topics include: investment process and financial planning, the structure of capital markets, the definition and measurement of risk and return in global markets, security law and ethics, stock market indicators, investment media and risks, stock and bond valuation models, real estate investment, municipal bonds, and government securities.

Prerequisite: BUS 305.

BUS 431 - Financial Markets and Institutions (3)

Examines the various financial markets that play a crucial role in helping individuals, corporations, and governments obtain financing and invest in financial assets such as stocks, bonds, mortgages, and derivatives. Includes the study of financial institutions that facilitate management of financial market transactions.

Prerequisite: ECN 120, BUS 305. BUS 330 is recommended.

BUS 432 - Personal Financial Planning (3)

Provides the informational and decision-making tools needed for planning and implementing a successful personal financial program. Topics include money management models, consumer finance issues, insurance, investing, retirement and estate planning.

Prerequisite: BUS 305.

BUS 434 - Derivatives and Risk Management (3)

Examines derivatives, their markets and their role in portfolio and corporate financial management. Emphasis on risk management techniques employing derivatives and the pricing of options, futures, forward contracts and swaps. Other topics include market structure, speculation and arbitrage.

Prerequisite: BUS 305.

BUS 441 - International Finance (3)

Provides an in-depth examination of international money and capital markets, exchange-rate determination and currency-risk management techniques employing forward, futures, and options contracts. Considers the functions of international financial management in relation to the overall objectives of the organization.

Prerequisite: BUS 305.

BUS 443 - International Marketing Management (3)

Applies marketing principles to the contexts of international and global business. Topics include strategies, risks, and benefits of marketing across national and cultural boundaries. Also examines consequences and ethical considerations of globalization.

BUS 450 - Advanced Business Law (3)

Covers legal and accounting issues in government regulation of business in such areas as securities, antitrust, pension and retirement plans, and union and employer relations. The course also explores private law topics including sales, leases of goods, real and personal property, bankruptcy, commercial paper, secured transactions, credit and suretyship and professional liability.

Prerequisite: BUS 250, Junior status.

BUS 452 - Project Management (3)

Takes a comprehensive view of the concepts, tools and realities of successfully managing projects. Covers project selection, justification, planning and scheduling, and cash flow management including methods such as PERT/CPM, Critical Chain, Earned Value Analysis, and Simulation. Addresses important management and leadership issues including contracts, team composition, team building, motivation and compensation/incentives.

Prerequisite: BUS 355.

BUS 453 - Supply Chain Management (3)

Develops skills in examining and improving the flow of materials and information through the network of suppliers, manufacturers, distributors, and retailers in order to effectively match supply with demand. Topics include inter- and intra-firm coordination, incentive design, the impact of uncertainty, and the role of information technology.

Prerequisite: BUS 361 or permission of instructor.

BUS 454 - Project Management Processes and Certification (3)

Takes a comprehensive look at approaches and tools for planning, executing and closing projects based on the Project Management Institute's (PMI) library of global standards. Presents a process-oriented view of project integration and managing project scope, cost, time, resources, quality and communications. Provides an excellent preparation for PMI's Certified Associate in Project Management and Project Management Professional certification examinations.

Prerequisite: Junior status. BUS 452 recommended. Crosslisted as: BUS 548.

BUS 456 - Systems Analysis and Design (3)

Provides fundamental systems analysis and design concepts and methodologies essential for successful and effective development of complex information systems. Approaches the development of business systems from a problem-solving perspective including traditional systems life cycle and object-oriented models. Intended for students who plan on becoming business analysts or systems developers.

Prerequisite: BUS 255. BUS 356 recommended.

BUS 457 - Inventory Management (3)

Presents a comprehensive view of managing the flow of inventory to, within, and from the organization. Deals with the balance between shortages and excesses in an environment characterized by demand and supply uncertainty. Includes critical aspects of contemporary strategies such as JIT, lean, and reverse logistics (sustainable supply chains). Emphasizes both theory and practice applications.

Prerequisite: BUS 361. BUS 453 strongly recommended.

BUS 458 - Operations Management for Competitive Advantage (3)

Examines advanced operations management methods to enhance performance and competitive advantage. Topics include advanced queuing models, optimization methods, complex simulations to model operations, facility location and layout, operations sequencing and scheduling, and current issues in operations. Emphasizes the use of quantitative analysis for facilitating strategic decisions.

Prerequisite: BUS 361.

BUS 462 - Human Resources Management (3)

Examines theories and practices of staffing, training, assessing, and compensating employees from the perspectives of line management and the human resource department. Explores union/management interactions and healthy workplace environment while considering employment laws, the diverse labor force, and internal influences.

Prerequisite: BUS 360 recommended, Senior status.

BUS 464 - Business Taxation (3)

Provides a survey of income tax issues for businesses. Includes overview of tax theory, taxation of corporations, partnerships and other business entities. Emphasizes how tax issues impact decision-making.

Prerequisite: BUS 210, Junior status.

BUS 465 - Auditing (3)

Provides information on the theory, methodology, and specific techniques used in the verification and presentation of financial data provided to outsiders. Introduces specific verification services, including assurance, attest, and audit services. Class work includes a team project requiring an audit of an organization.

Prerequisite: BUS 311.

BUS 466 - Advanced Accounting II (3)

Covers advanced topics in accounting, including: accounting for governments, charitable organizations, colleges and universities, and hospitals, accounting for foreign currency transactions and hedging foreign exchange risk transactions, translation of foreign currency financial statements, developments in International Financial Reporting Standards (IFRS), comparison of US accounting standards to IFRS and other emergent issues in accounting.

Prerequisite: BUS 311.

BUS 467 - Personal Taxation (3)

Covers the fundamentals of the federal taxation of individuals and investments. Emphasis on planning transactions to minimize tax. Includes research using both print and computerized tax materials and the Internal Revenue Code.

Prerequisite: BUS 210, Junior status.

BUS 471 - Integrated Marketing Communications (3)

Provides a detailed examination of the uses of advertising, sales promotions, public relations, personal selling, and other promotional tools in achieving different types of marketing goals. Emphasizes hands-on learning through development of a communication plan.

Prerequisite: Junior status.

BUS 472 - Personal Selling (3)

Discuss and practice current theories regarding the selling process and personal selling strategies. Develop interpersonal communication and analytical skills. Seminar format with extensive role plays, guest speakers, and discussion, emphasizing selling as a skill and profession.

Prerequisite: Junior status.

BUS 474 - Digital Marketing (3)

Provides students with hands-on experience developing web marketing strategies for businesses and non-profit organizations seeking to leverage digital media in their competitive strategies. Topic areas include web marketing planning, website design, search engine optimization, online advertising, and marketing via email, blogs, social media, and mobile media.

BUS 480 - Creating a World-Class Venture (3)

Coverage of conceptual entrepreneurial skills needed to create a business that is globally competitive. Emphasis is on creation and implementation of a plan for a potential world-class venture. (Open only to Entrepreneur Scholars.) Fee: $4,000.

BUS 481 - Entrepreneur Apprenticeship (3)

Business plan development and implementation under supervision of the director of the Center for Entrepreneurship and the mentorship of an entrepreneur. (Open only to Entrepreneur Scholars.)

Prerequisite: BUS 480.

BUS 482 - Global Entrepreneurship (3)

Prepares students to conduct international business by comparing and contrasting the business practices of entrepreneurs in the United States with entrepreneurs globally. Immerses students in a foreign culture where they transact business on foreign soil. (Open only to Entrepreneur Scholars.)

Prerequisite: BUS 480.

BUS 483 - New Venture Operations and Control (3)

Focuses on managerial, financial and process control issues specific to fast growing young companies. Organization systems and structure topics as applied to early stage growth companies also included.

Prerequisite: BUS 210, Junior status.

BUS 484 - New Venture Finance and Accounting (3)

Provides an understanding of the important roles of finance and accounting in funding and growing new ventures. Topics covered include (i) sources of financing young, fast growing business lines, (ii) valuation of new ventures, (iii) construction and presentation of pro forma financial statements, (v) cash-flows in new businesses, (v) IPOs, (vi) measurement of financial performance, and (vii) tax planning for new ventures.

Prerequisite: BUS 305 or EGR 351, Junior status.

BUS 486 - Venture Launch (3)

Designed as the culminating course in the Entrepreneurship and Innovation Major. Moves from the creation of a business plan as a class deliverable to a venture launch, making the plan real, creating a professional document in terms of form, structure, consistency, and style. Builds the operational infrastructure of a new venture.

Prerequisite: BUS 385, Senior status.

BUS 487 - Social Entrepreneurship (3)

Examines innovative organizations that are created to improve social conditions. These organizations adopt aspects of the market model leveraging profit to a social end, rather than as an end itself. The course emphasis is on how such organizations are started, how they are sustained, and the various business models that are adopted to achieve an organizational mission.

Prerequisite: Senior status.

BUS 490 - Directed Study (Credit arranged.)

Designed for superior students desiring extensive and intensive study in a particular area of interest.

Prerequisite: Permission of instructor, advisor, and dean.

BUS 491 - Seminar (Credit arranged.)

In the semesters in which offered, varying subject matter as business faculty deems appropriate for needs of the student in meeting the objectives of the undergraduate business program.

BUS 492 - Seminar (Variable)

In the semesters in which offered, varying subject matter as business faculty deems appropriate for needs of the student in meeting the objectives of the undergraduate business program.

BUS 493 - Research (Variable)

Credit arranged.

BUS 494 - Research (Variable)

Credit arranged.

BUS 495 - Workshop (Variable)

Credit arranged.

BUS 496 - Workshop (Variable)

Credit arranged.

BUS 497 - Internship (Credit arranged.)

Students may complete a second internship related to their major areas in a different capacity than a previous internship. (Preapproval by internship director. Business majors only.)

Prerequisite: BUS 302, Senior status.

BUS 499 - Senior Thesis (3)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, dean, and director of the honors program, when appropriate.

Prerequisite: Senior standing, 3.0 GPA in the thesis area or good standing in the honors program.

Graduate Courses

BUS 500 - Statistical and Quantitative Analysis (3)

Covers the statistical and quantitative tools for conducting basic research in the business environment. Topics include descriptive statistics, probability distributions, and hypothesis testing, with extensive treatment of multiple regression models. Course presumes some familiarity with statistics and basic proficiency with Microsoft Excel.

Crosslisted as: NRS 500.

BUS 501 - Economic Analysis (3)

Provides a comprehensive review of macro- and microeconomics topics as background for M.B.A. study.

BUS 505 - Operations Management (3)

Introduces a variety of quantitative techniques with wide-ranging application potential in areas of operations management and analysis. Topics will typically include linear programming approaches to resource allocation, statistical techniques for quality control, inventory models, project scheduling networks, and basic queuing systems.

Prerequisite: BUS 500 or successful completion of tutorial.

BUS 506 - Principles of Accounting (3)

Introduction to financial and managerial accounting and reporting issues. Topics include the preparation, analysis, and interpretation of general purpose financial reports and uses of accounting information for decision-making purposes.

BUS 510 - Economics and Metrics for Sustainability (3)

Examination of ecological and environmental economics, Natural Step, and the role of business, nonprofit, and government sectors in fostering sustainability. Through field study in the Portland region, students will learn how to benchmark an organization's sustainability performance, build the quantitative and qualitative case for sustainability action, and propose flexible strategies for moving forward.

BUS 511 - Cross-Cultural Management (3)

Promotes a systematic understanding of cultural differences across and within nations and their impact on business practice and managerial behavior. Students will conduct in-depth comparative cultural analysis, and develop their global mindsets and multicultural skills (e.g., cultural sensitivity, intercultural communication, negotiations, and cooperation) throughout the course.

BUS 512 - Leadership and Higher Level Management (3)

Explores the role of leadership within organizations focusing on integrative roles of middle and higher level managers. Topics include a survey of leadership theory, team building skills, conflict and politics, and the management of change.

BUS 513 - Social Responsibility in Organizations (3)

Explores the role of business in society. Coverage of company values, actions, and outcomes that affect employees, investors, business partners, communities, and the natural environment. Examines business ethics in these relationships and ways that leaders can improve corporate citizenship.

BUS 514 - Accounting and Financial Controls for the Nonprofit Organization (3)

The course covers key accounting and financial control concepts necessary for effective financial management. It provides an overview of budgeting, managerial controls, financial statement analysis, capital budgeting, other long-term decisions, cost

models, risk and assessment and auditing. Students gain experience with basic accounting and financial tools supporting the successful management of a nonprofit organization.

Prerequisite: Permission of EMBA program director.

BUS 515 - Management of Nonprofit Organizations (3)

Addresses the key area of business for nonprofit organizations from public relations, promotions, revenue generation, and strategic planning to governance, financial controls, and the use of information. Employs lectures, discussions, and case analysis.

Prerequisite: Permission of EMBA program director.

BUS 516 - Social Entrepreneurship for Nonprofit Organization (3)

Examines the process used by social entrepreneurs to create new independent or corporate ventures (nonprofit or for-profit) that pursue two primary missions: social benefit and financial return on investment. Addresses the unique issues faced in searching for innovative and entrepreneurial ways to solve societal problems.

Prerequisite: Permission of EMBA program director.

BUS 517 - Marketing for Nonprofit Organization (3)

The course provides students with an understanding of the marketing function within nonprofit organizations. It covers material such as marketing terminology, functions, and activities. Additional topics include cause-related marketing, negotiations, PR and advertising for the nonprofit manager, pricing, and social media.

Prerequisite: Permission of EMBA program director.

BUS 518 - Financial Management for the Nonprofit Organization (3)

An in-depth examination of financial management of nonprofit organizations. The course addresses the role of finance in achieving the objectives of various nonprofit organizations by focusing on fundraising, grantwriting, philanthropy, financial capital markets, corporate giving/ sponsorships, working capital and cash flow analysis, Excel for financial analysis, and managing investments and working with foundations.

Prerequisite: Permission of EMBA program director.

BUS 519 - Program Evaluation: Measuring Outcomes (3)

The course addresses various theories, research and practices found within the field of program evaluation. The emphasis is on the measurement of social outcomes and the determination of program effectiveness. The class examines needs and impact assessments, methods of collecting, analyzing and interpreting organizational data and information, and reporting evaluation results.

Prerequisite: Permission of EMBA program director.

BUS 520 - Applied Marketing Strategies (3)

Develops marketing plans and strategies for products and services in an increasingly competitive environment. Examines processes for serving these markets in ways that are economically, environmentally and socially sustainable.

BUS 521 - Consumer Behavior (3)

Offers a detailed analysis of consumer decision processes, product usage behavior, and responses to various elements of marketing strategy. Explores external environmental influences and internal mental processes that help shape consumer behavior.

Prerequisite: BUS 520 or equivalent.

BUS 522 - Marketing Research (3)

Presents a problem-solving approach to understanding the ways information is used to guide marketing and management decisions. Using an experiential method, students learn to define research objectives, choose and evaluate data sources, implement data collection procedures, and analyze and present research results.

Prerequisite: BUS 520 or equivalent.

BUS 523 - Negotiation and Persuasion Strategies (3)

Applies negotiation strategies and tactics in a variety of business and nonprofit environments; emphasis on collaborative and competitive styles of negotiating. Seminar-style course with multiple bargaining simulations throughout the semester.

Prerequisite: BUS 520 or equivalent.

BUS 524 - Integrated Marketing Communications (3)

Provides an in-depth examination of how to build a brand for a corporation or non-profit organization through uses of various elements of marketing communication, including advertising, sales promotion, public relations, and event sponsorships.

Prerequisite: BUS 520 or equivalent.

BUS 525 - Sales and the Global Market (3)

Understand the personal selling function as a means to develop buyer-seller interrelationships. Provides an opportunity to discuss and practice the selling process and personal selling strategies with an emphasis on managing across cultures. Role plays and cases are featured components for enhancing marketing and sales skills.

Prerequisite: BUS 520 or equivalent.

BUS 526 - Sustainable Marketing (3)

Covers the principles of sustainable marketing. Using The Natural Step Framework, it begins at the mission, values, and strategy levels of marketing and then moves through the sustainable management of the various marketing influences (i.e. social, political, and technological) and functions (i.e. branding, product design, packaging, pricing, distribution).

Prerequisite: BUS 520 or equivalent.

BUS 530 - Corporate Finance (3)

Examines in depth the key theories and practices in corporate finance. Covers the corporation's financing, investing, and distribution activities, the assessment and management of risk, a critical analysis of financial reports, and the valuation of claims and contingent claims. Quantitative content.

Prerequisite: BUS 500 or successful completion of tutorials.

BUS 531 - International Finance (3)

Examines international financial institutions, markets, and instruments. Emphasis on exchange-rate determination, and currency-risk management techniques employing forward, futures, and options contracts. Other topics include international money and capital markets, portfolio theory in an international context, international capital budgeting, and economic developments reshaping the financing and investment environment.

Prerequisite: BUS 530 or equivalent.

BUS 532 - Security and Portfolio Analysis (3)

Surveys the field of investments. Topics include investment objectives, short-term and long-term media, real estate media, stock and bond valuation theory, the capital asset pricing model and portfolio theory, the efficient market hypothesis, options, and futures.

Prerequisite: BUS 530 or equivalent.

BUS 533 - Financial Markets and Institutions (3)

Studies the global financial system and the financial markets and intermediaries that comprise this system. The course examines related topics such as interest rates and the pricing of financial assets, regulation, and the risk analysis and management of banks and other financial institutions.

Prerequisite: BUS 530 or equivalent.

BUS 534 - Derivatives and Risk Management (3)

Examines derivatives, their markets, and their role in portfolio and corporate financial management. Emphasis on risk management techniques employing derivatives, and the pricing of options, futures, forward contracts, and swaps. Other topics include market structure, speculation, and arbitrage.

Prerequisite: BUS 530 or equivalent.

BUS 535 - International Economics and Trade (3)

Deals with the exchange of goods, services, and capital across national boundaries. The record of these transactions and the balance of payment accounts are analyzed extensively. Other topics include theories of trade, exchange rate determination, and economic growth.

Prerequisite: BUS 501 or equivalent.

BUS 536 - Personal Financial Planning (3)

Provides the informational and decision-making tools needed for planning and implementing a successful personal financial program. Topics include money management models, consumer finance issues, insurance, investing, retirement and estate planning.

Prerequisite: BUS 530 or equivalent.

BUS 537 - Applied Financial and Economic Forecasting (3)

Covers forecasting methods useful in a range of applications. Introduces basic graphic and statistical tools of data analysis. Applies statistical methods such as regression, moving average, smoothing methods, and autoregressive models to produce forecasts of stationary and non-stationary financial and other time series data. Experiments with these forecasting methods will use actual data from the web.

Prerequisite: BUS 501 or equivalent.

BUS 538 - Corporate Financial Strategy: M&A and Restructure (3)

A course on advanced corporate financial strategy. Content includes advanced coverage on financing strategies, mergers and acquisitions, bankruptcy and reorganization, and corporate governance and managerial incentives. Other topics include the role of taxation on corporate strategy and the nature of information conveyed by financial decisions.

Prerequisite: BUS 530 or equivalent.

BUS 539 - Research Methods in Finance (3)

Examines the statistical techniques employed to answer questions in the finance field for both practitioners and researchers. Content includes event studies, tests of asset pricing models, time-series modeling of exchange rate, interest rate, and stock returns behavior, portfolio optimization, and assessment of option pricing models. Course involves the use of common time-series econometric software such as SAS, RAT's, and Shazam.

Prerequisite: BUS 530 or equivalent.

BUS 540 - Management Information Systems (3)

Introduces technology, applications, and management of computer-based information systems in organizations with dual-emphases on the digital firm and database management systems. It is designed to provide the necessary frameworks, concepts, and principles to understand and effectively address issues pertaining to the vast and fast growing field of information technology/computer-based information systems in the context of an enterprise.

BUS 541 - Human Resource Management (3)

Covers theories, practices, and research in employment, development, appraisal, and compensation of employees from the views of line management and the human resource department. Also covers government regulations, the diverse labor force, job analysis, safety and health, and globalization. Strategic implications and skill-building are emphasized.

BUS 542 - Systems Analysis and Design (3)

Provides fundamental systems analysis and design techniques for modern information systems. Oriented to problem solving, which studies a current business system, determines business needs and information requirements, and evaluates alternative solutions. Topics include the general feasibility study, the traditional analysis and design approach using a Systems Life Cycle Model, and emerging approaches such as Object-Oriented analysis and design.

Prerequisite: BUS 540.

BUS 543 - Decision Modeling (3)

Develops understanding of quantitative decision making by considering problems in accounting, finance, HR, marketing, operations, and strategic business management. Examines the impact of uncertainty on business results, as well as the

application of tools and methods useful in making business decisions under uncertainty. The course stresses the use of computer software in performing business analysis.

Prerequisite: BUS 500 or successful completion of tutorial.

BUS 544 - Managing Innovation and Technology (3)

Explores issues related to the management of innovation, technology and change within organizations. Examines the range of forces impacting new product/process/service development and the implementation and coordination of these activities with internal operations and external markets.

BUS 545 - Project Management (3)

Takes a comprehensive view of project management, addressing the technical and socio-cultural aspects of the field. Examines how the technical/tools aspects of project management integrate with the socio-cultural aspects in successfully managing projects. Utilizes lectures, group problem-solving exercises, team planning activities, and case discussion to emphasize various aspects of project management concepts, tools, and realities.

Prerequisite: BUS 543.

BUS 546 - Supply Chain Management (3)

Examines the flow of materials and information through the suppliers, manufacturers, distributors, and retailers in order to effectively match supply with demand. Topics include firm coordination, incentive design, the impact of uncertainty, and information technology. Special emphasis is given to understanding how business context shapes the strategic design and management of the supply chain.

Prerequisite: BUS 500. BUS 505 is recommended.

BUS 547 - Inventory Management (3)

Covers inventory as more than simple raw materials or finished goods. Presents a comprehensive view of managing the flow of inventory to, within, and from the organizations. Deals with the balance between shortages and excesses in an environment characterized by demand and supply uncertainty. Includes contemporary strategies such as JIT, lean, and reverse logistics.

Prerequisite: BUS 543.

BUS 548 - Project Management Processes and Certification (3)

Takes a comprehensive look at approaches and tools for planning, executing and closing projects based on the Project Management Institute's (PMI) library of global standards. Presents a process-oriented view of project integration and managing project scope, cost, time, resources, quality and communications. Provides an excellent preparation for PMI's Certified Associate in Project Management and Project Management Professional certification examinations.

Prerequisite: BUS 545 is recommended. Crosslisted as: BUS 454.

BUS 549 - Business Data Communications & E-Commerce (3)

This course provides introduction to fundamentals of data communications and E-commerce. The course is designed to provide students with a conceptual foundation for the study of data communications using the Open Systems Interconnection (OSI) layered architecture model. Both technical and managerial aspects of data communications will be covered. The course introduces fundamental E-commerce concepts, business models, and technology infrastructure required for conducting E-commerce activities.

BUS 550 - Excel Spreadsheet Modeling (3)

Covers techniques widely used to assess and manage risk, structure problems, determine the optimal decision, and estimate the impact of a decision on performance measures of interest. Improves problem-solving skills, analytical and logical thinking, and decision-making ability in an uncertain and complex environment. Students are expected to enhance their proficiency in spreadsheet analysis and modeling.

BUS 551 - Introduction to Healthcare Management (3)

Provides a survey of the American health care system and the linkage of organizations in the health care industry. Explores the evolution of health care policy and the economics of alternative health care delivery systems.

BUS 552 - Health Care Marketing (3)

Explores marketing concepts and their application in health care. Topics include marketing for health care delivery systems, medical products, and health care services in both for-profit and non-profit organizations.

Prerequisite: BUS 520 or equivalent.

BUS 553 - Health Care Finance (3)

Explores basic and emerging trends in the financial management of health care organizations and the health care industry. Topics include financial analysis, resource management, financing of health care systems, and relationships between health care providers, insurers and other parties.

Prerequisite: BUS 530 or equivalent.

BUS 554 - Health Care Information Systems (3)

Explores the design of health care information systems for integrating medical records, billing, personnel, and other services in both administrative and health research systems.

BUS 556 - Ethical Issues in Health Care (3)

Explores ethical issues arising in health care delivery systems including patient care issues, professional and administrative conduct, medical research, and the provision of health care products and services.

BUS 560 - Managerial Accounting Applications (3)

Provides students with accounting and analytical skills useful for managerial decision-making. Topics covered include: performance evaluation, pricing and operational decisions, strategy, cost allocation, variance analysis, inventory and capital budgeting, among others.

Prerequisite: BUS 506 or equivalent.

BUS 561 - New Venture Funding (3)

This course examines the process and techinques used in the Venture Capital industry and explores their application to new company formation. Students develop an understanding of the venture capital partnership, the tools used for valuation of new enterprises, the legal agreements used to structure the deal and its terms. Students will understand funding issues confronting the Entrepreneur.

Prerequisite: BUS 530 or equivalent.

BUS 562 - Real Estate Finance (3)

Examines the various forms of real estate investment including home ownership, rental property, REITs, real estate syndicates, mortgages and packages of mortgages, real estate companies, investment in land, etc. Brokerage, real estate mathematics and loan analysis, real estate valuation techniques and the application of these techniques, will also be covered.

Prerequisite: BUS 530 or equivalent.

BUS 563 - Financial Statement Analysis (3)

Develops skills for examining financial information by external users (lenders, stock analysts, and owners/shareholders). Includes study of properties of financial information, choices of generally accepted accounting principles, income manipulation, methods of information disclosure, and off-balance sheet accounting.

Prerequisite: BUS 530 or equivalent.

BUS 564 - Macro Economics in the Global Economy (3)

This course examines the determination of national output, inflation, and unemployment within the context of the global economy. Difficulties of implementing stabilization policies in the open economy are discussed. The effects of monetary and fiscal policy on interest reates and currency values are considered. The issue of trade deficits and surpluses are also discussed.

Prerequisite: BUS 501 or equivalent.

BUS 565 - Auditing (3)

Examines the theory, methodology, and specific techniques used in the verification and presentation of financial data provided to outsiders. Introduces specific verification services, including assurance, attest, and audit services. A team project requires an audit of an organization.

Prerequisite: BUS 311 or equivalent.

BUS 566 - Advanced Accounting (3)

Covers both accounting for not-for-profit entities and international/foreign currency accounting. Examines accounting regulations for governments, charitable organizations, colleges and universities, and hospitals. Considers transactions made by U.S. entities but denominated in foreign currencies and international accounting standards compared to U.S. standards.

Prerequisite: BUS 311 or equivalent.

BUS 568 - Income Tax Planning (3)

Examines how to integrate tax strategy into business decision-making. Focuses on optimizing the operational structure of firms and structuring specific business transactions to maximize after tax returns. Topics include: corporate structure, mergers, liquidations, property dispositions, compensation, employee stock option, international taxation and family tax planning.

Prerequisite: BUS 506 or equivalent.

BUS 570 - Social Entrepreneurship (3)

Examines the process used by social entrepreneurs to create new independent or corporate ventures (nonprofit or for-profit) that pursue two primary missions: social benefit and financial return on investment. Addresses the unique issues faced in searching for innovative and entrepreneurial ways to solve societal problems.

BUS 571 - New Venture Management (3)

Examines the entrepreneurial process-the critical ingredients determining a startup's success or failure and the driving forces behind this event through the eyes of the entrepreneur. Course exposes students to the role of the entrepreneur and the process used in finding, screening, and evaluating new business opportunities.

BUS 572 - Family Business Planning (3)

Explores the personal, family, and business issues found in family owned firms. Focus on development of relevant analytical and managerial skills. Topics include family business systems, family business governance, succession, and family wealth planning.

BUS 575 - Introduction to Commercializaton of Technology (1)

Explores how to recognize and screen technology opportunities in diverse areas. Participants gain an overview of intellectual property acquisition, creation, and protection. Unique business models related to high technology start-ups and technology licensing are covered.

Prerequisite: TEC program student status.

BUS 576 - External Programs and Networking (1)

Students attend at least 15 hours of off-campus programs and seminars offered by organizations dedicated to the growth in innovation, entrepreneurship and commercialization of technology in the region. Through this experience participants gain content knowledge and an extensive network of people and organizations actively engaged in supporting technology entrepreneurship.

Prerequisite: TEC program student status.

BUS 577 - Technology, Entrepreneurship and Law (3)

Seminar style class concentrating on issues pertinent to both the law and emerging technology businesses; such as negotiations, use of legal counsel, business and legal ethics, intellectual property, firm governance, raising capital and exit strategies, and the anatomy of business/legal transactions.

Prerequisite: TEC program student status.

BUS 578 - Management and Commercializaton of Technology (3)

Goes into depth on concepts and tools necessary to analyze the value of new technology, create new products, and get products to market. Upon completion, students will have the knowledge to put together a commercialization plan for bringing a new technology or product to market.

Prerequisite: TEC program student status.

BUS 579 - Technology Practicum (4)

Participants apply the skills developed throughout the program by working to commercialize an invention. A specific technology invention is selected by the student teams from a portfolio of technologies and approved by the course instructor as a suitable project. Each project team has two mentors on their project and may apply for funds to be used to advance technology.

Prerequisite: TEC program student status.

BUS 580 - Strategic Issues and Applications in Management (3)

Examines the competitive process through the firm's management of its strategic issues. Students are exposed to the techniques used by managers to evaluate their firm's competitive position, to develop a strategy based on competitive advantages, and to successfully execute their chosen strategy. Course should be taken in student's graduating semester.

BUS 581 - Advanced Business Communication (3)

Course designed to help students attain professional-level competence in oral and written business communication. Students learn rhetorical principles and apply them to business communication situations. Included: making formal oral presentations, conducting meetings, writing business reports.

Crosslisted as: CST 581.

BUS 582 - Global Business Law (3)

Examines the impact of U.S., foreign, and international law on global businesses and comparison of U.S. and foreign commercial legal systems. Topics include laws governing multinational firms; international sales transactions; trade and transportation issues; protection of intellectual property; finance, accounting, and tax issues; and dispute resolution including the use of arbitration.

BUS 590 - Directed Study (Variable)

Designed for strong students desiring to do extensive study in a particular area of interest for which there is currently no University course offered. Students electing to do a directed study must find a professor with a particular area of expertise to serve as their faculty sponsor.

Prerequisite: Permission of the instructor, M.B.A. director, and dean.

BUS 591 - Seminar (Variable)

In the semesters in which they are offered, courses cover a variety of subjects the M.B.A. staff considers appropriate for the needs of the students in meeting the objectives of the M.B.A. program.

BUS 592 - Seminar (Variable)

In the semesters in which they are offered, courses cover a variety of subjects the M.B.A. staff considers appropriate for the needs of the students in meeting the objectives of the M.B.A. program.

BUS 597 - Graduate Internship (Credit arranged.)

Allows highly-qualified M.B.A. students to complete an internship for credit to gain professional work experience. Interns must fulfill an academic component in addition to the contact time with the company. Open to full-time students. (Approval of the internship director required.)

BUS 598 - Nonprofit Organization Field Project (3)

This capstone class requires the student to develop a written project proposal acceptable to the instructor and a chosen nonprofit organization. The project must provide tangible value to the organization as well as demonstrate the students' ability to integrate their academic experiences within the practices of the nonprofit sector.

Prerequisite: Permission of EMBA program director.

BUS 599 - Thesis (3)

MSF candidates pursuing the Thesis Option will complete a thesis and oral defense on a finance topic following the Thesis Guidelines of the University of Portland Graduate School. Once a student has completed 50% of their degree program requirements, the student should consult the finance faculty and establish a thesis committee consisting of three University of Portland faculty members.

PCS - Program in Catholic Studies

PCS 300 - Catholicism and the Religious and Theological Roots of Social Justice (3)

A team-taught course introducing: 1) the biblical and scholastic roots of Catholic social teaching; 2) Catholic incarnational, sacramental and analogical reasoning; and 3) general social justice theory, with emphasis on current opportunities for furthering the common good within existing social, political and economic systems.

Crosslisted as: THEP 300, SJP 300.

PCS 302 - Poets, Prophets, Divas, and Diviners (3)

This course traces the development of prophecy and the prophetic tradition in biblical and contemporary times. Selected prophetic texts focus on the character, personality, and mission of various prophets. Other topics include prophetic imagination, creativity, religious experience, justice, compassion, hope and the portrayal of God. Central to the course is the prophets' transformative vision for all times.

Prerequisite: THE 101, THE 205. Crosslisted as: SJP 302, THE 302.

PCS 320 - Anglo-Saxon and Medieval Literature (3)

From Beowulf to 1500, readings from key poets, playwrights, and prose writers from the Anglo-Saxon and medieval periods examined in the context of linguistic, social, and literary history. In addition to Beowulf, readings will include selections from The Canterbury Tales, Sir Gawain and the Green Knight, hagiographies (saints' lives), and The Book of Margery Kempe.

Crosslisted as: ENG 320.

PCS 322 - Modern Catholic Ethics (3)

Analysis of several contemporary Catholic ethicists, including Curran, O'Connell, Regan, and McCormick, who have influenced the development of Catholic ethics. A critical examination of natural law, human freedom, conscience, authority, and the moral and rational capacity.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 322.

PCS 323 - Chaucer (3)

A study of Chaucer's major works, especially the Canterbury Tales in a Middle English text, examined in the context of linguistic, social, and literary history and fourteenth-century literary history and historical background.

Crosslisted as: ENG 323.

PCS 325 - Catholic Social Teaching: A Living Tradition of Thought and Action (3)

The issues of justice from a Catholic perspective as they affect society locally, nationally, and internationally.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 325.

PCS 330 - Dante's Divine Comedy (3)

A study of Dante's epic journey through the realms of hell, purgatory, and heaven in search of justice, love, and happiness, with a study of Dante's Vita Nuova, which shows his allegorical style and the significance of his love for Beatrice.

Crosslisted as: ENG 330.

PCS 332 - Saints and Sinners in the Middle Ages (3)

This course examines what changing notions of sanctity and heresy reveal about Christian societies during the Middle Ages. Using primary texts the course will look at the political, economic and religious values through several important works by leading scholars of medieval history.

Crosslisted as: HST 332.

PCS 333 - Medieval Europe (3)

A broad study of the history of Medieval Europe, from St. Augustine to the Hundred Years' War, with special emphasis on politics and culture.

Crosslisted as: HST 333.

PCS 334 - The Problem of Being (3)

This course studies some major topics and approaches in the history of philosophical reflection on Being and ontology from the beginnings of metaphysical speculation in the pre-Socratics through the contemporary period. Topics may include potency and act, essence and existence, causality, the ontolological foundations of logic, and the question of God.

Crosslisted as: PHL 334.

PCS 335 - Europe in the Age of Religious War (3)

This course will examine European history from 1500 to 1688. This period runs from the Reformation to the birth of the modern state system. Special emphasis on intellectual, artistic, and cultural developments as well as the theological and military transformations in European life during this time.

Crosslisted as: HST 335.

PCS 338 - The Catholic Mass: Yesterday, Today, and Tomorrow (3)

An historical and theological examination of the Catholic Mass (Lord’s Supper) in Church teaching and ecumenical perspective. Special emphasis to be given to the intrinsic nature of its parts in Word and Eucharist, to the devout and active participation by the faithful, and to its significance as source and summit of Christian spirituality in contemporary time and culture.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 338.

PCS 341 - Responding to God: An Introduction to Spiritual Practice (3)

Enrich an awareness of God's presence in the world through a theological and historical exploration of Christian spiritual practices such as lectio devia, meditation, and contemplation. Students will examine key concepts that inform these practices, such as discernment and gratitude, through active and self-reflective participation in spiritual practices.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 341.

PCS 342 - Introduction to Christian Spirituality (3)

An exploration of Christian spirituality in terms of images of God, Christian anthropology, prayer, as well as social and ecological concerns. A critical and dialogical engagement with selected classical text from the Christian tradition that suggest ways of being in right relationship with God, self, others and the natural world within the context of the 21st century.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 342.

PCS 353 - Religion and Science (3)

Historical development of conflicts, especially over the theory of evolution, and the variety of positions presented today by theologians, scientists, and philosophers.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 353.

PCS 356 - Literary Catholicism (3)

This course will explore the Catholic theological tradition, primarily as it finds expression in five novelists whose writing is influenced by that tradition.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 356.

PCS 363 - St Augustine, Teacher of Christianity (3)

Augustine of Hippo (d. 430) grounds the history of western theology, and still informs modern fields like psychology and linguistics. While situating him in Roman antiquity, the course studies his thought as an account of Christian faith seeking understanding. We will read in depth his classic, theologically profound conversion story, the Confessions, and study his thought on God, Scripture, and the grace of Christ.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 363.

PCS 400 - Integrating Seminar in Environmental Studies (3)

A project-oriented seminar in which student teams with varying backgrounds in environmental studies develop action plans to deal with regional environmental issues.

Crosslisted as: ENV 400.

PCS 426 - Comparative Economics (3)

Examines major economies of the world from a historical, theoretical and applied perspective. Students will analyze how different national economic systems have evolved through time as changing economic ideas and practices spread across national boundaries.

Prerequisite: ECN 120, ECN 121 or permission of instructor. Crosslisted as: ECN 426.

PCS 435 - Bioethics (3)

This course will examine ethical issues in medicine, biotechnology, and related fields. Issues to be discussed may include the concept of informed consent, stem cell research, reproductive technologies, human enhancement, end of life issues, the global AIDS epidemic, genetics, biomedical research, and justice in the distribution of healthcare.

Crosslisted as: PHL 435.

PCS 452 - Capstone Seminar in Catholic Studies and Social Justice (3)

This course will engage each student in a service practicum in a local parish or agency, while studying how Catholic thought, culture, and principles of social justice are practiced there. The course will require a synthesis of readings on social justice and Catholic thought, as well as the practical experience gained.

Crosslisted as: SJP 452, PSY 452.

PCS 456 - Literary Catholicism (3)

This course will explore the Catholic theological tradition, primarily as it finds expression in six novels whose writing is influenced by that tradition.

Crosslisted as: THE 456.

PCS 469 - Great Philosophers (3)

This course is devoted to an intensive study of the work of a single philosopher. Different philosophers will be featured in different semesters.

Crosslisted as: PHL 469.

PCS 472 - Medieval Philosophy (3)

The major philosophers from Augustine through late scholasticism with particular attention to Augustine, Anselm, Aquinas, Bonaventure, Scotus, and Ockham. Taught biennially.

Prerequisite: PHL 220 or equivalent. Crosslisted as: PHL 472.

PCS 482 - Theology in Ecological Perspective (3)

This course investigates the relationship between theology and science, the science of ecology and the related field of environmental science, the major aspects of our current environmental crisis, underlying historical and social reasons for this crisis, and current attempts to reformulate Christian theology from the perspective of ecology. This course also explores possible solutions for a sustainable future.

Crosslisted as: THEP 482, ENV 482.

CHM - Chemistry

CHM 007 - General Chemistry I Workshop (0)

These workshops are based on the Peer-Led Team Learning model (PLTL) with students working individually and in small groups to learn and exercise problem solving techniques. The problems presented in these workshops are often not amenable to solution through ready-made formulas and require the individual to interact with peers in a reflective manner. The workshop is 85 minutes each week.

Corequisite: CHM 207.

CHM 008 - General Chemistry II Workshop (0)

These workshops are based on the Peer-Led Team Learning model (PLTL) with students working individually and in small groups to learn and exercise problem solving techniques. The problems presented in these workshops are often not amenable to solution through ready-made formulas and require the individual to interact with peers in a reflective manner. The workshop is 85 minutes each week.

Corequisite: CHM 208.

CHM 025 - Organic Chemistry I Workshop (0)

These workshops are based on the Peer-Led Team Learning model (PLTL) with students working individually and in small groups to learn and exercise problem solving techniques. The problems presented in these workshops are often not amenable to solution through ready-made formulas and require the individual to interact with peers in a reflective manner. The workshop is 85 minutes each week.

Corequisite: CHM 325.

CHM 026 - Organic Chemistry II Workshop (0)

These workshops are based on the Peer-Led Team Learning model (PLTL) with students working individually and in small groups to learn and exercise problem solving techniques. The problems presented in these workshops are often not amenable to solution through ready-made formulas and require the individual to interact with peers in a reflective manner. The workshop is 85 minutes each week.

Corequisite: CHM 326.

CHM 105 - Chemistry in Art (3)

The study of chemistry in a variety of art forms. Some topics to be covered: Oxidation-Reduction (Etching and Coloring of Metals); Acid-Base Chemistry (pH pens and Frescoes); Pigment types, synthesis and interactions in a matrix (Cloth dyeing, chromatography, crayons, paints, and candles); Methods of analysis (Spectroscopy and chromatography). Literature searches, laboratory records, reports, and exams will be graded.

CHM 207 - General Chemistry I (3)

For science and engineering majors. Introduction to stoichiometry, atomic structure, bonding, and reactions. Principles of solution chemistry and chemical thermodynamics included.

Prerequisite: 100-level or equivalent mathematics course or corequisite. Corequisite: CHM 007, 100-level mathematics course or prerequisite. May be taken concurrently with CHM 277.

CHM 208 - General Chemistry II (3)

Principles of chemical kinetics, thermodynamics, and equilibrium will be studied with emphasis on acid-base chemistry and electrochemistry. Other topics may include intermolecular forces, phase changes, colligative properties, organic chemistry, nuclear chemistry, polymers, and biochemistry.

Prerequisite: A grade of C- or higher in CHM 207 or equivalent. Corequisite: CHM 008. May be taken concurrently with CHM 278, CHM 279.

CHM 277 - General Chemistry I Lab (1)

One three-hour laboratory period per week. Fee: $60.

Corequisite: CHM 207.

CHM 278 - General Chemistry II Lab (1)

One three-hour laboratory per week. Fee: $60.

Corequisite: CHM 208.

CHM 279 - General & Analytical Chemistry Lab (1)

One three-hour laboratory per week with an emphasis on analytical techniques to include data collection and interpretation. Required for chemistry/biochemistry majors. Fee: $60.

Corequisite: CHM 208.

CHM 290 - Directed Study (Credit arranged.)

For special lower division study under the direction and with the permission of a faculty member. Content and credit to be arranged. Can be repeated.

CHM 293 - Special Chemistry Lab (1)

For special lower-division laboratory projects. Content and credit to be arranged. Fee: $60 per credit hour.

CHM 303 - Computational Methods in Physical Sciences (3)

Computational techniques for solving physics and chemistry problems as well as for simulating, analyzing, and graphically visualizing physical systems and processes. Offered fall of odd years.

Prerequisite: PHY 204 or PHY 201 and MTH 202. Crosslisted as: PHY 303, MTH 303.

CHM 314 - Analytical Chemistry (3)

Lecture presentation of the principles of wet and instrumental methods and the treatment of analytical data.

Prerequisite: CHM 208, CHM 279, or permission of instructor. Corequisite: May be taken concurrently with CHM 379.

CHM 325 - Organic Chemistry I (3)

The first course in the year-long sequence. Theoretical concepts of organic chemistry will include nomenclature, stereochemistry, and substitution/elimination/addition reactions. Spectroscopic techniques for the determination of molecular structure including NMR, IR, UV/Vis, and MS are integrated with presented theories.

Prerequisite: A grade of C or higher in CHM 208. Corequisite: CHM 025.

CHM 326 - Organic Chemistry II (3)

The second course in the year-long sequence. Synthetic pathways leading to the formation of carbonyl compounds, acids, and acid derivatives will be developed. Molecules of biological importance will be studied using the concepts developed earlier in this sequence.

Prerequisite: A grade of C- or higher in CHM 325. Corequisite: CHM 026.

CHM 331 - Physical Chemistry I (3)

Postulates of quantum mechanics, particle in a box, harmonic oscillator, rigid rotator, and hydrogen atom with application to electronic structure of atoms and molecules and to atomic and molecular spectra.

Prerequisite: A grade of C- or higher in CHM 208, PHY 205, MTH 202, or permission of instructor.

CHM 332 - Physical Chemistry II (3)

Classical and statistical thermodynamics to include Boltzmann statistics, partition functions and ensembles with applications to phase equilibria, chemical equilibria, solute-solvent interactions and non-equilibrium thermodynamics. Chemical kinetics to include rate laws, mechanisms, kinetic molecular theory and gas-phase reaction dynamics.

Prerequisite: A grade of C- or higher in CHM 331 or permission of instructor.

CHM 370 - Special Laboratory (1-3)

For special upper-division laboratory projects. Content, credit, and fee to be arranged. Fee: $60 per credit hour.

Prerequisite: CHM 326.

CHM 372 - Physical Chemistry I Laboratory (1)

Atomic and molecular spectroscopy to illustrate the postulates of quantum mechanics, particle in a box, harmonic oscillator, rigid rotator and electronic structure of atoms and molecules. Fee: $60.

Prerequisite: CHM 331.

CHM 373 - Physical Chemistry II Laboratory (1)

Experiments designed to investigate thermodynamics, chemical kinetics and gas phase reaction dynamics with applications to phase equilibria, chemical equilibria, solute-solvent interactions. Fee: $60.

Prerequisite: CHM 332.

CHM 375 - Organic Chemistry I Laboratory (1)

Techniques used in synthesis, separation, and characterization of organic compounds will be developed. Mechanistic investigations of reactions will be presented. With the consent of the instructor, students will modify reactants, reagents, and /or condition for reactions. Students will learn the operation and capabilities of FT-IR, FT-NMR, and GC-MS instruments. Fee: $60.

Corequisite: CHM 325.

CHM 376 - Organic Chemistry II Laboratory (1)

The mechanism of aromatic electrophilic substitution reactions will be investigated with emphasis on Green Chemistry and reproducibility of experimental results. Development and completion of a multiple-week, individual project. Fee: $60.

Prerequisite: CHM 375. Corequisite: CHM 326.

CHM 379 - Analytical Chemistry Laboratory (1)

Experiments in quantitative analysis, including wet, spectroscopic, electrochemical, and chromatographic methods. Additional emphasis on statistics, computerized data analysis, and report writing. Fee: $60.

Corequisite: CHM 314.

CHM 386 - Environmental Chemistry (3)

This course is organized into three main sections in which chemical topics relevant to the atmosphere, hydrosphere, and terrestrial environments are discussed. The course also addresses anthropogenic effects on the environment, toxicology, risk assessment, environmental analysis, computer modeling, and the political and sociological aspects of environmental topics.

Prerequisite: CHM 208. Crosslisted as: ENV 386.

CHM 387 - Service Learning in Chemistry (1)

Faculty directed student outreach in community educational institutions. Before enrolling, students must consult with a faculty member to define goals for the project. May be repeated for credit.

Prerequisite: CHM 207, CHM 208.

CHM 390 - Directed Study (Variable)

Credit arranged by student in cooperation with faculty.

CHM 393 - Research in Chemistry (1-3)

Faculty directed student research. Before enrolling, students must consult with a faculty member to define the project. May be repeated for credit. Fee: $60 per credit hour.

CHM 412 - Advanced Instrumental Methods (1)

Theory and practice of modern chemical instrumentation.

Prerequisite: CHM 331 or permission of instructor. Corequisite: CHM 472.

CHM 444 - Inorganic Chemistry (3)

Atomic structure examined from elementary quantum mechanics, valence bond theory, molecular orbital theory, ligand field theory, inorganic stereochemistry, periodic properties of elements, electrochemistry, acid-base theories.

Prerequisite: CHM 331 or permission of instructor.

CHM 453 - Biochemistry I (3)

Physical-chemical basis of life processes. Topics include: structure and function of proteins, carbohydrates, and fats; metabolism of carbohydrates and fats; and metabolic control processes.

Prerequisite: A grade of C- or higher in CHM 326 or permission of instructor.

CHM 454 - Biochemistry II (3)

Continuation of CHM 453. Emphasis is on biosynthesis of macromolecules. Topics include photosynthesis, metabolism of amino acids, membrane synthesis, nucleic acid and protein biosynthesis, current topics in biochemistry.

Prerequisite: A grade of C- or higher in CHM 453 or permission of instructor.

CHM 464 - Polymer Science (3)

A study covering the synthesis, physical properties, fabrication processes, and uses of nonbiological polymers. Kinetics of polymerization, condensation and addition polymerizations, copolymers, elastomers, thermosetting, glass transition temperatures, molecular weight distributions, analysis, crystal structures, plasticizers, properties of commercial polymers and plastics, fiber and elastomer processing technologies.

Prerequisite: CHM 326 or permission of instructor.

CHM 468 - Advanced Organic Chemistry (3)

The course focuses on organic synthesis and builds upon the material covered in CHM 325 and CHM 326. Important topics are retrosynthetic analysis, protecting groups, and carbon-carbon bond forming reactions, such as advanced enolate chemistry and palladium cross coupling reactions. Important organic chemistry models, such as the Ireland, Zimmerman-Traxler, Cram and Felkin-Ahn models are presented.

Prerequisite: CHM 326.

CHM 470 - Special Chemistry Laboratory (1-3)

For special upper division laboratory projects. Content and credit to be arranged. Fee: $60 per credit hour.

Prerequisite: CHM 331.

CHM 471 - Biochemistry Laboratory (1)

Techniques include modern methods for separation and quantitation of biological materials, including centrifugation, high pressure liquid chromatography, spectrophotometry, and gel electrophoresis. Fee: $60.

Prerequisite: CHM 453 or corequisite. Corequisite: CHM 453 or prerequisite.

CHM 472 - Advanced Instrumental Techniques (1)

A survey of modern instrumentation including the use of spectroscopy, electrochemistry and chromatography for quantitative and qualitative analysis. Fee $60.

Corequisite: CHM 412.

CHM 473 - Inorganic Synthesis and Characterization (1)

Techniques of inorganic synthesis including nitrogen-vacuum line, drybox, non-aqueous solvents. Methods of purification and characterization. Fee: $60.

Prerequisite: CHM 331.

CHM 477 - Digital Data Acquisition and Instrument Control (1)

Instruction in electronic circuits and computer programming for use in data acquisition and instrument control. Fee: $60.

CHM 490 - Directed Study (Variable)

Credit arranged by student in cooperation with faculty.

CHM 491 - Chemistry Seminar (Credit arranged.)

Special topic seminar. Lectures, panel discussions, student research paper, and oral presentation.

Prerequisite: CHM 331.

CHM 492 - Chemistry Seminar (Credit arranged.)

Special topic seminar. Lectures, panel discussions, student research paper, and oral presentation.

Prerequisite: CHM 331.

CHM 493 - Research in Chemistry (1-3)

Faculty-directed student research. Before enrolling, students must consult with a faculty member to define the project. May be repeated for credit. Fee: $60 per credit hour.

CHM 497 - Industrial Internship (Credit arranged.)

Intensive field experience in selected chemical industries. Department permission and chemistry G.P.A. of 3.0 required.

Prerequisite: CHM 331.

CHM 498 - Senior Capstone Project (1-3)

For chemistry seniors who are developing and preparing their capstone project for public presentation. Before enrolling, students must consult with a faculty member to define the project.

CHM 499 - Senior Thesis (Credit arranged.)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.

CE - Civil Engineering

CE 200 - Civil Engineering Seminar (1)

Survey of the civil engineering profession and its works. Invited speakers, field trips, and projects.

CE 201 - Civil Engineering Design Graphics (2)

Graphical communication of civil engineering design ideas using computer and traditional methods. Use of graphical modeling in civil engineering design with an extended course project.

CE 223 - Surveying (2)

Introduction to surveying. Topics include theory of measurements and error analysis; distance and angle measurements; traverse, area, and volume computations; horizontal and vertical curves; topographic surveys; construction surveys and mapping.

CE 224 - Surveying Laboratory (1)

Introduction to basic surveying emphasizing construction-related activities; use of automatic level, theodolite, and total station; field activities include taping, different leveling, traverses, horizontal curves layout; construction layout and mapping. Fee: $40.

Corequisite: CE 223.

CE 301 - Construction Materials (2)

Introduction to the properties and applications of construction materials for civil engineers. Topics include mineral aggregates, Portland cement, concrete, asphalt cements, timber, and steel.

Prerequisite: EGR 322. Corequisite: CE 372.

CE 315 - Transportation Engineering (3)

Introduction to transportation systems and modes; transportation planning; driver, pedestrian, and vehicle characteristics; fundamental principles of traffic flow; highway capacity analysis; geometric design of highways; traffic operations; design of the intersection and interchange; parking design; transportation safety and environmental impacts; introduction to pavement design.

Prerequisite: CE 223.

CE 321 - Geotechnical Engineering (3)

Introduction to soil mechanics. Weight-volume relationships, classification, compaction, soil hydraulics; subsurface stresses, consolidation, and strength concepts.

Prerequisite: EGR 322. Corequisite: CE 371.

CE 351 - Structural Analysis I (3)

Concepts of stability and determinacy. Analysis of displacements and internal forces of determinate and indeterminate structures: trusses, beams, and frames. Influence line diagrams. Introduction to indeterminate structures.

Prerequisite: EGR 322.

CE 352 - Structural Analysis II (3)

Analysis of indeterminate structures by slope deflection method; moment distribution method; approximate methods of analysis. Introduction to space structures.

Prerequisite: CE 351.

CE 362 - Hydraulic Engineering (3)

Study of water flow in open channels and closed conduits. Topics include pipe friction, fluid measurements, steady and unsteady closed conduit flow, steady open channel flow, and pump and turbine design. Application of hydraulic principles to water distribution and storm water management.

Prerequisite: ME 311.

CE 367 - Environmental Engineering (3)

Introduction to environmental engineering. Topics include material balances, reactor engineering, environmental chemistry, water quality, water treatment, water pollution, water quality modeling, wastewater treatment and residues management.

Prerequisite: CHM 207, MTH 202.

CE 371 - Geotechnical Laboratory (1)

Basic soil mechanics experiments: index tests, compaction, permeability, consolidation, direct shear and triaxial strength testing, and soil exploration techniques. Application to field situations with written and oral reports. Fee: $40.

Corequisite: CE 321.

CE 372 - Construction Materials Laboratory (1)

Laboratory experiments with concrete, timber, and steel. Determining strength and stiffness properties of these materials by mechanical testing. Fee: $40.

Prerequisite: EGR 322. Corequisite: CE 301.

CE 376 - Environmental Engineering Laboratory (1)

Experiments on chemical and biological analysis of water including alkalinity, turbidity, hardness, biochemical oxygen demand, dissolved oxygen, solids and fecal coliform. Softening, jar testing, and reactor tracer studies are also conducted. Fee: $40.

Prerequisite: ME 311. Corequisite: CE 367.

CE 400 - Environmental Engineering Seminar (1)

An overview of environmental institutions, policies, and regulations.

CE 401 - Computational Methods in Civil Engineering (3)

Application of computational methods to civil engineering problems. Numerical differentiation and integration. Matrix methods for structural analysis. Solving differential equations with finite difference and Euler and multi-step methods. Analysis of discrete and continuous mechanical systems.

Prerequisite: MTH 301, MTH 321. Corequisite: CE 351.

CE 404 - Construction Engineering (3)

Construction management and planning, management organization, principles and procedures for estimating and bidding of construction projects, construction contracts, contract documents, construction insurance and bonds; labor law, labor relations, and project safety; project planning and scheduling techniques, including CPM, PERT; resource allocations; project control and treatment of uncertainty.

Prerequisite: Junior standing.

CE 411 - Pavement Design (3)

Design of flexible and rigid pavements; physical and chemical properties of pavement components and highway material characterization; pavement distress and performance evaluation. Introduction to pavement evaluation, rehabilitation, and pavement management.

Prerequisite: CE 321.

CE 416 - Traffic Engineering (3)

Introduction to traffic engineering; traffic stream components and characteristics; fundamental principles of traffic flow; studies of traffic speed, volume, travel time, delay, and pedestrian; capacity analysis of freeways, highways, signalized and unsignalized intersections; traffic control devices; traffic signals; traffic accidents and safety; and traffic management.

Prerequisite: CE 315.

CE 422 - Geotechnical Design (3)

Foundations, including footings, piers, and piles, and raft foundations. Permanent retaining structures, mechanically stabilized earth, and soil nailed walls. Temporary shoring of excavations. Slope stability fundamentals.

Prerequisite: CE 321.

CE 441 - Structural Steel Design (3)

Design of structural steel elements for buildings using the LRFD method. Includes tension members, columns, beams, and beam-columns. Bolted and welded connections. Design methods are applied in a course project.

Prerequisite: CE 351.

CE 442 - Reinforced Concrete Design (3)

Properties of an efficient concrete mix. Analysis and design of rectangular and T-beams. One-way and two-way slab design. Compression members subject to axial and eccentric loads. Primary emphasis on the ultimate strength design method and to recent ACI Building Code.

Prerequisite: CE 351.

CE 444 - Structural Systems Design (3)

Analysis and design of structural units and building systems. Lateral force resistance to wind and seismic forces: diaphragms and lateral resisting frames. Fundamental aspects of steel, reinforced concrete, masonry, and pre-stressed/post-tension design. Introduction to structural detailing and drawings. Owner, Architectural, and MEP coordination and constraints as it relates to structural engineering. Emphasis on the IBC, ASCE loading, ACI and AISC codes.

Prerequisite: CE 351. Corequisite: CE 442.

CE 452 - Earthquake Engineering (3)

Response of structures to seismic loads and ground motion. Response spectra and their application to earthquake analysis of structures. Seismic design criteria and provisions for buildings and other structures. Use of current codes for earthquake resistant design of structures.

Prerequisite: CE 321, CE 352, MTH 321.

CE 462 - Sustainable Design (3)

This course will address aspects that contribute to the design of sustainable communities. Topics will include: sustainable measures, facility location, stormwater management, water use, energy use, appropriate materials, and waste minimization. Guest speakers and field trips will be featured.

Prerequisite: Junior standing or permission of instructor.

CE 464 - Water Resources Engineering (3)

Study of the hydrologic cycle; rainfall and streamflow measurement and analysis, surface and groundwater occurrence and movement. Prediction of infiltration, evapotranspiration, runoff and unit hydrograph analysis. Flood and drought probability analysis. Introduction to reservoir operation and flood routing.

Corequisite: CE 362 or permission of instructor.

CE 466 - Water and Wastewater Design (3)

Study of the fundamental concepts required to design and operate processes used for drinking water treatment and distribution and wastewater collection and disposal. Design of physical, chemical, and biological processes for water treatment and wastewater disposal. Design of water supply and wastewater collection infrastructure.

Prerequisite: CE 362, CE 367.

CE 468 - Environmental Engineering Topics (3)

Introduction to the technology used to manage solid and hazardous wastes and remediate sites contaminated with toxic chemicals. Sanitary landfill design, risk assessment, remedial investigations and feasibility studies, fate and transport analysis. Introduction to air polution modeling and air pollution treatment technologies.

Prerequisite: CE 367 or permission of instructor.

CE 481 - Civil Engineering Senior Design Project I (2)

The student will select a project with the approval of the faculty. Design criteria will be developed for the selected project. Alternatives will be explored and the student will submit a formal proposal. Occasional seminars. Fee: $40.

Prerequisite: Upper division standing in Civil Engineering.

CE 482 - Civil Engineering Senior Design Project II (3)

Project alternatives developed in CE 481 will be measured against criteria. A preliminary design will be executed followed by a final design which will be formally presented in the form of reports and/or plans and specifications. Occasional seminars. Fee: $40.

Prerequisite: CE 481.

CE 490 - Directed Study (Credit arranged.)

Selected study, project, or research in civil engineering for upper-division students. Must be arranged between the student and an individual faculty member, and subsequently approved by the dean of engineering. No more than three of the technical elective hours taken at the University may be satisfied with individualized study.

CE 491 - Seminar (Variable)

Credit arranged.

CE 492 - Seminar (Variable)

Credit arranged.

CE 493 - Research (1-3)

Faculty-directed student research. Before enrolling, a student must consult with a faculty member to define the project. May be repeated for credit.

Prerequisite: Upper division standing.

CE 497 - Internship (Variable)

Credit arranged.

CE 599X - Thesis in Progress (0)

Registration for any graduate student who has received the grade of IP in CE 599 is required while the thesis is in progress. Fee: $50.

Graduate Courses

CE 504 - Construction Engineering (3)

Construction management and planning, management organization, principles and procedures for estimating and bidding of construction projects, construction contracts, contract documents, construction insurance and bonds; labor law, labor relations, and project safety; project planning and scheduling techniques, including CPM, PERT; resource allocations; project control and treatment of uncertainty.

CE 511 - Pavement Design (3)

Design of flexible and rigid pavements; physical and chemical properties of pavement components and highway material characterization; pavement distress and performance evaluation. Introduction to pavement evaluation, rehabilitation, and pavement management.

CE 516 - Traffic Engineering (3)

Introduction to traffic engineering; traffic stream components and characteristics; fundamental principles of traffic flow; studies of traffic speed, volume, travel time, delay, and pedestrian; capacity analysis of freeways, highways, signalized and unsignalized intersections; traffic control devices; traffic signals; traffic accidents and safety; and traffic management.

CE 552 - Earthquake Engineering (3)

Response of structures to seismic loads and ground motion. Response spectra and their application to earthquake analysis of structures. Seismic design criteria and provisions for buildings and other structures. Use of current codes for earthquake resistant design of structures.

CE 562 - Sustainable Design (3)

This course will address aspects that contribute to the design of sustainable communities. Topics will include: sustainable measures, facility location, stormwater management, water use, energy use, appropriate materials, and waste minimization. Guest speakers and field trips will be featured.

CE 564 - Water Resources Engineering (3)

Advanced study of the hydrologic cycle; rainfall and streamflow measurement and analysis, surface and groundwater occurrence and movement. Prediction of infiltration, evapotranspiration, runoff, and unit hydrograph analysis. Flood and drought probability analysis. Introduction to reservoir operation and flood routing. Design aspects culminate in engineering design reports.

CE 566 - Water and Wastewater Design (3)

Advanced study of the fundamental concepts required to design and operate processes used for drinking water treatment and distribution and wastewater collection and disposal. Design of physical, chemical, and biological processes for water treatment and wastewater disposal. Design of water supply and wastewater collection infrastructure. Design aspects culminate in engineering design reports.

CE 568 - Environmental Engineering Topics (3)

Introduction to the technology used to manage solid and hazardous wastes and remediate sites contaminated with toxic chemicals. Sanitary landfill design, risk assessment, remedial investigations and feasibility studies, fate and transport analysis. Introduction to air pollution modeling and air pollution treatment technologies.

CE 590 - Directed Study (Variable)

Credit arranged.

CE 591 - Seminar (Variable)

Credit arranged.

CE 592 - Seminar (Variable)

Credit arranged.

CE 593 - Research (1-3)

Faculty-directed student research. Before enrolling, a student must consult with a faculty member to define the project. May be repeated for credit.

CE 599 - Thesis (Variable)

Credit arranged.

CHN - Chinese

CHN 101 - Beginning Chinese I (3)

This is the first of a three-semester sequence for students who have little or no background in Chinese. The course builds basic language skills in Mandarin, although oral proficiency and character recognition are emphasized. The course prepares students to participate in the (optional) fourth-semester (Spring) study abroad program in Beijing, China where Chinese language study continues at the intermediate level.

Corequisite: CHN 111.

CHN 102 - Beginning Chinese II (3)

This is the second of a three-semester sequence for students who have little or no background in Chinese. The course builds basic language skills in Mandarin, although oral proficiency and character recognition are emphasized. The course prepares students to participate in the (optional) fourth-semester (Spring) study abroad program in Beijing, China where Chinese language study continues at the intermediate level.

Prerequisite: CHN 101. Corequisite: CHN 112.

CHN 103 - Beginning Chinese III (3)

This is the third of a three-semester sequence for students who have little or no background in Chinese. The course builds basic language skills in Mandarin, although oral proficiency and character recognition are emphasized. The course prepares student to participate in the (optional) fourth-semester (Spring) study abroad program in Beijing, China where Chinese language study continues at the intermediate level.

Prerequisite: CHN 102. Corequisite: CHN 113.

CHN 111 - Chinese Language Lab I (1)

This lab is required concurrently with CHN 101 and emphasizes oral proficiency in authentic, cultural contexts.

Corequisite: CHN 101.

CHN 112 - Chinese Language Lab II (1)

This lab is required concurrently with CHN 102 and emphasizes oral proficiency in authentic, cultural contexts.

Corequisite: CHN 102.

CHN 113 - Chinese Language Lab III (1)

This lab is required concurrently with CHN 103 and emphasizes oral proficiency in authentic, cultural contexts.

Corequisite: CHN 103.

CST - Communication Studies

CST 101 - Introduction to Communication Studies (3)

This course introduces theories of communication, builds academic writing and research strategies, and considers various academic and career options.

CST 107 - Effective Public Speaking (3)

Theory and practice of oral communication, with special emphasis on issue analysis and argumentation in public communication.

CST 200 - University Speech Team (1)

This course is designed for students participating in intercollegiate forensics. Students are actively involved in researching and writing speeches, debate cases, and oral interpretations.

CST 225 - Fundamentals of Interpersonal Communication (3)

Students study theories and pragmatics of interpersonal communication. Topics include perception, culture, language, self-concept, nonverbal messages, conflict, and the formation and maintenance of relationships.

CST 233 - Introduction to Organizational Communication Theory (3)

Students examine the ways people communicate in organizations and the ways in which communication creates and sustains organizations. An underlying theme is organizational responsibility and ethics. Students develop knowledge of major organizational communication theories and explore the intersections among organizations, society, environment and other global impacts. The course also explores how organizations are often influential leaders at these intersections.

CST 290 - Directed Study (Variable)

Credit arranged.

CST 297 - Practicum (1-3)

One to three credit hours.

CST 300 - Communication Research (3)

Introduces students to quantitative research methods used to study human communication. Designed to prepare students to be critical consumers of research reports.

Prerequisite: MTH 161.

CST 301 - Media and Society (3)

Provides students theory and analysis necessary to understand mass media processes and messages as they shape personal, cultural, political, economic and civic life. History and contemporary development of media forms and processes are investigated.

CST 307 - Advanced Public Speaking (3)

Students attain advanced public speaking skills through the study and application of rhetorical elements. Emphasis is on persuasive speaking.

Prerequisite: CST 107.

CST 320 - Rhetorical Theory and Criticism (3)

Introduces students to theories and concepts of rhetoric useful in understanding and evaluating persuasive public communication.

CST 327 - Argumentation and Advocacy (3)

This course examines how to scrutinize, assess and create arguments. Students will learn the nature, uses and limits of argumentation and study arguments in political, religious and social rhetorical contexts, exploring fallacies in argument, the nature of causal reasoning, formal argument analysis and argumentative chains and clusters. Attention is given to cultural standards of reasoning, evidence and refutation.

CST 332 - Collaborative Group Leadership (3)

The course teaches group and stakeholder theory and focuses on the skills of collaboration, consensus-decision making, and brainstorming. Students are prepared to lead and facilitate groups, especially groups that interact intra and/or inter-organizationally. Students learn how and when to share power among diverse group members, thus preparing them to lead groups.

CST 333 - Applied Organizational Communication Skills (3)

In an organizational simulation, students design and develop oral and written communication skills. Critical thinking, web page design, job descriptions, mission statements, employment and performance appraisal interviews, group decision-making and a variety of business writing formats are developed.

CST 352 - News Writing and Reporting (3)

Instruction in news gathering, evaluating news, and writing typical news stories. Includes a variety of assignments such as hard news, cultural events, speeches, sports, and interviews. Practice work includes covering local assignments and preparing copy.

CST 361 - Introduction to Advertising (3)

Study of theory, practical, and ethical aspects of the advertising business. The course includes guest lectures and interviews with professionals.

Prerequisite: CST 352 or corequisite. Corequisite: CST 352 or prerequisite.

CST 362 - Introduction to Public Relations (3)

Survey course provides understanding of the role of public relations in the profit-making and non-profit sectors, and specific working knowledge of the various facets of the public relations process, including social media. Planning and implementing public campaigns will be discussed.

Prerequisite: CST 352 or corequisite. Corequisite: CST 352 or prerequisite.

CST 363 - Online Journalism (3)

A critical introduction to online journalism, in which students will select, create, edit, write, and format content for online publication. Instruction and experience in publishing multimedia news stories, blogging, and utilizing social media for news fathering and dissemination. Evaluating and critiquing online journalistic forms and practices.

CST 364 - Visual Communication (3)

Study of effective communication of visual messages in the mass media. Students will learn design, concept, and composition strategies for visual media by learning and using visual crafting and formatting software.

CST 391 - Seminar (Variable)

Credit arranged.

CST 401 - Rhetoric of Politics and Social Movements (3)

Students study how we use messages (Written, oral, and visual) to create and maintain political and social movements. The course examines how messages influence and constrain these movements. All study symbols created and used by message makers within American social movements, as well as the political campaigns and programs of U.S. Republican, Democratic, and third parties.

CST 402 - Social Media and Cultures (3)

This course overviews relationships between computer-mediated communication (CMC) and several forms and functions of human activity. It explores how humans use computers to construct knowledge, relationships, and specific realities. Utilizing different social media applications and tools will help identify, explain, and understand interrelationships among CMC, language, and identities.

CST 403 - Communication Law (3)

Survey course designed to increase student's understanding of First Amendment law as it relates to individual citizens, mass media, and corporate communication. Ethical considerations inherent in communication law decisions are emphasized.

CST 410 - Communication Theory (3)

This course investigates major explanatory theories of communication, with emphasis on understanding theorizing as a process of constructing visions of reality. Students develop the ability to analyze the assumptions underlying theoretical models of communication.

CST 411 - Communication Across Barriers (3)

This course explores barriers to effective communication between members of differing social groups (sexes, races, generations, etc.). Consideration is given to problems' causes and effective strategies for solutions.

Crosslisted as: SJP 411.

CST 416 - Negotiation and Conflict Management (3)

An intensive study of orientations toward managing disputes and of specific processes and techniques currently in use. Course includes consideration of both organizational and interpersonal disputes and also focuses on the role of the mediator.

Crosslisted as: SJP 416.

CST 425 - Advanced Interpersonal Communication (3)

Investigates the dynamics of human communication in building, maintaining, or altering interpersonal relationships. Particular emphasis is given to family communication.

CST 431 - Cross-cultural Communication and Identity (3)

Course provides an introduction to the dynamics of intercultural communication. Content includes learning the importance of understanding one's own culture, navigating cultural similarities and differences through communication, and negotiating skilled, adaptive identities within and across cultures.

Crosslisted as: SJP 431.

CST 433 - Advanced Organizational Communication (3)

This course investigates major topics in organizational communication theory, such as culture and identity, gendered work, work/family life balance, organizational power and decision making, and organizational and interorganizational leadership. An underlying theme of this course is to explore the possibilities for meaningful work in various work contexts, such as for-profit, nonprofit, and global organizations.

CST 434 - Examining Organizational Communication in Natural Settings (3)

This course focuses on qualitative research methods in various organizational settings. Students explore designing and implementing qualitative research projects.

CST 435 - Advanced Visual Persuasion (3)

Study of mass mediated communication using various critical frameworks, including rhetorical, ideological, semiotic, argumentation, and narrative analysis.

Prerequisite: CST 364.

CST 440 - Broadcast Criticism (3)

Students study and write televisual criticism which closely analyzes messages as cultural repositories of meaning or which investigates the interaction between television and culture. Emphasis is on the method, stance, and purpose of broadcast critics.

Prerequisite: CST 320.

CST 445 - Cinema and Society (3)

Explores the influence of movies on American culture. Students explore theories and ideas concerning film, society, conflict, visual persuasion, and narrative. Students view popular American movies as focal points for lecture and discussion.

Prerequisite: CST 320.

CST 452 - Public Affairs Reporting (3)

Provides instruction about news reporting of public affairs. Students learn to research, report, and write in-depth, interpretive, and analytical stories on public affairs in areas such as crime and police, courts, government, politics, and education. Students learn common problems and techniques for covering public affairs agencies.

Prerequisite: CST 352.

CST 463 - Opinion Writing (3)

Surveys various forms of opinion writing. past and present, with extensive writing of various kinds of opinion writing and critiqued written assignments.

Prerequisite: CST 352.

CST 464 - Feature Writing (3)

Instruction in writing feature stories. Students study, write, and critique a number of kinds of stories, including recollections, profiles, issue stories, travel and leisure features, and trend articles.

Prerequisite: CST 352.

CST 474 - Communication Studies Internship (Credit arranged.)

Academic internships are available for certified students. Communication or organizational communication majors may undertake on-the-job training positions with professional organizations. May be taken twice. Only 3 credits can apply to the major.

CST 475 - Senior Project (3)

Under faculty supervision, each student works independently on a comprehensive project designed to display advanced skills.

Prerequisite: Senior standing.

CST 483 - Grace in the Wilderness: Conflict in the Bible (3)

This course explores conflict through a biblical, theological, and social scientific lens. Using the biblical text, topical readings, and conflict theory, the course examines intrapersonal and interpersonal conflict, and provides opportunities to explore a variety of conflict mediation and negotiation skills aimed at developing just and transformative relationships for life in a complex world.

Crosslisted as: THEP 483.

CST 490 - Directed Study (Variable)

Credit arranged.

CST 491 - Seminar (Variable)

Credit arranged.

CST 492 - Seminar (Variable)

Credit arranged.

CST 495 - Workshop (Variable)

Credit arranged.

CST 496 - Workshop (Variable)

Credit arranged.

CST 499 - Senior Thesis (Credit arranged.)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.

CST 599X - Thesis in Progress (0)

Registration for any graduate student who has received the grade of IP in CST 599 is required while the thesis is in progress. Fee: $50.

Graduate Courses

CST 500 - Research and Writing (3)

Introduction to methods and findings of critical, analytical, qualitative, and quantitative research and techniques of preparing graduate-level research papers.

CST 501 - Rhetoric of Politics and Social Movements (3)

Students study how we use messages (written, oral, and visual) to create and maintain political and social movements. The course examines how messages influence and constrain these movements. All study symbols created and used by message makers within American social movements, as well as the political campaigns and programs of U.S. Republican, Democratic, and third□ parties.

CST 502 - Social Media and Cultures (3)

This course overviews relationships between computer-mediated communication (CMC) and several forms and functions of human activity. It explores how humans use computers to construct knowledge, relationships, and specific realities. Utilizing different social media applications and tools will help identify, explain, and understand interrelationships among CMC, culture, language, and identities.

CST 503 - Communication Law (3)

This graduate-level survey course is designed to develop an advanced understanding of First Amendment law as it relates to citizens, mass media, and democratic practice. The course examines core questions about how communities function and how civil society can be constructed and maintained through free and robust public discussion from diverse and antagonistic sources.

CST 510 - Communication Theory (3)

This course investigates major explanatory theories of communication, with emphasis on understanding theorizing as a process of constructing visions of reality. Students develop the ability to analyze and critique the assumptions underlying theoretical models of communication.

CST 511 - Communication Across Barriers (3)

This course explores and critiques barriers to effective communication between members of differing social groups (sexes, races, generations, etc.). Consideration is given to problems' causes and effective strategies for solutions.

CST 516 - Negotiation and Conflict Management (3)

An intensive study of orientations toward managing disputes and of specific processes and techniques currently in use. Course includes consideration of both organizational and interpersonal disputes and also focuses on the role of the mediator.

CST 520 - Rhetorical Theory and Criticism (3)

Introduces students to theories and concepts of rhetoric useful in understanding and evaluating persuasive communication.

CST 525 - Advanced Interpersonal Communication (3)

Investigates the dynamics of human communication in building, maintaining, or altering interpersonal relationships. Particular emphasis is given to family communication.

CST 531 - Cross-cultural Communication and Identity (3)

Course provides an introduction to the dynamics of intercultural communication. Content includes learning the importance of understanding one's own culture, navigating culture similarities and differences through communication, and negotiating skilled, adaptive identities within and across cultures.

CST 533 - Advanced Organizational Communication (3)

This course investigates major topics in organizational communication theory, such as culture and identity, gendered work, work/family life balance, organizational power and decision making, and organizational and interorganizational leadership. An underlying theme of this course is to explore the possibilities for meaningful work in various work contexts, such as for-profit, nonprofit, and global organizations.

CST 534 - Examining Organizational Communication in Natural Settings (3)

This course focuses on qualitative research methods in various organizational settings. Students explore designing and implementing qualitative research projects.

CST 535 - Advanced Visual Persuasion (3)

Advanced study and practice of visual persuasion used in mass mediated messages. Students extend and refine understanding and skill in analyzing and creating visually persuasive messages.

Prerequisite: Permission of instructor.

CST 540 - Broadcast Criticism (3)

Students study and write televisual criticism which closely analyzes messages as cultural repositories of meaning or which investigates the interaction between television and culture. Emphasis is on the method, stance, and purpose of broadcast critics.

Prerequisite: CST 520 or permission of instructor.

CST 545 - Cinema and Society (3)

Explores the influence of movies on American culture. Students explore theories and ideas concerning film, society, conflict, visual persuasion, and narrative. Students view popular American movies as focal points for lecture and discussion.

Prerequisite: CST 520 or permission of instructor.

CST 552 - Public Affairs Reporting (3)

Provides instruction in news reporting of public affairs, including crime and police, courts, governments, politics and education. Students learn about the problems and challenges of serving a watchdog role over the institutions and processes that shape civic life. Includes an advanced investigative reporting component in which graduate students produce a series of investigative stories on an important public issue.

CST 563 - Opinion Writing (3)

Surveys various forms of opinion writing. Includes instruction in writing and critiqued written assignments.

CST 564 - Feature Writing (3)

Instruction in writing feature stories. Students study, write, and critique a number of kinds of stories, including recollections, profiles, issue stories, travel and leisure features, and trend articles.

CST 574 - Graduate Internship (3)

Academic internships are available for qualified students. Graduate students may be assigned to on-the-job training positions with professional organizations. An average of 20 hours of work per week is required.

CST 581 - Advanced Business Communication (3)

Course designed to help students attain professional-level competence in oral and written business communication. Students learn rhetorical principles and apply them to business communication situations, such as: making formal oral presentations, conducting meetings, and writing business correspondence and reports.

Crosslisted as: BUS 581.

CST 590 - Directed Study (Variable)

Credit arranged.

CST 591 - Seminar (Variable)

Credit arranged.

CST 592 - Seminar (Variable)

Credit arranged.

CST 593 - Advanced Research (Credit arranged.)

This course is for students nearing completion of their academic program. It will provide an opportunity for students to explore a research project in more depth and explore areas of special interest in communication.

CST 595 - Advanced Research (Variable)

Credit arranged.

CST 599 - Thesis (Credit arranged.)

3-6 cr. hrs., 1 or 2 semesters.

CS - Computer Science

CS 201 - Introduction to Scientific Programming (1)

Introduction to programming. Numeric variables, control structures, arrays, functions, and file input/output. Emphasis on writing numerically-oriented programs to solve engineering and scientific problems.

CS 203 - Introduction to Computer Science (3)

Create a foundation for computer science and the software development process. Emphasis on good design and programming techniques through practice in writing, running, and debugging programs. Study of a programming language which incorporates objects, structured control statements, classes, inheritance, strong data typing, and sub-programs with parameters.

Corequisite: CS 273.

CS 273 - Computer Science Laboratory (1)

Weekly three-hour laboratory to support CS 203.

Corequisite: CS 203.

CS 290 - Directed Study (Variable)

Credit arranged.

CS 301 - Object-oriented Design (3)

Continue to build a computer science foundation. Study of intermediate programming language constructs: event handling, graphical user interfaces, threads, and networking. Introduction to the software engineering process and programming-in-the-large.

Prerequisite: CS 203. Corequisite: CS 371.

CS 303 - Data Structures I (3)

Continues the study of computer science and software engineering methodologies. Analysis of common data structures, time and space efficiency, stacks, queues, linked lists, basic trees, recursion, searching, and sorting algorithms. Study of program language features required to support dynamic memory arrays.

Prerequisite: CS 203.

CS 304 - Data Structures II (3)

Advanced data structures, including advanced trees, graphs, hash tables, heaps. Study of the program language features required to support templates, inheritance, and exception handling.

Prerequisite: CS 303.

CS 352 - Programming Languages (3)

Comparative analysis of several modern high level languages in terms of data types and control structures, with emphasis on run-time behavior of programs.

Prerequisite: CS 304.

CS 371 - Object-oriented Design Laboratory (1)

Weekly three-hour laboratory to support CS 301.

Corequisite: CS 301.

CS 373 - Data Structures Laboratory (1)

Weekly 3-hour laboratory to support CS 303. Use of software tools and data structures to support software development (UNIX operating system).

Prerequisite: CS 303 or corequisite. Corequisite: CS 303 or prerequisite.

CS 374 - Computing Systems Laboratory (1)

Weekly 3-hour laboratory. Assembly language and systems programming.

Prerequisite: CS 303.

CS 382 - Advanced Programming Techniques (1)

The course focuses on developing and practicing techniques for rapid programming in a small team environment: approaches to problem assessment, selection of data structures and algorithms, implementation, and testing. Students will hone their skills by working in small teams to produce correct solutions to a wide variety of computing problems under time constraints.

Prerequisite: CS 303 or corequisite. Corequisite: CS 303 or prerequisite.

CS 400 - Seminar (2)

In-depth study of professional responsibility in the field of computer science. Students are expected to read journal papers, articles, and books, participate in class discussions, and give presentations.

Prerequisite: Upper-division standing.

CS 411 - Analysis of Algorithms (3)

Design, analysis and correctness proofs of important algorithms from areas such as combinatorics, seminumerical algorithms, data storage and retrieval, systems programming, and artificial intelligence. Includes a study of complexity theory.

Prerequisite: CS 304, MTH 311, MTH 461.

CS 421 - Artificial Intelligence (3)

The history and applications of artificial intelligence. Topics include: inference, knowledge representation, search, cognitive architecture, decision making under uncertainty, and machine learning. Course is taught in fall of odd-numbered years.

Prerequisite: CS 303.

CS 423 - Computational Biology (3)

Algorithmic and analysis techniques for biological data such as DNA, RNA, proteins, and gene expression. Topics include molecular biology, alignment and searching algorithms, sequence evolution algorithms, genetic trees, and analysis of microarray data. This course is interdisciplinary and assumes programming skills. Course is taught in fall of odd-numbered years.

Prerequisite: MTH 201, CS 203, and one of the following: BIO 205, BIO 207, CS 303. Crosslisted as: BIO 423.

CS 432 - Computer Graphics (3)

An examination of topics in computer graphics, including graphical output devices, line-drawing and clipping algorithms, representation and drawing of curves, techniques for transforming graphical images, and methods of modeling and rendering in three-dimensions. Course is taught in fall of even-numbered years.

Prerequisite: MTH 201, CS 303.

CS 434 - Database Management Systems (3)

The design and implementation of databases with an emphasis on the use of relational database management systems (DBMS). Query languages, table and index design, query evaluation, transaction management, tuning, security. Course taught in fall of even-numbered years.

Prerequisite: CS 304 or corequisite. Corequisite: CS 304 or prerequisite.

CS 441 - Software Engineering (3)

Software lifecycle models. Requirements engineering. Planning and managing software projects. Software design methods. System integration, software quality assurance, testing, and validation. Software maintenance.

Prerequisite: CS 303 or equivalent.

CS 442 - Software Engineering for Internet Applications (3)

Students will design, develop, and evaluate a web-based application. Emphasis on human factors, security, databases. Course is taught in spring of odd-numbered years.

Prerequisite: CS 304.

CS 445 - Computer Networks and Internetworking (3)

A broad first course in computer networks and internetworking. OSI and TCP/IP layered models, TCP/IP protocol suite, transmission media, local area networks, network and transport-layer protocols, internetworking, internet addressing and routing. Course is taught in spring of odd-numbered years.

Prerequisite: CS 304 or equivalent.

CS 446 - Operating Systems (3)

Functions, structure, design, and problems of operating systems. Concepts and principles of operating system design and implementation including file system, CPU scheduling, memory management (including virtual memory), deadlocks in computer systems, concurrent processes and programming, threads, and protection.

Prerequisite: CS 304 or equivalent.

CS 447 - Game Design and Theory (3)

This course will provide an introduction to the field of computer game design. The philosophy, objectives, and history of this field will be explored. In addition, the course will emphasize practical applications of some of the more prevalent techniques. Course is taught in spring of even-numbered years.

Prerequisite: CS 304 or corequisite. Corequisite: CS 304 or prerequisite.

CS 448 - Computer Systems Security (3)

Cryptography, program security, security in operating systems, security in computer networks, security administration and policies. Course is taught in spring of even-numbered years.

Prerequisite: CS 303.

CS 451 - Theory of Computation (3)

Introduction to finite automata, Turing machines, formal languages, and computability.

Prerequisite: CS 203, MTH 311.

CS 452 - Compiler Design (3)

Lexical analysis, syntactic analysis, type checking, and code generation. Introduction to optimization.

Prerequisite: CS 304, CS 374, CS 451.

CS 480 - Senior Design Project Preparation (3)

Selection of and preparation for a senior capstone design project in computer science. Students work in teams to prepare a formal proposal and design to meet performance specifications or research goals. Written and oral reports on the design project are required. Fee: $40.

Prerequisite: Upper division standing.

CS 481 - Senior Design Project (3)

A continuation of CS 480, students work in teams to implement, test, and evaluate their design. Written and oral reports are required, including a demonstration of the project. This course includes a comprehensive examination based on the CS curriculum. Fee: $40.

Prerequisite: CS 480.

CS 490 - Directed Study (Variable)

Credit arranged.

CS 491 - Seminar (Variable)

Credit arranged.

CS 492 - Seminar (Variable)

Credit arranged.

CS 493 - Research (1-3)

Faculty-directed student research. Before enrolling, a student must consult with a faculty member to define the project. May be repeated for credit.

Prerequisite: Upper division standing.

CS 499 - Senior Thesis (Variable)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the thesis area or good standing in the honors program.

Graduate Courses

CS 500 - Seminar (2)

In-depth study of professional responsibility in the field of computer science. Students are expected to read journal papers, articles, and books, participate in class discussions, and give presentations.

CS 511 - Analysis of Algorithms (3)

Design, analysis, and correctness proofs of important algorithms from areas such as combinatorics, seminumerical algorithms, data storage and retrieval, systems programming, and artificial intelligence. Includes a study of complexity theory.

CS 521 - Artificial Intelligence (3)

The history and applications of artificial intelligence. Topics include: inference, knowledge representation, search, cognitive architecture, decision making under uncertainty, and machine learning. Course is taught in fall of odd-numbered years.

CS 523 - Computational Biology (3)

Algorithmic and analysis techniques for biological data such as DNA, RNA, proteins, and gene expression. Topics include molecular biology, alignment and searching algorithms, sequence evolution algorithms, genetic trees, and analysis of microarray data. This course is interdisciplinary and assumes programming skills. Course is taught in fall of odd-numbered years.

CS 532 - Computer Graphics (3)

An examination of topics in computer graphics, including graphical output devices, line-drawing and clipping algorithms, representation and drawing of curves, techniques for transforming graphical images, and methods of modeling and rendering in three-dimensions. Course is taught in fall of even-numbered years.

CS 534 - Database Management Systems (3)

The design and implementation of databases with an emphasis on the use of relational database management systems (DBMS). Query languages, table and index design, query evaluation, transaction management, tuning, security. Course is taught in fall of even-numbered years.

CS 541 - Software Engineering (3)

Software lifecycle models. Requirements engineering. Planning and managing software projects. Software design methods. System integration, software quality assurance, testing, and validation. Software maintenance.

CS 542 - Software Engineering for Internet Applications (3)

Students will design, develop, and evaluate a web-based application. Emphasis on human factors, security, databases. Course is taught in spring of odd-numbered years.

CS 545 - Computer Networks and Internetworking (3)

A broad first course in computer networks and internetworking. OSI and TCP/IP layered models, TCP/IP protocol suite, transmission media, local area networks, network and transport-layer protocols, internetworking, internet addressing and routing. Course is taught in spring of odd-numbered years.

CS 546 - Operating Systems (3)

Functions, structure, design, and problems of operating systems. Concepts and principles of operating system design and implementation including file system CPU scheduling, memory management (including virtual memory), deadlocks in computer systems, concurrent processes and programming, threads, and protection.

CS 547 - Game Design and Theory (3)

This course will provide an introduction to the field of computer game design. The philosophy, objectives, and history of this field will be explored. In addition, the course will emphasize practical applications of some of the more prevalent techniques. Course is taught in spring of even-numbered years.

CS 548 - Computer Systems Security (3)

Cryptography, program security, security in operating systems, security in computer networks, security administration and policies. Course is taught in spring of even-numbered years.

CS 551 - Theory of Computation (3)

Introduction to finite automata, Turing machines, formal languages, and computability.

CS 552 - Compiler Design (3)

Lexical analysis, syntactic analysis, type checking, and code generation. Introduction to optimization.

CS 590 - Directed Study (Variable)

Credit arranged.

CS 591 - Seminar (Variable)

Credit arranged.

CS 592 - Seminar (Variable)

Credit arranged.

CS 593 - Research (1-3)

Faculty-directed student research. Before enrolling, a student must consult with a faculty member to define the project. May be repeated for credit.

DNC - Dance

DNC 214 - Jazz Dance (2)

A jazz dance technique class. Emphasis in learning proper body alignment and the value of body conditioning. Class includes warm-up and jazz combinations of movement. May be repeated for a maximum of 6 credit hours. May not be audited.

DNC 216 - Introduction to Ballet I (2)

Beginning instruction in classical ballet includes barre and center exercises designed to develop coordination, balance, and strength for dance and fitness. May be repeated for a maximum of 6 credit hours. May not be audited.

DNC 315 - Jazz and Modern Dance (2)

Dance technique class. Emphasis on jazz and modern dance. Class includes warm-up, strengthening and stretching exercises, and combinations of movement and fundamental steps to music. May be repeated for a maximum of 6 credit hours. May not be audited.

DNC 316 - Jazz Dance II (2)

An exploration of various dance styles. May be repeated for a maximum of 6 credit hours. May not be audited.

Prerequisite: DNC 315.

DNC 317 - Ballet II (2)

Continuation of Ballet I. May be repeated for a maximum of 6 credit hours. May not be audited.

DRM - Drama

DRM 210 - Introduction to Theatre (3)

Introductory course examines the development of theatre from historical, aesthetic, and production perspectives. It looks at the individual components of theatre and shows how they work in collaboration. Prerequisite for freshmen anticipating drama-related degrees or endorsements; suitable introductory course for non-majors.

DRM 272 - Production Practicum I (1)

Supervised Participation in two phases of the production process working backstage on scenery, costumes, lighting, sound, stage management or house management. Required of all Sophomore Drama Majors and includes a written self evaluation and oral review.

DRM 290 - Directed Study (Credit arranged.)

Individualized programs which focus on a specialized area of theatre. These are available only when developed through a contractual agreement between the student and a supervising faculty member.

DRM 310 - Modern Production Theory (3)

This course is designed to give students a foundation of primary sources that have influenced our sense and expectations of modern theatre. The course will explore major acting and design theories, along with modern philosophies of performance, direction, and design. Works will include those of Stanislavski, Robert Edmond Jones, Brecht, and others.

DRM 321 - Acting Workshop I (3)

This course explores the fundamentals of acting for both majors or those anticipating drama-related degrees. Includes the study of relaxation, concentration, imagination, and physical and psychological awareness. Focuses on the basic tenets of Stanislavski's acting system.(For majors and minors only.)

DRM 322 - Acting Workshop II (3)

Continuation of DRM 321. Focuses to a greater extent on Stanislavski method of acting. Continues to assist the actor with a process for character development while stressing actor interaction through basic scene work taken from realistic plays.

Prerequisite: DRM 321 or DRM 325.

DRM 325 - Acting for Non-Majors (3)

This course explores the fundamentals of the acting process to the beginning student. The student will practice a variety of acting methods, and learn the necessity of script work and analysis. The student will work on discovering the physical, vocal, and psychological aspects of the character and apply them to specific dramatic texts using scene study and performance.

DRM 333 - Directing for Theatre (3)

Course involves the study of stage directorial techniques. Includes text analysis, the visual elements of composition, picturization, and movement, as well as the communicative skills needed in working in this collaborative art form.

DRM 335 - Voice for Stage (3)

Course is designed to help students incorporate the significant elements of vocal production into their acting. The process then proceeds one step further by applying these skills to dialect work. Class will focus on correct pronunciation using the International Phonetic Alphabet (IPA).

Prerequisite: DRM 321 or DRM 325.

DRM 337 - Stage Combat/Movement-for the Actor (3)

Course is designed to introduce the student to various types of combat used on stage (i.e. hand-to-hand, rapier/dagger, broadsword). Also introduces different movement techniques and incorporates movement to enhance character work.

Prerequisite: DRM 322.

DRM 343 - Drama and Children (3)

Course is designed for students who expect to work with young children. Techniques include storytelling, creative dramatics, and ideas for using drama to enliven the general elementary-age curriculum. Students will apply theories and techniques through classroom presentations.

DRM 350 - Theatre Crafts (3)

Introductory course for Drama majors that gives the student a foundation in the basic techniques, tools, and materials of construction for both scenery and costumes for the stage. (Non-majors by permission of instructor.)

DRM 351 - Stage Lighting and Sound (3)

An introductory study of the principles of stage lighting and sound design for theatrical productions. Emphasis will be on both the design and technology necessary to create designs use stage lighting and sound equipment. Students will use a variety of tools to create both practical and theoretical projects. Previous theatre experience is not required.

DRM 353 - Stage Design (3)

An introductory study in the theories and skills of scenic design for the theatre. Skill work includes beginning drawing, drafting, perspective and watercolor rendering. Class also will focus on visual research skills and script analysis as it pertains to creating a scenic environment. No previous design skills necessary.

DRM 363 - Costume Design (3)

Survey of costume history, rendering, and design techniques. Students will be expected to apply the historical and technical elements to renderings of specific theatrical periods and works. No drawing or painting experience necessary.

DRM 365 - Theatrical Makeup (3)

Introductory course in the basic principles of the art and techniques of theatrical makeup. Emphasis will be on both creative design and execution using a range of methods, mediums and styles.

DRM 372 - Production Practicum II (1)

Supervised participation in two phases of the production process working backstage on scenery, costumes, lighting, sound, stage management or house management. Required of all Junior Drama Majors and includes a written self evaluation and oral review. Required of Drama minors.

DRM 373 - Management Practicum II (1)

Supervised participation in one or more phases of management responsibilities (box office, public relations, events coordination, etc.) during the spring semester of the junior year. (Graded on a pass/no pass basis.)

DRM 407 - Survey of Theatre History I (3)

A chronological study of the historical development of theatre from its beginnings through the English Restoration. Emphasis will be on historical research and dramatic literature.

DRM 408 - Survey of Theatre History II (3)

A chronological study of the historical development of theatre from the eighteenth century to the present. Emphasis will be on historical research and dramatic literature.

DRM 422 - Advanced Acting (3)

Course focuses on a variety of dramatic styles. Students will perform monologues and scenes from the English Renaissance, primarily the works of Shakespeare.

Prerequisite: DRM 322.

DRM 424 - Graduate Preparation Workshop (1)

This course prepares the student for the rigors of graduate school auditions. The course focuses on building the audition portfolio from selection of contrasting pieces to obtaining professional head shots and developing an effective resume. It will also prepare students for the entire audition process.

Prerequisite: Permission of instructor.

DRM 427 - Playwriting (3)

Study of the aesthetics and techniques involved in the written dramatic form for stage. Emphasis upon writing, workshop critiques and discussion of student's plays.

DRM 430 - Screen Writing (3)

Study of the aesthetics and techniques involved in the written dramatic form for video and film production. Emphasis upon writing, workshop critiques and discussion of student's screenplays.

DRM 437 - Audition Techniques (3)

This course is designed to prepare the student for the entire professional auditioning process. It focuses on selection and performance of monologues, prepared auditions, cold readings, commercial and film auditions. It also covers creating appropriate resumes, getting the best head shots, and the details of getting a theatrical agent and working in union and non-union situations.

Prerequisite: DRM 322.

DRM 450 - Production Management (3)

This course focuses on the theories and practice of stage, production, and artistic management. Topics include rehearsal management, budgeting, schedule work, costing, unions, and season selection as they apply to the educational, community, and professional theatre.

DRM 451 - Advanced Stage Lighting and Sound (3)

Advanced course in study in lighting design that includes designing for thrust, arena, musicals, and dance. Work with projections, automated equipment and CADD. Sound work includes computer editing and cueing for theatrical production.

Prerequisite: DRM 351 or permission of instructor.

DRM 453 - Advanced Stage Design (3)

A course in stage design where students will be introduced to the more advanced practices of stage design, model building, and drafting. Students will apply learned theories and skills to several projects and written presentations.

Prerequisite: DRM 353 or permission of instructor.

DRM 455 - Musical Theatre Workshop (3)

Study of theatrical singing and acting techniques as applicable to all varieties of musical theatre pieces. Students are expected to participate in various performances prepared by the class. Open to all students with instructor's permission.

Crosslisted as: MUS 455.

DRM 456 - Decorative Arts for Stage (3)

This course introduces students to the history and style approaches to major decorative design periods from the Greeks to Moderns. Students will apply style history to Scenic Art and Decorative Art projects that include mural painting, scrim painting, upholstery and fabric crafts.

DRM 463 - Advanced Costume Design (3)

Students will participate in advanced discussions and projects in textiles, color palettes, silhouettes, and costume fashion research. These concepts will be implemented in formal costume design projects utilizing a variety of dramatic styles.

Prerequisite: DRM 363 or equivalent.

DRM 467 - Costume Construction (3)

This course is designed to encourage students to master construction techniques through building their own designs. Pattern drafting, tailoring, and fabric manipulation will be emphasized. Students will be expected to provide fabrics and notions for most projects. (Sewing skills required.)

DRM 471 - Principles of Theatre Management (3)

Course introduces students to the diverse issues involved in managing a theatre company. It begins with a history of the issues leading up to the regional theatre movement and includes an examination of the manager's role, budgeting, marketing, fundraising, the role of a board of directors, as well as an understanding of the modern context/trends/needs of artists which management supports.

DRM 472 - Management Internship (3)

Qualified students are assigned to the management office or production team of a local theatre production company or closely affiliated arts organization for work experience. Placement is arranged through the faculty member assigned as program director.

DRM 490 - Directed Study (Credit arranged.)

Individualized programs which focus on a specialized area in theatre. These are available only when developed through a contractual agreement between the student and a supervising faculty member.

DRM 491 - Seminar (Variable)

Credit arranged.

DRM 492 - Seminar (Variable)

Credit arranged.

DRM 493 - Research (Variable)

Credit arranged.

DRM 494 - Research (Variable)

Credit arranged.

DRM 495 - Workshop (Variable)

Credit arranged.

DRM 496 - Workshop (Variable)

Credit arranged.

DRM 497 - Internship (Variable)

Credit arranged.

DRM 498 - Senior Capstone Project (3)

Capstone course is required for all senior drama majors. Each student, in consultation with faculty mentor, designates a specific project to act as the culmination of their degree program. Projects are in the areas of performance, directing, design, and advanced construction. Documentation of the project includes a self evaluation and a public presentation to students and drama faculty.

DRM 499 - Senior Thesis (Credit arranged.)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.

DRM 599X - Thesis in Progress (0)

Registration for any graduate student who has received the grade of IP in DRM 599 is required while the thesis is in progress. Fee: $50.

Graduate Courses

DRM 500 - Research Techniques in the Performing Arts (3)

Intensive examination of research methods and resources and the principles of advanced scholarly writing in the performing arts. Must be taken within the first nine hours of graduate study.

Crosslisted as: MUS 500.

DRM 507 - Survey of Theatre History I (3)

A chronological study of the historical development of theatre from its beginnings through the Restoration period. Emphasis will be on historical research and dramatic literature.

DRM 508 - Survey of Theatre History II (3)

A chronological study of the historical development of theatre from the eighteenth century to the present. Emphasis will be on historical research and dramatic literature.

DRM 510 - Theories of Dramatic Criticism (3)

Study of selected theories of dramatic criticism from Aristotle to the present.

DRM 522 - Advanced Acting (3)

Intensive work on scene study, development of characterizations, and advanced acting approaches. Work in acting theory and history.

DRM 527 - Stage and Screen Writing (3)

Study of the aesthetics and techniques involved in the writing of plays. Selected readings, lectures, and discussions. Emphasis upon writing, workshop critiques, and discussion of student plays. Will include a public reading of final projects.

DRM 531 - Advanced Production Seminar (3)

A graduate course that helps students develop a personal creative process for conceptualization and collaboration necessary in theatrical production. Students will explore proper production procedures and techniques. Finally, students will practice approaches to writing about conceptual ideas for thesis projects.

DRM 533 - Advanced Play Direction (3)

This advanced course is designed to include lectures and practical experience in directorial techniques.

DRM 537 - Advanced Directing Seminar (3)

This course will focus on more specialized projects related to a director's production preparation; production styles, creating dramatic adaptations, selecting translations, and script editing.

DRM 539 - Production Process Qualifier (3)

This course is designed to supervise students through the major steps in the production process. This course allows student directors to acquire production laboratory experience prior to the thesis production project.

DRM 541 - Script Analysis (3)

This MFA core course is designed to give directors a variety of script analysis strategies for use in preparing a production. Students explore the value of the chronological, character, and audience-based analysis structures and apply them to dramatic literature. In addition, action based analysis will be used for interpretation of individual scenes within particular dramas.

DRM 551 - Advanced Stage Lighting and Sound (3)

Advanced course of study in lighting that includes designing for thrust, arena, musicals, and dance. Work with projections, automated equipment and CADD. Sound work includes computer editing and cueing for theatrical production.

Prerequisite: DRM 351 or permission of instructor.

DRM 553 - Advanced Stage Design (3)

A graduate course in stage design where students will be introduced to the more advanced practices of stage design, model building, and drafting. Students will apply learned theories and skills to several projects and written presentations.

Prerequisite: DRM 353 or permission of instructor.

DRM 555 - Musical Theatre Workshop (3)

Study of theatrical singing and acting techniques as applicable to all varieties of musical theatre pieces. Students must participate in various performances prepared by the class. In this combined undergraduate and graduate student pool, graduate students will be expected to take on more challenging pieces and to provide mentoring to those undergraduates who require it.

DRM 556 - Decorative Arts for the Stage (3)

This course introduces graduate students to the history and style approaches to major decorative design periods from the Greeks to the Moderns. Students will apply style history to Scenic Art and Decorative Art projects that include mural painting, scrim painting, upholstery and fabric crafts.

DRM 563 - Advanced Costume Design (3)

Students will participate in advanced discussions and projects in textiles, color palettes, silhouettes, and costume fashion research. These concepts will be implemented in formal costume design projects utilizing a variety of dramatic styles.

Prerequisite: DRM 363 or equivalent.

DRM 571 - Graduate Directors Practicum (3)

Participation in the production process in the University's drama program. The graduate student will usually serve as assistant director or stage manager on a production. To be completed during the first two semesters of the program.

DRM 572 - Directors Workshop I (3)

This workshop/seminar course for graduate directors will focus on professional topics and directing craft. DRM 572 and DRM 573 are not sequenced and may be taken in either order.

DRM 573 - Directors Workshop II (3)

This workshop/seminar course for graduate directors will focus on professional topics and directing craft. DRM 572 and DRM 573 are not sequenced and may be taken in either order.

DRM 579 - Production Internship (3)

This course provides a professional development opportunity through an internship with an organization outside of the University. The student seeks out and obtains an internship with the guidance and advice of the Graduate Program Director. (IP grade allowed.)

DRM 590 - Directed Study (Credit arranged.)

Individualized programs which focus on a specialized areas in theatre. These are available only when developed through a contractual agreement between the student and a supervising faculty member.

DRM 591 - Seminar (Variable)

Credit arranged.

DRM 592 - Seminar (Variable)

Credit arranged.

DRM 593 - Research (Variable)

Credit arranged.

DRM 594 - Research (Variable)

Credit arranged.

DRM 595 - Drama Workshop (Variable)

Credit arranged.

DRM 596 - Drama Workshop (Variable)

Credit arranged.

DRM 597 - Internship (Variable)

Credit arranged.

DRM 598 - Thesis Production (3)

This course is the capstone production for the graduate directing student application of the full directing process from conceptualization to finished produced production. Student will defend the final production in front of the entire drama faculty.

DRM 599 - Thesis (3)

Graduate directing students will work under an advisor in the creation of a thesis that documents the research and directing process for their produced Thesis Production. Students will defend the final draft of paper in front of the entire drama faculty.

Prerequisite: DRM 598.

ECN - Economics

ECN 120 - Principles of Macroeconomics (3)

Investigates the determinants of national output, the unemployment rate, and inflation, as well as the use of monetary and fiscal policies to regulate the economy. Examines international trade and determinants of exchange rates.

ECN 121 - Principles of Microeconomics (3)

Analyzes the behavior of consumers, workers, and firms in market economies. Examines issues in the context of both competitive and monopolistic markets, with a comparison of the way in which prices and output levels are determined in different markets. Extends analysis to include the role of government in market economies.

ECN 310 - Econometrics (3)

Applies statistical methods to economic or financial data to investigate the validity of hypotheses or theoretical models. Develops various techniques used in multiple regression analysis of time series and cross-section data.

Prerequisite: ECN 120, ECN 121, MTH 121, MTH 161.

ECN 319 - Intermediate Microeconomics (3)

Draws on the knowledge of economic theory, statistics, and calculus in order to provide managers with applicable tools for decisions regarding prices, production, and efficient resource allocation. Through problem-solving and hands-on projects, students learn the role of quantitative tools and economic theory in modern management.

Prerequisite: ECN 120, ECN 121, MTH 121, MTH 161.

ECN 320 - Intermediate Macroeconomics (3)

Studies macroeconomic theories, including those about the determinants of output, the unemployment rate, and the inflation rate in the short run, and those about the rate of economic growth in the long run. The predictions of these theories will be contrasted with economic experience in the US and elsewhere.

Prerequisite: ECN 120, ECN 121.

ECN 322 - Environmental Economics (3)

Provides economic analysis of public policy issues in resource utilization and environmental quality, considering political and macroeconomic aspects of environmental policy. Discussion includes externalities, property rights, benefit-cost analysis, and local water and air pollution issues. In addition, analyzes global problems such as acid rain and global warming.

Prerequisite: ECN 121, Junior status.

ECN 325 - Economics and Metrics for Sustainability (3)

In the face of interconnected and increasing environmental and social problems this century, organizations able to see the big picture and effectively seize opportunity in the midst of complexity will do well in the long run. This course covers the current analytical frameworks and tools that leading edge organizations are using to benchmark and improve environmental, social and financial performance.

Prerequisite: ECN 120 or ECN 121. Crosslisted as: ENV 325.

ECN 424 - Income Inequality (3)

Examines the determinants of incomes in market economies, including education, training, experience, hours worked, discrimination, inheritance, unions, and government transfers. Studies causes of change in the extent of inequality and social impacts of inequality. Analyzes government policies to reduce inequality, including anti-poverty policies.

Prerequisite: ECN 121 or permission of instructor. Crosslisted as: SJP 424.

ECN 426 - Comparative Economics (3)

Examines major economies of the world from a historical, theoretical and applied perspective. Students will analyze how different national economic systems have evolved through time as changing economic ideas and practices spread across national boundaries.

Prerequisite: ECN 120, ECN 121 or permission of instructor. Crosslisted as: PCS 426.

ECN 427 - Sports Economics (3)

Applies microeconomic concepts to analyze contemporary issues in professional and college athletics. Topics include the role of sports in society, the structure of sports markets, franchises, entry barriers, contracts and compensation, media, financing of new stadiums, ticket pricing, and labor-management disputes.

Prerequisite: ECN 120, ECN 121.

ECN 428 - Public Finance (3)

Studies the economics of the public sector, partly by examining the appropriate role for government in the economy. Course content focuses on the nature of public goods, externalities, and taxation. Topics include public choice, cost-benefit analysis, the incidence of taxes and an analysis of the effects of government resource allocation on private sector decisions.

Prerequisite: ECN 120, ECN 121.

ECN 429 - Development Economics (3)

Explores why some less-developed countries have seen substantial rises in living standards and others have not. Includes an examination of the roles of education, income distribution, the rural and urban sectors, technology, investment, financial markets, foreign trade, domestic institutions (like maquiladoras), and international institutions (like the World Bank).

Prerequisite: ECN 120, ECN 121.

ECN 440 - International Economics (3)

Examines how trade among nations takes place and why free trade may improve standard of living for all nations. Explores how the value of currencies is determined in world markets and the balance of payments. Considers the effects of trade barriers and domestic monetary and fiscal policies.

Prerequisite: ECN 120, ECN 121, MTH 161.

ECN 490 - Directed Study (Credit arranged.)

Guided inquiry for superior students to pursue a particular subject area more intensively than course offerings permit. By special arrangement with economics faculty.

ECN 491 - Seminar (Credit arranged.)

In the semesters in which offered, varying subject matter as economics faculty deems appropriate for needs of the student in meeting the objectives of the undergraduate business program.

ECN 492 - Seminar (Credit arranged.)

In the semesters in which offered, varying subject matter as economics faculty deems appropriate for needs of the student in meeting the objectives of the undergraduate business program.

ECN 499 - Senior Thesis (Credit arranged.)

Research study or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior and 3.0 G.P.A. in the thesis area or good standing in the honors program.

ED - Education

ED 150 - Introduction to Education (3)

Explores the profession of education and what is required to be a teacher whose values include life-long learning, empathy, and respect. Candidates will examine philosophical and current education issues and the professional attributes needed as a teacher in a diverse society. Through a weekly field experience candidates observe and assist PK-12 teachers.

Prerequisite: Fingerprint clearance.

ED 230 - ECE/ELEM Human Development (3)

Traces the life span of human development from age 3 through grade 8. Candidates will gain empathy and respect for the diversity present in the classroom through the study of physical, social, moral, psychomotor, emotional, and cognitive developmental theories. Field experience required.

Prerequisite: Fingerprint clearance.

ED 231 - MS/HS Human Development (3)

Traces the life span of human development from grades 5-12. Candidates will gain empathy and respect for the diversity present in the classroom through the study of physical, social, moral, psychomotor, emotional and cognitive developmental theories. Field experience required.

Prerequisite: Fingerprint clearance.

ED 300 - ECE/ELEM Psychology of Learning (3)

Gives future teachers deep knowledge of how people learn, focusing on children from age 3 through grade 8. Learning, motivation, intelligence, and assessment are explored through perspectives including behaviorist, constructivist, and cognitive science. Candidates will use their emerging knowledge of learning theories to make developmentally sound instructional decisions, both theoretically and in practice, in a concurrent field experience.

Prerequisite: Fingerprint clearance.

ED 301 - MS/HS Psychology of Learning (3)

Gives future teachers deep knowledge of how people learn, focusing on children grades 5-12. Learning, motivation, intelligence, and assessment are explored through perspectives including behaviorist, constructivist, and cognitive science. Candidates will use their emerging knowledge of learning theories to make developmentally sound instructional decisions, both theoretically and in practice, in a concurrent field experience.

Prerequisite: Fingerprint clearance.

ED 320 - Foundations of Education (3)

Examines the relationship between schools and society and analyzes the historical traditions, philosophical perspectives, and social practices that shape American education. The course is designed to help students understand how schools and individuals interact and to help candidates value the diversity of the communities in which they work. Field experience required.

Prerequisite: Fingerprint clearance. Crosslisted as: SJP 320.

ED 330 - Policies and Practices for Diverse Learners (3)

Identifies and addresses population characteristics, incidence, and general educational placement options for the different categories of exceptional learners. Assessment practices and exemplary teaching techniques are also explored for multicultural and diversity issues. Law, policy, and IEP procedures are emphasized. Field experience required.

Prerequisite: ED 230 or ED 231, fingerprint clearance.

ED 340 - ECE/ELEM Physical Education (3)

Provides future teachers the opportunities to explore and participate in the content knowledge of physical education and fitness/wellness programs at the early childhood and elementary levels. This course will demonstrate the value of an effective physical education program in developing holistic learners. Students will research and evaluate their effectiveness by critically reviewing and analyzing the resources for the teaching of physical education.

ED 387 - Service Learning in Mathematics or Reading or Science (1)

This seminar supports candidates as they work in local schools as part of the America Reads, Outreach math or science program(s). Candidates will discuss questioning strategies, ways to facilitate group work, how to deal with problems in the classroom, and learn how to interact with students. May be repeated for credit. Graded on a pass/no pass basis.

ED 391 - Seminar (Variable)

Credit arranged.

ED 400 - ECE/ELEM Curriculum and Instruction (3)

The course is designed to introduce future teachers to an overview of early childhood/elementary school curriculum, instruction, and assessment. Candidates gain an understanding of how curriculum, instruction, and assessment are interrelated and how theory and practice must be combined to make appropriate decisions as they complete a simulated pedagogical work sample.

Prerequisite: ED 230, ED 320, fingerprint clearance.

ED 403 - Language and Communication: Support and Strategies (3)

Focuses on the linguistic and cultural relationships between language and learners including the assessment and evaluation of applied linguistics, the structures and function of spoken and written languages. Candidates practice numerous assessments and language intervention strategies designed as supports for learning, language disabilities, and cultural linguistic differences.

Prerequisite: ED 330 or ED 502.

ED 404 - School, Parent, and Community Relations (3)

Emphasizes developing knowledge, understanding, and communication skills to develop and apply the resources of communities and families to meet the students' educational needs. Special attention is given to understanding the concept of family as a social structure and to appreciate the historical, cultural and social forces, which shape the families, school and community. Junior or senior status required.

ED 405 - Behavior Support: Consultative and Collaborative (3)

Analyzes and plans toward productive behavior in academic and social settings. Candidates will participate in developing support systems for behavior in the classroom (PreK-transition) by learning alternative forms of intervention as well as collaborative and consultative techniques.

Prerequisite: ED 330 or ED 502.

ED 406 - Academic Assessment: Curriculum and Instruction for Diverse Learners (3)

Candidates learn to compose an IEP for students with mild disabilities, use relevant assessment methods to identify students' instructional needs and monitor their progress, use the assessment data to inform planning and teaching, participate in field experience and practice all knowledge and skills they learn in the course.

Prerequisite: ED 330 or ED 502, fingerprint clearance.

ED 408 - Functional Assessment: Curriculum and Instruction for Diverse Learners (3)

Candidates learn to develop functional prevention and intervention assessment of students with moderate to severe disabilities, observe, sample, and analyze student behavior according to developmental cognitive, social, language, and motor domains in assessing and evaluating progress toward academic and curricular IEP goals and objectives, and understand specialized supports and technology.

Prerequisite: ED 330 or ED 502, fingerprint clearance.

ED 409 - Methods and Materials for Teaching ESOL (3)

Candidate learns to select, modify, and evaluate curricular materials for individuals and groups of English as a second language learners taking into account the learners' abilities, learning rates, and styles of learning. Candidates are also given field practice time to work with ESOL individuals using the methods and materials discussed in class.

Prerequisite: Fingerprint clearance.

ED 410 - Linguistics (3)

Examines and applies the major concepts, theories, and research related to the nature and acquisition of language as a system. This includes a focus on the components of language, including phonology, morphology, syntax, semantics, pragmatics, semiotics, discourse varieties, aspects of social and academic language, rhetorical registers, and writing conventions.

ED 411 - Assessment (3)

Examines various theories and current practices in employing discrete and holistic assessment to inform instruction and measure student learning. Formative and summative techniques in traditional and performance-based approaches, and the aggregation and desegregation of student data to inform instructional practices in diverse classrooms are some of the topics explored.

ED 414 - Children's and Adolescent Literature and Library (3)

Examines various genres of literature, pre-primary through grade 8. Includes book selection appropriate to age and interest level. The course uses literature to enrich integrated school curriculum and demonstrates techniques for increasing reading motivation and teaching through print and technological media.

ED 424 - Computers and Educational Technology (3)

Explores the impact of computer technology on today's schools. Emphasis is placed on developing skills for integrating technology to facilitate learning.

ED 425 - Intercultural and Civil Rights Education (3)

Includes the content of comparative education and global education. Emphasis on multicultural education, civil rights, student and teacher rights in the context of school law and discrimination awareness with emphasis on school applications.

ED 426 - ECE/ELEM Classroom Relationships and Management (3)

Emphasizes proactivity, problem-solving and communication in ECE/ELEM classrooms as the means for creating productive learning environments. Offers insights and practical strategies for working with students from diverse backgrounds and learning styles, and for establishing effective classroom relationships, procedures, and routines that encourage students' intellectual, personal, and moral development. Field experience required.

Prerequisite: ED 300, ED 330 or corequisite, fingerprint clearance. Corequisite: ED 330 or prerequisite.

ED 427 - MS/HS Classroom Relationships and Management (3)

Emphasizes proactivity, problem-solving and communication in middle/secondary classrooms as the means for creating productive learning environments. Offers insights and practical strategies for working with students from diverse backgrounds and learning styles, and for establishing effective classroom relationships, procedures and routines that encourage students' intellectual, personal and moral development. Field experience required.

Prerequisite: ED 300, ED 330 or corequisite, fingerprint clearance. Corequisite: ED 330 or prerequisite.

ED 442 - ECE/ELEM Reading and Language Arts Methods (3)

Develops reading and language arts skills, including speaking, listening and writing from age 3 through grade 8. Emphasizes reading readiness, emergent literacy, assessment, methods, materials, recent research, and theoretically sound practices for improvement and instruction of reading and language arts skills. All coursework will be evenly distributed between early childhood and elementary authorization levels. Field experience required.

Prerequisite: ED 400, fingerprint clearance.

ED 445 - EC/ELEM Mathematics and Science Methods (3)

Provides opportunities for candidates to explore trends, practices, materials, and resources for teaching mathematics and science to children ages 3 through grade 8. The course includes content-specific methods, materials, and assessments appropriate to an integrated elementary curriculum. Field experience required.

Prerequisite: ED 400, ED 426, ED 442, fingerprint clearance.

ED 447 - Fostering Creativity in the Classroom (3)

Pre-service teachers explore methodology and practice of integrating creativity into early childhood/elementary, intermediate, and secondary classrooms. Candidates experience a discipline-based arts practice. Candidates will demonstrate skills, concepts, and knowledge of developmentally appropriate material and curriculum through class presentations. Field experience required.

Prerequisite: ED 400, ED 426, ED 442, FA 207, fingerprint clearance.

ED 450 - Models of Teaching and Literacy Development (3)

Introduces candidates to basic principles of curriculum planning and a variety of instructional models. Current literacy theory and practice for middle and high school classrooms are explored. Candidates acquire various methods for integrating literacy into content-area planning and instruction in ethnically and linguistically diverse classrooms. Field experience is required.

Prerequisite: ED 231, ED 301, ED 320, ED 330, fingerprint clearance.

ED 452 - MS/HS Content Methods: Language Arts (3)

Focuses on designing effective language arts curriculum, instruction, and assessment. Candidates learn content-specific instructional and assessment methods and plan lessons that integrate these research-based methods for the diverse student bodies. Coursework will address both middle school and high school authorization levels. Field experience required.

Prerequisite: ED 231, ED 301, ED 320, ED 330, ED 427, ED 450, fingerprint clearance.

ED 453 - MS/HS Content Methods: Math (3)

This course will focus on designing effective math curriculum, instruction, and assessment. Candidates will learn content-specific instructional and assessment methods and plan, teach, and assess lessons that facilitate learning of important math related knowledge, skills, and dispositions. Field experience required.

Prerequisite: ED 231, ED 301, ED 320, ED 330, ED 427, ED 450, fingerprint clearance.

ED 454 - MS/HS Content Methods: World Language (3)

Focuses on designing world language curriculum, instruction, and assessment. Candidates learn content-specific instructional and assessment methods and plan, teach and assess lessons that facilitate learning of world language knowledge, skills, and dispositions. Coursework will address middle and high school authorization levels. Field experience required.

Prerequisite: ED 231, ED 301, ED 320, ED 330, ED 427, ED 450, fingerprint clearance.

ED 456 - MS/HS Content Methods: Social Studies (3)

Focuses on the design of effective social studies curriculum and instruction. Candidates will learn content-specific instructional methods and will plan and teach lessons that integrate these methods. Coursework will address both middle school and high school authorization levels. Field experience required.

Prerequisite: ED 231, ED 301, ED 320, ED 330, ED 427, ED 450, fingerprint clearance.

ED 457 - MS/HS Content Methods: Science (3)

Provides opportunities for candidates to explore trends, practices, materials, and resources for teaching science. Covers both instructional methodologies and assessment for science at the middle and high school levels of authorization. Field experience required.

Prerequisite: ED 450, fingerprint clearance.

ED 460 - Endorsement Portfolio (0)

Candidates maintain, update, and submit evidence of completing tasks aligned with state and national standards to their academic advisor during each semester that the candidates enroll in an endorsement course. A candidate-generated portfolio of evidence is submitted as a capstone requirement to the academic advisor at the end of the program.

ED 464 - Reading Practicum PK-12 (3)

Practicum is a supervised field experience that provides opportunities for candidates to meet professional competencies as recommended by the state and national organizations. Prior approval by Reading Faculty Advisor.

ED 466 - Practicum (Credit arranged.)

Opportunity to blend study and practice in a specialized area such as a field placement. Regardless of setting, the practicum is under the direction of a university instructor. Candidate is expected to develop a proposal for study which must be approved by instructor, assistant dean, and the dean. May be repeated up to 9 hours.

ED 468 - Special Education Practicum PK-12 (3)

Practicum is a supervised field experience that provides opportunities for candidates to meet professional competencies as recommended by the state and national organizations. Prior approval by Special Education Faculty Advisor.

ED 469 - ESOL Practicum PK-12 (3)

ED 469/569 Practicum is a supervised field experience that provides opportunities for candidates to meet professional competencies as recommended by the state and national organizations. Prior approval by ESOL Faculty Advisor.

ED 470 - ECE/ELEM Student Teaching (3)

Provides student teachers opportunities to apply professional and pedagogical principles in a classroom and school community. Student teachers assume major responsibilities on a part time basis of the wide range of teaching duties under the direction of qualified personnel and will produce a work sample demonstrating acquired professional knowledge, skills, and dispositions.

Prerequisite: ED 400, ED 426, ED 442.

ED 471 - MS/HS Student Teaching (3)

Provides student teachers opportunities to apply professional and pedagogical principles in a classroom and school community. Student teachers assume major responsibilities on a part time basis of the wide range of teaching duties under the direction of qualified personnel and will produce a work sample demonstrating acquired professional knowledge, skills, and dispositions.

Prerequisite: ED 427, ED 450.

ED 472 - ECE/ELEM Student Teaching (3)

Provides student teachers opportunities to apply professional and pedagogical principles in a classroom and school community. Student teachers assume major responsibilities on a full time basis of the wide range of teaching duties under the direction of qualified personnel and will produce a work sample demonstrating acquired professional knowledge, skills, and dispositions.

Prerequisite: ED 470.

ED 473 - MS/HS Student Teaching (3)

Provides student teachers opportunities to apply professional and pedagogical principles in a classroom and school community. Student teachers assume major responsibilities on a full time basis of the wide range of teaching duties under the direction of qualified personnel and will produce a work sample demonstrating acquired professional knowledge, skills, and dispositions.

Prerequisite: ED 471.

ED 475 - MS/HS Student Teaching: Advanced (3)

Student teachers continue to apply professional and pedagogical principles in a classroom and school community. Student teachers assume full-time teaching responsibilities for an extended period of time under the direction of qualified personnel. A work sample is required.

Prerequisite: ED 471.

ED 476 - ECE/ELEM Student Teaching: Advanced (3)

Student teachers continue to apply professional and pedagogical principles in a classroom and school community. Student teachers assume full-time teaching responsibilities for an extended period of time under the direction of qualified personnel. A work sample is required.

Prerequisite: ED 470.

ED 480 - Elements of Reading PK-12 (3)

Studies components of the reading process and the various operations performed while reading. Candidates develop empathy and respect for the learner of reading while exploring the stages of reading and the particular operations and strategies necessary in the ability to be a reader. Required for reading endorsement.

Prerequisite: ED 442 or ED 450, permission of instructor.

ED 481 - Reading, Language, and Cultural Diversity in Schools (3)

Introduces candidates to the broad areas of language and culture relevant to PK-12 classrooms. Introduces theories, materials, and methods for reading/language instruction for diverse classrooms. Candidates develop empathy and respect for students with language and cultural differences. Required for reading and ESOL endorsement. Field experience arranged by instructor may be required.

ED 482 - Content Area Literacy (3)

Reviews current theory, knowledge and practice of reading and written communication for students in grades 4-12. Integrates pedagogical knowledge of literacy development of theory into practice. Candidates learn methods for facilitating the use of reading and writing skills in the content area classroom. An emphasis is placed on teaching for diversity and developing empathy and respect for all learners.

ED 483 - Diagnosis and Instruction of Learning Problems Related to Reading and Language Differences PK-12 (3)

Studies theories, strategies, assessment methods, case studies of assessment, diagnosis, and instruction of reading-related learning problems which exist in PK-12 classrooms. Focuses on working with individual learnersâ€™ problems in reading and the language arts related to diverse learners. Required for reading endorsement. Field experience required.

Prerequisite: ED 480, ED 450 or ED 442, permission of instructor, fingerprint clearance.

ED 486 - MS/HS Seminar for Student Teachers (3)

Provides student teachers opportunities to examine accomplishments and share concerns regarding their teaching performance in the middle and high school classrooms. Student teachers will acquire information about transition to the profession, professional development plans, and information about initial and continuing licensure.

ED 487 - ECE/ELEM Seminar for Student Teachers (3)

Provides student teachers opportunities to examine accomplishments and share concerns regarding their teaching performance in the early childhood/elementary classrooms through participation in group discussion. Student teachers will acquire information about transition to the profession, professional development plans, and information about licensure.

ED 490 - Directed Study (Variable)

Credit arranged.

ED 491 - Seminar (Variable)

Credit arranged.

ED 492 - Seminar (Variable)

Credit arranged.

ED 495 - Workshop (Variable)

Credit arranged.

ED 496 - Workshop (Variable)

Credit arranged.

ED 499 - Senior Thesis (Credit arranged.)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the thesis area or good standing in the honors program.

ED 599X - Thesis in Progress (o)

Registration for any candidate who has received the grade of IP in ED 599 is required while the thesis is in progress. Fee: $50.

Graduate Courses

ED 502 - Policies and Practices for Diverse Learners (3)

Identifies and addresses population characteristics, incidence, and general educational placement options for the different categories of exceptional learners. Assessment practices and exemplary teaching techniques are also explored for multicultural and diversity issues. Law, policy, and IEP procedures are emphasized. Field experience required.

Prerequisite: Human development course, fingerprint clearance.

ED 503 - Language and Communication: Support and Strategies (3)

Focuses on the linguistic and cultural relationships between language and learners including the assessment and evaluation of applied linguistics, and the structures and function of spoken and written languages. Candidates practice numerous assessments and language intervention strategies designed as supports for learning, language disabilities, and cultural linguistic differences.

Prerequisite: ED 330 or ED 502.

ED 504 - School, Parent, and Community Relations (3)

Emphasizes developing knowledge, understanding, and communication skills to discover and apply the resources of communities and families to meet the students' educational needs. Special attention is given to understanding the concept of "family" as a social structure and to appreciating the historical, cultural, and social forces which shape families, school, and community.

ED 505 - Behavior Support: Consultative and Collaborative (3)

Analyzes and plans toward productive behavior in academic and social settings. Candidates will participate in developing support systems for behavior in the classroom (PreK-transition) by learning alternative forms of intervention as well as collaborative and consultative techniques.

Prerequisite: ED 330 or ED 502.

ED 506 - Academic Assessments: Curriculum and Instruction for Diverse Learners (3)

Candidates learn to compose an IEP for students with mild disabilities, use relevant assessment methods to identify students' instructional needs and monitor their progress, use the assessment data to inform planning and teaching, and participate in field experience and practice all knowledge and skills they learn in the course.

Prerequisite: ED 330 or ED 502, fingerprint clearance.

ED 508 - Functional Assessments: Curriculum and Instruction for Diverse Learners (3)

Candidates learn to develop functional prevention and intervention assessment of students with moderate to severe disabilities, observe, sample, and analyze students behavior according to developmental cognitive, social, language, and motor domains in assessing and evaluating progress toward academic and curricular IEP, and understand specialized supports and technology.

Prerequisite: ED 330 or ED 502, fingerprint clearance.

ED 509 - Methods and Materials for Teaching ESOL (3)

Candidate learns to select, modify, and evaluate curricular materials for individuals and groups of English as a second language learners taking into account the learners' abilities, learning rates, and styles of learning. Candidates are also given field practice time to work with ESOL individuals using the methods and materials discussed in class.

Prerequisite: Fingerprint clearance.

ED 510 - Linguistics (3)

Examines and applies the major concepts, theories, and research related to the nature and acquisition of language as a system. This includes a focus on the components of language, including phonology, morphology, syntax, semantics, pragmatics, semiotics, discourse varieties, aspects of social and academic language, rhetorical registers, and writing conventions.

ED 514 - Children's and Adolescent Literature and Library (3)

Examines various genres of literature, pre-primary through grade 8. Includes book selection appropriate to age and interest level. The course uses literature to enrich integrated school curriculum, and demonstrates techniques for increasing reading motivation and teaching through print and technological media.

ED 515 - Readings in Education Administration (1)

Opportunity to create, under the guidance of an instructor, an in-depth, selective education administration bibliography to enrich personal knowledge and to augment professional career goals. Reading logs and reflective journal assignments and for three or more credits a literature review is required. May be taken as a standard class or as an independent study.

ED 516 - Readings in Catholic Education (1)

An exposure to the core Church documents concerning Catholic education beginning with Vatican II. In addition to reading in-depth research related to Catholic education, reading logs and reflective journal assignments and for three or more credits a literature review is required. May be taken as a standard class or as an independent study.

ED 517 - Catholic Educator Seminar (3)

Explores topics of teaching in learning through the lens of the Catholic faith tradition and the responsibilities of Catholic school teachers.

ED 518 - Life Span Personal and Professional Development (3)

Provides early career Catholic School Teachers opportunities to reflect on what it means to be a Catholic Educator and how to model and teach the values of the faith. Teachers receive support while they explore personal strengths, share teaching experiences, and learn and reflect on teaching practices while developing a philosophy of education that integrates Catholic values.

ED 519 - Dimensions of Adult Learning (3)

This course will introduce principles of adult learning and teaching to higher education instructors. Through an introduction to philosophy education theories of learning behavior, models of teaching, strategies of critical thinking and meta-cognition, and purposes and methods for assessment of learning, candidates will formulate their knowledge base relative to their goals as higher education instructors.

ED 524 - Computers & Educational Technology (3)

Explores the impact of computer technology on today's schools. Emphasis is placed on developing skills for integrating technology to facilitate learning.

ED 525 - Intercultural and Civil Rights Education (3)

Includes the content of comparative education and global education. Emphasis on multicultural education, civil rights, student and teacher rights in the context of school law and discrimination awareness with emphasis on school applications.

ED 529 - Summer Tutoring (1)

Provides candidates with opportunities to apply professional and pedagogical knowledge in a tutoring setting. Candidates design lessons and assessments used with individual students or small groups of students. The course includes seminars on current topics in education that will assist candidates as they move into P-12 classroom experiences.

ED 530 - Dimensions of Education (3)

Introduces the responsibilities of teaching through the lens of social, cultural, philosophical, economic and legal perspectives. Emphasis is on understanding the linking of theory and practice and developing pre-service professional knowledge skills and dispositions, especially related to lifelong learning and written and oral communication skills.

ED 531 - Theories of Development and Learning (3)

Examines behavioral, social, cognitive and biological perspectives on human learning and development across the life span, focusing on ages 3-21, and with priority given to application of the multiple theories explored. Field experience required.

ED 532 - Assessmnt and Evaluation in Inclusive Classrooms (3)

Candidates explore current assessment and evaluation methods used in diverse PK-12 classrooms. Using criteria from multiple perspectives, candidates will study and create traditional and performance-based strategies for analyzing and reporting individual and group performances. Course content is tied to a concurrent field experience at one of four levels of licensure: early childhood, elementary, middle, or high school.

ED 533 - Methods of Teaching and Learning (3)

Focuses on the design and implementation of effective curriculum and instruction through the mastery of planning skills and instructional methods. Candidates will plan and teach a unit of instruction that incorporates their understanding of content and students. The level of desired licensure and content area will determine the specific content of the course. Taught in conjunction with field experience.

ED 534 - Classroom Management and Organization (3)

Promotes the development of a theoretical framework for educational practices that encourage the intellectual, personal, and moral development of students from diverse backgrounds. This course offers practical strategies for encouraging students in the active process of constructing social order, building self-esteem, encouraging positive social interaction, engaging actively in learning, solving human relations problems, and establishing effective classroom procedures and routines.

ED 535 - Literacy Across Curriculum (3)

Emphasizes how children develop various types of literacy. Theory of development of literacies will be emphasized with application of skills in the classroom. The course includes an emphasis on reading readiness, emergent literacy, assessment methods, recent research and theoretically sound practice for improvement of reading and language arts. This course is taught with field experience.

ED 536 - Student Teaching Seminar (2)

Provides student teachers opportunities to examine accomplishments and share concerns regarding their teaching performance in the classrooms through participation in group discussion. Student teachers will acquire information about transition to profession, professional development plans, and information about licensure.

ED 537 - Research in Schools (3)

Examines educational research (both qualitative and quantitative) and statistical methods in light of current research on effective teaching, school practices, and data-driven decision making. Candidates locate, read, and critique research and develop a research proposal relative to important classroom and school issues which will be applied when completing their culminating research project in the research class following this course.

ED 538 - Master of Arts in Teaching Capstone Project (3)

Candidates will develop a research project which addresses the candidate's application and integration of research course content, professional knowledge, and the School of Education's conceptual framework and is intended to translate theory and research into practice. The project is completed independently in consultation with a project advisor. Dissemination of the research will include a written paper and an oral component.

ED 540 - Student Teaching (3)

Provides student teachers opportunities to apply professional and pedagogical principles in a classroom and school community. Student teachers assume major responsibilities on a part time basis of the wide range of teaching duties under the direction of qualified personnel and will produce a work sample demonstrating acquired professional knowledge, skills, and dispositions.

ED 541 - Student Teaching (3)

Provides student teachers opportunities to apply professional and pedagogical principles in a classroom and school community. Student teachers assume major responsibilities on a full- time basis of the wide range of teaching duties under the direction of qualified personnel and will produce a work sample demonstrating acquired professional knowledge, skills, and dispositions.

ED 542 - Student Teaching - Advanced (3)

Student teachers continue to apply professional and pedagogical principles in a classroom and school community. Student teachers assume full time teaching responsibilities for an extended period of time under the direction of qualified personnel. A work sample is required.

ED 544 - Human Resource Development & Management (3)

Explores interpersonal dynamics and those performance competencies that relate to human resource management in early childhood, elementary, middle school, and high school. Issues addressed range from hiring, supervising, and evaluating of personnel to personnel processes and systems, including empowering stakeholders, staff development, labor relations and collective negotiations, school-community relationships and partnerships.

ED 545 - Leadership and Organizational Change (3)

Focuses on perspectives and skills in leading and navigating schools through multi-level and systemic change. Change theory, the building of learning communities, and transformational leadership represent the core knowledge bases upon which candidates build their own mental models of administrative leadership. The course emphasizes using a local school as a center of inquiry and change.

ED 546 - Policy, Ethics, and the Law (3)

Examines legal foundation of educational policy focusing on constitutional and statutory provisions governing schools. Analyses, through selected case studies at various levels of schooling, research, trends, and emerging issues in the politics of educational governance equip the candidate with skills and understandings in interacting with local school systems in ethically responsible ways.

ED 547 - Resource Allocation, Finance, and Management (3)

This course provides skills and techniques for effectively and efficiently managing and evaluating resource allocation and finance at various levels of schooling. It includes an analysis of current national, state and district sources of revenue and also the identification and development of alternative revenue sources to support local schools.

ED 548 - Supervision for Instructional Improvement (3)

Familiarizes candidates with the benefits and challenges of supervision and coaching for instructional improvement. Theories of planning, analysis, and evaluation in conjunction with supervision as well as models of supervision will be explored and practiced. The relationship of the supervisor to curriculum development, staff development, and teacher evaluation will also be addressed.

ED 549 - IAL Leadership Practicum (3)

This capstone course provides a partnership with the IAL candidate, university supervisor, and field-based mentor-administrator. Candidates are required to demonstrate and document their skills, knowledge and experiences gained from their IAL coursework and practicum activities. The candidate must create a portfolio that documents successful completion of national administration standards to be assessed at the end of the practicum.

ED 550 - Personal and Professional Growth and Development (3)

An examination of issues critical to educators' professional growth and life-long learning. Candidates make explicit their values and goals as they relate to pedagogical approaches, school and student assessment, technology use both in and out of the classroom, and other issues connected to educators' professional lives. This course provides a foundation for professional inquiry and research throughout the M.Ed. program.

ED 551 - Social and Cultural Foundations (3)

Examines social and cultural forces that affect schools and the experiences of students and teachers. This course encourages practitioners to value, embrace, and affirm the cultural, racial, class, and gender diversity of both their local and global communities and will help them to design and implement instructional practices that empower all students.

ED 552 - Leadership for Sustaining the Vision (3)

Assess your personal leadership attributes and craft a personal leadership development plan that leads to building an achievement-oriented district. Consider research which informs visions of current and future public and private schooling in a diverse and democratic society. Practice the art and science of leading toward and sustaining a vision through nurturing relationships, motivating stakeholders, and collaborating with others.

ED 553 - Leadership for Instructional Improvement (3)

Examine best practices and sound educational research that lead to achievement for all students. Learn strategies to create a culture of high expectations with academic and behavioral foci through leadership practices, staff development, policy development, and the allocation of time, funds, and human resources.

ED 554 - Leadership for Effective Data Driven Decision Making (3)

Explore the uses of data-based research and technology in leadership, business, and student learning in an era of information and communication expansion. Discern meaningful uses of technology and data to advance learning and organizational development. Explore the data-based management principles related to finance and other operational services such as nutrition, transportation, maintenance, and communication.

ED 555 - Teacher as Researcher (3)

Introduces research as a means to improve instructional and school-based decision-making. Various qualitative research techniques will be applied to classroom or school observation. As an extension of reflective practice, candidates will be expected to produce a qualitative research-based proposal.

ED 556 - Leadership in the Socio-Political Context (3)

Examines strategies for collaborating with the boards of education, legislature, community, business, religious, and service organization leaders to create broad-based support for education and students within a diverse community. Learn how to effectively interact with parents, teachers, and other administrators to support an educational vision and address student and family conditions that impact learning. Explores effective strategies for media relations.

ED 557 - Ethical Leadership and Moral Imperative for Inclusive Practice (3)

Explore ethical decision-making, hone political understandings and skills, learn to capitalize on diversity through inclusive practices, and develop a personal mantle of moral responsibility. Through case methodology, learn to act with integrity and justice while helping every student achieve.

ED 558 - Educational Research for Improved Student Learning (3)

Examines educational research and statistical methods in light of current research on effective teaching and schooling practices. The course is developed to enhance practicing educators' understanding and application of research findings in the classroom. Candidates will be expected to develop a proposal which applies course knowledge.

ED 559 - CAL Leadership Practicum (3)

This practicum will be conducted at the district level and involve a field experience to provide opportunities to participate in district leadership decision-making, policy design and implementation, uses of data and technology in communication, human resources, building positive community relations, and conflict management. Through action research, participants synthesize knowledge in these areas and enhance skills and dispositions.

ED 560 - Endorsement Portfolio (0)

Candidates maintain, update, and submit evidence of completing tasks aligned with state and national standards to their academic advisor during each semester that the candidates enroll in an endorsement course. A candidate-generated portfolio of evidence is submitted as a capstone requirement to the academic advisor at the end of the program.

ED 562 - Professional Development Process: Portfolio (3)

Serves as a capstone experience in which students produce a professional portfolio demonstrating skills related to the 10 standards for continuing licensure in Oregon. Simultaneously candidates develop a continuing professional development plan.

ED 563 - Master of Arts Capstone Project (3)

Students design and conduct a classroom, school, or community-based research project written in formal academic style that addresses the candidate's integration of the professional knowledge and the School of Education's conceptual framework in the non-thesis graduate program. The project is completed independently in consultation with a project advisor. (Candidates must be eligible to graduate in the subsequent academic term.)

ED 564 - Reading Practicum PK-12 (3)

Practicum is a supervised field experience that provides opportunities for students to meet professional competencies as recommended by the state and national organizations. Prior approval by Reading Faculty Advisor. Fee $55 per credit.

ED 565 - Teacher Internship (3)

The course provides experiences with intern teaching in a PK-12 school classroom under the direction of a mentor and a University supervisor. This course may be repeated.

ED 566 - Practicum PK-12 (Credit arranged.)

Opportunity to fuse theory and practice in a specialized area in a field placement. The practicum is under the direction of a university instructor. Candidates are expected to demonstrate acquired knowledge, skills and dispositions related to the specialized area of study. A professional work sample is required. The course may be repeated up to 9 hours. Fee: $55 per credit.

ED 567 - CAP Practicum PK-12 (Credit arranged.)

Opportunity to fuse theory and practice in a specialized area in a field placement. The practicum is under the direction of a university instructor. Candidates are expected to demonstrate acquired knowledge, skills, and dispositions related to the specialized area of study. A professional work sample is required. This course may be repeated up to 9 hours. Fee: $55 per credit.

ED 568 - Special Education Practicum PK-12 (3)

Practicum is a supervised field experience that provides opportunities for students to meet professional competencies as recommended by the state and national organizations. Prior approval by Special Education Faculty Advisor. Fee $55 per credit.

ED 569 - ESOL Practicum PK-12 (3)

Practicum is a supervised field experience that provides opportunities for students to meet professional competencies as recommended by the state and national organizations. Prior approval by ESOL Faculty Advisor. Fee $55 per credit.

ED 570 - Curriculum Development and Implementation (3)

Examines the spectrum of curriculum reform issues and tensions confronting today's schools and classroom. Candidates will develop a critical perspective that reflects the complexity of political, social, and pedagogical pressures and trends impacting teaching and learning.

ED 571 - Enhancing Classroom Relationships (3)

Offers practical classroom-based strategies for ensuring active engagement in learning positive social interactions, and responsible contributions to the classroom as learning community. Candidates examine and apply new techniques in their classrooms and assess them as members of a peer critical learning group. Helps candidates formulate a theoretical or research-based foundation that will guide them in developing classroom relationships and management.

ED 573 - Quality Teaching and Peer Consultation (3)

Introduces systematic and objective processes for identifying, analyzing, and refining effective instructional practices providing the practitioner with skills and experiences in observing peers as well as an understanding of his or her teaching actions.

ED 574 - Models of Leadership (3)

This course explores how individuals across multiple roles in schools can collaboratively support instructional leadership. Models of leadership – from those rooted in positional authority to those that emerge from participatory decision-making – are examined. These models serve as frameworks that professionals can use to assess and improve their personal leadership within the structures and norms demonstrated within school settings.

ED 575 - Transforming Schools and Systemic Change (3)

Identifies and analyzes current educational reform initiatives and evaluates them based on theoretical and research-based (Best Practices) models of change. Candidates are required to engage in formal inquiry and dialogue about the challenges confronting their own schools as dynamic units of change. Key concepts include school growth and renewal, effective schooling, and professionalism.

ED 578 - Improving the Instructional Process (3)

Provides insights into models of teaching and learning with focus on distinct learning activities, environment, evaluation, and assessment. Emphasis is placed on expanding personal repertoires to become competent in the selection and use of appropriate and effective teaching strategies.

ED 580 - Elements of Reading PK-12 (3)

Studies components of the reading process and the various operations performed while reading. Candidates develop empathy and respect for the learner of reading while exploring the stages of reading and the particular operations and strategies necessary in the ability to be a reader. Required for reading endorsement.

Prerequisite: ED 442, ED 450 or ED 535, permission of instructor.

ED 581 - Reading, Language , and Cultural Diversity in Schools (3)

Introduces candidates to the broad areas of language and culture relevant to PK-12 classrooms. Introduces theories, materials, and methods for reading/language instruction for diverse classrooms. Candidates develop empathy and respect for students with language and cultural differences. Required for reading and ESOL endorsement. Field experience arranged by instructor may be required.

ED 582 - Content Area Literacy (3)

Reviews current theory, knowledge, and practice of reading and written communication for students in grades 4-12. Integrates pedagogical knowledge of literacy development of theory into practice. Candidates learn methods for facilitating the use of reading and writing skills in the content area classroom. An emphasis is placed on teaching for diversity and developing empathy and respect for all learners.

ED 583 - Diagnosis and Instruction of Learning Problems Related to Reading and Language Differences (3)

Studies theories, strategies, assessment methods, case studies of assessment, diagnosis, and instruction of reading-related learning problems which exist in PK-12 classrooms. Focuses on working with individual learners' problems in reading and the language arts related to diverse learners. Required for reading endorsement. Field experience required.

Prerequisite: ED 480 or ED 580 or ED 442, permission of instructor, fingerprint clearance.

ED 584 - Administration and Evaluation of Reading Programs (3)

Provides understanding of reading program management as it applies to the development, implementation, and improvement cycle for increased student reading achievement. Students learn to integrate into practice theoretical content knowledge of reading, knowledge of diverse learners, and pedagogical knowledge of reading. This is the culminating course of the Reading Endorsement.

Prerequisite: ED 480, ED 580, ED 481, ED 581, ED 483, ED 583, permission of instructor.

ED 585 - Neuroscience and Learning (3)

Research on the brain and the mind covers several different disciplines, specifically those of sciences and psychology. This course focuses on the translation of the brain research to understanding the human mind in education. Emphasis will be on the functional way meaning is acquired through the brain as an organ of complex systems.

ED 586 - Foundations of Cognitive Process in Learning (3)

This course will provide an historical as well as socio-political review of the neuroscience to include a shift in the western paradigm bridging cognitive processes of the mind with neuroscience. Such a paradigm shift will be applied to how educators might think differently about these types of cognitive processes.

ED 587 - Neuro-Biological Aspects of Learning in Diverse Populations (3)

This course defines learning in terms of neurology and then applies the knowledge to issues of learning differences. The course will cover ethical concerns, issues, and interventions necessary for educators to meet the diverse needs of learners. Participants will be provided with numerous case studies for practice.

ED 588 - Neuroeducation: A Cultural-Linguistic Translation (3)

Emphasis will be on how educators can improve learning for better literacy of all students. Participants will be given ample opportunities to practice strategies and to explore case studies.

ED 589 - Translational Studies and Research in Neuroeducation (3)

Participants are expected to spend a minimum of 45 self-managed, but supervised, hours in an activity that promotes their development and learning as neuroeducators.

ED 590 - Directed Study (Variable)

Credit arranged.

ED 591 - Seminar (Variable)

Credit arranged.

ED 592 - Seminar (Variable)

Credit arranged.

ED 593 - Readings and Topics in Neuroscience and Education (3)

This course is team taught by neuroscientists with a particular expertise in a topic and educator who translates the topical content to applications. A particular topic and/or related issues to a topic are explored with students through readings, discussions, and reflections. Topics vary each semester. May be repeated for credit.

Prerequisite: Permission of instructor.

ED 595 - Workshop (Variable)

Credit arranged.

ED 596 - Workshop (Variable)

Credit arranged.

ED 598 - MED Capstone Project (3)

Candidates design and conduct a classroom, school, or community-based research project written in formal academic style that addresses the candidate's integration of the professional knowledge and the School of Education's conceptual framework in the non-thesis graduate program. The project is completed independently in consultation with a project advisor. (Candidates must be eligible to graduate in the subsequent academic term.)

ED 599 - Thesis (Credit arranged.)

Candidates develop a research thesis with a major professor and two other committee members for the master of arts degree.

EE - Electrical Engineering

EE 111 - Introduction to Multimedia Processing (2)

This course will examine how speech, music, and images can be represented mathematically as digital signals. Complex numbers, sinusoids, sampling, filters, time domain, and frequency domain concepts are introduced. The general principles of programming are introduced and students write MATLAB programs to explore applications such as music synthesis, audio filtering, and image enhancement.

Prerequisite: MTH 201 or corequisite. Corequisite: MTH 201 or prerequisite.

EE 231 - Logic Design (3)

Introduction to designing digital circuits. Topics include number systems, Boolean algebra, simplification of Boolean functions, design and analysis of combinational and sequential logic circuits, hierarchical design, and simulation of digital circuits.

EE 261 - Electrical Circuits (3)

Circuit elements and concepts. Ohm's and Kirchhoff's laws. Simple resistive circuits. Review of matrix algebra. Node voltage method using matrix equations. Superposition. Thevenin and Norton equivalent circuits. Maximum power transfer theorem. Capacitance and inductance. Natural and step response of first- and second-order circuits. Sinusoidal steady-state circuits. PSPICE is incorporated as a simulation software.

Prerequisite: MTH 202, PHY 205 or corequisites. Corequisite: EE 271. MTH 202, PHY 205 or prerequisites.

EE 262 - Signals and Systems (3)

Introduction to continuous- and discrete-time signals and systems. Continuous- and discrete-time linear time-invariant systems. Convolution. Impulse and step response. Laplace transform. Fourier series and Fourier transform. Sampling. Z transform. MATLAB software is incorporated throughout.

Prerequisite: EE 261.

EE 271 - Electrical Circuits Laboratory (1)

Measurement experience with a variety of basic electrical instruments. The student engineer will verify many of the principles of electrical circuit theory. Fee: $40.

Corequisite: EE 261.

EE 301 - Electromagnetic Fields (3)

Lumped vs. distributed electrical circuits. Transient response of lossless transmission lines. Sinusoidal steady-state waves on lossless transmission lines. Smith chart and impedance matching techniques and networks. Review of vector calculus. Maxwell's equations and solution of wave equations. Uniform plane electromagnetic waves in a simple unbounded lossless medium.

Prerequisite: EE 261, MTH 301, PHY 205.

EE 332 - Digital Systems Design (3)

Introduction to digital systems. TTL and CMOS 74-series logic families. Register-transfer level (RTL) combinational and sequential circuit design principles and practices using 74-series devices. Programmable logic device (PLD) architectures. Combinational and sequential circuit designs using ABEL hardware description language.

Prerequisite: EE 231. Corequisite: EE 373.

EE 333 - Computer Organization (3)

Introduction to computer system hardware including Arithmetic and Logic Unit (ALU), main memory, cache memory, I/O devices, busses and interfaces, control unit, addressing techniques, micro-computer architecture.

Prerequisite: EE 231.

EE 351 - Electronic Circuits I (3)

Basic concepts of electronic circuit analysis and design. Physical operation and modeling of diodes, Bipolar Junction Transistors and MOSFETs. Small-signal analysis of electronic circuits. Amplifier biasing and bias-point stability. Use of SPICE as a design tool.

Prerequisite: EE 262.

EE 352 - Electronic Circuits II (3)

EE 352 is a continuation of EE 351. It includes advanced analog circuit theory, analysis, and simulation using PSPICE. Topics include 1)BJT and MOS transistor amplifiers, 2) frequency response, 3) feedback and, 4) opamp active filters. EE 352 provides the theoretical foundation for the companion electronics laboratory course, EE 371.

Prerequisite: EE 351. Corequisite: EE 371.

EE 371 - Electronic Circuits Laboratory (1)

Companion laboratory course to the EE 352 Electronics Circuits II lecture course. Students analyze, assemble, and test various electronic circuits. Students perform rigorous AC and DC measurements using state-of-the-art instrumentation and correlate results to theoretical analysis. Rigorous written reporting of laboratory results is required. Fee: $40.

Corequisite: EE 352.

EE 373 - Digital Logic Laboratory (1)

Familiarization with the laboratory equipment. Basic gate operations. Combinational logic design using SSI, MSI, and LSI logic devices. Logic design with programmable logic devices. Sequential logic circuits. MSI counters. Fee: $40.

Corequisite: EE 332.

EE 402 - Microwave and Optical Transmission (3)

Review of Maxwell's equations and the wave equation. Uniform plane waves in a lossy medium. Wave polarization. Reflection and transmission of electromagnetic waves at planar boundaries. Normal incidence. Antireflection coatings and radomes. Oblique incidence. Brewster angle. Total internal reflection. Theory of parallel-plate waveguides. Rectangular and circular waveguides. Dielectric slab waveguides.

Prerequisite: EE 301.

EE 403 - Communication Systems (3)

Introduction to analog and digital communication systems with emphasis on modulation, demodulation, encoding, decoding, and synchronization techniques used in wireless systems. MATLAB is used to simulate communication systems and to process real RF signals.

Prerequisite: EE 262.

EE 420 - Energy Conversion (3)

Principles, models, and applications of electromagnetic and electromechanical devices including transformers and motors. Applications include power systems, manufacturing processes, robotics, and consumer products.

Prerequisite: EE 261.

EE 421 - Electric Power Systems (3)

Introduction to the modeling, design, and operation of modern power generation, transmission, and distribution systems. Topics include complex power, three-phase systems, compensation, and power flow.

Prerequisite: EE 420.

EE 423 - Power Electronics and Applications (3)

Electronic conversion and control of electrical power. Includes semiconductor switching devices, power converter circuits, control of power converters, and applications in electric utilities, motor drives, and power supplies.

Prerequisite: EE 351 or corequisite. Corequisite: EE 351 or prerequisite.

EE 424 - Power System Applications (3)

Investigation into the principles and applications of energy conversion and power system technologies of interest, such as renewable energy sources. Extensive literature search and/or laboratory experimentation culminating in a formal written report and oral presentation.

Prerequisite: EE 420 or EE 423.

EE 433 - Microprocessor Interfacing and Communications (3)

Introduction to microcontrollers. PIC18 microcontroller instruction set architecture and assembly language programming. Timers and interrupt handling. Parallel input/output device interfacing. Serial communications using UART, Inter-IC (12C) bus. Analog-to-digital converter interface. A PIC18F452 8-bit microcontroller-based embedded system consisting of keypad, LCD display, and RS232 serial port is implemented through laboratory assignments.

Prerequisite: EE 333.

EE 434 - ASIC Design (3)

Introduction to ASIC (application-specific integrated circuits) design flow. Synthesis of combinational and sequential logic. Synthesis of hardware description language constructs. Post-synthesis design tasks. FPGA (field programmable gate array) architectures. Design prototyping with FPGAs.

Prerequisite: EE 435 or EE 436.

EE 435 - Verilog Digital Systems Modeling (3)

Introduction to Verilog-based design process. Hierarchical modeling methodology. Basic Verilog language structures for modeling digital hardware functions. Modules and ports. Gate-level modeling. Data flow modeling. Behavioral modeling. Tasks and functions. Useful modeling techniques in digital system design. Component timing and delay modeling. Logic synthesis with Verilog HDL.

Prerequisite: EE 231 or equivalent.

EE 436 - VHDL-Based Digital Systems Design (3)

Hardware design environment. Introduction to VHDL. Design methodology based on VHDL. Basic concepts in VHDL. Structural specification of hardware. Design organization and parameterization. Utilities for high-level description. Data flow description in VHDL. Behavioral description of hardware.

Prerequisite: EE 231 or equivalent.

EE 437 - Advanced Computer Architecture (3)

Processor control unit design techniques. Pipelined data path and control unit design. Cache memory and cache coherency design techniques. Memory management using virtual memory. Case studies of contemporary high-performance computer architectures.

Prerequisite: EE 333.

EE 438 - Introduction to Digital VLSI Design (3)

Introduction to digital CMOS VLSI chip design using Tanner's L-EDIT layout software, and PSPICE. Topics include CMOS gate logic design simulation and layout, speed and power considerations, and CMOS VLSI chip design using Standard Cells. Students are required to complete a modest-sized CMOS integrated circuit design project through layout, simulation, and verification.

Prerequisite: EE 231, EE 351.

EE 439 - Microprocessor System Design (3)

High-end microcontroller and microprocessor system design methodologies from the software and hardware perspectives, with an emphasis on system integration. Introduction to CISC instruction sets and high-end microprocessor architectures. Programmable robots are used as the platform for course assignments and course project.

Prerequisite: EE 333.

EE 443 - Computer Vision (3)

Introduction to computer vision. Computer vision system components and lighting techniques. Binary image processing: image filtering, histogram equalization, thresholding, and edge detection. Image analysis and representation: region segmentation and low-level image description. Camera model and stereo vision.

Prerequisite: Senior standing.

EE 451 - Advanced Analog Electronics (3)

Analysis and design of advanced MOS analog electronic circuits. Topics include advanced MOS semiconductor device models, active loaded amplifiers, operational amplifiers, feedback compensation, and switched-capacitor filters. PSPICE is used as a circuit simulation tool. An introduction to photovoltaics, thermoelectronics, and nanoelectronics is also included.

Prerequisite: EE 352.

EE 462 - Digital Signal Processing (3)

This course covers techniques used to process digital signals in applications such as audio filtering and speech recognition. Topics include analog-to-digital and digital-to-analog conversions, aliasing, quantization, discrete-time signals and systems, discrete-time Fourier transform, Z-transform, and digital filter design. MATLAB is used to demonstrate concepts and to process real signals.

Prerequisite: EE 262.

EE 480 - Senior Design Project Preparation (3)

Selection of and preparation for a senior capstone design project in electrical engineering. Students work in teams to prepare a formal proposal and design to meet performance specifications. Written and oral reports on the design project are required. Fee: $40.

Prerequisite: Upper division standing.

EE 481 - Senior Design Project (3)

A continuation of EE 480, students work in teams to implement, test, and evaluate their design. Written and oral reports are required, including a demonstration of the project. This course includes a comprehensive examination based on the EE curriculum. Fee: $40.

Prerequisite: EE 480.

EE 490 - Directed Study (Variable)

Selected study, project, or research in electrical engineering for upper-division students. Must be arranged between the student and an individual faculty member and subsequently approved by the dean of engineering. No more than three of the technical elective hours taken at the University may be satisfied with individualized study.

EE 491 - Seminar (Variable)

Credit Arranged.

EE 492 - Seminar (Variable)

Credit Arranged.

EE 493 - Research (1-3)

Faculty-directed student research. Before enrolling, a student must consult with a faculty member to define the project. May be repeated for credit.

Prerequisite: Upper division standing.

EE 599X - Thesis in Progress (0)

Registration of any graduate student who has received the grade of IP in EE 599 is required while the thesis is in progress. Fee: $50.

Graduate Courses

EE 502 - Microwave and Optical Transmission (3)

Review of Maxwell's equations and the wave equation. Uniform plane waves in a lossy medium. Wave polarization. Reflection and transmission of electromagnetic waves at planar boundaries. Normal incidence. Antireflection coatings and radomes. Oblique incidence. Brewster angle. Total internal reflection. Theory of parallel-plate waveguides. Rectangular and circular waveguides. Dielectric slab waveguides.

EE 503 - Communication Systems (3)

Introduction to analog and digital communication systems with emphasis on modulation, demodulation, encoding, decoding, and synchronization techniques used in wireless systems. MATLAB is used to simulate communication systems and to process real RF signals.

EE 520 - Energy Conversion (3)

Principles, models, and applications of electromagnetic and electromechanical devices including transformers and motors. Applications include power systems, manufacturing processes, robotics, and consumer products.

EE 521 - Electric Power Systems (3)

Introduction to the modeling, design, and operation of modern power generation, transmission, and distribution systems. Topics include complex power, three-phase systems, compensation, and power flow.

EE 523 - Power Electronics and Applications (3)

Electronic conversion and control of electrical power. Includes semiconductor switching devices, power converter circuits, control of power converters, and applications in electric utilities, motor drives, and power supplies.

EE 524 - Power System Applications (3)

Investigation into the principles and applications of energy conversion and power system technologies of interest, such as renewable energy sources. Extensive literature search and/or laboratory experimentation culminating in a formal written report and oral presentation.

EE 533 - Microprocessor Interfacing and Communication (3)

Introduction to microcontrollers. PIC18 microcontroller instruction set architecture and assembly language programming. Timers and interrupt handling. Parallel input/output device interfacing. Serial communications using UART, Inter-IC (I2C) bus. Analog-to-digital converter interface. A PIC18F452 8-bit microcontroller-based embedded system consisting of keypad, LCD display, and RS232 serial port is implemented though laboratory assignments.

EE 534 - ASIC Design (3)

Introduction to ASIC (application-specific integrated circuits) design flow. Synthesis of combinational and sequential logic. Synthesis of hardware description language constructs. Post-synthesis design tasks. FPGA (field programmable gate array) architectures. Design prototyping with FPGAs.

EE 535 - Verilog Digital Systems Modeling (3)

Introduction to Verilog-based design process. Hierarchical modeling methodology. Basic Verilog language structures for modeling digital hardware functions. Modules and ports. Gate-level modeling. Data flow modeling. Behavioral modeling. Tasks and functions. Useful modeling techniques in digital system design. Component timing and delay modeling. Logic synthesis with Verilog HDL.

EE 536 - VHDL-Based Digital Systems Design (3)

Hardware design environment. Introduction to VHDL. Design methodology based on VHDL. Basic concepts in VHDL. Structural specification of hardware. Design organization and parameterization. Utilities for high-level description. Data flow description in VHDL. Behavioral description of hardware.

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Analysis and design of advanced MOS analog electronic circuits. Topics include advanced MOS semiconductor device models, active loaded amplifiers, operational amplifiers, feedback compensation, and switched-capacitor filters. PSPICE is used as a circuit simulation tool. An introduction to photovoltaics, thermoelectronics, and nanoelectronics is also included.

EE 562 - Digital Signal Processing (3)

This course covers techniques used to process digital signals in applications such as audio filtering and speech recognition. Topics include analog-to-digital and digital-to-analog conversion, aliasing, quantization, discrete-time signals and systems, discrete-time Fourier transform, Z-transform, and digital filter design. MATLAB is used to demonstrate concepts and to process real signals.

EE 590 - Directed Study (Variable)

Credit arranged.

EE 591 - Seminar (Variable)

Credit arranged.

EE 592 - Seminar (Variable)

Credit arranged.

EE 593 - Research (1-3)

Faculty-directed student research. Before enrolling, a student must consult with a faculty member to define the project. May be repeated for credit.

EE 599 - Thesis (Variable)

Credit arranged.

EGR - Engineering

EGR 110 - Introduction to Engineering (2)

An exploration of the engineering profession, including careers, aspects of engineering education, and case studies. Introduction of ethical and social issues related to technology. Development of engineering design methodology utilizing a semester-long project. Study of oral, written, and graphical communication of technical material in conjunction with the project. Fee: $40.

EGR 211 - Engineering Mechanics-Statics (3)

Quantitative description of forces, moments, and couples acting upon engineering structures. The free-body diagram is used to understand the equilibrium of a whole physical system through isolation of each component particle or body.

Prerequisite: MTH 201, PHY 204.

EGR 212 - Engineering Mechanics-Dynamics (3)

Dynamics mathematically describes the motions of bodies under the action of forces. The first part introduces kinematics which deals with the geometry of motion without considering applied forces. The second part, kinetics, relates the forces on bodies to the resulting motions.

Prerequisite: MTH 202 , EGR 211.

EGR 213 - Introduction to Dynamics (1)

Mathematical description of the motion of bodies. Introduction of kinematics without considering applied forces.

Prerequisite: EGR 211.

EGR 221 - Materials Science (3)

Provides a fundamental understanding of the principles of materials science as they apply to typical engineering materials. Includes consideration of atomic bonding, crystal structures, phase transformations, and mechanical properties.

Prerequisite: CHM 207.

EGR 270 - Materials Laboratory (1)

Provides hands-on experience with the standard methods of processing and evaluating typical engineering materials. Includes experiments in tensile testing, heat treatment, microscopic examination, strain hardening, and impact testing. Fee: $40.

Prerequisite: EGR 221.

EGR 322 - Strength of Materials (3)

Behavior of deformable body systems under various external loadings is presented. Analysis of stress, deformation, strain, failure, fatigue, and creep are included. Mathematical, graphical, and energy methods are utilized.

Prerequisite: EGR 211.

EGR 351 - Engineering Economics (3)

Economic analysis for choice among alternatives; present worth analysis, annual worth, rate of return and benefit-cost ratio analysis; effects of depreciation, sources of funds, inflation and income tax; analysis of decision under risk and uncertainty. Discussion of unemployment rate and inflation, financial markets, as well as the use of monetary and fiscal policies to regulate the economy.

Prerequisite: Sophomore standing.

EGR 360 - Analysis of Engineering Data (2)

Basic probability and statistical procedures used in the analysis of engineering data. Methods for displaying data, commonly used probability distributions for discrete and continuous random variables, and statistical tools such as simple linear regression are presented. Students are introduced to concepts of statistical experimental design.

Prerequisite: MTH 202.

EGR 404 - Automatic Control Systems (3)

Modeling and control of continuous-time control systems. Topics include feedback, transfer functions, responses in the time and frequency domains, stability, and compensation. Applications include manufacturing and robotics.

Prerequisite: MTH 321.

EGR 422 - Composite Materials (3)

An overview of different types of composite materials; processing and performance characteristics of matrix and reinforcements and their interactions; micromechanics and macromechanics of composites at the lamina and laminate levels; fatigue, creep, and fracture behavior of composites. A project is required as part of the course.

Prerequisite: EGR 221, EGR 322.

EGR 425 - Welding Engineering (3)

Review of different types of welding power sources, processes, and types of electrodes/wires. Basic welding metallurgy, weld joint design, and NDE techniques. A project on weldment analysis is required.

Prerequisite: EGR 221.

EGR 481 - Capstone Project I (2)

Interdisciplinary projects based on engineering and business principles are completed in this course. Literature search, analysis, and written and oral presentations are required. Projects may include feasibility studies, business plans, marketing strategies, and entrepreneurial ideas. Advisors from Business and Engineering help the teams realize their goals. Fee: $40.

Prerequisite: Upper division standing in Engineering Management.

EGR 482 - Capstone Project II (2)

Interdisciplinary projects based on engineering and business principles are completed in this course. Literature search, analysis, and written and oral presentations are required. Projects may include feasibility studies, business plans, marketing strategies, and entrepreneurial ideas. Advisors from Business and Engineering help the teams realize their goals. Fee: $40.

Prerequisite: Upper division standing in Engineering Management.

EGR 490 - Directed Study (Variable)

Selected study, project, or research in engineering for upper-division students. Must be arranged between the student and an individual faculty member, and subsequently approved by the dean of engineering. No more than three of the technical elective hours taken at the University may be satisfied with individualized study.

EGR 491 - Seminar (Variable)

Credit arranged.

EGR 492 - Seminar (Variable)

Credit arranged.

EGR 499 - Senior Thesis (Variable)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the thesis area or good standing in the honors program.

Graduate Courses

EGR 504 - Automatic Control Systems (3)

Modeling and control of continuous-time control systems. Topics include feedback, transfer functions, responses in the time and frequency domains, stability, and compensation. Applications include manufacturing and robotics.

EGR 522 - Composite Materials (3)

An overview of different types of composite materials; processing and performance characteristics of matrix and reinforcements and their interactions; micromechanics and macromechanics of composites at the lamina and laminate levels; fatigue, creep, and fracture behavior of composites. A project is required as part of the course.

EGR 525 - Welding Engineering (3)

Review of different types of welding power sources, processes, and types of electrodes/wires. Basic welding metallurgy, weld joint design, and NDE techniques. A project on weldment analysis is required.

EGR 590 - Directed Study (Variable)

Credit arranged.

EGR 591 - Seminar (Variable)

Credit arranged.

EGR 592 - Seminar (Variable)

Credit arranged.

ENG - English

ENG 101 - English as a Second Language for International Students: Advanced (3)

Advanced ESL reading and writing; study skills; vocabulary; sentence structure; writing of paragraphs and short essays to prepare students for college writing.

ENG 107 - College Writing (3)

Development of writing skills with emphasis on instruction and practice in writing the college essay and the library research paper. Restricted to students with 59 or fewer credit hours. Students with 60 or more credit hours who are not exempted from ENG 107 take ENG 311.

Prerequisite: ENG 101 for students who need this preparatory course.

ENG 112 - Introduction to Literature (3)

Introduction to literary genres and the tools of literary interpretation and criticism promoting reader understanding and enjoyment. Recommended as preparation for upper-division literature courses. A writing-embedded course.

ENG 225 - Introduction to Literary Studies (3)

This course provides English majors and other students with an introduction to literary research and theory, applying both to works of literature. It also provides students with an introduction to effective use of the academic library and of online resources as part of the research process. Required of English majors. Can be taken concurrently with a 300-level English course.

ENG 306 - Writing Workshop: Poetry (3)

Elements of poetry for poets who wish to receive guidance for their own work and who wish to read the work of both contemporary poets and fellow students; an opportunity for writing, reading, and discussing poetry and poetics.

ENG 309 - Writing Workshop: Fiction (3)

Principles and techniques necessary to the short story writer. Analysis of professional fiction as well as guidance for original work of beginning and intermediate writers. Limited to juniors and seniors.

ENG 311 - Advanced Writing (3)

The writing and editing of various kinds of essays in a workshop setting, plus an examination of the writing process itself and the reading of fine essays.

ENG 317 - Composition Theory and Practice (3)

Study of relevant research and theory from composition, rhetoric, linguistics, and psychology applicable to practice. (For writing assistants in-training only.)

Prerequisite: 3.0 in writing courses, including ENG 107.

ENG 320 - Anglo-Saxon and Medieval Literature (3)

From Beowulf to 1500, readings from key poets, playwrights, and prose writers from the Anglo-Saxon and medieval periods examined in the context of linguistic, social, and literary history.

ENG 323 - Chaucer (3)

A study of Chaucer's major works, especially the *Canterbury Tales* in a Middle English text, examined in the context of linguistic, social, and literary history and fourteenth-century literary history and historical background.

ENG 324 - Renaissance British Literature (1500-1660) (3)

Readings from the greatest playwrights, poets, and prose writers of the British Renaissance, set within a framework of the changing ideas and fascinating cultural tapestry of the period. Authors studied include More, Marlowe, Spenser, Jonson, Shakespeare, Webster, Donne, Wroth, Herbert, Lanyer, and Milton.

ENG 325 - 18th Century British Literature (3)

Readings in the fiction, poetry, drama, and essays of the wittiest, most pungently satirical, most artfully artificial era of British literature (1660-1770). Special attention to the cultural and economic background and the origins of the novel. Works by

Dryden, Behn, Congreve, Swift, Defoe, Pope, Finch, Astell, Manley, Fielding, Johnson, Burney, Haywood, Barker, Hogarth, Addison, and others.

ENG 326 - Shakespeare: Representative Plays (3)

Introduction to Shakespeare's works including analysis and discussion of several of the comedies, histories, and tragedies with attention given to the cultural background and the interesting particulars of the Elizabethan theater.

ENG 330 - Dante's Divine Comedy (3)

A study of Dante's epic journey through the realms of hell, purgatory, and heaven in search of justice, love, and happiness, with a study of Dante's *Vita Nuova*, which shows his allegorical style and the significance of his love for Beatrice.

Crosslisted as: PCS 330.

ENG 338 - Modern World Drama (3)

Discussion of masterpieces of twentieth-century theatre by dramatists including Ibsen, Chekhov, Shaw, Pirandello, O'Neill, Ionesco, Beckett, Shaffer.

ENG 340 - Studies in the Novel (3)

Investigation of the literary genre most associated with the middle class and the modern world. Problems of form and function inhere from the outset, and the definition of what constitutes a novel continues to evolve.

ENG 341 - Studies in the Short Story (3)

Appreciation for the short story and its practitioners from around the world. Readings reflect the history of the genre, notable figures, fictional techniques, and representative themes.

ENG 342 - Studies in Poetry (3)

Intensive practice in reading lyric poetry in English (plus a few snippets from English narrative epics) in the framework of the history of the genre, with attention paid to representative forms, subjects, themes, and kinds of poetry from the beginnings of modern English to the present.

ENG 343 - Studies in Nonfiction (3)

Intensive analysis of the methods, modes, and manipulations of nonfiction prose. Readings may draw from such nonfiction works as essays, memoirs, political documents, documentaries, and reportage to explore topics of truth and falsehood, representation and reality, medium and message.

ENG 344 - Romantic Literature 1785-1830 (3)

Works of Wordsworth, Coleridge, Bryon, Shelley, Clare, and Keats examined in the context of political, social, and literary history of the early nineteenth century.

ENG 345 - Victorian Literature 1830-1900 (3)

Works of Tennyson, Browning, Arnold, Dickens, Hardy, and Wilde examined in the context of the political, social, and literary history of the late nineteenth century.

ENG 346 - Modern British Literature 1900-1945 (3)

A survey of representative authors and texts from 1900 to 1945, including Conrad, Forster, Ford, Lawrence, Joyce, Shaw, Woolf, Mansfield, and the war poets, with special focus on the Great War's aesthetic, social, and historical repercussions on literature and culture.

ENG 347 - British Literature Since 1945 (3)

Survey of representative works published since World War II, with an emphasis on historical and cultural contexts. Authors may include Bowen, Greene, Spark, Stoppard, Pinter, McEwan, Byatt, Barker, Lively, Weldon, and Ishiguro.

ENG 350 - History and Politics in Fiction (3)

Examination of literary works that turns upon historical and political events. Emphasis given to the characteristics of fiction as opposed to the requirements of history and to fiction as a means of interpreting political events.

ENG 351 - Satire (3)

Explorations in the themes, forms, and theories of satire, past and present, examining how great writers have turned malice and moral indignation into witty, funny, or biting fiction, poetry, and drama. Readings drawn from authors such as Orwell, Houellebecq, Heller, West, Voltaire, Swift, Atwood, Pope, Jonson, Horace, and Juvenal.

ENG 352 - Film and Literature (3)

Investigating a century of imaginative synergy between the medium of film and the medium of literature, this course explores connections, divisions, and adaptations between these two vehicles for narrative and ideas. Readings and viewings will exemplify how history, genre, and artistic form influence the translations of pictures and words.

ENG 354 - American Literature Beginnings -1865 (3)

An overview of the foundations of the American literary tradition as well as an investigation of its first flourishing in the nineteenth century. Possible inclusions are Bradford, Bradstreet, Taylor, Franklin, Wheatley, Bryant, Emerson, Poe, Hawthorne, Melville, Whitman, Dickinson.

ENG 355 - American Literature 1864-1914 (3)

Investigation of the major literary figures and the artistic response to the United States' emergence as a world power in the years 1865-1914. Possible inclusions: Dickinson, Howells, Twain, Crane, James, Chopin, Norris, Wharton, Chesnutt.

ENG 356 - American Literature 1914-1945 (3)

Investigation of the multiple American artistic responses to twentieth-century modernity. Possible inclusions are Pound, H.D., Eliot, Stevens, Williams, Hughes, Hurston, Wright, Faulkner, Cather, Hemingway, and O'Neill.

ENG 357 - American Literature 1945-Present (3)

An intensive investigation of recent movements in American literature, including various aspects of postmodernism. Possible inclusions are Ginsberg, Kerouac, Bishop, Roethke, Plath, Lowell, Nabokov, Morrison, Dillard, Barth, Pynchon, Kushner, and Spiegelman.

ENG 363 - The Literature of Nature and the Out-of-Doors (3)

Study of British and American authors from the eighteenth century to today who have creatively considered and analyzed humans' relationship to and representation of the environment. Selected authors may include William and Dorothy Wordsworth, Henry David Thoreau, Rachel Carson, and Michael Pollan.

ENG 370 - Studies in Women Writers (3)

A survey of representative women writers and major texts from the American or British traditions with the introduction of key concepts of feminist theory and criticism.

ENG 372 - Multi-Ethnic American Literature (3)

A comparative study of representative works by American writers of African, Asian, Latin American, American Indian, and Jewish descent, within a historically situated understanding of issues, such as cultural continuity, immigration, assimilation, civil rights, and citizenship, affecting the lives of ethnic Americans.

ENG 375 - Studies in Irish Writers (3)

This survey of Irish fiction, drama, and poetry from 1900 to today explores issues of identity, nationalism, gender, history, and faith through works by heavyweights Joyce and Yeats, but also by Lady Gregory, Sean O'Casey, Edna O'Brien, Roddy Doyle, Colm Toibin, Brian Friel, Seamus Heaney, Eavan Boland, and Marina Carr, among others.

ENG 420 - Otherness in Early British Literature (1000-1700) (3)

Explores representations of otherness in medieval and/ or Renaissance literature including issues such as gender, race, religion, and sexuality in texts written between 1000 and 1700. Looks at texts written by and about women, Jews, Muslims, etc.. Discussions will involve both close readings of these texts and their relationship to theories of alterity.

ENG 430 - International Literature of Peace and Justice (3)

The impact of language on human life, especially its importance in creating and sustaining peace or violence. Works of contemporary writers.

Crosslisted as: SJP 430.

ENG 440 - Telling/Retelling: Literary Adaptations and Transformations (3)

Study of literary classics paired with contemporary revisions or adaptations, with discussion of issues and concepts such as canonicity, reception history, intertextuality, and adaptations as critical interpretations.

ENG 460 - Contemporary American Poetry (3)

Diverse voices of contemporary American poetry, lyric and narrative; essays on poetics; a sampling of poems from the 1950s-1980s by Lowell, Bishop, Wilbur, Ginsburg, O'Hara, Snyder, and others; and books by recent poets such as Gluck, Doty, Oliver, Dove, C.K. Williams, Levine, Twichell, Jarman, and Stallings.

ENG 461 - Oregon and Northwest Writers (3)

Selections from the prose and poetry of past and present Northwest writers. Includes works of Berry, Doig, Kesey, LeGuin, Lopez, Roethke, and Stafford.

ENG 470 - City Life in American Literature (3)

Most of the human population now lives in cities. Americans, in particular, saw their lives restructured around cities throughout the nineteenth and twentieth centuries. Through the varying formats of prose, poetry, and drama, this course explores questions of politics, power, identity, growth, individualism, and cooperation, which evolving configurations of urban space force us to ask.

ENG 471 - American Romanticism (3)

An intensive investigation of figures associated with the flowering of a distinct American romanticism occurring in the mid-19th century. Possible inclusions are Emerson, Thoreau, Fuller, Poe, Stowe, Sedgwick, Hawthorne, Melville, and Whitman.

ENG 473 - African American Writers (3)

Study of important works by African American writers, from the slave narratives of the nineteenth century to the prose, poetry, and drama of the twentieth century.

ENG 480 - Postcolonial Literature and Culture (3)

Historically framed survey of representative authors from former British colonies in Asia, Africa, and the Caribbean. Introduction to key theorists of postcolonialism from Said to Spivak and discussion of key concepts such as imperialism, racism, hybridity, mimicry, decolonization, neo-colonialism, nationalism(s), and immigration.

Crosslisted as: SJP 480.

ENG 493 - Research (Variable)

Involves students in professional-level research by assisting faculty in research or creative projects. An opportunity for mentoring beyond the classroom and involvement in processes and procedures of research and publication. Work will vary, but could include researching primary and secondary materials, summarizing articles and books, compiling bibliographies, indexing, copy editing, manuscript preparation, and dissemination of manuscripts.

ENG 497 - English Internship (Variable)

Academic internships are available for qualified students (3.0 G.P.A.; 3.25 G.P.A. in English). Internships provide English majors with job experience pertinent to the study of English. The internship may be taken for one to three credit hours, and the credit can apply to the English major.

ENG 499 - Senior Thesis (Variable)

Research, study, or original work directed by a faculty mentor leading to a scholarly thesis and public presentation of results. Senior Capstone is usually taken in conjunction with an upper division English class. Required: approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; good standing in English or honors program.

ENV - Environmental Studies

ENV 110 - Earth Systems Science (3)

This course develops a holistic view of planet Earth by considering global interactions between atmosphere, hydrosphere, biosphere, and geosphere. A regional perspective is developed by examining how plate tectonics, earthquakes, and volcanoes have shaped the active continental margin in the Pacific Northwest.

ENV 111 - Natural Hazards in the Pacific Northwest (3)

Geological catastrophes (e.g. earthquakes, meteorite impacts, and flooding) are important processes in shaping the Earth. This course will acquaint students with the scientific principles governing these catastrophes.

ENV 162 - Introduction to Oceanography (3)

Survey of the world's oceans in terms of chemical, physical, and geological principles, and examples of marine habitats.

ENV 182 - Environmental Science (3)

Survey of the scientific issues involved in the problems of maintenance of environmental quality and preservation of our ecosystem. The search for a sustainable society will be discussed.

ENV 325 - Economics and Metrics for Sustainability (3)

In the face of interconnected and increasing environmental and social problems this century, organizations able to see the big picture and effectively seize opportunity in the midst of complexity will do well in the long run. This course covers the current analytical frameworks and tools that leading edge organizations are using to benchmark and improve environmental, social and financial performance.

Prerequisite: ECN 120 or ECN 121. Crosslisted as: ECN 325.

ENV 349 - Environmental Policy (3)

This course will consider how environmental problems arise, looking at how a progression of natural and human circumstances becomes an "environmental problem." It will survey the law, politics, and institutions that manage pollution. The course will also look closely at a handful of environmental policy issues, particularly in the Columbia River, and the interplay of science, risk, and uncertainty.

Crosslisted as: SJP 349, POL 349.

ENV 382 - Air Pollution (3)

The course investigates the sources, distribution and impacts of atmospheric pollutants. Specifically, the role of air pollution in climate change, human health, and environmental impacts will be covered in detail. The course will also discuss the natural background chemistry of the atmosphere, photochemistry, and urban air pollution.

Prerequisite: CHM 207, CHM 277.

ENV 383 - Environmental Geoscience (3)

This course investigates the interrelationships between the inanimate Earth and life forms, with special emphasis on environmental interactions between the Earth and humans. Topics include the environmental significance of natural resources (including energy, minerals, soil, and water), natural hazards (including earthquakes, mass wasting, subsidence, and volcanoes), ocean processes (including basins and coastlines), and waste management (including burial, movement, remediation.)

ENV 384 - Remote Sensing and Geographic Information Systems (3)

This course investigates environmental applications of multispectral remote sensing (RS) and geographic information systems (GIS). RS topics include sensor systems, digital image processing, and automated information extraction. GIS topics include spatial database management systems, data analysis, and environmental modeling. Emphasis is placed on biological applications including vegetation mapping, habitat identification and field data mapping.

Crosslisted as: BIO 384.

ENV 385 - Environmental Microbiology (3)

Morphology, physiology, and ecology of microorganisms, emphasizing their role in environmental processes such as nutrient cycling, bioremediation, waste treatment, and food production. Three hours of lecture per week.

Prerequisite: CHM 207, CHM 208. Crosslisted as: BIO 385.

ENV 386 - Environmental Chemistry (3)

This course takes the perspective of environmental chemistry to address topics including: energy forms, the atmosphere, the hydrosphere, the biosphere, transport of materials, chemical transformations, and modeling.

Prerequisite: CHM 208. Crosslisted as: CHM 386.

ENV 387 - Environmental Laboratory (1)

This course will bring together environmental analysis techniques from chemistry, microbiology, and ecology. Permission of instructor required. Fee: $60.

ENV 400 - Integrating Seminar in Environmental Studies (3)

A project-oriented seminar in which student teams with varying backgrounds in environmental studies develop action plans to deal with regional environmental issues.

Crosslisted as: PCS 400.

ENV 482 - Theology in Ecological Perspective (3)

This course investigates the relationship between theology and science, the science of ecology and the related field of environmental science, the major aspects of our current environmental crisis, underlying historical and social reasons for this crisis, and current attempts to reformulate Christian theology from the perspective of ecology. The course also explores possible solutions for a sustainable future.

Crosslisted as: THEP 482, PCS 482.

ENV 493 - Environmental Research (1-3)

Faculty-directed student research. Before enrolling, a student must consult with an environmental studies faculty member to define the project.

ENV 497 - Environmental Internship (Variable)

Practical field experience working with governmental agencies, corporations, or environmental organizations. Students will be required to do appropriate readings and an appropriate report.

Graduate Courses

ENV 501 - Systems Thinking, Resilience and Sustainabilty (3)

Ecosystems, communities and enterprises are examples of complex systems. Sustainability, as it applies to each of these examples requires a systems thinking approach for its implementation and management. This course develops systems thinking perspectives and skills through a series of case studies drawn from environmental, social, and business contexts, using a participatory approach.

FA - Fine Arts

FA 125 - Basic Design (3)

A course designed to involve students in the creative process while concentrating on the fundamental concepts of design through a series of exercises using a variety of art media. Fee: $20.

FA 203 - Development of the Fine Arts In Europe (3)

Western culture through the study of art forms from Roman-Hellenistic times to the Renaissance. (Salzburg only.)

FA 207 - Introduction to Fine Arts (3)

Presentation, analysis, and discussion of selected expressions in film, music, visual art, theatre, and architecture designed to acquaint the student with the influences, developments, and interrelations of the fine arts in the history of Western civilization and contemporary life. Fee: $70.

FA 215 - Introduction to Photography (2)

A comprehensive introduction to aesthetic as well as technical aspects of photography, with emphasis on developing the student's creative potential. Study of the fundamentals of black and white film and print processing, and the basics of photographic composition. Students must furnish a 35mm SLR camera. May be taken a second time using color negative film. May not be audited.

Corequisite: FA 216.

FA 216 - Photography Lab (1)

Students will develop one roll of BW film, make a contact sheet, and at least two 8"x10" enlargements per week, with emphasis on correct exposure and contrast of prints. Taken concurrently with FA 215. May be taken a second time developing color enlargements. May not be audited. Fee: $90.00.

Corequisite: FA 215.

FA 226 - Painting I (2)

Studio supervision in basic design and painting techniques. Class is conducted by a series of seminar conferences and projects. Students are expected to provide all necessary materials. May not be audited.

FA 228 - Ceramics I (2)

Introduction to both wheel and hand-building techniques using cone 6 clay. Glazing and firing procedures and the use of clay as both a functional and expressive medium will be demonstrated. May not be audited. Fee: $20.

FA 242 - Drawing I (2)

Studio training in the observation of objects. Basic drawing of inanimate objects in graphite and ink. Course also includes application of the principles of object drawing to sketching. May not be audited.

FA 244 - Sculpture I (2)

Introductory studio course examines historical and contemporary issues relevant to creating a personal visual vocabulary and communicating through sculptural forms. Classes will be structured around presentations, demonstrations, ongoing group discussions, critiques, and studio work in various media. May not be audited. Fee: $20.

FA 304 - Development of the Fine Arts In Europe (3)

Western culture through the study of art forms from the Renaissance to the twentieth century. (Salzburg only.)

FA 307 - The Arts in Portland (3)

An exploration of the arts in Portland, including music, theatre, film, visual arts, and architecture. A majority of the class sessions are field trips to experience the arts in person. May be substituted for FA 207. Fee: $100.

FA 315 - Black and White Photography II (3)

Students will expand their knowledge of traditional black and white photographic processes with a wide range of materials and techniques. May be repeated for a maximum of 6 credit hours. May not be audited. Fee: $90.00.

Prerequisite: FA 215, FA 216 or permission of instructor.

FA 317 - Creative Photography (3)

Students will learn a range of alternative photographic processes and equipment, such as pinhole and "Holga" cameras and cyanotypes. May be repeated for a maximum of 6 credit hours. May not be audited. Fee: $90.00.

Prerequisite: FA 215, FA 216 or permission of instructor.

FA 318 - Digital Photography (2)

An introduction to digital photography: basic digital camera operations, digital photographic techniques for adjusting and manipulating images in Adobe Photoshop, and fundamentals of digital image capture, output, and workflow management including scanning, printing, and preparing images for the Internet. Course consists of lectures, demonstrations, lab exercises, field trips, weekly shooting assignments, critiques, and a final project/portfolio. May be repeated for a maximum of 4 credits. Fee $75.

FA 325 - 3-D Design (3)

Helps the student to build his/her own unique language as an expressive tool for art making. The creation of 3-D objects will be made from a variety of materials such as wood, clay, found objects, and mache. Enhances skills in perception, balance, and composition. Fee: $20.

FA 327 - Painting II (2)

Studio supervision in advanced design and painting techniques. Class is conducted by a series of seminar conferences and projects. Students are expected to provide all necessary materials. May be repeated for a maximum of 6 credit hours. May not be audited.

Prerequisite: FA 226 or permission of instructor.

FA 329 - Ceramics II (2)

Advanced methods of forming and glazing pots. Individual exploration of clay is encouraged. May be repeated for a maximum of 6 credit hours. May not be audited. Fee: $20.

Prerequisite: FA 228 or equivalent, or permission of instructor.

FA 343 - Drawing II (2)

Advanced studio training in figure drawing and mixed media in graphite and ink. Course also includes application of the principles of object drawing and sketching to outdoor settings. May be repeated for a maximum of 6 credit hours. May not be audited.

Prerequisite: FA 242 or permission of instructor.

FA 344 - Figure Drawing II (2)

Advanced studio training in the techniques of drawing the human form, including the use of live models. May not be audited. May be repeated for a maximum of six credits. Fee: $40.

Prerequisite: FA 242 or permission of instructor.

FA 345 - Sculpture II: Stone Carving (2)

This advanced studio class focuses entirely on stone carving. Skills and concepts learned in FA 244 will be strengthened while furthering a personal visual vocabulary using stone. May be repeated for a maximum of 6 credit hours. May not be audited. Fee: $30.

Prerequisite: FA 244 or permission of instructor.

FA 346 - Printmaking (2)

Introduction to the art of printmaking. A studio course in which students will make prints using a variety of techniques. May not be audited. Fee. $20.

FA 350 - Art History I (3)

Study art in its cultural context from ancient times to the early Renaissance. Topics include Paleolithic art and artifacts; the art and architecture of the ancient civilizations of Egypt, the Near East, Greece and Rome; plus works and issues arising from the Christian tradition and its dialogue with the ancient world. Visual resources include slides and video.

FA 351 - Art History II (3)

Study works of art and architecture from the High Renaissance to Postmodernism. Emphasis is on individual artists, art movements, and significant works studied in their cultural context.

FA 415 - Black and White Photography II (3)

Continuation of Black & White Photography II. May be repeated for a maximum of 6 credits. Fee: $90.00.

FA 417 - Creative Photography II (3)

Continuation of Creative Photography. This class will be taught at the same time as FA 317 with advanced projects determined by instructor. Students needs permission of instructor to register. This class may be taken twice for 6 credit hours. Fee: $90.00.

FA 418 - Digital Photography II (2)

Continuation of Digital Photography. Can be repeated for a maximum of 4 credits. Fee: $75.00.

FRN - French

FRN 101 - Elementary French (3)

Acquisition of vocabulary and structures necessary to execute basic communicative tasks. Elementary readings and simple compositions. One additional hour per week of lab work in the language learning center required. Courses must be taken in sequence.

FRN 102 - Elementary French (3)

Acquisition of vocabulary and structures necessary to execute basic communicative tasks. Elementary readings and simple compositions. One additional hour per week of lab work in the language learning center required. Courses must be taken in sequence.

Prerequisite: FRN 101 or permission of instructor.

FRN 201 - Intermediate French (3)

Intensive review and further development of oral and written proficiency skills. Short oral presentations on cultural topics. One additional hour per week of lab work in the language learning center required.

Prerequisite: One year of college French, two years of high school French or equivalent, or permission of instructor.

FRN 202 - Intermediate French (3)

Intensive review and further development of oral and written proficiency skills. Short oral presentations on cultural topics. One additional hour per week of lab work in the language learning center required.

Prerequisite: FRN 201 or permission of the instructor.

FRN 205 - Accelerated Intermediate French (6)

This intensive course which substitutes for FRN 201 and FRN 202 offers the students the opportunity to immerse themselves in the French language and strengthen their linguistic skills. FRN 205 follows FRN 102 and prepares students for FRN 301. It also allows to complete the language requirement in the BA core curriculum. Review of grammar, conversation and introduction to French literature.

FRN 301 - Advanced French Conversation (3)

Advanced review and expansion of grammar and idiomatic expressions to prepare students for the 400-level courses. A broad variety of activities and reading materials are used to develop conversational proficiency and improve accuracy in oral and written expression. Conducted in French.

Prerequisite: Two years of college French, four years of high school French, or equivalent.

FRN 302 - Advanced French Conversation and Composition (3)

Continued review and expansion of grammar, vocabulary, and idiomatic expressions. A broad variety of activities and reading materials are used to develop conversational proficiency and improve accuracy in oral and written expression. Weekly compositions on a variety of topics. Conducted in French.

Prerequisite: FRN 301.

FRN 403 - Survey of French Literature (3)

Representative works and authors from the Middle Ages to the twentieth century. Reading, discussion, and text analysis. Papers and reports. Taught in French.

Prerequisite: FRN 302 or equivalent.

FRN 404 - Survey of French Literature (3)

Representative works and authors from the Middle Ages to the twentieth century. Reading, discussion, and text analysis. Papers and reports. Taught in French.

Prerequisite: FRN 302 or equivalent.

FRN 411 - French Phonetics (3)

Systematic study of the pronunciation, articulation, and intonation of Modern French. Exercises in phonetic transcription. French songs, radio broadcasts, and laser disks. Taught in French.

Prerequisite: FRN 302 or permission of instructor.

FRN 417 - Advanced French Grammar and Conversation I (3)

Thorough review and refinement of the essentials of French grammar in order to enhance writing, reading, and speaking skills. Conducted in French.

Prerequisite: FRN 302 or permission of instructor.

FRN 418 - Advanced French Vocabulary and Conversation Workshop (3)

Extensive practice in speaking the language with emphasis on the acquisition and use of new vocabulary and more complex idiomatic phrases.

FRN 419 - Advanced French Grammar and Conversation II (3)

Continued in-depth study of advanced French grammar. Application of the new, more complex structures in conversation. Conducted in French.

Prerequisite: FRN 302 or permission of instructor.

FRN 421 - Advanced French Culture and Civilization (3)

Study of the social, artistic, philosophical, and political currents of France and other French-speaking countries. Taught in French.

Prerequisite: FRN 302 or permission of instructor.

FRN 422 - Spoken French (3)

Study of the phonology, syntax, and lexicon of colloquial French in order to improve comprehension. Taught in French.

Prerequisite: FRN 302 or permission of instructor.

FRN 423 - Contemporary France (3)

Study and discussion of the main social and cultural issues in France from the 1960s to the present. Exploration and evaluation of current events covered in the French media. The material used will come from French cultural texts, newspapers, radio and television, as well as movies, advertising, and songs. Taught in French.

Prerequisite: FRN 302 or permission of instructor.

FRN 490 - Directed Study (Variable)

Credit arranged.

FRN 491 - Seminar (Variable)

Credit arranged.

FRN 492 - Seminar (Variable)

Credit arranged.

FRN 497 - French Internship (1-3)

Academic internships are available for qualified students (3.0 GPA; 3.25 GPA in French). Internships provide students with job experience pertinent to the study of French. The internship may be taken for one to three credit hours.

GRM - German

GRM 101 - Elementary German (3)

Acquisition of vocabulary and structures necessary to execute basic communicative tasks.

GRM 102 - Elementary German (3)

Acquisition of vocabulary and structures necessary to execute basic communicative tasks.

Prerequisite: GRM 101 or permission of instructor.

GRM 105 - Accelerated Elementary German (6)

This class provides students with the opportunity to learn a full year of German in one semester with the advantage of intensive study, which promotes greater retention. It provides a solid foundation for second-year German at the University of Portland or for students planning to study in Salzburg.

GRM 201 - Intermediate German (3)

Review and further development of proficiency skills.

Prerequisite: 6 credit hours of beginning college German, two years of high school German, or equivalent.

GRM 202 - Intermediate German (3)

Review and further development of proficiency skills.

Prerequisite: GRM 201 or permission of instructor.

GRM 207 - Accelerated Intermediate German (6)

This course will offer the students an opportunity to immerse themselves in the German language and strengthen their linguistics skills. This course follows GRM 102 or GRM 105 and will build upon the concepts covered at the introductory level. When this course is offered at the University's Salzburg, Austria campus students will have additional opportunities for immersion in German and German-speaking culture.

GRM 301 - German Conversation and Composition (3)

Broad variety of activities and reading materials are used together with partner, group, and individualized approaches to develop conversational proficiency, improve accuracy in writing and speaking, and expand active and passive vocabulary. Conducted in German.

GRM 302 - German Conversation and Composition (3)

Broad variety of activities and reading materials are used together with partner, group, and individualized approaches to develop conversational proficiency, improve accuracy in writing and speaking, and expand active and passive vocabulary. Conducted in German.

GRM 311 - Advanced Conversation and Composition (3)

Students will increase the proficiency of their receptive and productive skills in German through a variety of activities and materials, including tasks allowing students to engage with local culture and customs. At the end of their year in Salzburg, students take an internationally recognized stadardized test and receive a certificate. (Salzburg only.)

Prerequisite: GRM 202 or GRM 207 or equivalent.

GRM 312 - Advanced Conversation and Composition (3)

Students will increase the proficiency of their receptive and productive skills in German through a variety of activities and materials, including tasks allowing students to engage with local culture and customs. At the end of their year in Salzburg, students take an internationally recognized stadardized test and receive a certificate. (Salzburg only.)

Prerequisite: GRM 202 or GRM 207 or equivalent.

GRM 353 - Introduction to Literary and Cultural Analysis (3)

This course is intended as a scaffold between the GRM 301-GRM 302 sequence and the 400 level. By reading a variety of texts, students will strengthen their reading skills, practice close analysis, and begin to work with literary theory. This course will continue to build on students' existing vocabulary and grammar knowledge with the goal of greater precision in writing in preparation for the 400 level.

Prerequisite: GRM 301 or GRM 311.

GRM 354 - Introduction to Literary and Cultural Analysis (3)

This course is intended as a scaffold between the GRM 301-GRM 302 sequence and the 400 level. By reading a variety of texts, students will strengthen their reading skills, practice close analysis, and begin to work with literary theory. This course will continue to build on students' existing vocabulary and grammar knowledge with the goal of greater precision in writing in preparation for the 400-level.

Prerequisite: GRM 301 or GRM 311.

GRM 355 - Advanced Conversation and Composition and Austrian Images (3)

This course allows students, who have completed two 300-level courses prior to study in Salzburg, to improve the accuracy of their written and spoken proficiency in German. Along with classroom activities, students will engage with the local culture and customs. At the end of their year in Salzburg, students will take an internationally recognized standardized test and receive a certificate. (Salzburg only.)

Prerequisite: GRM 302 or equivalent.

GRM 356 - Advanced Conversation and Composition and Austrian Images (3)

This course allows students, who have completed two 300-level courses prior to study in Salzburg, to improve the accuracy of their written and spoken proficiency in German. Along with classroom activities, students will engage with the local culture and customs. At the end of their year in Salzburg, students will take an internationally recognized standardized test and receive a certificate. (Salzburg only.)

Prerequisite: GRM 302 or equivalent.

GRM 390 - Directed Study (Variable)

Credit arranged.

GRM 403 - Topics in Austrian Literature and Culture (3)

Students in this course will explore an aspect of Austrian literature and culture as it relates to depictions of nature, boundaries, identity, spirituality, or the legacy of the past and will also refine their receptive (listening, reading) and productive (speaking, writing) skills in German through summary, description, comparison, and narration.

Prerequisite: GRM 301 or GRM 311.

GRM 404 - Topics in German Literature and Culture (3)

Students in this course will explore an aspect of German literature and culture as it relates to depictions of nature, boundaries, identity, spirituality, or the legacy of the past and will also refine their receptive (listening, reading) and productive (speaking, writing) skills in German through summary, description, comparison, and narration.

Prerequisite: GRM 301 or GRM 311.

GRM 408 - German Play Reading and Performance (3)

Contemporary German plays will be read in a reader's theater format, discussed in the context of current social/cultural events, and performed in German. Emphasis upon expanding vocabulary and improving pronunciation, intonation, and expression. Conducted in German.

Prerequisite: GRM 301 or GRM 311.

GRM 409 - Creative Writing in German (3)

This course is intended as an experience of creative German language production. After reading and analyzing examples of a number of creative genres (poetry, theater, short story), students will write creative pieces of their own. Students will focus on style and structure, in addition to improving precision in writing.

Prerequisite: GRM 301 or GRM 311.

GRM 421 - Film and Media of German-speaking Countries (3)

Students will investigate a variety of media (such as art, theater, film, and music) to analyze depictions of nature, boundaries, identity, spirituality, or the legacy of the past in German-speaking cultures. Concurrent with refining their German language skills, students will learn specific vocabulary to analyze each medium.

Prerequisite: GRM 301 or GRM 311.

GRM 422 - Art and Media of German-Speaking Countries (3)

Students will investigate a variety of media (such as art, theater, film, and music) to analyze depictions of nature, boundaries, identity, spirituality, or the legacy of the past in German-speaking cultures. Concurrent with refining their German language skills, students will learn specific vocabulary to analyze each medium.

Prerequisite: GRM 301 or GRM 311.

GRM 479 - Return from Study Abroad (1)

This course guides students through the re-entry process after returning from study abroad and helps them reflect critically on cross-cultural experiences. In addition to completing short reading and writing assignments, students will design and execute a final project that connects the study abroad experience to life at the university.

Prerequisite: Study abroad in a language program.

GRM 491 - Seminar (Variable)

Credit arranged.

GRM 492 - Seminar (Variable)

Credit arranged.

GRM 497 - German Internship (1-3)

Academic internships are available for qualified students (3.0 GPA; 3.25 GPA in German). Internships provide students with job experience pertinent to the study of German. The internship may be taken for one to three credit hours.

GRM 499 - Senior Thesis (Variable)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 GPA in the thesis area or good standing in the honors program.

HPE - Health and Physical Education

HPE 108 - Life Skills for Student Athletes (1)

Recognizes the unique demands of college student athletes and assists them in acquiring skills which will allow them to respond to those challenges. Course content will reflect issues relevant to adjustment to college life; social, academic, and athletic performance demands.

HPE 109 - Personal Fitness (1)

Development of personal fitness goals in strength, muscular endurance, flexibility, and cardio-respiratory endurance using a variety of exercise techniques, anaerobic and aerobic activities, and run/walk programs.

HPE 110 - Beginning Weight Training (1)

Introduction to weight training techniques for the development of muscular strength and endurance. The course includes the development of an individualized program.

HPE 111 - Leadership Skills for Student Athletes (1)

Recognizes the unique demands of college student athletes and assists them in acquiring skills which will allow them to respond to the challenges. Course content will focus student athletes' attention to athletic leadership, personal development, and peer mentoring.

HPE 115 - Swimming Skill Improvement (1)

Development of swimming techniques focusing on stroke improvement and achievement of personal goals.

HPE 116 - Swim Conditioning (1)

Development of fitness for swimming using a variety of training techniques to achieve individual goals.

HPE 117 - Water Aerobics (1)

Development of strength, endurance, flexibility, balance, and feelings of well-being through aerobics in the water.

HPE 204 - Introduction to Athletic Training (3)

Designed to provide a working knowledge of the prevention, care, treatment, and rehabilitation of athletic injuries. Basic principles of taping and use of modalities will be presented.

Prerequisite: BIO 103 or equivalent.

HPE 210 - Lifetime Health and Fitness (3)

Students will develop a solid foundation of life skills needed to maintain personal physical, mental, emotional, and spiritual health and fitness. Nutrition, hydration, exercise, psychological health, family health, financial health, environmental health, along with local, national, and global health issues will be studied. CPR and First Aid certification will also be completed.

HPE 405 - Kinesiology for Physical Educators (3)

Students apply their knowledge of human anatomy to the study of movement with major emphasis placed upon the action of bones, joints, and muscles and the role of the nervous system in relation to body control. The applicable mechanical principles to gross motor activities are stressed.

Prerequisite: HPE 204, BIO 307, BIO 377.

HPE 406 - Medical Aspects of Athletic Injuries (3)

Equips the student with the knowledge, procedure, and techniques an athletic trainer uses to perform joint evaluations, apply therapeutic modalities, and rehabilitate athletic injuries. Students will be expected to complete a project involving procedures used in specific athletic injuries.

Prerequisite: HPE 204.

HPE 408 - Exercise Physiology for Physical Educators (3)

Provides the student with a workable knowledge of human physiological response to exercise and other environmental stresses. Students will be involved in such practices as the use of graded exercise testing to determine physical fitness levels.

Prerequisite: HPE 204, BIO 308, BIO 378.

Graduate Courses

HPE 504 - Introduction to Athletic Training (3)

Designed to provide a working knowledge of the prevention, care, treatment, and rehabilitation of athletic injuries. Basic principles of taping and use of modalities will be presented.

Prerequisite: 3 hours of biology.

HPE 505 - Kinesiology for Physical Educators (3)

Students apply their knowledge of human anatomy to the study of movement with major emphasis placed upon the action of bones, joints, and muscles, and the role of the nervous system in relation to body control. Graduate students: research paper required. Admitted only with instructor's permission.

Prerequisite: HPE 504, 3 hours of human anatomy.

HPE 506 - Medical Aspects of Athletic Injuries (3)

Equips the student with the knowledge, procedure, and techniques an athletic trainer uses to perform joint evaluations, apply therapeutic modalities, and rehabilitate athletic injuries. Students will be expected to complete a project involving procedures used in specific athletic injuries. Graduate students: research paper required. Admitted only with instructor's permission.

Prerequisite: HPE 504, 3 hours of biology.

HPE 508 - Exercise Physiology for Physical Educators (3)

Provides the student with a workable knowledge of human physiological response to exercise and other environmental stresses. Students will be involved in such practices as the use of graded exercise testing to determine physical fitness levels. Graduate students: research paper required. Admitted only with instructor's permission.

Prerequisite: 3 hours of human physiology.

HPE 510 - Lifetime Health and Fitness (3)

Students will develop a solid foundation of life skills needed to maintain personal physical, mental, emotional, and spiritual health and fitness. Nutrition, hydration, exercise, psychological health, family health, financial health, environmental health, along with local, national, and global health issues will be studied. CPR and First Aid certification will also be completed.

Prerequisite: HPE 204.

HST - History

Introductory Surveys

HST 210 - United States: Early America (3)

Survey of the American nation from colonial times to 1876.

HST 211 - United States: Modern America (3)

Survey of the American nation from 1876 to the present.

HST 220 - Foundations of Western Civilization (3)

Introduction to history through the study of Western civilization from classical times through the sixteenth century.

HST 221 - Modern Western Civilization (3)

Development of Western civilization from the sixteenth century to the present and its impact on the non-Western world.

HST 251 - Modern East Asia (3)

Survey of the historical development of China, Japan, and Korea from about 1400 to the present. Focuses especially on the cultural commonalities between these three countries, the influence of western contact on each, and their individual paths to modernization.

HST 254 - Colonial Latin America (3)

Course will begin with a brief study of the main indigenous civilizations in Central America, then proceed to a study of Portuguese and Spanish exploration and rule until the colonies gained independence in the early 19th Century.

HST 255 - Africa, the Middle East and Asia (3)

Course will examine the impact of imperialism and post-colonialism on the cultures and nations of Africa, the Middle East, and Asia over the last two centuries. Special emphasis will be placed on cultural traditions, resource extraction, industrial developments, and the diplomatic relations of this region with the larger world community.

Upper-Division Courses

HST 300 - Introduction to Historical Methods (3)

A required course for history majors that provides an introduction to the discipline of history and how it is practiced by historians. Students will examine various types of evidence used by historians and the methods of analysis that they apply to construct historical arguments through primary document collection and analysis, review of historiography, and peer discussion.

Prerequisite: One 200-level history course or permission of the department chair.

HST 310 - Colonial North America (3)

Study of the exploration and colonization of North America by Spain, France, and Britain. Emphasis will be placed on interactions with Native Americans, the development of unique societies and political institutions, and a comparison of the establishment of the independent nations of Canada, Mexico, and the United States.

HST 311 - The American Revolution (3)

Examines the era of the American Revolution from 1750 through 1820. Special emphasis on the imperial politics and protests, the military, diplomatic, and political history of the war, and the political, economic, and foreign policy crises caused by the break from the British Empire.

HST 312 - Plains Indians History (3)

This course will survey the major aspects of Plains Indian culture and history from the earliest archaeological evidence to the present day. Special emphasis will be given to traditional Plains Indian cultures and the interaction between Plains Indians and the U.S. culture and government in the nineteenth and twentieth centuries.

Crosslisted as: SJP 312.

HST 313 - United States: Civil War Era (3)

Study of the US from the Jacksonian era through the Civil War to the emergence of a modern state.

HST 314 - American Frontier (3)

Course will examine the American frontier from 1500 to the present. Special emphasis will be placed on the migrations of many different peoples into the frontier, the development of resources and industries, and the construction of the mythic tales of the frontier.

HST 316 - US in Depression and War, 1920-1945 (3)

This course will examine key issues in American social and cultural history from the Jazz Age through the Great Depression and New Deal Era, to US involvement in World War II. Through texts, oral history, art, literature, and popular culture, the course will explore the effects of Depression and War on ordinary Americans.

HST 318 - Cold War America (3)

Study of the causes and effects of the Cold War in American domestic and foreign affairs. Emphasis will be placed on social, cultural, economic, and political movements within the United States, as well as America's role in world events after World War II.

Crosslisted as: SJP 318.

HST 321 - Modern American Women's History (3)

This course examines the history of American women from 1890 to the present. Special emphasis will be placed on the diversity of this group called "women" particularly by race and class, the construction of American gender ideologies, and women's participation in social reform movements of the twentieth century.

Crosslisted as: SJP 321.

HST 322 - American Protest and Reform (3)

This course traces the history and development of American movements for social justice in the twentieth century. Examining race, gender, and class-based social inequalities, the course highlights individuals and organizations that have worked to correct social injustice throughout the past century. The course emphasizes cultural forms of protest (literature and art) in addition to social and political reform.

Crosslisted as: SJP 322.

HST 323 - African American History (3)

This course explores African American history from Reconstruction through the present. Highlighting important African American intellectuals and other leaders, the course explores the changing nature of race in America as well as the history of Civil Rights.

Crosslisted as: SJP 323.

HST 325 - American Military History (3)

This course is designed to meet the American military history requirement for Army ROTC commissioning but is open to anyone interested in military history. Special attention will be given to battle analysis and the lessons learned from battle, the evolution of American warfare 1775 to present, the professionalization of the American military, and the place of the military in American history.

HST 330 - Ancient Mediterranean World (3)

This course surveys the political, social, cultural, religious, and intellectual history of the ancient Mediterranean and Near East. We begin with the first civilizations of Mesopotamia and ancient Egypt, the roots of western religion in ancient Israel; then proceed through the Bronze Age, archaic and classical Greece; and finish with a lengthy examination of the most stable of ancient civilizations, Rome.

HST 332 - Saints and Sinners in the Middle Ages (3)

This course examines what changing notions of sanctity and heresy reveal about Christian societies during the Middle Ages. Using primary texts the course will look at the political, economic and religious values through several important works by leading scholars of medieval history.

Crosslisted as: PCS 332.

HST 333 - Medieval Europe (3)

A broad study of the history of Medieval Europe, from St. Augustine to the Hundred Years' War, with special emphasis on politics and culture.

Crosslisted as: PCS 333.

HST 335 - Europe in the Age of Religious Wars (3)

This course will examine European history from 1500 to 1688. This period runs from the Reformation to the birth of the modern state system. Special emphasis on intellectual, artistic, and cultural developments as well as the theological and military transformations in European life during this time.

Crosslisted as: PCS 335.

HST 336 - Europe in the Age of Enlightenment (3)

Course covers the history of Europe between England's Glorious Revolution in 1688 and the French Revolution of 1789. Special focus on the personalities and ideas of the Enlightenment and their influence on European governments and politics.

HST 342 - Europe in the Age of Nationalism (3)

Study of the major personalities, institutions, and movements which shaped the modernization of Europe in the century after 1815, as the region changed under the impact of economic and political revolutions.

HST 343 - Europe in the Age of Dictatorship (3)

A broad study of the European continent from 1900 to the revolutions of 1989 and their aftermath, emphasizing the political, social, and cultural significance of the century's major events.

Crosslisted as: SJP 343.

HST 346 - Modern Germany (3)

Study of the varying political forms of German life over the past two centuries with emphasis on the war and the Nazi dictatorship.

Crosslisted as: SJP 346.

HST 347 - Modern France (3)

Study of the major political, social, economic, and cultural forces since the Revolution of 1789 with emphasis on the intellectual ideas and governmental issues shaping modern France.

HST 351 - Modern Japan (3)

Study of Japan since approx 1800. Emphasis on the political, social, intellectual, and cultural developments of Japan from the last decades of the Tokugawa Shogunate through the country's economic dominance and stagnation in the late 20th century.

HST 352 - The United States and the Pacific Rim (3)

This course will focus on the historic social, economic, and political development and diplomatic relations of the United States and the nations of the Pacific Rim from roughly 1500 to the present. Major emphasis will be given to the geopolitical struggles over time between the United States and the Spanish and British empires, Japan, China, and Russia.

HST 357 - Technology, Resources, and Environment in World History (3)

This course will examine the exploitation of natural resources in modern global society, from the beginnings of the Industrial Revolution to the modern day. Special emphasis is placed on the intersection of technology, culture, and the environment in modern life.

Crosslisted as: SJP 357.

HST 358 - Disease and Medicine in World History (3)

This course will examine the role disease, medicine, and culture have played in human history from ancient times to the 20th century. Areas of particular focus will include major epidemics, the rise of germ theory, and the intersection between economic development and human health.

Crosslisted as: SJP 358.

HST 359 - The Modern City (3)

Course examines the emergence of modern urbanization in various parts of the world from approximately 1800 to the present emphasizing similarities and differences in urban development across countries and cultures. Course addresses the built environment of cities as well as the political, social, and economic forces that have shaped urbanization and their effects.

HST 361 - Imperial Russia: 1700-1917 (3)

This course surveys major issues in modern Russian history and culture from Peter the Great to Nicholas II. Topics covered include history, religion, literature, and fine arts, as well as development of political, social and legal institutions and thought from the beginning of the Russian Empire to 1917.

HST 362 - Twentieth Century Russia (3)

This course examines the rise of the Soviet Union, its role in European and global affairs, its political, social, and economic basis, and its fall at the end of the Cold War. The course will also examine the culture of the Soviet government and its people.

HST 365 - History of the Second World War (3)

Study of World War II from immediate causes to Cold War conclusions with a balanced treatment of military, political and social (Homefront) events and issues.

HST 370 - Early Modern Europe (3)

Study of Europe from 1600 to approximately 1815 with emphasis on absolutism in France, constitutionalism in England, the emergence of Prussia and Russia, the Enlightenment, and the French Revolution. (Salzburg only.)

HST 372 - Study of British History (3)

Study of special topics in British history. (London Program.)

HST 375 - History of Modern Ireland (3)

This course will focus on the emergence and development of modern Irish and Irish-American cultural identities: What does it mean to be Irish? This course will mix lectures, group discussions, and research (by groups and individuals) to examine the military, political, economic, social, religious, and intellectual developments that have shaped the contrasting versions of Irish identity.

400-Level Courses

HST 420 - Seminar in American History (3)

In-depth seminar on history and historiography of a selected topic in American history. Designed for history major and minor students.

Prerequisite: One 200 or 300 level history course.

HST 430 - Seminar in European History (3)

In-depth seminar on history and historiography of a selected topic in European history. Designed for history major and minor students.

Prerequisite: One 200 or 300 level history course.

HST 450 - Seminar in Non-Western History (3)

In-depth seminar on history and historiography of a selected topic in non-Western history. Designed for history major and minor students.

Prerequisite: One 200 or 300 level history course.

HST 470 - The Practice of History (3)

The first of two senior thesis sequence courses designed to give history majors practice in historiography, primary documents collection and analysis, historical argumentation and public presentation.

Prerequisite: HST 420, HST 430, or HST 450.

HST 471 - Senior Seminar (3)

Study of the advanced techniques of research and writing of a senior thesis based on original research. Includes public presentation of results. Required for history majors.

Prerequisite: HST 470.

HST 499 - Senior Thesis (Variable)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program when appropriate.

Prerequisite: Senior standing, 3.0 in the thesis area, and/or good standing in the honors program.

MTH - Mathematics

MTH 105 - Mathematics for Elementary Teachers I (3)

Rational numbers and subsystems. Probability and statistics. Real numbers and geometry. Algebraic structures. Emphasis on problem solving. (Does not fulfill the core requirement.)

MTH 106 - Mathematics for Elementary Teachers II (3)

Rational numbers and subsystems. Probability and statistics. Real numbers and geometry. Algebraic structures. Emphasis on problem solving. (Does not fulfill the core requirement.)

Prerequisite: MTH 105.

MTH 111 - Precalculus I (3)

Review of basic algebra, functions, graphing, logarithm, and exponential functions, systems of linear equations. (Does not fulfill the core requirement.)

MTH 112 - Precalculus II (3)

Review of exponential and logarithmic functions, their graphs, trigonometric and inverse trigonometric functions. Analytic geometry, sequences, and series.(Does not fulfill the core requirement.)

MTH 115 - Teaching Mathematics with Technology (3)

Two mathematical areas provide the content of the course: (1) Geometry and (2) Algebra and Modeling. Mathematical content and pedagogy are fully integrated using contemporary classroom technologies. (Does not fulfill the core requirement.)

MTH 121 - Calculus for Business and Social Science (3)

Introduction to differential and integral calculus with emphasis on applications to business and economics.

MTH 141 - Finite Mathematics (3)

Matrices, systems of linear equations, linear programming. Sets and counting, probability.

MTH 160 - Quantitative Reasoning (3)

Students will be able to understand, process, and interpret statistical information arising in everyday life using real world examples and case studies from a variety of disciplines. Critical thinking and quantitative decision-making skills will be taught.

This course focuses on being a consumer of statistics, interpreting research studies, and learning how statistics are used in the real world.

MTH 161 - Elementary Statistics (3)

Elementary statistical calculations and statistical thinking. Examples will be chosen from various disciplines. Topics include sampling, normal distribution, central limit theorem, hypothesis testing, and simple regressions.

MTH 201 - Calculus I (4)

The study of the differential and integral calculus with emphasis on applications in the natural and physical sciences.

MTH 202 - Calculus II (4)

Techniques of integration, numerical integration, applications of integration, sequences and series, including Taylor series.

Prerequisite: MTH 201 with a grade of C- or higher or permission of instructor.

MTH 290 - Directed Study (Variable)

Credit arranged.

MTH 301 - Vector Calculus (4)

The study of functions in several variables: vectors, matrices, partial derivatives, gradients, optimization, and integration. Differentiation and integration of vector-valued functions, line integrals, surface integrals, curl, divergence, Green's Theorem, and Stokes' Theorem.

Prerequisite: MTH 202 with a grade of C- or higher or permission of instructor.

MTH 303 - Computational Methods in Physical Sciences (3)

Computational techniques for solving physics and chemistry problems as well as for simulating, analyzing, and graphically visualizing physical systems and processes. Offered fall of odd years.

Prerequisite: PHY 204 or PHY 201, MTH 202. Crosslisted as: CHM 303, PHY 303.

MTH 311 - Discrete Structures (3)

Topics may include: set theory, logic, methods of proof, combinatorics, recurrence relations, graphs, and Boolean algebra.

Prerequisite: MTH 201.

MTH 321 - Ordinary Differential Equation (3)

Introduction to elementary ordinary differential equations with applications to physical processes - emphasis of first and second order equations, systems of linear differential equations, and Laplace transforms.

Prerequisite: MTH 202 with a grade of C- or higher or permission of instructor.

MTH 322 - Partial Differential Equations (3)

Fourier series. Inner product spaces. Solutions to heat, wave, and Laplace's equations. Green's functions.

Prerequisite: MTH 321.

MTH 323 - Nonlinear Dynamics (3)

This course introduces the basic concepts and techniques in the study of dynamical systems, including nonlinear ordinary differential equations, difference equations, and systems of equations. Using a wide variety of applications from the physical sciences, we will cover analytical methods such as linear stability, bifurcations, phase plane analysis, limit cycles, Lorenz equations, chaos, iterated maps, period doubling, and fractals.

Prerequisite: MTH 321.

MTH 341 - Introduction to Linear Algebra (3)

Systems of linear equations and matrices, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors.

Prerequisite: MTH 202.

MTH 345 - Number Theory (3)

An introduction to the study of the integers and related objects. Topics are taken from among the following: divisibility, primes and the Euclidean algorithm, the Euler phi-function, special primes and perfect numbers, congruences mod n, quadratic residues, continued fractions, quadratic forms, Diophantine equations.

Prerequisite: MTH 311.

MTH 351 - Numerical Methods in Computing I (3)

Numerical techniques for computer-aided solution of non-linear equations, systems of equations, interpolation, numerical integration and differentiation, and solution of ordinary differential equations. Fee: $25.

Prerequisite: CS 203, MTH 321 or MTH 341.

MTH 356 - Mathematical Methods for Science and Engineering (3)

Ordinary differential equations, complex variables and matrices are developed and illustrated through applications in physics with emphasis on examples from the fields of vibrations and waves.

Prerequisite: MTH 202.

MTH 361 - Applied Statistics I (3)

An introduction to statistical methods utilized across disciplines. Topics include experimental design, randomization and sampling distributions, tests of statistical significance, normal model, confidence intervals, t-procedures, two-sample comparisons, one-way analysis of variance, simple linear regression, and bootstrapping. The course makes substantial use of programming in a statistical software package.

Prerequisite: MTH 201.

MTH 387 - Service Learning in Mathematics (1)

This seminar supports students working in local schools as part of the Outreach Excel Program. Students discuss questioning and group work strategies, classroom management, current school mathematics curriculum, and interaction techniques with middle and high school students. This is a Pass/No Pass course and may be repeated for credit. Does not count towards math major.

MTH 390 - Directed Study (Variable)

Credit arranged.

MTH 392 - Seminar (Variable)

Credit arranged.

MTH 401 - Real Analysis I (3)

A rigorous treatment of properties of the real numbers and functions of a single real variable. Topics include completeness, limits, continuity, differentiation, integration, and sequences. Additional topics may include series, an introduction to Euclidean or metric spaces.

Prerequisite: MTH 311.

MTH 402 - Real Analysis II (3)

Topics may include sequences and series of functions, uniform convergence, Fourier series, the Riemann-Stieltjes integral, and functions in several variables.

Prerequisite: MTH 401.

MTH 404 - Complex Variables (3)

Complex numbers and functions of a complex variable; limits, differentiability; Cauchy's theorem; power series, Laurent series, residue theorem with applications, maximum modulus theorem, Liouville's theorem; conformal mapping and applications.

Prerequisite: MTH 301, MTH 311.

MTH 431 - Modern Geometry (3)

A foundations course in elementary geometry discussing the following: incidence geometries; finite, metric, and synthetic geometries; Euclidean, hyperbolic, and elliptical geometries; and some axiomatic theory.

Prerequisite: MTH 301, MTH 341.

MTH 435 - Topology (3)

An introduction to fundamental concepts in point-set topology. Topics are taken from the following: open and closed sets, continuity, connectedness, compactness, separability, metric spaces.

Prerequisite: MTH 311.

MTH 441 - Modern Algebra I (3)

The study of algebraic structures that are like the integers, polynomials, and the rational numbers. The integers and their properties. Groups: examples, properties, and counting theorems. Rings: examples and properties. Fields: roots of polynomials and field extensions.

Prerequisite: MTH 311, MTH 341.

MTH 442 - Modern Algebra II (3)

Unique factorization in special rings. Field theory and the use of groups to understand field extensions: finite fields, Galois theory. Classical construction problems, solution of n-th degree polynomials.

Prerequisite: MTH 441.

MTH 461 - Probability and Statistics I (3)

Probability, discrete and continuous random variables, expectation, important probability distributions, introduction to sampling, estimation, and hypothesis testing.

Prerequisite: MTH 202, MTH 311.

MTH 462 - Probability and Statistics II (3)

Topics from simple linear and multiple regression, analysis of variance and design of experiments, methods for categorical data, distribution-free methods.

Prerequisite: MTH 461.

MTH 490 - Directed Study (Variable)

Credit arranged.

MTH 491 - Seminar in Mathematics (Variable)

Carries a title reflecting the subject or subjects studied and/or the nature of the class structure. May be repeated for credit.

MTH 499 - Senior Thesis (3)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the thesis area or good standing in the honors program.Graduate Courses

The Department of Mathematics does not offer graduate degree programs, but does offer courses thay may apply toward graduate programs in education or engineering. The following courses are available and offered annually or in alternate years.

MTH 501 - Real Analysis I (3)

A rigorous treatment of properties of the real numbers and functions of a single real variable. Topics include completeness, limits, continuity, differentiation, integration, and sequences. Additional topics may include series, an introduction to Euclidean or metric spaces.

Prerequisite: MTH 311.

MTH 502 - Real Analysis II (3)

Topics may include sequences and series of functions, uniform convergence, Fourier series, the Riemann-Stieltjes integral, and functions in several variables.

Prerequisite: MTH 501.

MTH 504 - Introduction to Complex Variables (3)

Complex numbers and functions of a complex variable; limits, differentiability; Cauchy's theorem; power series, Laurent series, residue theorem with applications, maximum modulus theorem, Liouville's theorem; conformal mapping and applications.

Prerequisite: MTH 401.

MTH 535 - Topology (3)

An introduction to fundamental concepts in point-set topology. Topics are taken from the following: open and closed sets, continuity, connectedness, compactness, separability, metric spaces.

Prerequisite: MTH 311.

MTH 541 - Modern Algebra I (3)

The study of algebraic structures that are like the integers, polynomials, and the rational numbers. The integers and their properties. Groups: examples, properties, and counting theorems. Rings: examples and properties. Fields: roots of polynomials and field extensions.

Prerequisite: MTH 311, MTH 341.

MTH 542 - Modern Algebra II (3)

Unique factorization in special rings. Field theory and the use of groups to understand field extensions: finite fields, Galois theory. Classical construction problems, solution of n-th degree polynomials.

Prerequisite: MTH 541.

MTH 561 - Probability and Statistics I (3)

Probability, discrete, and continuous random variables, expectation, important probability distributions, introduction to sampling, estimation, and hypothesis testing.

Prerequisite: MTH 301, MTH 341.

MTH 562 - Probability and Statistics II (3)

Topics from simple linear and multiple regression, analysis of variance and design of experiments, methods for categorical data, distribution-free methods.

Prerequisite: MTH 561.

ME - Mechanical Engineering

ME 111 - Engineering Graphics (2)

This course introduces graphical communication of engineering design using traditional sketches and drawings coupled with computer modeling. An introduction to engineering drawings, dimensioning, and tolerances will be provided. Three dimensional modeling will be introduced using commercial software. Visualization and manipulation of existing models will be performed by generating drawings, building assemblies, and creating engineering drawings.

ME 300 - Junior Workshop (0)

This course is meant to provide an extra class period for juniors in mechanical engineering for individual and group-based problem solving, examinations, and tutorials.

Corequisite: ME 331.

ME 301 - Mechanical Engineering Analysis (2)

Numerical methods applied to engineering problems: interpolation and curve fitting of experimental data, matrix analysis, and approximation methods in structural, thermal, and fluid systems.

Prerequisite: CS 201.

ME 304 - Finite Element Analysis (3)

This course builds on the concepts learned in strength of materials and introduces finite element analysis (FEA). FEA is introduced mathematically beginning with springs, trusses, and beams. A commercial FEA software package is used to model plane stress and three-dimensional geometry. Individual projects are used to introduce three dimensional analysis. Fee: $40.

Prerequisite: EGR 322, ME 111.

ME 311 - Mechanics of Fluids I (3)

Basic properties of a fluid, problems in hydrostatics. The general equations of fluid motion. Boundary layer concepts. Application to a variety of laminar and turbulent incompressible flow situations. The technique of dimensional analysis is introduced.

Prerequisite: EGR 212 or EGR 213.

ME 312 - Mechanics of Fluids II (2)

Application of fluid mechanics principles to laminar and turbulent duct flows; head losses through pipes including minor losses; compressible flows; measurement and turbomachinery.

Prerequisite: ME 311.

ME 331 - Fundamental Thermodynamics (3)

Classical treatment emphasizing the first and second laws of thermodynamics and their application to open and closed systems undergoing steady and unsteady processes. Tabular and graphical data, as well as ideal gas properties, are used in analytical work.

Prerequisite: MTH 202. Corequisite: ME 300.

ME 332 - Applied Thermodynamics (2)

Application of thermodynamic principles in analyzing power and refrigeration systems, non-reacting gas mixtures, psychrometrics, and combustion.

Prerequisite: CHM 207, ME 331.

ME 336 - Heat Transfer (3)

Conduction, convection, and radiation heat transfer are studied in detail. Real engineering problems and systems involving more than one of these modes are analyzed. Numerical solutions are emphasized for the many problems for which analytical solutions cannot be found.

Prerequisite: ME 331.

ME 341 - Modern Manufacturing Processes (3)

Manufacturing properties of engineering materials. Casting, forging, forming, and joining processes. Conventional and non-conventional material removal processes. Powder metallurgy and coatings. An introduction to the concept of intelligent processing of materials.

Prerequisite: EGR 221, EGR 322.

ME 351 - Mechanical Systems Laboratory (2)

An introduction to control systems with an emphasis on industrial motion control. Theoretical and experimental studies will familiarize students with PID control, control system hardware and software, stepper motors, servo motors, sensors, simulation, and data acquisition systems.

Prerequisite: EGR 212, MTH 321 or corequisite. Corequisite: MTH 321 or prerequisite.

ME 374 - Fluids Laboratory (1)

Experimental analysis of fluid mechanics principles including pressure losses through pipes and fittings, pump turbine characteristics, drag force measurements, compressible flows, boundary layers, etc. Fee: $40.

Corequisite: ME 312.

ME 376 - Thermodynamics Laboratory (1)

Experimental studies of thermal systems including compressors, steam turbine power cycles, refrigeration, air-conditioning, Otto engine cycle, evaporative cooling towers, and heat exchangers. Fee: $40.

Prerequisite: ME 332.

ME 401 - Machine Design (4)

Theoretical and practical aspects of the design of various machine components and simple systems. The design criteria are based on stress analysis, manufacturing issues, materials, and fatigue considerations.

Prerequisite: EGR 221, EGR 322.

ME 403 - Engineering Design: Product Realization (3)

Study of processes and knowledge used to create an engineered product. Topics include design for manufacturing and assembly, materials, and material selection, Lean Manufacturing, and Design of Experiments (DOE) for design and manufacturing.

Prerequisite: ME 401.

ME 415 - Turbomachinery (3)

Dimensional analysis and similitude; applications of fluid flow and thermodynamics to the study of turbomachinery. Characteristics and performance of different types of compressors, turbines, and pumps.

Prerequisite: ME 311, ME 331.

ME 421 - Failure Analysis (3)

Methods to identify and prevent failures in design and manufacturing. Topics include: applied fracture mechanics, non-destructive testing, root cause analysis, and forensic engineering case studies.

Prerequisite: EGR 221, EGR 322.

ME 423 - Applied Strength of Materials (3)

Advanced considerations of stress, strain, and strength are employed for safe and proper design. Theories of failure, design for fatigue, and effects of dynamic loadings represent the current state of the art.

Prerequisite: EGR 322.

ME 426 - Experimental Stress Analysis (3)

Review of theoretical and experimental techniques of strain and stress analysis with emphasis on electrical strain gauges, brittle coatings, grid methods, and photoelasticity techniques. A project is required involving stress analysis of a component/structure utilizing one or more of the above techniques. Fee: $40.

Prerequisite: EGR 322.

ME 434 - Heating, Ventilating, and Air Conditioning (3)

Analysis and design necessary to plan and specify equipment for heating, refrigeration, and air conditioning systems. Includes heat transfer analysis of the structure, psychrometric analysis of inside and ventilating air, and thermodynamic and economic analysis of the necessary equipment.

Prerequisite: ME 332. Corequisite: ME 336.

ME 436 - Design of Thermal Systems (3)

Review of the analysis and design of components of thermal systems such as heat exchangers, pumps and blowers, and drive units. Review of computer methods for analyzing systems. At least two design projects applying thermal systems design procedures will be completed.

Prerequisite: ME 332, ME 336.

ME 443 - Systems and Measurement (3)

Systems approach to engineering with application to measurement. Time and frequency analysis of first and second order systems. Calibration, data acquisition, analog to digital conversion, filtering, and modulation will be addressed in both theory and experiment.

Prerequisite: EE 261, EGR 212.

ME 445 - Advanced Computer Aided Design & Manufacturing (3)

Project oriented course that introduces advanced CAD design, including surfacing as well as rapid prototyping, computer numeric control, and programmable logic controllers. Topics include theory behind these concepts and devices, solid modeling, 3-D model data exchange, slicing and offsetting algorithms, and programming such as numerical control of a mill. Fee: $40.

Prerequisite: ME 351.

ME 453 - Mechanical Vibrations (3)

Analysis and prediction of the dynamic behavior and response of mechanical systems. Various types of oscillations and physical properties such as damping and stiffness are explained.

Prerequisite: EGR 212, MTH 321.

ME 454 - Noise and Vibration Control (3)

Industrial application of noise control criteria, measurements, materials, and design. Vibration control is comprised of source identification, system isolation, and testing. Extensive laboratory program also includes spectral and signal analysis. Fee: $40.

Prerequisite: Senior standing.

ME 462 - Biomechanics (3)

Course will cover a variety of biomechanical analysis and instrumentation topics such as skeletal anatomy, ergonomics, and exercise physiology. Methods for measuring and computing force and movement will be covered. Laboratory exercises will be used to demonstrate instrumentation including motion capture, force plates, EMG, ECG, heart rate monitors, accelerometers, and goniometers.

Prerequisite: EGR 212.

ME 481 - Mechanical Engineerng Project I (2)

Students are required to do design projects including literature search, engineering analysis, and written and oral presentations. These projects are a culminating experience in the mechanical engineering program. Group projects and construction of prototypes is encouraged, where feasible. Fee: $40.

Prerequisite: Upper division standing.

ME 482 - Mechanical Engineerng Project II (2)

Students are required to do design projects including literature search, engineering analysis, and written and oral presentations. These projects are a culminating experience in the mechanical engineering program. Group projects and construction of prototypes is encouraged, where feasible. Fee: $40.

Prerequisite: Upper division standing.

ME 490 - Directed Study (Variable)

Selected study, project, or research in mechanical engineering for upper-division students. Must be arranged between the student and an individual faculty member and subsequently approved by the dean of engineering. No more than three of the technical elective hours taken at the University may be satisfied with individualized study.

ME 491 - Seminar (Variable)

Credit arranged.

ME 492 - Seminar (Variable)

Credit arranged.

ME 493 - Research (1-3)

Faculty-directed student research. Before enrolling, a student must consult with a faculty member to define the project. May be repeated for credit.

Prerequisite: Upper division standing.

ME 599X - Thesis in Progress (0)

Registration for any graduate student who has received the grade of IP in ME 599 is required while the thesis is in progress. Fee: $50.

Graduate Courses

ME 503 - Engineering Design: Product Realization (3)

Study of processes and knowledge used to create an engineered product. Topics include design for manufacturing and assembly, materials, and material selection, Lean Manufacturing, and Design of Experiments (DOE) for design and manufacturing.

ME 515 - Turbomachinery (3)

Dimensional analysis and similitude; applications of fluid flow and thermodynamics to the study of turbomachinery. Characteristics and performance of different types of compressors, turbines, and pumps.

ME 521 - Failure Analysis (3)

Methods to identify and prevent failures in design and manufacturing. Topics include: applied fracture mechanics, non-destructive testing, root cause analysis, and forensic engineering case studies.

ME 523 - Applied Strength of Materials (3)

Advanced considerations of stress, strain, and strength are employed for safe and proper design. Theories of failure, design for fatigue, and effects of dynamic loadings represent the current state of the art.

ME 526 - Experimental Stress Analysis (3)

Review of theoretical and experimental techniques of strain and stress analysis with emphasis on electrical strain gauges, brittle coatings, grid methods, and photoelasticity techniques. A project is required involving stress analysis of a component/structure utilizing one or more of the above techniques. Fee: $20.

ME 534 - Heating, Ventilating, and Air Conditioning (3)

Analysis and design necessary to plan and specify equipment for heating, refrigeration, and air conditioning systems. Includes heat transfer analysis of the structure, psychrometric analysis of inside and ventilating air, and thermodynamic and economic analysis of the necessary equipment.

ME 536 - Design of Thermal Systems (3)

Review of the analysis and design of components of thermal systems such as heat exchangers, pumps and blowers, and drive units. Review of computer methods for analyzing systems. At least two design projects applying thermal systems design procedures will be completed.

ME 543 - Systems and Measurement (3)

Systems approach to engineering with application to measurement. Time and frequency analysis of first and second order systems. Calibration, data acquisition, analog to digital conversion, filtering, and modulation will be addressed in both theory and experiment.

ME 545 - Advanced Computer Aided Design and Manufacturing (3)

Project oriented course that introduces advanced CAD design, including surfacing as well as rapid prototyping, computer numeric control, and programmable logic controllers. Topics include theory behind these concepts and devices, solid modeling, 3-D model data exchange, slicing and offsetting algorithms, and programming such as numerical control of a mill. Fee: $30.

ME 553 - Mechanical Vibrations (3)

Analysis and prediction of the dynamic behavior and response of mechanical systems. Various types of oscillations and physical properties such as damping and stiffness are explained.

ME 554 - Noise and Vibration Control (3)

Industrial application of noise control criteria, measurements, materials, and design. Vibration control is comprised of source identification, system isolation, and testing. Extensive laboratory program also includes spectral and signal analysis. Fee: $20.

ME 562 - Biomechanics (3)

Course will cover a variety of biomechanical analysis and instrumentation topics such as skeletal anatomy, ergonomics, and exercise physiology. Methods for measuring and computing force and movement will be covered. Laboratory exercises will be used to demonstrate instrumentation including motion capture, force plates, EMG, ECG, heart rate monitors, accelerometers, and goniometers.

ME 590 - Directed Study (Variable)

Credit arranged.

ME 591 - Seminar (Variable)

Credit arranged.

ME 592 - Seminar (Variable)

Credit arranged.

ME 593 - Research (1-3)

Faculty-directed student research. Before enrolling, a student must consult with a faculty member to define the project. May be repeated for credit.

ME 599 - Thesis (Variable)

Credit arranged.

MSL - Military Science and Leadership

MSL 101 - Leadership and Personal Development (1)

Introduces cadets to the personal challenges that are critical for effective leadership. Cadets learn how the personal development of life skills such as critical thinking, goal setting, time management, physical fitness, and stress management relate to leadership, officership, and the Army profession.

Corequisite: MSL 121. MSL 131 optional.

MSL 102 - Introduction to Tactical Leadership (1)

Overviews leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Cadets explore dimensions of leadership values, attributes, skills, and actions in the context of practical, hands-on, and interactive exercises.

Corequisite: MSL 122. MSL 132 optional.

MSL 121 - Leadership Laboratory (1)

Open only to (and required of) students in MSL 101. Series with different roles for students at different levels in the program. Learn and practice basic leadership and development skills. Build self-confidence and team-building leadership skills that can be applied throughout life.

Corequisite: MSL 101.

MSL 122 - Leadership Laboratory (1)

Open only to (and required of) students in MSL 102. Learn and practice basic leadership and development skills. Build self-confidence and team-building leadership skills that can be applied throughout life.

Corequisite: MSL 102.

MSL 131 - Basic Course Physical Fitness (1)

Open to all students. Participate in and learn to lead a physical fitness program. Emphasis on the development of an individual fitness program and the role of exercise and fitness in one's life.

MSL 132 - Basic Course Physical Fitness (1)

Open to all students. Participate in and learn to lead a physical fitness program. Emphasis on the development of an individual fitness program and the role of exercise and fitness in one's life.

MSL 201 - Innovative Team Leadership (2)

Explores the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the Army leadership framework (trait and behavior theories). Cadets practice aspects of personal motivation and team building in the context of planning, executing, and assessing team exercises and participating in leadership labs.

Corequisite: MSL 221, MSL 231.

MSL 202 - Foundations of Tactical Leadership (2)

Examines the challenges of leading tactical teams in the complex contemporary operating environment (COE). The course highlights dimensions of terrain analysis, patrolling, and operation orders. Further study of the theoretical basis of the Army leadership framework explores the dynamics of adaptive leadership in the context of military operations.

Corequisite: MSL 222, MSL 232.

MSL 221 - Leadership Laboratory (1)

Open only to (and required of) students in MSL 201. Learn and practice basic leadership and development skills.

Corequisite: MSL 201, MSL 231.

MSL 222 - Leadership Laboratory (1)

Open only to (and required of) students in MSL 202. Build self-confidence and team-building leadership skills that can be applied throughout life.

Corequisite: MSL 202, MSL 232.

MSL 231 - Basic Course Physical Fitness (1)

Open to all students. Series with different roles for students at different levels in the program. Participate in and learn to lead a physical fitness program. Emphasis on the development of an individual fitness program and the role of exercise and fitness in one's life.

Corequisite: MSL 201, MSL 221.

MSL 232 - Basic Course Physical Fitness (1)

Open to all students. Participate in and learn to lead a physical fitness program. Emphasis on the development of an individual fitness program and the role of exercise and fitness in one's life.

Corequisite: MSL 202, MSL 222.

MSL 240 - Basic Leadership Internship (3)

A five-week basic leadership training course conducted at Fort Knox, Kentucky. Student receives pay. Travel, lodging, and most meal costs are defrayed by the Army. The environment is rigorous. Introduction to leadership and self and team development. Individual leads groups of 9-40 students to learn and apply principles of effective leadership. Develops communication skills to improve individual and group performance.

MSL 301 - Adaptive Tactical Leadership (3)

Challenges cadets to study, practice, and evaluate adaptive leadership skills as they are presented with challenging scenarios related to squad tactical operations. Cadets receive systematic and specific feedback on their leadership attributes and actions. Based on such feedback, as well as their own self-evaluations, cadets continue to develop their leadership and critical thinking abilities.

Corequisite: MSL 321, MSL 331.

MSL 302 - Leadership in Changing Environments (3)

Uses increasingly intense situational leadership challenges to build cadet awareness and skills in leading tactical operations up to platoon level. Cadets review aspects of combat, stability, and support operations. They also conduct military briefings and develop proficiency in garrison operation orders.

Corequisite: MSL 322, MSL 332.

MSL 321 - Advanced Leadership Laboratory (1)

Open only to students in the associated MSL 301. Involves leadership responsibilities for the planning, coordination, execution, and evaluation of various training and activities with basic course students and for the ROTC program as a whole. Students develop, practice, and refine leadership skills by serving and being evaluated in a variety of responsible positions.

Corequisite: MSL 301, MSL 331.

MSL 322 - Advanced Leadership Laboratory (1)

Open only to students in the associated MSL 302. Students develop, practice, and refine leadership skills by serving and being evaluated in a variety of responsible positions.

Corequisite: MSL 302, MSL 332.

MSL 331 - Advanced Course Physical Fitness (1)

Required of students in MSL 301. Participate in and learn to plan and lead physical fitness programs. Develops the physical fitness required of an officer in the Army. Emphasis on the development of an individual fitness program and the role of exercise and fitness in one's life.

Corequisite: MSL 301, MSL 321.

MSL 332 - Advanced Course Physical Fitness (1)

Required of students in MSL 302. Participate in and learn to plan and lead physical fitness programs. Develops the physical fitness required of an officer in the Army. Emphasis on the development of an individual fitness program and the role of exercise and fitness in one's life.

Corequisite: MSL 302, MSL 322.

MSL 340 - Leadership Development and Assessment (3)

A five-week course conducted at Fort Lewis, Washington or Fort Knox, Kentucky. Only open to students who have completed MSL 301 and MSL 302. Student receives pay. This advanced leadership course is highly structured and demanding, stressing small unit leadership under varying conditions. Students focus on communication skills and apply ethics-based leadership skills that develop individuals and teams. Individual leadership performance is evaluated.

Prerequisite: MSL 301, MSL 302.

MSL 401 - Developing Adaptive Leaders (3)

Develops cadet proficiency in planning, executing, and assessing complex operations, functioning as a members of a staff, and providing performance feedback to subordinates. Cadets assess risk, make ethical decisions, and lead fellow ROTC cadets. Lessons on military justice and personnel processes prepare cadets to make the transition to Army officers.

Corequisite: MSL 421, MSL 431.

MSL 402 - Leadership in a Complex World (3)

Explores the dynamics of leading in the complex situations of current military operations in the contemporary operating environment (COE). Cadets examine differences in customs and courtesies, military law, principles of war, and rule of engagement in the face of international terrorism. They also explore aspects of interacting with non-government organizations, civilians on the battlefield, and host nation support.

Corequisite: MSL 422, MSL 432.

MSL 421 - Advanced Leadership Laboratory (1)

Open only to students in the associated MSL 401. Involves leadership responsibilities for the planning, coordination, execution, and evaluation of training activities with the ROTC program as a whole. Students develop, practice, and refine leadership skills by serving and being evaluated in a variety of responsible positions.

MSL 422 - Advanced Leadership Laboratory (1)

Open only to students in the associated MSL 402. Involves leadership responsibilities for the planning, coordination, execution, and evaluation of training activities with the ROTC program as a whole. Students develop, practice, and refine leadership skills by serving and being evaluated in a variety of responsible positions.

MSL 431 - Advanced Course Physical Fitness (1)

Participate in and learn to plan and lead physical fitness programs. Develops the physical fitness required of an officer in the Army. Emphasis on the development of an individual fitness program and the role of exercise and fitness in one's life.

MSL 432 - Advanced Course Physical Fitness (1)

Participate in and learn to plan and lead physical fitness programs. Develops the physical fitness required of an officer in the Army. Emphasis on the development of an individual fitness program and the role of exercise and fitness in one's life.

MSL 441 - Advance Course ROTC Physical Fitness Trainer (1)

For the student who desires to develop themselves as future Army Leaders who are ready to meet any physical challenge sent thier way. Focusing more of their efforts on teaching and instructing the new physical fitness training standards to successfully execute the physical missions of the Army.

Prerequisite: MSL 132, MSL 232, MSL 332, MSL 432.

MSL 442 - Advanced Leadership Laboratory (1)

Open only to students who have taken MSL 421, MSL 422. Involves increased leadership responsibilities for the planning, coordination, execution, and evaluation of training activities with the ROTC Program as a whole. Students will refine their leadership skills by being assigned more demanding roles within the army leadership responsible positions, and utilize those skills to develop their subordinates.

Prerequisite: MSL 421, MSL 422.

MSL 451 - Advance Course ROTC Physical Fitness Trainer (1)

For the student who desires to develop themselves as future Army Leaders who are ready to meet any physical challenge sent thier way. Focusing more of their efforts on teaching and instructing the new physical fitness training standards to successfully execute the physical missions of the Army.

Prerequisite: MSL 132, MSL 232, MSL 332, MSL 432.

MSL 452 - Advanced Leadership Laboratory (1)

Open only to students who have taken MSL 421, MSL 422. Involves increased leadership responsibilities for the planning, coordination, execution, and evaluation of training activities with the ROTC Program as a whole. Students will refine their leadership skills by being assigned more demanding roles within the army leadership responsible positions, and utilize those skills to develop their subordinates.

Prerequisite: MSL 421, MSL 422.

MSL 493 - Leadership Research and Analysis (1)

For the student who desires to conduct and in-depth analysis in the practical application of Army leadership principles and values on the modern battlefield. The goal of this class is that students gain an understanding and appreciation of the challenges of leading by comparing and contrasting the actions of key U.S. leaders during the Battle of the Ia Drang Valley during the Vietnam War with today's Army values and leadership principles. Goal accomplishment is through meeting with a Military Science Advisor on an every other week basis and by writing a 8-10 page research paper.

MSL 494 - Leadership Research and Analysis (1)

For the student who desires to conduct and in-depth analysis in the practical application of Army leadership principles and values on the modern battlefield. The goal of this class is that students gain an understanding and appreciation of the challenges of leading by comparing and contrasting the actions of key U.S. leaders during the Battle of the Ia Drang Valley

during the Vietnam War with today's Army values and leadership principles. Goal accomplishment is through meeting with a Military Science Advisor on an every other week basis and by writing a 8-10 page research paper.

MUS - Music

MUS 001 - Performance Attendance (0)

Registration required for music majors (including music education students) each semester, except during the final semester of the professional year. Successful completion required for graduation. (Graded on a pass/no pass basis.)

MUS 100 - Fundamentals of Music (3)

Introduction to the basic concepts of music and the fundamentals of notation through a variety of activities. Open to all students.

MUS 101 - Music Theory I (3)

Detailed study of musical concepts and elements, with an emphasis on foundations.

Corequisite: MUS 103 or permission of instructor.

MUS 102 - Music Theory II (3)

Continued study of concepts of music emphasizing the diatonic vocabulary.

Prerequisite: MUS 101. Corequisite: MUS 104 or permission of instructor.

MUS 103 - Aural Skills I (1)

Direct and computerized instruction in the development of pitch, interval, chord, and rhythm discrimination. This class is coordinated with MUS 101 through simultaneous enrollment. Open to all students. Required of music majors and minors.

Corequisite: MUS 101 or permission of instructor.

MUS 104 - Aural Skills II (1)

This course continues to a more advanced level of the training begun in MUS 103. It is coordinated with MUS 102.

Prerequisite: MUS 103. Corequisite: MUS 102 or permission of instructor.

MUS 130 - Class Piano (1)

Basic class instruction at the piano emphasizing keyboard facility through literature, harmonizing melodies, sight reading, and improvising. Open to all students.

MUS 131 - Introduction to Piano (1)

Basic class introduction to piano emphasizing keyboard facility through literature, harmonizing melodies, sight reading, improvising. Required of music majors.

Prerequisite: Permission of instructor.

MUS 201 - Music Theory III (3)

Emphasis on chromatic harmony, analysis, listening, and creative work.

Prerequisite: MUS 102 or permission of instructor.

MUS 202 - Music Theory IV (3)

Extensions of the common practice period. Introduction to twentieth century practice.

Prerequisite: MUS 201.

MUS 203 - Development of Music In Europe (1)

Survey of music history from Bach to Beethoven. (Salzburg only.)

MUS 230 - Keyboard Lab (1)

Continuation of individualized class instruction at the piano emphasizing keyboard facility through literature, harmonizing melodies, sight reading, improvising. Required of music majors. Open to all students. May be taken three times for credit.

Prerequisite: MUS 130 or permission of instructor.

MUS 231 - Piano Skills (1)

Development of focused skills in accompanying and score reading. Required of music majors.

Prerequisite: MUS 131.

MUS 232 - The Basics of Playing Brass and Percussion Instruments (1)

Study of the basic methods, principles, and techniques of playing brass and percussion instruments. Open to all students. Required of music education majors. Fee: $25.

MUS 233 - The Basics of Playing Woodwinds Instruments (1)

Study of the basic methods, principles, and techniques of playing woodwind instruments. Open to all students. Required of music education majors. Fee: $25.

MUS 234 - The Basics of Playing Stringed Instruments (1)

Study of the basic methods, principles, and techniques of playing stringed instruments. Open to all students. Required of music education majors. Fee: $25.

MUS 235 - Group Voice Workshop (1)

Study of the basic methods, principles, and techniques of singing both solo and as a group in a safe environment. Students will learn about the voice as an instrument, learn the process of singing, and gain experience singing with and for others. Open to all students. Required for music education majors.

MUS 236 - Beginning Guitar (1)

Emphasis upon fundamental classical techniques, basic chords, strums and varied accompaniments, notation. Literature drawn from all historical periods including contemporary, folk, and flamenco sources.

MUS 237 - Intermediate Guitar (1)

This course is designed to be a continuation of the beginning level of guitar. Emphasis will build up on those fundamental classical techniques, accompaniments and notations of the beginning level. Literature will come from modern, folk and flamenco sources.

Prerequisite: MUS 236 or permission of instructor.

MUS 239 - Group Voice Workshop II (1)

Continuing study of basic methods, principles, and techniques of singing both solo and as a group in a safe environment. Open to all students. Required of music education majors.

Prerequisite: MUS 235 or permission of instructor.

MUS 242 - Guitar Ensemble (1)

An ensemble experience for guitar players of sufficient skill. Literature of all style periods will be performed. Enrollment by permission of instructor.

MUS 243 - Wind Symphony (1)

Ensemble for the reading and performing of all styles of band literature. Open to all University students by audition. May be taken 8 times for credit.

MUS 244 - University Singers (1)

Repertoire includes music from all periods and styles. Open to all University students by audition. May be taken 8 times for credit.

MUS 245 - University Orchestra (1)

Open to all University students by audition. Devoted to the performance of a wide variety of orchestral literature. Opportunities for solo performance. May be taken 8 times for credit.

MUS 246 - Chapel Music Ensemble (1)

The ensemble of singers and players meets once per week with the express purpose of preparing music for the chapel services. It is open without audition to any University student regardless of major. May be taken 8 times for credit. Does not fulfill ensemble requirement for music majors/minors.

MUS 252 - Women's Chorale (1)

A women's choir, open to all students by audition. Participants need not be music majors. Repertoire drawn from wide variety of musical styles. May be taken 8 times for credit.

MUS 253 - University Jazz Ensemble (1)

Performance of contemporary literature for this medium. Open to all University students with permission of the director. May be taken 8 times for credit. Does not fulfill ensemble requirement for music majors.

MUS 286 - Private Lessons (1)

First- and second-year individual instruction, performance and literature. Offered in the following disciplines: Conducting, euphonium, French horn, trombone, trumpet, tuba, organ, piano, cello, double bass, classical guitar, harp, viola, violin, bassoon, clarinet, flute, oboe, saxophone, percussion. May be repeated four times for credit. See Music Study Handbook for specific requirements. Fee: $300.00.

Prerequisite: Declared music major/minor, permission of instructor, or MUS 235.

MUS 290 - Directed Study (Variable)

For the student who demonstrates the ability to do individual study and research in selected areas of the curriculum. Selection of the area must be made in consultation with and approval of the appropriate faculty to be involved.

MUS 301 - Music History I (3)

A study of the people, events, and elements of musical performance-practice which contributed to the development of the various style trends before 1820. Required for music majors. Open to others with permission of instructor.

MUS 302 - Music History II (3)

A continuation of Music 301. A further study of musical style trends and their practitioners from 1800 to present. Required for music majors. Open to others with permission of instructor.

MUS 303 - Classical Music and Musicians (3)

A survey of classical music, from the middle ages to the present, that examines landmark styles, genres, and composers. Fee: $100.

Prerequisite: FA 207.

MUS 304 - Development of Music In Europe (1)

Survey of music history from Beethoven to the present (Salzburg only.)

MUS 307 - Scoring and Arranging (3)

A study of the basic techniques in effective scoring and arranging for various instrumental and vocal ensembles.

Prerequisite: MUS 202 or permission of instructor.

MUS 309 - World Music (3)

A study of the music and musical idioms of a variety of non-Western cultures. With use of aural and visual examples, the student will develop both an understanding and an appreciation of the enriching role of music in diverse cultures of the world. Required of music majors. Open to all students.

MUS 310 - Fundamentals of Music Technology (3)

Complete basic course in the understanding of electronic music. Topics include history, analog theory, methods of synthesis, digital theory, music instrument digital interface (MIDI), computers, audio recording, and digital sampling. Lab activities to be completed weekly. Open to all students with instructor approval. Fee: $30.

MUS 331 - Conducting (3)

Techniques of conducting choral and instrumental ensembles with practical experience in laboratory situations. Required of all music majors. Open to all students by permission of instructor.

MUS 336 - Diction for Singers (3)

This course is intended to meet the needs of all voice students anticipating continued involvement in group or solo activities. Study will concentrate on principles of voice production and articulation, including the use of IPA for foreign languages.

MUS 338 - Teaching Elementary School Music (2)

Philosophy, materials, and methods of teaching classroom music from kindergarten through elementary school.

MUS 339 - Teaching Middle School Music (2)

Philosophy, materials, and methods of teaching instrumental, general, and vocal music for grades 6-9.

MUS 340 - Teaching Secondary School Music (2)

Philosophy, materials, and methods of teaching instrumental, general, and vocal music for grades 10-12.

MUS 409 - Composition (3)

Contemporary techniques of composition as applied to vocal and instrumental media. May be repeated for a maximum of 12 credits.

Prerequisite: MUS 202.

MUS 411 - History of Rock and Roll (3)

A survey of Rock and Roll from its roots to the present day, including styles, performers, composers, and culture.

Prerequisite: FA 207, MUS 101 or permission of instructor.

MUS 412 - History of Musical Theatre (3)

An exploration of this American art form, from operetta and music comedy to contemporary musical theatre. Open to all students.

Prerequisite: FA 207, MUS 101 or permission of instructor.

MUS 413 - Liturgical Music (3)

A study of Catholic liturgical music, including Church documents and liturgical books, music repertoire and liturgical performance and historical context.

Prerequisite: FA 207, MUS 101 or permission of instructor.

MUS 414 - History of Jazz (3)

A study of Jazz from its roots to the present day, including styles, performers, composers, and culture.

Prerequisite: FA 207, MUS 101 or permission of instructor.

MUS 442 - Guitar Ensemble (1)

An ensemble experience for guitar players of sufficient skill. Literature of all style periods will be performed. Enrollment by permission of instructor.

Prerequisite: 2 semesters of MUS 242.

MUS 443 - Wind Symphony (1)

Ensemble for the reading and performing of all styles of band literature. Open to all University students by audition. May be taken 8 times for credit.

Prerequisite: 2 semesters of MUS 243.

MUS 444 - University Singers (1)

Repertoire includes music from all periods and styles. Open to all University students by audition. May be taken 8 times for credit.

Prerequisite: 2 semesters of MUS 244.

MUS 445 - University Orchestra (1)

Open to University students by audition. Devoted to the performance of a wide variety of orchestral literature. Opportunities for solo performance. May be taken 8 times for credit.

Prerequisite: 2 semesters of MUS 245.

MUS 446 - Chapel Music Ensemble (1)

The ensemble of singers and players meets once per week with the express purpose of preparing music for the chapel services. It is open without audition to any University student regardless of major. May be taken 8 times for credit. Does not fulfill ensemble requirement for music majors/minors.

Prerequisite: 2 semesters of MUS 246.

MUS 447 - Chamber Ensembles (1)

Small groups that rehearse and perform music in a variety of styles. May be repeated 8 times for credit. Registration by permission of instructor.

MUS 452 - Women's Chorale (1)

A women's choir, open to all students by audition. Participants need not be music majors. Repertoire drawn from wide variety of musical styles. May be taken 8 times for credit.

Prerequisite: 2 semesters of MUS 252.

MUS 453 - University Jazz Ensemble (1)

Performance of contemporary literature for this medium. Open to all University students with permission of the director. May be taken 8 times for credit. Does not fulfill ensemble requirement for music majors.

Prerequisite: 2 semesters of MUS 253.

MUS 455 - Musical Theatre Workshop (3)

Study of theatrical singing and acting techniques as applicable to all varieties of musical theatre pieces. Students are expected to participate in various performances prepared by the class. Open to all students with instructor's permission.

Crosslisted as: DRM 455.

MUS 486 - Private Lessons (1)

Third and fourth-year individual instruction, performance, and literature. See MUS 286 for particular instruments. May be repeated four times for credit. See Music Study Handbook for specific requirements. Fee: $300.

Prerequisite: 2 semesters of MUS 286 and/or MUS 235.

MUS 490 - Directed Study (Variable)

For the student who demonstrates the ability to do individual study and research in selected areas of the curriculum. Selection of the area must be made in consultation with and approval of the appropriate faculty to be involved.

MUS 491 - Seminar (Variable)

Credit arranged.

MUS 498 - Senior Capstone (1)

All music majors are required to prepare and present a project during the last semester of their residence. Projects include a research or creative component. Examples include recitals, lecture recitals, performances of compositions, conducting etc. Guidance will be provided by various faculty members as assigned.

MUS 599X - Thesis in Progress (0)

Registration for any graduate student who has received the grade of IP in MUS 599 is required while the thesis is in progress. Fee: $50.

Graduate Courses

MUS 500 - Research Techniques in the Performing Arts (3)

Intensive examination of research methods and resources and the principles of advanced scholarly writing in the performing arts. Must be taken within the first nine hours of graduate study.

Crosslisted as: DRM 500.

MUS 501 - Seminar in Music Styles and Analysis (3)

Review of style characteristics and theoretical analysis techniques for the graduate student. Particular emphasis given to aural perception and analysis, and research using the major resource collections of musical literature. Required of all graduate students in music.

MUS 506 - Studies in Counterpoint (3)

Free approach to tonal polyphony leading to contemporary techniques employing unusual scale forms. Offered by special arrangement.

MUS 507 - Scoring and Arranging (3)

An advanced study of techniques in effective scoring and arranging for various instrumental and vocal ensembles at the graduate level.

MUS 509 - Studies in Composition (3)

Contemporary techniques of composition as applied to vocal and instrumental media. Offered by special arrangement. May be repeated for a maximum of 9 units.

MUS 510 - Fundamentals of Music Technology (3)

A complete basic course in the understanding of electronic music. Topics include history, analog theory, methods of synthesis, digital theory, music instrument digital interface (MIDI), computers, audio recording, and digital sampling. Lab activities to be completed weekly. Open to all students with instructor approval. Fee: $30.

MUS 531 - Advanced Conducting Techniques (3)

Techniques of conducting choral and instrumental ensembles with practical experience in laboratory situations. Offered in alternate years and/or by special arrangement.

MUS 542 - Guitar Ensemble (1)

An ensemble experience for guitar players of sufficient skill. Literature of all style periods will be performed. Enrollment by permission of instructor. May be taken four times for credit.

MUS 543 - University Concert Band (1)

Ensemble for the reading and performing of all styles of band literature. Open to all University students with the permission of the director. May be taken four times for credit.

MUS 544 - University Singers (1)

Repertoire includes music from all periods and styles. Open to all University students by audition. May be taken four times for credit.

MUS 545 - University Community Orchestra (1)

Open to University students and members of Portland and suburban communities with permission of the director. Devoted to the performance of a wide variety of orchestral literature. Opportunities for solo performance. May be taken four times for credit.

MUS 547 - Chamber Music (1)

An ensemble that studies and rehearses chamber music. Repertoire is determined by the instruments played by students. May be repeated 4 times for credit.

Prerequisite: Permission of instructor.

MUS 552 - University Choral Union (1)

A women's choir, open to all students without audition. Participants need not be music majors. Repertoire drawn from wide variety of musical styles. May be taken four times for credit.

Prerequisite: Permission of instructor.

MUS 553 - University Jazz Ensemble (1)

Performance of contemporary literature for this medium. Open to all University students with permission of the director. May be taken four times for credit.

MUS 555 - Musical Theatre Workshop (3)

Study of theatrical singing and acting techniques applicable to all varieties of musical theatre pieces. In this combined undergraduate and graduate student pool, graduate students will be expected to take on more challenging pieces and to provide mentoring to those undergraduates who require it.

Crosslisted as: DRM 555.

MUS 586 - Private Lessons (1)

Graduate level private instruction, performance, and literature. See MUS 286 for particular disciplines. May be repeated for credit with permission of graduate program director. See Performance Study Handbook for specific requirements. Fee: $300.

MUS 590 - Directed Study (Variable)

Maximum of six hours of directed study allowed.

MUS 599 - Thesis (Variable)

Research document, or performance and related research document.

NRS - Nursing

NRS 101 - Introduction to Nursing and Health Care (3)

Introduces students to the discipline of nursing, its historical development, theoretical base, relationship to the healthcare system, research processes, and legal/ethical boundaries. Designed to assist first year students in transitioning to University life by introducing academic expectations, foundational skills for the nursing major, and the process of active inquiry into issues in health.

NRS 202 - Nutrition (3)

Introductory nutrition course detailing nutrients and how the body handles them; diet planning principles that support good health; the special nutrient needs of people throughout the life cycle and with specific disease states; and practical clinical nursing applications relating to nutrition and patient care.

NRS 203 - Life Processes Across the Lifespan (3)

Introduction to human growth and development across the lifespan. This course explores theories of human physical, cognitive, and psychosocial development and is foundational for all clinical nursing courses.

Prerequisite: NRS 101, BIO 205 or corequisites. Corequisite: NRS 101, BIO 205 or prerequisites.

NRS 301 - Nursing Theory and Knowing: Concepts and Issues (2)

Introduces nursing as a distinct discipline of knowledge and a unique profession that addresses the holistic needs of the client, including spirituality. Theories of nursing care are studied in relation to their significance to the practice of professional nursing. Aesthetic, personal, ethical, and empirical ways of knowing are examined, and serve as a basis to explore and raise pertinent questions.

NRS 310 - Population Health Promotion in a Multicultural Context (2)

This course introduces key concepts of population health promotion and cultural competence with an emphasis on diverse and vulnerable populations. Students apply these concepts through exploration of selected courses. This course sets the foundation for NRS 424: Applied Population Health Nursing in a Multicultural Context.

Corequisite: NRS 301.

NRS 311 - Communication in Nursing (2)

Addresses effective communication with patients and coworkers. Students explore the impact of their values on patient care, learn assertive communication and conflict resolution techniques, develop skills in building nurse-client and interdisciplinary relationships, examine communication issues in health education and with individuals with different values/beliefs, analyze small group communication theories, and communication aspects of ethical and legal issues.

Corequisite: NRS 301.

NRS 312 - Introduction to Professional Nursing Practice (5)

Students learn foundational knowledge about promoting and protecting the health of adult and elderly clients. Students acquire basic foundational nursing knowledge, techniques, assessment and interventions to begin to provide evidence-based care. Students begin to integrate nursing theory, communication, collaboration, and critical thinking in the 45 hours of combined laboratory and clinical experience. Fee: $380.

Corequisite: NRS 301.

NRS 313 - Pathophysiology (3)

This course focuses on the theoretical bases and clinical manifestations of pathophysiology, with an emphasis on the individual's genetics, genomics, and effective and ineffective adaptation to internal and external environments.

Prerequisite: BIO 205, BIO 307, BIO 308, BIO 359, or permission of instructor. Corequisite: NRS 321, NRS 322.

NRS 315 - Pharmacotherapeutics (3)

Principles of pharmacokinetics, pharmacodynamics, and phamacotherapeutics are examined in relation to drug therapy. Drug therapy is presented as an integral component of nursing practice. Application of nursing pharmacology knowledge is made to clients with selected health and illness problems.

Prerequisite: BIO 205, BIO 307, BIO 308, BIO 359, or permission of instructor.

NRS 321 - Psychiatric Mental Health Nursing (4)

Focuses on the nursing care of clients with acute or chronic mental illnesses. Promotion, maintenance and restoration of mental health throughout the lifespan are addressed. Professional, legal and ethical issues in psychiatric mental health nursing are examined. Includes 90 hours of clinical experience.

Corequisite: NRS 313, NRS 322.

NRS 322 - Physiological Nursing (6)

Students learn nursing management of adult clients experiencing physiological problems across the continuum of care. Emphasis is on analysis and interpretation of normal and abnormal assessment data. Effective time management and resource utilization, interdisciplinary collaboration, implementation of safety and quality measures, and client advocacy will be utilized. Includes 135 hours of clinical experience.

Corequisite: NRS 313, NRS 321.

NRS 401 - Professional Role Transition (3)

Designed to facilitate the RN's success in professional nursing practice. This course is writing intensive and provides opportunities for self-appraisal of abilities, socialization into the University and practice in professional communication. The personal dynamics of career transitions are explored. Teaching strategies include guided, self-paced learning activities. Limited to RN learners.

NRS 414 - Evidence-based Nursing (3)

This course explores the process of evidence-based nursing practice. Principles of measurement and statistics are examined. Multiple ways of knowing serve as a framework to explore theory-guided, evidence-based findings utilized in nursing practice.

Prerequisite: NRS 301.

NRS 418 - Nursing of Families (2)

Students explore how families experience and manage life and health transitions, promote the health of their family and its members and what resources families use and need to maintain balance and function. The family nurse role is explored and practiced through assessments of families, written reflections, and discussions that facilitate the application of theory.

NRS 421 - Advanced Physiological Nursing (6)

Students learn the nursing management of adult clients experiencing multi-system physiological healthcare problems. Emphasis on clinical reasoning in the planning, implementation and evaluation of the nursing care for multiple complex adult clients. Students show mastery in time management, resource utilization, evidence-based practice, interdisciplinary collaboration and client advocacy. Includes 135 hours of clinical experience. Fee: $200.

Prerequisite: NRS 313, NRS 322.

NRS 422 - Maternal-Child Nursing (6)

Previous knowledge is integrated into a specialized knowledge base of maternal-child nursing. Normal physiological and disease processes are examined within the family as context with an emphasis on health promotion and maintenance. Family focused care nursing to childbearing and childrearing families will be delivered in acute care and community based clinical settings. Includes 90 clinical hours.

Prerequisite: NRS 313, NRS 322.

NRS 424 - Applied Population Health Nursing in a Multicultural Context (5)

This course prepares students to apply the concepts and processes of population health nursing in a multicultural setting, with an emphasis on vulnerable populations. In the clinical component of this course, students will work with community partners to identify and utilize community assets to meet population needs. Includes 90 hours of clinical experience.

Prerequisite: NRS 310, NRS 313, NRS 321, NRS 322.

NRS 429 - Leadership in Professional Nursing (3)

This course focuses on nursing leadership in the delivery of health care and development of the nursing profession. Theoretical principles are applied to effectively coordinate, delegate, communicate, utilize resources, and promote quality and safety as a professional nurse.

Corequisite: NRS 498.

NRS 436 - Personal Preparation for Licensure (1)

This course focuses on the learner's refinement of self-appraisal skills and creation of a personal learning plan for successful transition to professional nursing practice and life-long learning. Students will demonstrate knowledge and application of UP SON program outcomes.

Corequisite: NRS 498.

NRS 490 - Directed Study (Variable)

Credit arranged.

NRS 491 - Seminar (Variable)

Credit arranged.

NRS 492 - Nursing Electives (Variable)

These courses involve a variety of health care topics. Some courses may be open to non-nursing students at the discretion of the instructor.

NRS 493 - Holistic Health Promotion and Education (3)

This course focuses on holistic health and frameworks/strategies for leadership in health promotion and education. Interdisciplinary experts will facilitate learning about physical, mental, emotional, and spiritual well-being. Through critical reflection and applied educational strategies, students will gain proficiency in wellness promotion.

NRS 498 - Capstone Clinical Immersion (5)

Students demonstrate successful completion of all School of Nursing Program Outcomes while working with multiple clients or a population typical of those that would be assigned to a beginning professional nurse. The course includes a 180 hour clinical immersion.

Prerequisite: Graduating Senior. Corequisite: NRS 429, NRS 436.

Graduate Courses

NRS 500 - Statistical and Quantitative Analysis (3)

This course covers the statistical and quantitative tools for conducting basic research in the healthcare environment. It introduces selecting appropriate research design, evaluating reliability and validity of measures, and planning appropriate statistical analysis. Topics include descriptive statistics, probability distribution, hypothesis testing, and extensive treatment of inferential statistics. Microsoft Excel is the tool of analysis for the course.

NRS 501 - Theoretical Foundations for Advanced Nursing Practice Leadership (3)

Knowledge development will be explored for understanding the basis of theories in nursing and theories complimentary to nursing for effective leadership within microsystems. The process of theory building will be critiqued and analyzed. Meta-theory as well as mid-range theories of nursing and leadership will be studied to refine and enhance theory-guided practice.

NRS 502 - Professional Role Development for Advanced Practice Nursing (2-3)

This course focuses on the role development of the nurse practitioner as an advanced practice nurse prepared at the Doctorate of Nursing Practice degree level. Key aspects of the role will be examined including historical, legal, ethical, social, and policy aspects. Topics such as hallmark competencies, professional behaviors, financial relationships will also be included.

NRS 507 - Population Health Nursing in a Multicultural Context/Pre-licensure AE (6)

Introduces key concepts of population health nursing and prepares students to apply concepts and processes of population health nursing in a multicultural community setting, while emphasizing vulnerable populations. Clinical engages students working with community partners to identify and utilize community assets to meet population needs. Includes 90 clinical hours.

Prerequisite: AEM UP students only. NRS 512, NRS 515, NRS 518.

NRS 508 - Nursing of Populations and Families: Theory and Issues (3)

This course serves as the theoretical foundation for coordinating and providing nursing care to a variety of populations and families across multiple care settings. Various assessment tools and intervention strategies for population and family health will be examined in practice with populations and families sharing common health and illness phenomena.

NRS 510 - Nursing of Families/Pre-licensure AE (2)

Students explore how families experience and manage life and health transitions, promote the health of their family and its members and what resources families use/need to maintain balance and function. The family nurse role is explored and practiced through assessments of families, written reflections, and discussions that facilitate the application of theory.

Prerequisite: AEM UP students only. Corequisite: NRS 545.

NRS 511 - Physiological Nursing/Pre-licensure AE (4)

Course focuses on nursing management of adults experiencing physiological health care problems across practice settings using theory, evidence, and critical reasoning. Students will demonstrate efficient time management, prudent use of resources, client advocacy, and actions that promote client safety and quality of care. Includes 90 hours of clinical. Fee: $200.

Prerequisite: AEM UP students only. NRS 512. Corequisite: NRS 518.

NRS 512 - Clinical Skills/Pre-licensure AE (2)

This course presents evidence-based approaches to assessment and fundamental nursing therapeutics of diverse adult clients through laboratory, seminar, and clinical experiences. Students will integrate evidence, client values, diversity and evaluation of outcomes to organize, revise, and prioritize care. Fee: $175.

Prerequisite: AEM UP students only.

NRS 513 - Pathophysiology/Pre-licensure AE (3)

Pathophysiology focuses on the theoretical bases and manifestations of responses to pathophysiology, both effective and ineffective, with an emphasis on the individual.

Prerequisite: AEM UP students only.

NRS 515 - Pharmacotherapeutics/Pre-licensure AE (3)

Principles of pharmacokinetics, pharmacodynamics, and pharmacotherapeutics are examined in relation to drug therapy. Drug therapy is presented as an integral component of nursing practice. Application of nursing pharmacology knowledge is made to clients with selected health and illness problems.

Prerequisite: AEM UP students only.

NRS 516 - Professional Role Development I/Pre-licensure AE (1)

Using the nursing program outcomes, students explore the discipline of nursing. Students will study the historical development, clinical reasoning, theoretical base, ways of knowing, and relationship of nursing to the health care system. Legal and ethical boundaries of nursing will be introduced. Students study communication theory and learn ways to communicate effectively as a nurse.

Prerequisite: AEM UP students only.

NRS 517 - Advanced Physiological Nursing/Pre-licensure AE (7)

Course focuses on providing nursing care to clients experiencing complex multi-system physiological problems across trajectory of illness. Emphasis on integration of evidence, clinical decision-making, theories in delivery of client-centered care to diverse adult populations. Students develop mastery in planning, implementation, and evaluation of nursing care. Includes 135 clinical hours.

Prerequisite: AEM UP students only. NRS 511, NRS 513, NRS 515.

NRS 518 - Mental Health Nursing/Pre-licensure AE (4)

Focuses on the nursing care of clients with acute or chronic mental illnesses. Promotion, maintenance, and restoration of mental health throughout the lifespan are addressed. Professional, legal, and ethical issues in psychiatric mental health nursing are examined. Includes 90 hours of clinical experience.

Prerequisite: AEM UP students only. NRS 515. Corequisite: NRS 511, NRS 513.

NRS 519 - Advanced Pathophysiology (3)

This course is designed to provide students with the advanced pathophysiology base required for managing disease processes across the life span. Focus is on pathophysiological principles with application to selected clinical examples.

NRS 520 - Health Assessment for Advanced Practice (3)

Course focuses on the development of clinical decision making skills related to physical diagnosing during the process of health assessment. The advanced health assessment process includes appropriate histories, physical exams, labs/diagnostic testing, use of screening tools, diagnosing physical variations and abnormalities, identification of health needs, and documentation for multiple client presentations across the lifespan. Includes 45 hours of lab.

NRS 521 - Nursing of Families for Advanced Practice (2)

Students use multiple theoretical frameworks to explore how families experience and manage life and health transitions, engage in health promotion, and access resources families use and need to maintain balance during health transitions. The role advanced practice family nursing is examined. Opportunities for application of theory will be provided through family assessment, case studies, essays, guest speakers and discussion/group presentation.

NRS 522 - Management of Adults with Acute and Simple Chronic Conditions (5)

This course covers the assessment, diagnosis, and management of adults with acute and simple chronic illnesses within a family context. The focused work-up format will be used with an emphasis on differential diagnosing. Includes 180 hours of clinical experience.

NRS 523 - Management of Pediatric Clients with Acute and Chronic Conditions (4)

This course addresses pediatric clients with acute and chronic conditions. Beginning with growth, development, and anticipatory guidance for well children, the course incorporates further assessment, diagnosis, and management of acute and chronic conditions in children and adolescents. Includes 120 hours of clinical experience.

NRS 524 - Leadership and Health Policy for Advanced Nursing Practice/Pre-licensure AE (3)

This course is designed to provide the AEM UP student with leadership knowledge and skills needed to function effectively in complex environments as a visionary, socially responsible leader. Emphasis is on the use of best practices, self-assessment, and multiple approaches to influence and impact health care delivery and policy.

Prerequisite: AEM UP students only.

NRS 525 - Management of Conditions Common to Women (2)

This course addresses female clients and their gender specific care needs. Beginning with the well-woman and preventive care practice, the course incorporates further assessment, diagnosis, and management of common gynecological conditions and contraceptive needs. Specific management issues will include caring for the pregnant, peri-menopausal, and menopausal client and their unique health care needs. Includes 120 hours of clinical experience.

NRS 526 - Grant Proposal Development (2)

This course is to provide a synthesis of the student's nursing science, research, and clinical courses through a guided writing experience culminating in a program grant.

NRS 527 - Management of Adults and Older Adults with Complex Chronic Illnesses (5)

This course covers the assessment, diagnosis, and management of adults and older adults with complex and chronic illnesses. The expanded work-up format will be used and will include self-management, living with chronic illness, and multiple treatment modalities. Best practices for chronic illness care will be emphasized. Includes 180 hours of clinical experience.

NRS 528 - Clinical Management Practicum (3)

Final comprehensive clinical management experience allows students to apply knowledge gained throughout course of study. Students will engage in management of elderly and intensive experience with rural or urban underserved clients, or with clients of a different cultural group. Seminar sessions provided to discuss role issues. Includes 190 hours of precepted clinical experiences.

NRS 529 - Practicum with Seminar/Pre-licensure AE (5)

Students demonstrate achievement of University core competencies and School of Nursing Program Outcomes in a 180 hour clinical immersion with a clinical preceptor(s). Provides opportunity to integrate knowledge and skills in practice as a confident, competent beginning professional nurse. Evaluations completed by clinical faculty and preceptor.

Prerequisite: Semester IV of AEM UP. Corequisite: NRS 563.

NRS 530 - Research Methodology for Evidence Based Nursing Care I (3)

First of a two course sequence, this course explores the logic, methods of research, and statistical analysis for evaluating evidence based care in a variety of settings. This course examines a variety of research methodologies (qualitative and quantitative) and statistical analyses used in quality assurance, clinical research, epidemiology, and outcomes research.

NRS 531 - Research Methodology for Evidenced Based Nursing Care II (1)

This course is the second in a two-course sequence, which explores the logic, methods of research and statistical analysis for evaluating evidence based care in a variety of settings.

Prerequisite: NRS 530.

NRS 533 - Management of Conditions Common to Men (2)

This course is designed to provide family nurse practitioner students with a biopsychosocial base for managing conditions unique to and prevalent in men. Students will be prepared to apply theories of the biological sciences and theories of masculinity in developing and implementing gender appropriate strategies to address men's health and men's health policy.

NRS 534 - The Role of the CNL (3)

This course focuses on the role of the Clinical Nurse Leader in health care delivery systems. Content includes issues of nursing leadership, advanced nursing practice including advocacy, social justice, ethics and cultural care. Students will design a professional portfolio to guide professional development.

NRS 535 - Complementary and Alternative Therapies (2)

Students will be introduced to several complementary and alternative medicine (CAM) therapies (Oriental, Ayurveda, homeopathy, and naturopathic medicine; energy healing, herbal, and spiritual concepts of healing). In addition, there will be discussion and evaluation of how these practices are used by the general public, medicine and nursing to promote general health and treat common diseases.

NRS 536 - Professional Role Development II/Pre-licensure AE (2)

This course builds on content and outcomes from NRS 516 (Professional Role Development I). The course will expand the student's knowledge of communication theory, with additional focus on interpersonal communication, assertive and responsible communication and conflict resolution. Ethical and legal issues in nursing will be examined and applied to practice.

Prerequisite: AEM UP students only. NRS 516.

NRS 537 - Management of Common Mental Health Conditions in Primary Care (2)

This course focuses on the assessment and appropriate diagnosis of mental heath conditions encountered in the primary care setting. Emphasis is on differentiating between referral to a mental health professional or management by the family nurse practitioner. Approaches to maintain the safety of clients, their families, and the health care setting will be included. Includes 60 hours of clinical experience.

NRS 538 - Focused Practicum on Wellness and Screening (1)

This clinical course focuses on the well individual and family. Knowledge and skills from NRS 520: Health Assessment for Advanced Practice will be applied through screening and health exam opportunities in settings such as schools, Head Start preschools, occupational sites, senior centers and migrant clinics. Includes 30 hours of clinical experience. Fee: $55

NRS 539 - Teaching and Learning in Advanced Nursing Practice (3)

Introduces principles of learning and teaching to prepare the advanced practice nurse to educate patients, nursing staff, and higher education students. Learning theory, educational philosophy, models of teaching, and the purposes and methods for assessment of learning will be introduced. Students will complete a teaching project/practicum.

NRS 543 - Social and Health Policy (3)

This course is designed to provide a conceptual understanding of the policy making process and the political context of contemporary health and social policy in the United States. The focus is on acquiring skills to assess policy dimensions of clinical practice issues, translate them into feasible policy, and advocate for them within the policy arena.

NRS 545 - Nursing of Childbearing and Childbearing Families/Pre-licensure AE (6)

AEM UP students integrate previous knowledge into a specialized knowledge base of maternal-child nursing. Normal physiological and disease processes are examined within the family as context, emphasizing health promotion and health maintenance. Family focused nursing care to childbearing and childrearing families will be delivered in acute care and community based clinical settings. Includes 90 clinical hours.

Prerequisite: NRS 517.

NRS 546 - Evidence-based Nursing/Pre-licensure AE (3)

This course explores the logic and methods of research and statistical analysis for use in clinical practice. Quantitative and qualitative methodologies are included. Students will select, use, and interpret qualitative and quantitative (statistical) analysis for addressing clinical nursing problems.

Prerequisite: AEM UP students only. Statistics course.

NRS 547 - Organizational and Systems Leadership (3)

Students use nursing and organizational science to understand complex organizational structures and system issues. Students will apply principles and strategies of practice management to improve practice environments, facilitate change, ensure patient safety, and foster ongoing quality improvement outcomes. Emphasis will be placed on working in collaborative interprofessional teams.

NRS 548 - Translational Research (3)

Students acquire knowledge and skills in the translation of research into clinical practice. The purpose of translational research is to translate research findings into clinical applications and use clinical observations to generate research foci for nursing

research. Translational research is the bridge from discovery to delivery. Students identify practice problems, critically evaluate the evidence to improve practice and propose solutions.

NRS 560 - Advanced Clinical Practice (1)

First of three guided practica courses for the nurse educator, in advanced clinical concepts and the role of nursing in providing evidenced based care to facilitate positive health outcomes. Students will develop advanced clinical nursing skills in medical-surgical, pediatrics, geriatrics, perinatal or community nursing. Includes approximately 90 clinical hours.

NRS 561 - Advanced Clinical Practice II (2)

Second of three guided practica courses for the nurse educator, in advanced clinical concepts and the role of nursing in providing evidenced based care to facilitate positive health outcomes. Students will develop advanced clinical nursing skills in medical-surgical, pediatrics, geriatrics, perinatal or community nursing. Includes approximately 90 clinical hours.

NRS 562 - Advanced Clinical Practice III (1)

Third of three guided practica courses for the nurse educator, in advanced clinical concepts and the role of nursing in providing evidenced based care to facilitate positive health outcomes. Students will develop advanced clinical nursing skills in medical-surgical, pediatrics, geriatrics, perinatal or community nursing. Includes approximately 90 clinical hours.

NRS 563 - Personal Preparation for Licensure/Pre-licensure AE (1)

Students will refine self-appraisal and professional development skills necessary for optimal transition into professional nursing practice. The NCLEX test plan and comprehensive predictor exams will provide the foundation for assessment of learner readiness. Students will be required to discuss how they have met all UPSON program outcomes.

Prerequisite: AEM UP students only. Corequisite: NRS 529.

NRS 566 - Resources Management in the Micro Environment (3)

Provides students with theories, practices and research from management and human resources needed to effectively manage personal, personnel, and material resources in a clinical microsystem. Effects of macro societal trends on healthcare fiscal management and health economics explored. Strategic implications and skill building to manage risk and increase productively and efficiency emphasized.

Prerequisite: NRS 501 or permission of instructor.

NRS 567 - Communication and Relationships (3)

Synthesizes communication research and theory for application to practice. Students will explore strategies to enhance their abilities to communicate effectively within the health care system and produce positive health outcomes. Course content focuses on interpersonal health care contexts, communication in organizational and group health care contexts, and managing friction in health care interactions.

Prerequisite: NRS 501 or permission of instructor.

NRS 568 - Information Knowledge Systems (2)

Provides students with an introduction to informatics in a microsystem environment. Three major areas that will be covered are introduction to informatics theory and concepts, clinical information systems, and consumer health informatics.

Prerequisite: NRS 501 or permission of instructor.

NRS 569 - Human Population Ecology (3)

Provides nurses in advanced nursing with scientific methods such as epidemiology to study health events in groups of people. Population theories including ecological theory, health behavior, and other substantive theories will be applied. Assessment tools and intervention strategies for health of selected populations who share common health and illness phenomena will be examined.

Prerequisite: NRS 501 or permission of instructor.

NRS 570 - Advanced Clinical Foundations (4)

This course integrates principles of pharmacology and advanced pathophysiology as the base for nursing management of disease processes and clinical application of pharmacology. This course includes a review of integrated health assessment building upon undergraduate skills. Includes 45 hours of skills lab.

Prerequisite: NRS 501 or permission of instructor.

NRS 571 - Advanced Pathophysiology I (2)

This course is designed to provide students with the advanced pathophysiological foundation required for understanding diseases across the life span. Focus is on the pathophysiological concepts that contribute to various diseases and how humans respond to these processes.

NRS 572 - Advanced Pathophysiology II (2)

This course is a continuation of NRS 571 Pathophysiology and it continues to explore pathophysiological processes that contribute to diseases across the lifespan and how humans respond to these processes. Focus is on selected pathophysiological processes commonly encountered in advanced nursing practice.

NRS 575 - Advanced Pharmacotherapeutics (3)

Advanced pharmacology and clinical application of drugs commonly prescribed by nurse practitioners in primary care settings, including drug selection, dosing, monitoring, evaluation, and client education. Examines nurse practitioner role as prescriber.

NRS 576 - Advanced Pharmacology (2)

Application of advanced knowledge of pharmacology in the care of clients across the life span. Includes pharmacology, clinical use and dosing, monitoring parameters, outcome evaluation, and patient education for nurse educators.

NRS 581 - Integrative Health I: Concepts of Health and Healing (2)

This course is designed to explore conceptual understandings of integrative health care and its place within a conventional or allopathic health care system. Historical and cultural perspectives of nursing and healing are explored and the concepts of health and healing are analyzed for application to advanced nursing practice with a focus on integrative health.

Prerequisite: NRS 501 or permission of instructor.

NRS 582 - Integrative Health II: Approaches to Care (2)

Students will explore a variety of integrative health care approaches, including but not limited to oriental medicine, acupuncture, Ayurveda, naturopathy, homeopathy, chiropractic and osteopathy, to enhance patient care through the integrative heath care practices. Emphasis in this course is on understanding the framework and beliefs that drive each integrative heath care approach.

NRS 583 - Integrative Health III: Nutrition and Herbal Therapy (2)

Students learn clinical indications, potential risks and how to access evidence-based information about nutrition, herbs and dietary supplements. Exploration of conceptual approaches to nutrition, herbal therapy and botanical science. Emphasis on evaluating and educating patients regarding nutrition, herbs and supplements. Competency development in communicating with other health professionals, documenting and the reporting adverse events.

NRS 584 - Integrative Health IV: Mind Body Connections (2)

Students will explore psychoneuroimmunology and other bodies of evidence that link mind and body in health and disease. Healing interventions such as massage, dance, yoga, meditation, art therapy, hypnosis, aromatherapy, music therapy, Tai Chi/Qi Gong, therapeutic touch, etc. will be explored.

NRS 585 - Foundations of Integrative Health (1)

This course is designed to establish the holistic foundations of integrative health from the perspective of those who pursue complementary/alternative therapies and to foster understanding integrative health through personal self-care practices as a laboratory for exploration.

NRS 586 - Evidence for Integrative Health (1)

Students will explore evidence for the efficacy of complementary/alternative therapies through research review and actual observation of complementary/alternative therapy practitioners in the clinical setting.

Prerequisite: NRS 585.

NRS 587 - Integrative Health Leadership (1)

Building upon NRS 585 and NRS 586, students will envision, in detail, the implementation of integrative practice within their preferred clinical setting.

Prerequisite: NRS 585, NRS 586.

NRS 588 - Residency for Post Master's NP Students (6)

This residency is devoted to the integration and demonstration of Doctor of Nursing Practice (DNP) program competencies for Post-Masters NP students. Students will demonstrate the most advanced level of NP practice and the application of DNP competencies within their personal NP practice and at the macrosystem level. Taught across 2 semesters (Fall/Spring.) Course approved for IP grade. Includes 360 residency hours. Fee: $55.

NRS 589 - Applied Research: Evaluation and Evidence-Based Practice (Variable)

Provides framework to evaluate effectiveness of programs, appropriateness of research in providing evidence-based care, and effectiveness of healthcare interventions. Explores conceptual, methodological, organizational, and ethical problems facing nursing, focusing on research analysis and utilization, program evaluation, outcomes research, and use of data. Includes statistical applications. Students must have basic knowledge of research and statistics.

Prerequisite: NRS 500, NRS 501.

NRS 592 - Nursing Electives (Variable)

In the semesters in which they are offered, topical electives will cover a variety of subject matter areas as deemed appropriate by the graduate faculty to augment the graduate curriculum in nursing.

NRS 593 - Clinical Nurse Leader as Practice I (3)

Focuses on clinical outcomes management, assessment of the microsystem, identifying a patient care problem and developing a project to address that problem. Projects integrate best practices, principles of leadership and negotiation, information systems to evaluate patient outcomes, and theories of organizational behavior in project design. Includes 100 clinical hours. Fee: $55.

Prerequisite: NRS 501, NRS 534, NRS 567, NRS 568, NRS 569, NRS 589.

NRS 595 - Clinical Nurse Leader as Practice II (3)

This clinical course assists the CNL candidate to advance his/her practice in the achievement of client outcomes of quality management, risk reduction, and patient safety. The focus of the CNL project this semester is to implement the plan developed in previous courses. Includes 100 hours of clinical experience.

Prerequisite: NRS 593.

NRS 596 - Clinical Nurse Leader Residency (6)

The student refines his/her operationalization of the clinical nurse leader competencies and professional role during this comprehensive clinical management experience. The focus of the CNL project this semester is evaluating the project and disseminating the outcomes of the project. Includes 300 hours of clinical.

Prerequisite: Completion of all courses of the CNL curriculum and portfolio review.

NRS 597 - Practice Improvement Project (1)

The expectation of this course is the completion of a scholarly project in the student's clinical specialty area aimed at improving practice. Projects will meet NONPF Recommended Criteria for NP Scholarly Projects in the Practice Doctorate Program. The course will include 16 hours of seminar. May be repeated for a maximum of 2 credit hours.

NRS 598 - Residency for Post Baccalaureate FNP Students (6)

This residency prepares DNP students for independent, entry-level FNP practice. Clinical expectations include successful application of previous NP specialty and integrative health courses and progression of clinical knowledge and competencies with increasingly complex client situations. Students also will demonstrate integration and application of DNP program competencies. Includes 360 clinical hours. Fee: $55.

PHL - Philosophy

PHL 150 - Introductory Philosophy (3)

An introduction to the practice of philosophy that introduces some of the major figures and issues that have shaped the discipline. In particular, students will learn to understand and apply basic principles of logic and critical reasoning, and will be introduced to some of the central problems in metaphysics and epistemology. A writing embedded course.

PHL 220 - Ethics (3)

An introduction to some of the major theories in classical and/or contemporary moral philosophy. Particular emphasis is placed on understanding and concretely applying normative theories of moral obligation including Utilitarianism, Deontology, Social Contract Theory, Ethics of Care, Natural Law, and Virtue Theory. The course will also explore the limits of relativism and absolutism.

Prerequisite: PHL 150.

Upper-Division Requirements

PHL 331 - Metaphysics: Asian Philosophy (3)

This course explains the nature and source of reality in classical and contemporary Asian philosophies. It focuses on such questions as the origin and nature of ultimate reality, the nature of the self in relation to reality, freedom and causality in human existence, idealism and realism, and methodological approaches to apprehending reality.

PHL 332 - Metaphysics: Philosophy of Mind (3)

This course explains a set of conceptual problems involving the nature of mind and of psychological explanations of behavior. These range from classical discussions of the "mind-body problem" to contemporary debates concerning consciousness, mental representation, mental content, innate ideas, the nature of concepts, and the plausibility of psycho-physical reductionism.

PHL 333 - Metaphysics: Philosophy of Religion (3)

This course explains a broad range of metaphysical issues concerning the nature of God (or a god) and religious experience. It focuses on some major areas of debate such as arguments for the existence of a god, whether such a god should be conceived as a person, the problem of evil, and the relationship of faith and reason.

PHL 334 - Metaphysics: Problem of Being (3)

This course studies some major topics and approaches in the history of philosophical reflection on Being and ontology from the beginnings of metaphysical speculation in the pre-Socratics through the contemporary period. Topics may include potency and act, essence and existence, causality, the ontolological foundations of logic, and the question of God.

Crosslisted as: PCS 334.

PHL 335 - Metaphysics: Self and Identity (3)

This course studies a range of metaphysical issues relevant to the nature of personal identity and self-consciousness such as identity over time, what makes someone a person, the nature of self-consciousness, the relationship of the self to a body, freedom of the will, the development of the self in the context of society and socio-political relations.

PHL 336 - Metaphysics: Native American Philosophy (3)

This course explores Native American Philosophy with particular emphasis on Mexico or the continental US. Topically, the course focuses on metaphysical aspects of Native American thought such as the nature or reality, time, space, truth, freedom, the self and the relationship between the self and the world. The course will draw comparisons to the Western philosophical tradition.

PHL 337 - Metaphysics: Freedom (3)

This course explores various philosophical conceptions of freedom and the issues that they raise. Topics may include free will and determinism, existentialism and freedom, whether freedom is related to reason, and the implications of metaphysical freedom for political liberation and moral responsibility.

Electives

Upper-division electives prerequisite: PHL 150 and PHL 220 must be successfully completed before taking upper-division philosophy electives.

PHL 410 - Education and Politics (3)

Inquiry into the political foundations of education and how these interface with epistemological, ethical, and metaphysical concerns. Concrete issues relating to educational injustices will also be addressed. Students will study both classical and

contemporary thinkers, such as Confucius, Lao Tzu, Plato, Rousseau, Jane Addams, John Dewey, Paulo Freire, Bell Hooks, Maria Lugones.

Prerequisite: PHL 150, PHL 220. Crosslisted as: SJP 410.

PHL 412 - Philosophy of Law (3)

The basic philosophical principles of justice and law in the Western legal traditions: morality and law; natural and positive law; Roman law and common law traditions; logic, language, and symbols of law; Marxian concept of law; legal education.

Prerequisite: PHL 150, PHL 220. Crosslisted as: SJP 412.

PHL 413 - Socio-Political Philosophy (3)

Analysis of some major topics in contemporary socio-political thought, e.g., freedom, social justice and structural violence, equality, the relation between rights and obligations, sovereignty, authority, legitimacy, and consent.

Prerequisite: PHL 150, PHL 220. Crosslisted as: SJP 413.

PHL 414 - Philosophy and Feminism (3)

An investigation of the philosophical underpinnings of various feminist theories and their implications for philosophical inquiry from De Beauvoir to Irigaray.

Prerequisite: PHL 150, PHL 220. Crosslisted as: SJP 414.

PHL 421 - Logic (3)

This course offers an introduction to basic concepts of logic, including the nature and evaluation of arguments as well as an examination of common informal fallacies. Students will also be introduced to major systems of logic (categorical, propositional, and/or predicate logic) including ordinary-language statements into each logical system and testing arguments for validity within each system.

Prerequisite: PHL 150, PHL 220.

PHL 422 - Philosophy of Science (3)

An analysis of fundamental concepts of science: fact, law, observation, theory, explanation, truth, discovery, progress, methods of scientific reasoning, science and pseudo-science, moral implications of scientific research, science and society.

Prerequisite: PHL 150, PHL 220.

PHL 430 - Advanced Ethics (3)

An inquiry into current issues and debates in the field of ethics. The course will consider the relationship of ethical debates to other areas of philosophy. Investigation may focus on issues such as autonomy, internalism, moral realism, and/or the relationship between moral philosophy and problems in social and political philosophy.

Prerequisite: PHL 150, PHL 220.

PHL 434 - Environmental Ethics (3)

An inquiry into our obligations to the non-human world and the philosophical basis of that obligation.

Prerequisite: PHL 150, PHL 220. Crosslisted as: SJP 434.

PHL 435 - Bioethics (3)

This course will examine ethical issues in medicine, biotechnology, and related fields. Issues to be discussed may include the concept of informed consent, stem cell research, reproductive technologies, human enhancement, end of life issues, the global AIDS epidemic, genetics, biomedical research, and justice in the distribution of healthcare.

Prerequisite: PHL 150, PHL 220. Crosslisted as: PCS 435.

PHL 451 - Philosophy and Psychology (3)

A study of the relationship between philosophy and contemporary psychology; a critical examination of the philosophical presuppositions underlying key personality theories: e.g., Freudian psychoanalysis, Jungian analysis, Skinnerian behaviorism, phenomenological psychology, and existential psychoanalysis.

Prerequisite: PHL 150, PHL 220.

PHL 469 - Great Philosophers (3)

This course is devoted to an intensive study of the work of a single philosopher. Different philosophers will be featured in different semesters.

Prerequisite: PHL 150, PHL 220. Crosslisted as: PCS 469.

PHL 471 - Ancient Philosophy (3)

The origins of Western philosophy and its development up to Plotinus, including the pre-Socratics, Plato, Aristotle, Hellenistic schools (Epicureans, Stoics, Skeptics), and Neoplatonism. Taught biennially.

Prerequisite: PHL 150, PHL 220.

PHL 472 - Medieval Philosophy (3)

The major philosophers from Augustine through late scholasticism with particular attention to Augustine, Anselm, Aquinas, Bonaventure, Scotus, and Ockham. Taught biennially.

Prerequisite: PHL 220 or equivalent. Crosslisted as: PCS 472.

PHL 473 - Modern Philosophy (3)

Philosophical figures and topics from the Renaissance through Kant: the scientific revolution, continental rationalism (Descartes, Leibniz), British empiricism (Locke, Hume, Berkeley), and Kant's transcendental philosophy. Taught biennially.

Prerequisite: PHL 150, PHL 220.

PHL 474 - Hegel and 19th Century Philosophy (3)

An examination of nineteenth-century philosophy focusing upon the work of Hegel. The course traces the roots of Hegelianism in German idealism, the British Economists, and romanticism, and its influences on subsequent involvements including Marxism, existentialism, and American pragmatism. Taught biennially.

Prerequisite: PHL 150, PHL 220. Crosslisted as: SJP 474.

PHL 475 - Contemporary Philosophical Traditions (3)

This course is a survey of some major philosophical tradition of the 20th century. Versions of the course could include Analytic Philosophy, Continental Philosophy, Contemporary Catholic Thought, or Classical American Philosophy.

Prerequisite: PHL 150, PHL 220.

PHL 479 - Existentialism (3)

A survey of existential philosophers including Sartre, De Beauvoir, Marcel, and Merleau-Ponty; a critical study of their reflections on the nature and meaning of human existence, freedom, and authenticity.

Prerequisite: PHL 150, PHL 220.

PHL 490 - Directed Study (Variable)

Credit arranged.

PHL 499 - Senior Capstone (Variable)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director and department chair.

PHY - Physics

PHY 109 - Powerful Ideas in Physical Science (3)

Survey of major principles and concepts in physical sciences. Emphasis is on the scientific process, computer and laboratory activities, useful applications, and the presentation of science in the media. Offered each fall semester.

PHY 163 - Astronomy (3)

Introductory study of observations and the application of scientific principles in their interpretation. Deduction of models for the solar system, our local galaxy, and the visible Universe. Offered every semester.

PHY 201 - General Physics (3)

Algebra based physics with life science focus. Vectors, kinematics, Newtonian Mechanics, statics, dynamics. Offered each fall semester.

Corequisite: PHY 271.

PHY 202 - General Physics (3)

Algebra based physics with life science focus. Sound, waves, optics, electricity and magnetism. Offered each spring semester.

Prerequisite: PHY 201 or PHY 204. Corequisite: PHY 272.

PHY 204 - General Physics Lecture and Lab (4)

Calculus based physics. Vectors, kinematics, Newtonian mechanics, statics, dynamics, and simple harmonic motion. This course includes a lab component. Offered every semester. Fee: $60.

Corequisite: MTH 201.

PHY 205 - General Physics Lecture and Lab (4)

Calculus based physics. Electricity and magnetism; Maxwell's equations, circuits. This course includes a lab component. Offered every semester. Fee: $60.

Prerequisite: MTH 201, PHY 204 with a grade of C- or higher. Corequisite: MTH 202.

PHY 208 - Integrated Physics/Math Lecture and Lab (4)

Vectors, kinematics, Newtonian mechanics, statics, dynamics, and simple harmonic motion. This course is integrated with MTH 201 and includes a lab component. Offered on an occasional basis. Fee: $60.

Corequisite: MTH 201.

PHY 209 - Integrated Physics/Math Lecture and Lab (4)

Electricity and magnetism; Maxwell's equations, circuits, light, and radiation. This course is integrated with MTH 202 and includes a lab component. Offered on an occasional basis. Fee: $60.

Prerequisite: MTH 201, PHY 204 or PHY 208 with a grade of C- or higher. Corequisite: MTH 202.

PHY 270 - Special Physics Lab and Research (Variable)

For special lower division projects or research. Content, credit, and fee to be arranged. Available as needed.

PHY 271 - General Physics Lab (1)

Laboratory course to accompany PHY 201, PHY 202. One three-hour laboratory each week. Offered each fall semester. Fee: $60 per semester.

Corequisite: PHY 201.

PHY 272 - General Physics Lab (1)

Laboratory course to accompany PHY 201, PHY 202. One three-hour laboratory each week. Offered each spring semester. Fee: $60 per semester.

Corequisite: PHY 202.

PHY 290 - Directed Study (Variable)

Content and credit to be arranged. Available as needed.

PHY 303 - Computational Methods in Physical Sciences (3)

Computational techniques for solving physics and chemistry problems as well as for simulating, analyzing, and graphically visualizing physical systems and processes. Offered fall of odd years.

Prerequisite: PHY 204 or PHY 201, MTH 202. Crosslisted as: CHM 303, MTH 303.

PHY 306 - Modern Physics (3)

Special relativity, quantum theory, atomic and nuclear physics. Offered each spring semester.

Prerequisite: PHY 204, PHY 205, MTH 201, MTH 202.

PHY 322 - Optics (3)

Geometrical and physical optics, imaging and aberrations; interference, diffraction, and polarization; applications to instrumentation and lasers. Offered spring semester of odd years.

Prerequisite: PHY 201, PHY 202 or PHY 204, PHY 205, MTH 202.

PHY 323 - Nonlinear Dynamics (3)

This course introduces the basic concepts and techniques in the study of dynamical systems, including nonlinear ordinary differential equations, difference equations, and systems of equations. Using a wide variety of applications from the physical sciences, we will cover analytical methods such as linear stability, bifurcations, phase plane analysis, limit cycles, Lorenz equations, chaos, iterated maps, period doubling and fractals.

Prerequisite: MTH 321. Crosslisted as: MTH 323.

PHY 356 - Mathematical Methods for Science and Engineering (3)

Ordinary differential equations, complex variables and matrices are developed and illustrated through applications in physics with emphasis on examples from the fields of vibrations and waves. Offered each fall semester.

Prerequisite: MTH 202, PHY 204.

PHY 370 - Special Physics Laboratory and Research (Variable)

For special upper division projects or research. Content, credit, and fee to be arranged. Available as needed.

PHY 371 - Analog and Digital Electronics (2)

Instruction in electronic circuits and computer software for use in data acquisition and instrument control. Offered each fall semester. Fee: $120.

Prerequisite: PHY 205, PHY 356 or MTH 321.

PHY 372 - Optics Laboratory (1)

Laboratory work in geometric and physical optics. Offered spring semester of odd years. Fee: $60.

Corequisite: PHY 322.

PHY 376 - Modern Physics Lab (1)

Laboratory course to accompany PHY 306. Experiments in acoustic waves, optics, photo electric effect. One three-hour laboratory each week. Offered each spring semester. Fee: $60.

Corequisite: PHY 306.

PHY 391 - Seminar (Variable)

Credit arranged.

PHY 404 - Advanced Mechanics (3)

Kinematics and dynamics of classicle particles and systems of particles in stationary and moving frames of reference. The equations of Lagrange and Hamilton are introduced. Offered spring semester of odd years.

Prerequisite: PHY 202 or PHY 205. Corequisite: MTH 321.

PHY 405 - Advanced Electrodynamics (3)

Electric and magnetic fields and potentials, their interactions with matter, and Maxwell's equations. Offered fall semester of even years.

Prerequisite: PHY 201, PHY 202 or PHY 204, PHY 205. Corequisite: MTH 321.

PHY 411 - Introduction to Quantum Mechanics (3)

Experimental basis for the quantum theory and the fundamental ideas of non-relativistic and relativistic quantum mechanics. Offered fall semester of odd years.

Prerequisite: MTH 322 or PHY 356, PHY 306.

PHY 412 - Introduction to Quantum Mechanics II (3)

Continuation of PHY 411. Topics to include perturbation theory, angular momentum, and scattering theory with application to atomic, solid state, and particle physics. Offered spring semester of even years.

Prerequisite: PHY 411.

PHY 422 - Solid State Physics (3)

Lattices and crystal structures; mechanical, thermal and electrical properties. Offered on an occasional basis.

Prerequisite: PHY 202 or PHY 205, MTH 321 or PHY 356.

PHY 441 - Thermal and Statistical Physics (3)

Fundamentals of statistical mechanics, entropy, partition functions, kinetic theory. Applications to classical and quantized systems. Thermodynamics developed from the basis of statistical mechanics. Offered spring semesters of even years.

Prerequisite: PHY 201, PHY 202 or PHY 204, PHY 205, MTH 321 or PHY 356.

PHY 470 - Special Physics Laboratory and Research (Variable)

For special upper-division projects or research. Content, credit, and fee to be arranged.

PHY 471 - Advanced Laboratory (2)

Laboratory work in atomic and nuclear physics; electricity and magnetism, modern physics, and undergraduate experimental research. Offered spring semester of even years. Fee: $120.

PHY 472 - Advanced Optics Laboratory (2)

Laboratory work in geometric and physical optics including independent projects and analysis. Offered spring semester of odd years. Fee: $120.

PHY 490 - Directed Study (Variable)

Offered as needed.

PHY 491 - Physics Seminar (Credit arranged.)

Offered as needed.

PHY 492 - Physics Seminar (Credit arranged.)

Offered as needed.

PHY 499 - Senior Thesis (Variable)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the thesis area or good standing in the honors program.

POL - Political Science

Introductory Courses

POL 200 - Introduction to United States Politics (3)

Introduction to the national politics of the United States. Emphasis on the constitutional framework, formal and informal political institutions, the evolving conception of individual freedom and civil rights, the role of the people in a democracy, and an overview of the United States political system.

POL 201 - Introduction to International Relations (3)

This course introduces the students to the world of international conflict and cooperation. A broad framework is presented to understand how global forces and events influence our lives. The basic political traditions of western civilization are examined and an attempt is made to understand how they influence roles within the global system.

POL 203 - Introduction to Political Theory (3)

This course introduces students to the major political theories and ideologies that shape our understanding of politics, including: democracy, liberalism, conservatism, socialism, communism, fascism, radical Islamism, feminism, ecologism, and nationalism. Students will read both contemporary political theory writings as well as excerpts from the classic works that were key in the development of the theories we will study.

POL 205 - World Politics (3)

This course provides an introduction to the substantive and theoretical analysis of modern foreign governments and relations between states from a comparative perspective. Students address cases, theories, and the methodological tools that political scientists use to study them. Concepts include power, interdependence, war and peace, economic competition and integration, economic and social development, human rights and the environment.

POL 270 - Development of European Political Systems (3)

Historical study of political systems from the French Revolution to World War II. (Salzburg only.)

POL 290 - Directed Study (Variable)

Credit arranged.

POL 292 - University Mock Trial Team (1)

Collegiate mock trial competitions. Students are instructed in the how and why of case preparation as an advocate for either side; role playing as witnesses and trial attorney; understanding and using the rules of evidence; actual trial advocacy; research and delivering arguments.

Political Theory and Methodology

POL 300 - Political Inquiry and Analysis (3)

This course is an introduction to research in political science. Emphasis will be given to comparative design, case selection, measurement, graphing, survey research, research writing and essay, and political science research sources.

POL 305 - Ancient and Medieval Political Thought (3)

This course covers the major classics of political thought from Western antiquity through the Medieval period. It explores the origins of western political philosophy in ancient Greece in the writings of Thucydides, Plato, and Aristotle, and then charts its further development in Christendom in the works of St Augustine and St Thomas Aquinas.

POL 306 - Modern Political Thought (3)

This course covers the major classics of political thought of the Modern Era through the 19th century. It begins with the Renaissance writings of Machiavelli and moves through the political works of such modern thinkers as Hobbes, Locke, Rousseau, Marx, Nietzsche, and Mill.

POL 307 - Contemporary Political Thought (3)

In the contemporary west, constitutional liberal democracy has established itself as the only legitimate form of political organization. This course examines contemporary theories of liberal democracy, as well as contemporary critiques made by postmodern, communitarian, classical republican, feminist, conservative, and traditionalist thinkers.

POL 314 - American Political Thought (3)

A survey of writings representative of American political theory, including selections from colonial and revolutionary political thought, the constitutional debates, Federalist, Jeffersonian, and Jacksonian thought, theories of slavery, abolitionism, reconstruction and Social Darwinism, progressivism and post World War II thought, and contemporary theories of liberalism, conservatism and communitarianism.

POL 316 - Politics and Literature (3)

This course focuses on fiction as a vehicle for exploring themes of democracy and the market. Through the cases and themes introduced in novels, we address important philosophical and political issues of rebellion, boundaries between the private and public spheres, and visions of utopia.

POL 318 - Politics and Film (3)

This course focuses on film as a vehicle for exploring issues of political representation, mobilization, and rebellion. We examine each theme within the U.S. case and then compare the themes across countries. Through this comparative perspective, students gain a rich understanding of U.S. political development and democratization.

American Politics

POL 320 - United States Urban Politics (3)

The influence of historical, political, and sociological forces on the development of urban America. Focus on poverty, race and ethnicity, crime, education, transportation, and urban sprawl. Special emphasis given to the possibilities for and constraints on public policy, and the capacity of city governments to serve their citizens.

POL 335 - American Public Policy (3)

This course analyzes policy-making in the United States. Special attention is given to selected domestic policies to illustrate how policies are developed and adopted and the role played by administrative organizations in implementing them.

Crosslisted as: SJP 335.

POL 338 - Food, Politics and Policy (3)

This course is designed to provide students with an understanding of governmental support for agriculture and sustainable farming practices and the forces and politics involved in shaping nutrition and food security policies in the United States and Europe.

POL 344 - Constitutional Law I: Federalism and Separation of Powers (3)

This course examines the major, and often controversial, U.S. Supreme Court cases interpreting the Constitutional allocation of power between the legislative, executive, and judicial branches of the national government, and between the national government and state governments.

POL 345 - Constitutional Law II: Civil Liberties and Rights (3)

This course examines the major, and often controversial, U.S. Supreme Court cases interpreting the Constitution's protection of our rights and freedoms as U.S. citizens, especially, of course, as they are found in the Bill of Rights and the 14th Amendment.

POL 349 - Environmental Policy (3)

This course will consider how environmental problems arise, looking at how a progression of natural and human circumstances becomes an "environmental problem." It will survey the law, politics, and institutions that manage pollution. The course will also look closely at a handful of environmental policy issues particularly in the Columbia River, and the interplay of science, risk, and uncertainty.

Crosslisted as: ENV 349, SJP 349.

International Relations

POL 350 - American Foreign Policy (3)

This course is designed to give students a broad understanding of role of the U.S.'s role within the international system. To understand current U.S. foreign policy, we must also understand the past. This is especially important in understanding how international actors perceive the U.S., how we have related to these actors over time, and how to think about ethics and foreign policy.

POL 351 - International Law and Organizations (3)

Course examines the different approaches to economic and political cooperation and integration, including some select institutional examples of global interdependence, such as the European Community, the United Nations, the Organization of American States, the North Atlantic Treaty Organization, the Roman Catholic Church, and Amnesty International.

Crosslisted as: SJP 351.

POL 356 - Building World Peace (3)

Introduces the student to the systematic study of world peace, beginning with the causes of war and war's effect on communities and the environment. Negative peace: diplomacy, negotiations and conflict resolution, disarmament and international law; positive peace: human rights, nonviolence, international organizations, and the role of the individual will be considered.

Crosslisted as: SJP 356.

POL 358 - Politics of the European Union (3)

Examines European integration from a political and economic perspective. The course concentrates on patterns of representative institutions with special attention given to parties, elections, and governments. Finally, the course examines the process and institutions of European integration.

Comparative Politics

POL 371 - Politics of Central Europe (3)

Explores how countries of central Europe, Germany, Austria, Czech Republic, Slovakia, Hungary, and Poland managed the transition to democracy within the context of the European Union. Attention is given to how these countries have dealt with the demise of communism and the challenges of setting up markets, creating civil societies and establishing democratic cultures and institutions.

POL 372 - Politics of Modern Europe (3)

A comparative study of the major countries of Western Europe. Political and economic institutions, parties, participation, and representation in the United Kingdom, France, Germany, Italy, Spain, Iceland, and Sweden will be examined.

POL 373 - Politics of Latin America (3)

Approaches the study of Latin America with a general introduction to its historical background and political geography. In addition, the general pattern of religion and society, economics and politics will be examined with special attention to patterns of power and politics in modern Mexico, Brazil, Argentina, Cuba, Nicaragua, and Chile.

Crosslisted as: SJP 373.

POL 374 - Politics of Asia (3)

This course is a comparative study of the countries of Asia. Students focus on issues of politics, culture, and economics from a national and regional perspective. Cases include India, Pakistan, and Afghanistan, and the Asian Pacific countries of China, Vietnam, Thailand, Cambodia, North Korea, South Korea, Indonesia, and the Philippines.

Crosslisted as: SJP 374.

POL 376 - Politics of Africa (3)

This course explores the impacts of colonialism, role of governance, failure of development assistance, and persistence of conflicts on the African continent. A sub-theme of social justice runs through the course: why is Africa underdeveloped, how should/should not the world respond, how does underdevelopment affect the people living on the continent, and what positive developments have been taking place.

Crosslisted as: SJP 376.

POL 379 - Business in a Political World (3)

This course explores the relationship between business and politics across countries. Students examine the relevance of different political regimes, institutions, and policies for business and industry organizations. Through historical and contemporary cases, students gain understanding of empirical and theoretical issues.

POL 391 - Special Topics (1)

These courses involve special topics in different areas of political science and are offered periodically.

POL 392 - Special Topics (1)

These courses involve special topics in different areas of political science and are offered periodically.

American Politics

Prerequisite: POL 200 or permission of instructor.

POL 405 - Law and the American Judiciary (3)

The role of the law in the United States. Focus on the nature of the court systems at the national, state, and local level, on the nature of the law, on the influence and pressures which shape legal doctrine, and the philosophical and socio-economic issues which arise when analyzing legal doctrines and decisions.

Prerequisite: POL 200 or permission of the instrutor.

POL 415 - Congress and Legislative Process (3)

An analysis of the role, structure, and policies of the American Congress. This course focuses on the creation, evolution, and powers of the United States congress, congressional elections, the relationship between legislators and constituents, the organization and workings of Congress, changes in the legislative process, and congressional interaction with interest groups, the media, the executive branch, and the Courts.

Prerequisite: POL 200 or permission of the instructor.

POL 419 - The US Presidency (3)

An examination of the presidency in the American political system. This course examines the founding, development, and institutionalization of the presidency, the growth of presidential power, presidential selection, the role of the president in the executive branch, and the interactions between the president, the media and the other institutions of government.

Prerequisite: POL 200 or permission of the instructor.

Political Theory

Prerequisite: POL 203 or permission of instructor.

POL 421 - Seminar in Political Theory (3)

This course is an advanced seminar that will focus intensely on a particular issue in political theory or on a particular political thinker or group of political thinkers.

Prerequisite: POL 203 or permission of the instructor.

POL 423 - Jurisprudence and Constitutional Interpretation (3)

This course examines the role that philosophical theories of law play in our American Constitutional system. Topics include: the relationship between law and morality, the positivism vs. natural law debate, Ronald Dworkin's "principled" theory of Constitutional interpretation, Justice Scalia's "textualism," and Judge Richard Posner's pragmatic-economic approach to the law.

Prerequisite: POL 203 or permission of the instructor.

International Relations

Prerequisite: POL 201 or permission of instructor.

POL 453 - Great Powers and Their Foreign Policies (3)

An examination of the basic foreign policy patterns of Germany, France, Britain, Russia, Japan, China, and the U.S.A. Different approaches and theories for understanding the formulation of foreign policy will be analyzed. Comparisons are made for the formulation of policies and the use of power. Issues of morality and public policy are also addressed.

Prerequisite: POL 201 or permission of the instructor.

POL 455 - Foreign Policies of Latin America (3)

Dramatic pressures and heightened political risks are causing important shifts in the traditional foreign policies of the nations of Latin America. This course examines the changing global forces affecting regional integration and the economic development for Mexico, Brazil, Argentina and Chile and the domestic responses to these foreign policy changes.

Prerequisite: POL 201 or permission of the instructor. Crosslisted as: SJP 455.

POL 462 - North-South Relations in a Globalized World (3)

How can we best conceptualize and understand relationships between culturally, philosophically, and economically different and unequal states within the international system? Power relationships, conflict and cooperation within the international system change over time. This course explores North-South relations within the context of these changes, as well as the self-conceptualization and concerns of the global South.

Prerequisite: POL 205 or permission of instructor.

Comparative Politics

Prerequisite: POL 201 or permission of instructor.

POL 465 - Democratization (3)

This course explores the theories and practice of democratic transition and consolidation in the international system. What does increased democratization mean for international relations and what obstacles remain to its consolidation? Both the cultural and civic elements of democratic consolidation as well as the institutional elements that shape the character, effectiveness, and legitimacy of democracies will be explored.

Prerequisite: POL 205 or permission of instructor.

POL 470 - Comparative Immigration (3)

This course explores the politics of migration and immigrant populations. National and international constraints and opportunities structure the position and status of immigrants. We compare the economic, political, and social organization of immigrant groups across countries, and study the effects of immigration, housing, education, and economic policies for immigrant adaptation.

Prerequisite: POL 201 or permssion of the instructor.

POL 474 - Politics of Terrorism (3)

This course explores terrorism as a political strategy. Terrorism is unique in contrast with other types of negotiation and other types of state-society and inter state engagement. Students will weigh the implications of this modern weapon through the lens of theories about the nation-state, minority rights, revolution and their own moral theories.

Prerequisite: POL 205.

POL 490 - Directed Study (Variable)

Individual study under the direction of a member of the political science department, with the approval of the chairman.

POL 491 - Seminar (Variable)

Credit arranged.

POL 492 - Seminar (Variable)

Credit arranged.

POL 495 - Workshop (Variable)

Credit arranged.

POL 496 - Workshop (Variable)

Credit arranged.

POL 497 - Internship (Variable)

Internships are individually arranged and may be done at the national, state, or local levels of government. Students will be required to supplement their field experience with appropriate readings arranged with the instructor prior to registration along with a required research project in the area of the internship.

POL 499 - Senior Thesis (Variable)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.

PSY - Psychology

PSY 101 - General Psychology (3)

General Psychology offers an overview of psychological science, which uses theory and empirical methods toward understanding thought, feeling, and behavior. The course will introduce students to the methods of psychological research, and to topics including personality, learning, development, cognition, social psychology, abnormal psychology, the biological basis of behavior, and mental health.

PSY 214 - Research Methods: Design (3)

Principles and methods of research on human behavior. Scientific method as an approach to problem identification, analysis, and solution. How to evaluate methods and findings. How to design studies relevant to a given problem.

Prerequisite: MTH 161 or permission of instructor. Crosslisted as: SOC 214, SW 214.

PSY 215 - Research Methods: Analysis (3)

Introduction to psychological and sociological research with emphasis on quantitative methods. Topics include sampling, hypothesis testing, statistical analysis, and computer usage.

Crosslisted as: SOC 215.

PSY 310 - Behavioral Neuroscience (3)

Structure and function of the nervous system, with implications for both normal and abnormal development and behavior. How the function of the brain is related to behavior.

Prerequisite: PSY 101.

PSY 315 - Evolutionary Psychology (3)

In this course we will examine the evolutionary basis of human behavior and cognition. The ways in which natural and sexual selection have shaped human nature will be explored. Selected topics include evolutionary explanations of human mating systems, jealousy, interpersonal and sexual attraction, warfare, sexual orientation, and cognition. A special emphasis will be placed on exploring the evolutionary basis of male-female differences.

Prerequisite: PSY 101.

PSY 320 - Psychology of Learning (3)

A systematic study of the learning process emphasizing topical, research, and theoretical orientations. Topics covered include major theories of learning and memory, Pavlovian conditioning, appetitive and aversive conditioning, biological influences on learning, stimulus and cognitive control of behavior, and memory processes: storage, encoding, retrieval, and forgetting.

Prerequisite: PSY 101, PSY 214 or permission of instructor.

PSY 330 - Cognition (3)

Examines the higher mental processes of attention, learning, memory, language, concept formation, problem solving, and reasoning. Students will participate in simulations of classic experiments in cognitive psychology.

Prerequisite: PSY 101, PSY 214 or permission of instructor.

PSY 340 - Sensation and Perception (3)

Experimental study of sensation and perception emphasizing human visual and auditory processes and the methods of experimental psychology. The student will gain laboratory experience by participating in experiments and by designing, carrying out, and writing up an original study.

Prerequisite: PSY 101, PSY 214 or permission of instructor.

PSY 350 - Social Psychology (3)

Psychological behavior of an individual as a member of a group; the influence of culture and society on attitudes, personality, and behavior; the dynamics of group interaction.

Prerequisite: PSY 101. Crosslisted as: SOC 350.

PSY 355 - Gendered Perspectives on the Body and Human Sexuality (3)

This course explores perspectives on human sexuality, body image, body change (e.g., disability, illness, aging), and body variations. Students explore the social construction of gender, body image, and sexuality and the consequences that differing meanings of "body" and "sex" can have on individuals in our society.

Prerequisite: PSY 101 or SOC 101. Crosslisted as: SW 355, SOC 355.

PSY 360 - Life Span Development (3)

Examines psychosocial aspects of human development from birth through death. Focuses on major psychological, social, and cognitive topics as relevant to the stages of the life span.

Prerequisite: PSY 101.

PSY 365 - Moral Development (3)

Focuses on issues related to moral development. Using the writing of various psychologists, novelists, and philosophers, this course will address such issues as moral reasoning, meaning, and purpose.

Prerequisite: PSY 101.

PSY 370 - Personality (3)

Examines diverse perspectives on human personality. The focus is on asking what we know when we know a person. This involves analyzing basic assumptions, postulates, and research related to major personality theories including: trait, psychoanalytic, humanistic, cultural, biological, and cognitive.

Prerequisite: PSY 101.

PSY 375 - The Self (3)

This course will examine the social self; competing needs for uniqueness and similarity; the meaning of self-identity and self-concept; individual coping strategies; attributional analyses; social influence and defining gender.

Prerequisite: PSY 101.

PSY 380 - Abnormal Psychology (3)

Examination of problem behavior, its causes, its treatment, and its social and legal ramifications. Emphasis is given to personal and societal understanding of abnormality as well as to psychological and medical considerations.

Prerequisite: PSY 101.

PSY 391 - Seminar (Variable)

Credit arranged.

PSY 392 - Seminar (Variable)

Credit arranged.

PSY 400 - History of Psychology (3)

Psychological ideas and theories from their philosophical origins to the present. Discussion of five main schools of psychology and how they influence current thought in psychology.

Prerequisite: PSY 101.

PSY 430 - Psychology of Language (3)

Study of the nature of language, how humans use language, how humans learn language, the psychological factors in language use, and the neural basis of language. Students will study the knowledge and processes that underlie a person's ability to produce and understand language.

Prerequisite: PSY 101.

PSY 450 - Cross Cultural Psychology (3)

Explores relationships between cultural variables and human behavior. The development of cross cultural psychology and research methodologies used by cross cultural researchers in examined. Theories that reflect the cultural, social, and developmental perspectives on behavior are considered.

Prerequisite: PSY 101.

PSY 452 - Leadership Seminar in Catholic Studies and Social Justice (3)

This course will engage each student in a service practicum in a local parish or agency, while studying how Catholic thought, culture, and principles of social justice are practiced there. The course will require a synthesis of readings on social justice and Catholic thought, as well as the practical experience gained.

Prerequisite: PSY 101. Crosslisted as: SJP 452, PCS 452.

PSY 455 - Health Psychology (3)

Considers the implications of combined medical, psychological, and pastoral care models on health and recovery. Special attention given to influences in health of personality, social context, belief and meaning, and mind-body connection.

Prerequisite: PSY 101.

PSY 461 - Introduction to Gerontology (3)

This course introduces students to the field of gerontology. The course examines the aging process and its impact upon the individual, the family, and society. The course also covers various social, cultural, political, and economic issues for older adults in our society.

Prerequisite: PSY 101 or SOC 101 or SW 205 or permission of instructor. Crosslisted as: SOC 461, SW 461.

PSY 462 - Group Counseling (3)

Introduction to group dynamics, contemporary models of group counseling, and the development of group skills.

Prerequisite: PSY 101 or SW 205 or permission of instructor. Crosslisted as: SW 462.

PSY 463 - Children, Youth, and Society (3)

This course is about child and youth development as embedded in social and cultural contexts. The particular emphasis will be on early childhood through the transition into adulthood, and on thinking about childhood and youth as social phenomena. The course is reading/discussion intensive and involves a community-based learning project.

Prerequisite: PSY 101. Crosslisted as: SOC 463, SJP 463.

PSY 470 - Psychology of Aggression (3)

Major theories which account for aggressive behavior or violence. Emphasis given to personality, social, biological, and environmental determinants of aggression and violence.

Prerequisite: PSY 101. Crosslisted as: SJP 470.

PSY 480 - Clinical and Counseling Psychology (3)

Review of major theories and techniques of psychotherapy; issues in the contemporary practice of psychotherapy.

Prerequisite: PSY 101.

PSY 485 - Child Psychopathology (3)

This course is designed to familiarize students with the symptoms, causes, and treatments of psychological disorders in children. This includes a particular focus on developmental factors that influence the onset, course, and treatment of psychological problems in young people, and the cultural, social , psychological, emotional, and biological factors that influence our understanding of mental illness in children.

Prerequisite: PSY 101.

PSY 490 - Directed Study (Variable)

Guided inquiry for superior students by arrangement with the psychology faculty.

PSY 491 - Seminar (Variable)

Credit arranged.

PSY 492 - Seminar (Variable)

Credit arranged.

PSY 494 - Research (Variable)

Participate directly in the research process with a faculty member. Before enrolling a student must consult with a faculty member to define project.

Prerequisite: PSY 214, PSY 215.

PSY 497 - Internship (Variable)

Practical field experience working within a human service organization. Internships are individually arranged and may be done in a wide array of settings. Students will be required to supplement their experience with a classroom seminar. Psychology majors may take up to 6 credits in internships.

Prerequisite: SW 205 or PSY 101 or SOC 101. Crosslisted as: SW 497, SOC 497.

PSY 498 - Senior Seminar (3)

A capstone seminar for psychology majors designed to help the student integrate major contemporary psychological methods, theories, and research findings. Restricted to senior psychology majors.

Prerequisite: PSY 214, PSY 215.

PSY 499 - Senior Thesis (3)

Research, study, or original work under direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of the thesis director, department chair, dean, and director of the honors program, when appropriate.

Prerequisite: PSY 214, PSY 215, senior standing; 3.0 G.P.A. in the thesis area or good standing in the honors program.

RELI - Religious Studies

RELI 501 - Studies in Old and New Testament (3)

An introduction to the scholarly issues concerning the theological interpretation and pastoral application of the Old and New Testament.

RELI 502 - Studies in Theology (3)

A survey of methods, issues, and patterns of questioning that are typical of theological inquiry. Included are introductions to theological ethics, systematic theology, sacramental theology, and spirituality.

RELI 514 - Theological Exploration of the Gospels (3)

An exploration of who Jesus was, how his message was received and developed by the early Church and how that message continues to be relevant for the Church today.

RELI 520 - Theological Ethics (3)

A critical and practical (applied) examination of natural law, human freedom, conscience, authority, moral and rational capacity and social justice from a Catholic theological perspective.

RELI 538 - Sacramental and Liturgical Theology (3)

An exploration of the Church's theological heritage in the areas of sacramental and liturgical theology. Includes writings, methods, and issues in both fields as well as an investigation of how these fields relate to Canon Law.

RELI 541 - Theology of Ministry (3)

A theological foundation for ministry in the Church including historical roots and contemporary experience. Attention will be given to both the theory and practice of ministry. Assignments in theological reflection will provide the method of inquiry and the direction for collaborative pastoral response.

RELI 542 - Pastoral Care (3)

A study of theological models, methodology, and practice crucial to basic pastoral care in a ministerial setting.

RELI 546 - Faith Formation (3)

An investigation of the philosophical and theological foundations of faith formation including Christian religious education, the RCIA process, and relevant topics of Canon Law.

RELI 548 - Christian Spirituality (3)

A contemporary exploration of human relationships, the self, community, the world, and God through the lens of Christian spirituality.

RELI 552 - Christology (3)

An introduction to systematic reflection on the mystery of Jesus the Christ. The course is divided into three parts: Biblical Christology, Classical (Patristic, Doctrinal, and Medieval) Christology, and Contemporary Christology.

RELI 555 - Contemporary Ecclesiology (3)

An exploration of contemporary trends and practices in the post-Vatican II Church. Will access several critical issues in the light of Church teaching, conciliar documents, directions, and contemporary cultural realities.

RELI 560 - Church History (3)

An examination of the Church's development from an obscure Jewish sect through its renewal and engagement with the modern world. Includes an emphasis on the Second Vatican Council, its documents, and its implementations.

RELI 570 - Practicum/Internship (3)

A field-based experience to develop and demonstrate competence in ministry.

Prerequisite: Permission of instructor.

RELI 590 - Directed Study (Variable)

Credit arranged.

SJP - Social Justice Program

SJP 300 - Catholicism and the Religious and Theological Roots of Social Justice (3)

A team-taught course introducing: 1) the biblical and scholastic roots of Catholic social teaching; 2) Catholic incarnational, sacramental and analogical reasoning; and 3) general social justice theory, with emphasis on current opportunities for furthering the common good within existing social, political and economic systems.

Crosslisted as: PCS 300, THEP 300.

SJP 302 - Poets, Prophets, Divas, and Diviners (3)

This course traces the development of prophecy and the prophetic tradition in biblical and contemporary times. Selected prophetic texts focus on the character, personality, and mission of various prophets. Other topics include prophetic imagination, creativity, religious experience, justice, compassion, hope and the portrayal of God. Central to the course is the prophets' transformative vision for all times.

Prerequisite: THE 101, THE 205. Crosslisted as: PCS 302, THE 302.

SJP 312 - Plains Indians History (3)

This course will survey the major aspects of Plains Indians culture and history from the earliest archaeological evidence to the present day. Special emphasis will be given to traditional Plains Indian cultures and the interaction between Plains Indians and the U.S. culture and government in the nineteenth and twentieth centuries.

Crosslisted as: HST 312.

SJP 316 - Literature and Culture of Contemporary Mexico (3)

The course looks at contemporary Mexican Culture and society through the study of fictional works by Mexican authors. A variety of literary genres will be read, analyzed and discussed. Themes include: race, gender and ethnicity in the construction of identity; cultural variations among Mexicans; rural and urban views of the nation.

Crosslisted as: SPN 316.

SJP 318 - Cold War America (3)

Study of the causes and effects of the Cold War in American domestic and foreign affairs. Emphasis will be placed on social, cultural, economic, and political movements within the United States, as well as America's role in world events after World War II.

Crosslisted as: HST 318.

SJP 320 - Foundations of Education (3)

Examines the relationship between schools and society and analyzes the historical traditions, philosophical perspectives, and social practices that shape American education. The course is designed to help students understand how schools and individuals interact and to help students value the diversity of the communities in which they work. Field experience required.

Prerequisite: Fingerprint clearance. Crosslisted as: ED 320.

SJP 321 - Modern American Women's History (3)

This course examines the history of American women from 1890 to the present. Special emphasis will be placed on the diversity of this group called "women" particularly by race and class, the construction of American gender ideologies, and women's participation in social reform movements of the twentieth century.

Crosslisted as: HST 321.

SJP 322 - American Protest and Reform (3)

This course traces the history and development of American movements for social justice in the twentieth century. Examining race, gender, and class-based social inequalities, the course highlights individuals and organizations that have worked to correct social injustice throughout the past century. The course emphasizes cultural forms of protest (literature and art) in addition to social and political reform.

Crosslisted as: HST 322.

SJP 323 - African American History (3)

This course explores African American history from Reconstruction through the present. Highlighting important African American intellectuals and other leaders, the course explores the changing nature of race in America as well as the history of Civil Rights.

Crosslisted as: HST 323.

SJP 325 - Cultural Diversity and Cultural Competence (3)

This course considers issues of human diversity focusing on cultural pluralism and race and ethnic relations. Students will explore concepts of privilege, oppression, prejudice, and discrimination in the context of U.S. communities and human service professions and learn strategies for dismantling oppression and promoting socially just practices. Other dimensions of diversity (e.g., gender identity, sexual orientation, religion, ability) are explored.

Prerequisite: SW 205 or permission of instructor. Crosslisted as: SOC 325, SW 325.

SJP 333 - Social Class and Inequality (3)

Examination of inequality in the distribution of wealth, power, and prestige. Focus will be on stratification within societies and on the nature, extent, and significance of inequality of wealth and power between societies.

Crosslisted as: SOC 333.

SJP 335 - American Public Policy (3)

A study of the public policy process in the United States. This course analyzes the nature of public policy making, the process of agenda setting, and the dynamics of policy creation, adoption, implementation, and evaluation. Special emphasis is given to domestic issues and policies to illustrate the working of the policy process.

Crosslisted as: POL 335.

SJP 336 - Race and Ethnic Relations (3)

This course examines race and ethnic relations from a sociological perspective, with particular emphasis on social institutions such as employment, education, and criminal justice. Students will apply sociological theories and concepts to understand the contours of intergroup relations, contemporary issues, and the socio-political processes of social change in American society.

Prerequisite: SOC 101. Crosslisted as: SOC 336.

SJP 343 - Europe in the Age of Dictatorship (3)

A broad study of the European continent from 1900 to the revolutions of 1989 and their aftermath, emphasizing the political, social, and cultural significance of the century's major events.

Crosslisted as: HST 343.

SJP 346 - Modern Germany (3)

Study of the varying political forms of German life over the past two centuries with emphasis on the war and the Nazi dictatorship.

Crosslisted as: HST 346.

SJP 349 - Environmental Policy (3)

This course will consider how environmental problems arise, looking at how a progression of natural and human circumstances becomes an "environmental problem." It will survey the law, politics, and institutions that manage pollution. The course will also look closely at a handful of environmental policy issues particularly in the Columbia River, and the interplay of science, risk, and uncertainty.

Crosslisted as: ENV 349, POL 349.

SJP 351 - International Law and Organizations (3)

Course examines the different approaches to economic and political cooperation and integration, including some select institutional examples of global interdependence, such as the European Community, the United Nations, the Organization of American States, the North Atlantic Treaty Organization, the Roman Catholic Church, and Amnesty International.

Crosslisted as: POL 351.

SJP 356 - Building World Peace (3)

Introduces the student to the systematic study of world peace, beginning with the causes of war and war's effect on communities and the environment. Negative peace: diplomacy, negotiations and conflict resolution, disarmament and international law; positive peace: human rights, nonviolence, international organizations, and the role of the individual will be considered.

Crosslisted as: POL 356.

SJP 357 - Technology, Resources and Environment in World History (3)

This course will examine the exploitation of natural resources in modern global society, from the beginnings of the Industrial Revolution to the modern day. Special emphasis is placed on the intersection of technology, culture, and the environment in modern life.

Crosslisted as: HST 357.

SJP 358 - Disease and Medicine in World History (3)

This course will examine the role disease, technology, environment and culture have played in human history from ancient times to the 20th century. Areas of particular focus will include major epidemics, the rise of the germ theory, and the intersection between economic development and human health.

Crosslisted as: HST 358.

SJP 373 - Politics of Latin America (3)

Approaches the study of Latin America with a general introduction to its historical background and political geography. In addition, the general pattern of religion and society, economics and politics will be examined with special attention to pattern of power and politics in modern Mexico, Brazil, Argentina, Cuba, Nicaragua and Chile.

Crosslisted as: POL 373.

SJP 374 - Politics of Asia (3)

This course is a comparative study of the countries of Asia. Students focus on issues of politics, culture, and economics from a national and regional perspective. Cases include India, Pakistan, and Afghanistan, and the Asian Pacific countries of China, Vietnam, Thailand, Cambodia, North Korea, South Korea, Indonesia, and the Philippines.

Crosslisted as: POL 374.

SJP 376 - Politics of Africa (3)

This course explores the impacts of colonialism, role of governance, failure of development assistance, and persistence of conflicts on the African continent. A sub-theme of social justice runs through the course: why is Africa underdeveloped, how should/should not the world respond, how does underdevelopment affect the people living on the continent, and what positive developments have been taking place.

Crosslisted as: POL 376.

SJP 410 - Education and Politics (3)

Inquiry into the political foundations of education and how these interface with epistemological, ethical and metaphysical concerns. Concrete issues relating to educational injustices will also be addressed. Students will study both classical and contemporary thinkers, such as Confucius, Lao Tzu, Plato, Rousseau, Jane Addams, John Dewey, Paulo Freire, Bell Hooks and Maria Lugones.

Crosslisted as: ED 410.

SJP 411 - Communication Across Barriers (3)

Exploration of barriers to effective communication between members of differing sexes, races, and generations. Consideration of causes of problems and effective strategies for solutions.

Crosslisted as: CST 411.

SJP 412 - Philosophy of Law (3)

The basic philosophical principles of justice and law in the Western legal traditions: morality and law; natural and positive law; Roman law and common law traditions; logic, language, and symbols of law; Marxian concept of law; legal education.

Crosslisted as: PHL 412.

SJP 413 - Socio-Political Philosophy (3)

Analysis of some major topics in contemporary socio-political thought, e.g., freedom, social justice and structural violence, equality, the relation between rights and obligations, sovereignty, authority, legitimacy, and consent.

Crosslisted as: PHL 413.

SJP 414 - Philosophy and Feminism (3)

An investigation of the philosophical underpinnings of various feminist theories and their implications for philosophical inquiry from De Beauvoir to Irigaray.

Crosslisted as: PHL 414.

SJP 416 - Negotiation and Conflict Management (3)

An intensive study of orientations toward managing disputes and of specific processes and techniques currently in use. Course includes consideration of both organizational and interpersonal disputes and also focuses on the role of the mediator.

Crosslisted as: CST 416.

SJP 424 - Income Inequality (3)

Examines the determinants of incomes in market economies, including education, training, experience, hours worked, discrimination, inheritance, unions, and government transfers. Studies causes of change in the extent of inequality and social impacts of inequality. Analyzes government policies to reduce inequality, including anti-poverty policies.

Prerequisite: ECN 121 or permission of instructor. Crosslisted as: ECN 424.

SJP 430 - International Literature of Peace and Justice (3)

The impact of language on human life, especially its importance in creating and sustaining peace or violence. Works of contemporary writers.

Crosslisted as: ENG 430.

SJP 431 - Cross-Cultural Communication and Identity (3)

Course provides an introduction to the dynamics of intercultural communication. Content includes the importance of understanding one's own culture, the culture similarities and differences in communication, relationships, and the workplace, and the ability to adapt to various cultures.

Crosslisted as: CST 431.

SJP 434 - Environmental Ethics (3)

An inquiry into our obligations to the nonhuman world and the philosophical basis of that obligation.

Crosslisted as: PHL 434.

SJP 451 - Immigration and Resistance (3)

This course provides students with an introduction to issues surrounding immigration and resistance and seeks to develop understanding of contemporary organizing efforts on behalf of immigrant communities. After several weeks surveying the larger context and recent patterns in contemporary immigration, students will examine the struggles of immigrants and their efforts to organize for social justice around a variety of issues.

Prerequisite: SW 205 or permission of instructor. Crosslisted as: SOC 451, SW 451.

SJP 452 - Leadership Seminar in Catholic Studies and Social Justice (3)

This course will engage each student in a service practicum in a local parish or agency, while studying how Catholic thought, culture, and principles of social justice are practiced there. The course will require a synthesis of readings on social justice and Catholic thought, as well as the practical experience gained.

Crosslisted as: PCS 452, PSY 452.

SJP 455 - Foreign Policies of Latin America (3)

Dramatic pressures and heightened political risks are causing important shifts in the traditional foreign policies of the nations of Latin America. This course examines the changing global forces affecting regional integration and economic development for Mexico, Brazil, Argentina and Chile and the domestic responses these foreign policy changes.

Crosslisted as: POL 455.

SJP 456 - Social Work for Sustainable Communities (3)

This course examines the role of professional social work in a achievement of sustainability at the individual, community, regional, national, and global levels. Using a multidisciplinary perspective, the social, environmental, economic, and cultural aspects of sustainability are considered theoretically and practically, with a focus on issues of equity and justice across these dimensions. This course includes community-based, action-oriented learning projects.

Prerequisite: SW 205 or permission of instructor. Crosslisted as: SW 456.

SJP 463 - Children, Youth and Society (3)

This course is about child and youth development as embedded in social and cultural contexts. The particular emphasis will be on early childhood through the transition into adulthood, and on thinking about childhood and youth as social phenomena. The course is reading/discussion intensive and involves a community-based learning project.

Crosslisted as: PSY 463, SOC 463.

SJP 466 - Violence, Poverty, and the Environment (3)

This course addresses violence and poverty as influenced by the environment. It enables an assessment of the societal consequences of environmental changes and their effects as well as of personal values related to implications for equity and social justice. Strategies for social change, social equity, and social justice are considered.

Crosslisted as: SW 466.

SJP 470 - Psychology of Aggression (3)

Major theories which account for aggressive behavior or violence. Emphasis given to personality, social, biological, and environmental determinants of aggression and violence.

Crosslisted as: PSY 470.

SJP 474 - Hegel and 19th Century Philosophy (3)

An examination of nineteenth-century philosophy focusing upon the work of Hegel. The course traces the roots of Hegelianism in German idealism, the British Economists, and romanticism and its influences on subsequent involvements including Marxism, existentialism, and American pragmatism.

Crosslisted as: PHL 474.

SJP 480 - Postcolonial Literature and Culture (3)

Historically framed survey of representative authors from former British Colonies in Asia, Africa, and the Caribbean. Introduction to key theorists of postcolonialism from Said to Spivak and discussion of key concepts such as imperialism, racism, hybridity, mimicry, decolonization, neo-colonialism, nationalism(s), and immigration.

Crosslisted as: ENG 480.

SW - Social Work

SW 205 or instructor permission is a prerequisite for all upper division social work courses.

SW 205 - Social Welfare and Social Justice (3)

This course provides an overview of social issues and social welfare as a response to human needs. Emphasis is placed on systems that assist individuals, families, communities, and diverse and at-risk populations to increase resiliency. Attention is paid to the unique role of government and other public entities in the provision of resources to work toward social and economic justice.

SW 214 - Research Methods: Design (3)

Principles and methods of research on human behavior. Scientific method as an approach to problem identification, analysis, and solution. How to evaluate methods and findings. How to design studies relevant to a given problem.

Prerequisite: MTH 161 or permission of instructor. Crosslisted as: PSY 214, SOC 214.

SW 313 - Social Welfare Policy (3)

Utilizes a focus on the history and process of social welfare in the United States and other countries to help the students learn how social welfare policy is organized and developed. Students also learn strategies and techniques to analyze current policy and influence future policy.

Prerequisite: SW 205 or permission of instructor.

SW 325 - Cultural Diversity and Cultural Competence (3)

This course considers issues of human diversity focusing on cultural pluralism and race and ethnic relations. Students will explore concepts of privilege, oppression, prejudice, and discrimination in the context of U.S. communities and human service professions and learn strategies for dismantling oppression and promoting socially just practices. Other dimensions of diversity (e.g., gender identity, sexual orientation, religion, ability) are explored.

Prerequisite: SW 205 or permission of instructor. Crosslisted as: SJP 325, SOC 325.

SW 343 - Human Behavior in the Social Environment (3)

This course analyzes human behavior as it's impacted by the social environment from a lifespan developmental approach. Students examine the effects of social structures, social policies, and cultural patterns on individuals from a variety of theoretical perspectives to better understand social conditions and problem areas in society.

Prerequisite: SW 205 or permission of instructor.

SW 348 - Theological Dimensions of Suffering and Death (3)

This course surveys issues of suffering and death from biblical, systematic and ethical perspectives of Theology, as well as psycho-social, legal and ethical perspectives of the helping professions. Focus is on exploring the universal experience of loss and the many dimensions of suffering that flow from loss.

Prerequisite: THE 101, THE 205, or by permission of instructor. Nursing and Social Work majors only. Crosslisted as: THEP 348.

SW 355 - Gendered Perspectives on the Body and Human Sexuality (3)

This course explores perspectives on human sexuality, body image, body change (e.g., disability, illness, aging), and body variations. Students explore the social construction of gender, body image, and sexuality and the consequences that differing meanings of "body" and "sex" can have on individuals in our society.

Prerequisite: PSY 101 or SOC 101. Crosslisted as: PSY 355, SOC 355.

SW 386 - Interviewing and Counseling (3)

This course focuses on interviewing skills that are fundamental to the helping professions. Students will understand theories, concepts, and skills behind relationship building, active listening, and the interviewing process as well as how to apply knowledge and skills to affect change with various populations, problems, and settings.

Prerequisite: SW 205 or permission of instructor.

SW 391 - Seminar (Variable)

Credit arranged.

SW 450 - Interventions with Children and Youth (3)

This course examines theory, practice, and evaluation of interventions for children and youth across family, community, and institutional contexts. Students will critically analyze areas such as prevention, resilience, and positive youth development and develop specific skills through experiential practice laboratory sessions. Attention will be paid to effective and culturally appropriate programs and strategies for traditionally marginalized and oppressed populations.

SW 451 - Immigration and Resistance (3)

This course provides students with an introduction to issues surrounding immigration and resistance and seeks to develop understanding of contemporary organizing efforts on behalf of immigrant communities. After several weeks surveying the larger context and recent patterns in contemporary immigration, students will examine the struggles of immigrants and their efforts to organize for social justice around a variety of issues.

Prerequisite: SW 205 or permission of instructor. Crosslisted as: SJP 451, SOC 451.

SW 456 - Social Work for Sustainable Communities (3)

This course examines the role of professional social work in a achievement of sustainability at the individual, community, regional, national, and global levels. Using a multidisciplinary perspective, the social, environmental, economic, and cultural aspects of sustainability are considered theoretically and practically, with a focus on issues of equity and justice across these dimensions. This course includes community-based, action-oriented learning projects.

Prerequisite: SW 205 or permission of instructor. Crosslisted as: SJP 456.

SW 461 - Introduction to Gerontology (3)

This course introduces students to the field of gerontology. The course examines the aging process and its impact upon the individual, the family, and society. The course also covers various social, cultural, political, and economic issues for older adults in our society.

Prerequisite: PSY 101 or SOC 101 or SW 205 or permission of instructor. Crosslisted as: PSY 461, SOC 461.

SW 462 - Group Counseling (3)

Introduction to group dynamics, contemporary models of group counseling, and the development of group skills.

Prerequisite: PSY 101 or SW 205 or permission of instructor. Crosslisted as: PSY 462.

SW 466 - Violence, Poverty and the Environment (3)

This course addresses violence and poverty as influenced by the environment. It enables an assessment of the societal consequences of environmental changes and their effects as well as of personal values related to implications for equity and social justice. Strategies for social change, social equity, and social justice are considered.

Crosslisted as: SJP 466.

SW 480 - Theory and Methods of Social Work Practice I (3)

This course focuses on generalist social work practice with individuals, families, and groups using the problem-solving process. The course also focuses on social work values, ethics, and issues relevant to sensitive social work practice with populations-at-risk. Social work majors only.

Prerequisite: All SW courses except SW 482, SW 483, all lower division University and CAS requirements. Corequisite: SW 482.

SW 481 - Theory and Methods of Social Work Practice II (3)

This course provides generalist social work practice knowledge, values, and skills as applied to work with groups, organizations, communities, and societies. The course focuses on social work values, ethics, and issues relevant to sensitive social work practice with populations-at-risk. Social work majors only.

Prerequisite: All SW courses except SW 483; all lower-division University and CAS requirements. Corequisite: SW 483.

SW 482 - Social Work Practicum I (6)

Intensive supervised field experience in selected social work agencies. Students spend 16 hours per week in the field. Social work majors only.

Prerequisite: All SW courses except SW 480 and SW 481; all lower-division University and CAS requirements. Corequisite: SW 480.

SW 483 - Social Work Practicum II (6)

Intensive supervised field experience in selected social work agencies. Students spend 16 hours per week in the field. Social work majors only.

Prerequisite: All SW courses except SW 481; all lower-division University and CAS requirements. Corequisite: SW 481.

SW 490 - Directed Study (Variable)

Credit arranged.

SW 491 - Seminar (Variable)

Credit arranged.

SW 492 - Seminar (Variable)

Credit arranged.

SW 494 - Research (Variable)

Participate directly in the research process with a faculty member. Before enrolling a student must consult with a faculty member to define the project.

SW 497 - Internship (Variable)

Practical field experience working within a human service organization. Internships are individually arranged and may be done in a wide array of settings. Students will be required to supplement their experience with a classroom seminar. Social Work majors may take up to 6 credits in internships.

Prerequisite: SW 205 or PSY 101 or SOC 101. Crosslisted as: PSY 497, SOC 497.

SW 499 - Senior Thesis (Variable)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.

SOC - Sociology

SOC 101 - Introduction to Sociology (3)

An introduction to the theories, scientific methods, and basic findings of sociology concerning group behavior, society, culture, social institutions, and social change.

SOC 214 - Research Methods: Design (3)

Principles and methods of research on human behavior. Scientific method as an approach to problem identification, analysis, and solution. How to evaluate methods and findings. How to design studies relevant to a given problem.

Prerequisite: MTH 161 or permission of instructor. Crosslisted as: PSY 214, SW 214.

SOC 215 - Research Methods: Analysis (3)

Introduction to psychological and sociological research with emphasis on quantitative methods. Topics include sampling, hypothesis testing, statistical analysis, and computer usage.

Crosslisted as: PSY 215.

SOC 301 - Social Problems (3)

This course introduces the study of social problems in contemporary society and highlights the application of sociological concepts and methods to understand their nature, origins, and possible solutions.

Prerequisite: SOC 101.

SOC 305 - Sociology of Crime and Justice (3)

A systematic and in-depth review of criminal justice in America from a sociological perspective. Course evaluates the historical development of policing, the judiciary, and corrections, and examines the culture and organizations of criminal justice institutions. Significant attention is paid to examining public policy issues in criminal justice.

Prerequisite: SOC 101.

SOC 310 - General Anthropology (3)

Views the variety of lifestyles and belief systems with which humans live and have lived.

Prerequisite: SOC 101.

SOC 322 - Sociology of Gender (3)

Examination of historical and recent changes and role expectations for men and women. Included is an analysis of real vs. percieved differences and biological vs. socially induced differences. Discussion focuses on the consequenses of gender roles and work and family including responses to changing gender roles.

Prerequisite: SOC 101.

SOC 323 - Sociology of Sports (3)

Examines from a sociological perspective, the growing interest and participation in sports activities in the U.S. and around the world. Special attention will be given to the importance of sports in the socialization of children, the growth of women's participation in sports, and the American approach of integrating sports with the education system.

Prerequisite: SOC 101.

SOC 325 - Cultural Diversity and Cultural Competence (3)

This course considers issues of human diversity focusing on cultural pluralism and race and ethnic relations. Students will explore concepts of privilege, oppression, prejudice, and discrimination in the context of U.S. communities and human service

professions and learn strategies for dismantling oppression and promoting socially just practices. Other dimensions of diversity (e.g., gender identity, sexual orientation, religion, ability) are explored.

Prerequisite: SW 205 or permission of instructor. Crosslisted as: SW 325, SJP 325.

SOC 333 - Social Class and Inequality (3)

Examination of inequality in the distribution of wealth, power, and prestige. Focus will be on stratification within societies and on the nature, extent, and significance of inequality of wealth and power between societies.

Prerequisite: SOC 101. Crosslisted as: SJP 333.

SOC 336 - Race and Ethnic Relations (3)

This course examines race and ethnic relations from a sociological perspective, with particular emphasis on social institutions such as employment, education, and criminal justice. Students will apply sociological theories and concepts to understand the contours of intergroup relations, contemporary issues, and the socio-political processes of social change in American society.

Prerequisite: SOC 101. Crosslisted as: SJP 336.

SOC 344 - Sociology of Deviant Behavior (3)

Study of behavior which differs from cultural expectations. This course is concerned with social deviance and will consider the history of the concept of deviance, the legal aspects, social aspects, deviant subcultures, self images, social organization, causes of deviance, and strategies for response.

Prerequisite: SOC 101.

SOC 350 - Social Psychology (3)

Psychological behavior of an individual as a member of a group; the influence of culture and society on attitudes, personality, and behavior; the dynamics of group interaction.

Prerequisite: SOC 101. Crosslisted as: PSY 350.

SOC 355 - Gendered Perspectives on the Body and Human Sexuality (3)

This course explores perspectives on human sexuality, body image, body change (e.g., disability, illness, aging), and body variations. Students explore the social construction of gender, body image, and sexuality and the consequences that differing meanings of "body" and "sex" can have on individuals in our society.

Prerequisite: PSY 101 or SOC 101. Crosslisted as: SW 355, PSY 355.

SOC 360 - Criminology (3)

Criminology is the body of knowledge regarding delinquency and crime as social phenomena. Includes the development of a body of general and verified principles and of other types of knowledge regarding process of law, crime, and reaction to crime. Focus is on the adult offender.

Prerequisite: SOC 101.

SOC 380 - Sociological Theory (3)

Comprehensive study of sociological theories from the late nineteenth century to the present; the relationship between theory and research. Required of majors in sociology.

Prerequisite: SOC 101.

SOC 391 - Seminar (Variable)

Credit arranged.

SOC 392 - Seminar (Variable)

Credit arranged.

SOC 431 - Mapping Social Problems (3)

This course emphasizes a spatial approach to the study of social problems. Using Geographic Information Systems (GIS) software, students will gain experience in making maps, obtaining data, and uncovering spatial patters (e.g., "hot spots" of criminal activity or residential segregation) to inform public policy.

Prerequisite: SOC 214, PSY 214, or SW 214, SOC 215 or PSY 215 or permission of instructor.

SOC 432 - Gender and Violence (3)

The course explores the way gender is associated with violence as well as the roots and manifestations of gender-based violence. Particular attention will be paid to sexual assault, prostitution and domestic violence. Students will be able to explain and apply theories of violence and will have a choice of actively working to reduce violence or conducting a research project to better understand violence.

Prerequisite: SOC 214, PSY 214 or SW 214 or permission of instructor.

SOC 434 - Urban Society (3)

Topics include the origin and development of cities; the social-psychological consequences of living in the urban environment; the social problems associated with urbanization in both industrial and third world cities; and the future of cities.

Prerequisite: SOC 214.

SOC 446 - Criminology Internship (3)

Supervised in-service experience in some aspect of the criminal justice system. This might include work in corrections, police activities, court room procedures, or legislative internship. Criminal justice track students only.

Prerequisite: SOC 101.

SOC 451 - Immigration and Resistance (3)

This course provides students with an introduction to issues surrounding immigration and resistance and seeks to develop understanding of contemporary organizing efforts on behalf of immigrant communities. After several weeks surveying the larger context and recent patterns in contemporary immigration, students will examine the struggles of immigrants and their efforts to organize for social justice around a variety of issues.

Prerequisite: SW 205 or permission of instructor. Crosslisted as: SJP 451, SW 451.

SOC 461 - Introduction to Gerontology (3)

This course introduces students to the field of gerontology. The course examines the aging process and its impact upon the individual, the family, and society. The course also covers various social, cultural, political, and economic issues for older adults in our society.

Prerequisite: PSY 101 or SOC 101 or SW 205 or permission of instructor. Crosslisted as: PSY 461, SW 461.

SOC 463 - Children, Youth and Society (3)

This course is about child and youth development as embedded in social and cultural contexts. The particular emphasis will be on early childhood through the transition into adulthood, and on thinking about childhood and youth as social phenomena. The course is reading/discussion intensive and involves a community-based learning project.

Prerequisite: SOC 101. Crosslisted as: PSY 463, SJP 463.

SOC 481 - Marriage: Social and Ethical Dimensions (3)

A sociological, theological and ethical examination of the institution of marriage. Historical changes over time are discussed along with their moral implications. Issues of gender, love, mate selection, cohabitation, decision making, work, and child rearing are considered along with the moral controversies regarding abortion, divorce, and homosexuality.

Prerequisite: SOC 101.

SOC 490 - Directed Study (Variable)

Guided inquiry for superior students by special arrangement with the sociology faculty.

SOC 491 - Sociology Seminar (Variable)

Credit arranged.

Prerequisite: SOC 214, PSY 214, or SW 214 or permission of instructor.

SOC 492 - Sociology Seminar (Variable)

Credit arranged.

Prerequisite: SOC 214, PSY 214, or SW 214 or permission of instructor.

SOC 493 - Research (Variable)

Participate directly in the research process with a faculty member. Before enrolling, a student must consult with a faculty member to define the project.

SOC 494 - Research (Variable)

Participate directly in the research process with a faculty member. Before enrolling, a student must consult with a faculty member to define the project.

SOC 497 - Internship (Variable)

Practical field experience working within a human service organization. Internships are individually arranged and may be done in a wide array of settings. Students will be required to supplement their experience with a classroom seminar. Sociology majors may take up to 6 credits in internships.

Prerequisite: SW 205 or PSY 101 or SOC 101. Crosslisted as: PSY 497, SW 497.

SOC 498 - Senior Project (3)

Advanced analysis, integration, application, and criticism of the field of sociology. Students will complete a senior project. Sociology majors only.

Prerequisite: SOC 214 and SOC 380, or permission of instructor.

SOC 499 - Senior Thesis (1)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, and department chair.

Prerequisite: SOC 214 and SOC 380. Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.

SPN - Spanish

SPN 101 - Elementary Spanish (3)

Basic essentials of the language with an emphasis upon the audio-lingual skills, reading, and writing. Language laboratory is used in the acquisition of these fundamental skills. Students with more than 2 years of high school Spanish are not permitted to take SPN 101. (Note: SPN 102 is a continuation of SPN 101.)

SPN 102 - Elementary Spanish (3)

Basic essentials of the language with an emphasis upon the audio-lingual skills, reading, and writing. Language laboratory is used in the acquisition of these fundamental skills. Students with more than 2 years of high school Spanish are not permitted to take SPN 101. (Note: SPN 102 is a continuation of SPN 101.)

Prerequisite: SPN 101 or equivalent.

SPN 105 - Accelerated Beginning Spanish (6)

This class provides students with the opportunity to learn a full year of Spanish in six weeks with the advantage of intensive study, which promotes greater retention. Students will practice verb conjugations and usage, gain proficiency skills and learn key grammatical concepts.

SPN 201 - Intermediate Spanish (3)

SPN 201 gives the student the confidence and skills to use Spanish in a variety of social contexts, and provides a bridge experience to upper-division course work in Spanish. Objectives are to increase oral proficiency, improve reading and writing skills, and to increase awareness of the geography and cultures of the Spanish-speaking world.

SPN 202 - Intermediate Spanish (3)

SPN 202 gives the student the confidence and skills to use Spanish in a variety of social contexts and provides a bridge experience to upper-division course work in Spanish. Objectives are to increase oral proficiency, improve reading and writing skills, and to increase awareness of the geography and cultures of the Spanish-speaking world.

Prerequisite: SPN 201.

SPN 205 - Accelerated Intermediate Spanish (6)

Course will offer students an opportunity to immerse themselves in the Spanish language and strengthen their linguistic skills. Follows SPN 102 and will build on the concepts covered at the introductory level. This intensive class substitutes for SPN 201-202, thus making it possible to complete the language requirement in the B.A. core curriculum.

SPN 290 - Directed Study (Variable)

Credit arranged.

SPN 301 - Advanced Spanish Composition and Culture (3)

Extensive review of Spanish grammar with direct application to writing activities. Frequent writing assignments based on articles and materials related to cultural issues and events.

SPN 302 - Advanced Spanish Conversation and Culture (3)

Analysis and discussion of issues related to Spanish and Latin American cultures. Small group discussions, class presentations, and writing activities that examine cultural issues and situations.

SPN 303 - Introduction to Literary and Film Analysis (3)

This course introduces Spanish majors to terminology and methods used to study literary genres and film from Spain and Latin America. Students will read, analyze and discuss literary texts and view films, paying attention to narrative structures and techniques that writers and film directors employ to create literary and visual works.

SPN 304 - Survey of Spanish Literature (3)

Introduction to modern literature of Spain including poetry, prose, fiction, short stories, and plays. Introductory work in literary analysis and interpretation. Lectures and films on the art, history, politics, and culture of Spain to contextualize to the readings and trace the major artistic and social trends that have shaped modern Spanish literature.

SPN 305 - Spanish for Business Purposes (3)

Introduction to the vocabulary and business etiquette of Spanish-speaking countries. Practice with writing reports and letters in Spanish, and discussion of social and cultural issues related to business practices.

SPN 306 - Advanced Spanish Grammar (3)

Intense review of Spanish grammar which will benefit those who have a high proficiency in the language and need a thorough review of concepts in order to enhance writing, reading, oral, and speaking skills. Of special benefit to education majors who seek a Spanish endorsement and will be teaching the language at the elementary or secondary level.

SPN 315 - Survey of Latin American Literature and Civilization (3)

An introduction to the literatures and cultures of Latin America from pre-Columbian times to the present. Students will read a variety of works from different periods, regions, and genres, and discuss them in class in the context of the historical moment in which they were produced.

SPN 316 - Literature and Culture of Contemporary Mexico (3)

The course looks at contemporary Mexican Culture and society through the study of fictional works by Mexican authors. A variety of literary genres will be read, analyzed and discussed. Themes include: race, gender and ethnicity in the construction of identity; cultural variations among Mexicans; rural and urban views of the nation.

Crosslisted as: SJP 316.

SPN 320 - Medieval Spanish Literature and Culture (3)

This class introduces students to Spain's medieval period, increasing their linguistic skills through readings, discussions, and writing assignments about key texts from this time. Focusing on how literature helped shape the Christian reconquest of the Iberian Peninsula from Islamic rule, among other topics, the course complements SPN 485.

Prerequisite: SPN 301, SPN 302.

SPN 380 - Latino Social Services and Health Issues (3)

Course is designed for students in professional programs who need a thorough review of Spanish language skills complemented with specific vocabulary, expressions, and cultural issues as related to medical (including nursing, pre-med, and dentistry) and social services professions.

SPN 407 - Don Quixote (3)

Literary analysis of Cervantes's great masterpiece. Primary readings from the text complemented with secondary sources. Small group discussions, class presentations, and written assignments.

SPN 408 - Golden Age Spanish Literature (3)

Literary, social, and political study of Spanish literature and culture during Renaissance and Baroque periods, analyzing representative works of prose, poetry, and theatre.

SPN 410 - Individual and Society in Modern Spanish Literature (3)

Literary and cultural readings from the nineteenth, twentieth, and twenty-first centuries illuminate stasis, change and conflict in Spanish society. Discussion of the texts will focus on the individual's struggle for rights against the reassertion of traditional social mores before 1975, and Spain's reinvention of itself after Franco.

SPN 412 - Present Day Spanish Literature (3)

A survey of contemporary authors with special focus on Spain's literary production during the last decade to gain insights into Spanish culture today. Readings in fiction, poetry, and theatre, as well as nonfiction to examine the social, political, and historical trends which have defined Spain since 1975.

SPN 416 - Contemporary Latin American Novel (3)

Examines the development of Latin American novel in the twentieth century with emphasis on the process of literary innovation that led to the emergence of the "New Latin American Narrative" associated with magical realism and the "Boom", the resurgence of the historical novel, and the latest postmodern narratives.

SPN 421 - Advanced Latin American Culture and Civilization (3)

Through the study of different representations such as literature, painting, popular art, film and music, the class addresses questions of cultural unity and national identity; ethnic and racial heritage and diversity; social and cultural institutions, struggle for social change and the controversial role of the United States in the politics of Latin America.

SPN 422 - Hispanic Women Writers (3)

This course will examine the writings of women authors from Spain and Latin America, from the Renaissance to the present day. Different genres will be read, analyzed, and discussed during the semester.

SPN 424 - Latin American Short Story (3)

This course will examine the contributions of well-known authors of Latin America to the short story. Various works will be read, discussed, and analyzed.

SPN 477 - Introduction to Spain (1)

Introduction to Spain will provide an in-depth introduction to living and studying in Spain for students who will study abroad in Granada or Segovia. Students will complete readings related to cross-cultural issues and learn how to deal with challenges they will face linguistically and culturally.

SPN 479 - Return from Study Abroad (1)

This course guides students through the re-entry process after returning from study abroad and helps them reflect critically on cross-cultural experiences. In addition to completing short reading and writing assignments, students will design and execute a final project that connects the studay abroad experience to life at the university.

Prerequisite: Study abroad in a language program.

SPN 480 - Medical Translation and Interpretation (3)

This course offers training in oral interpretation between health care providers and patients, as well as in written translation of medical texts. In addition, students will be exposed to the linguistic and cultural background of Spanish-speaking communities in the USA in order to better understand their health and social problems.

SPN 481 - Professional Translation and Interpretation (3)

This course is an introduction to translation theories and a practical, hands-on training in (oral) interpretation and (written) translation in various professional fields: social work, banking/finance, legal/business. Additionally, it will expose students to

the linguistic and cultural aspects of different documents and communication values in both English and Spanish-speaking communities.

SPN 482 - Cultural Perspectives of Modern Spain (3)

This course provides a comprehensive view of Post-Franco Spain. Readings will include literary, social, political, and cultural texts. Class discussions and essays will focus on the significant transformation that Spain has experienced since the end of the dictatorship.

SPN 484 - Hispanic Issues in Cinema (3)

This course introduces students to the major directors of Spain and Latin America, and examines the various cultural and national issues that these artists explore in their films. The course includes a basic introduction to the technical aspects of filmmaking, and terminology and expressions used to analyze film.

SPN 485 - The Three Cultures of Medieval Spain (3)

This course examines the medieval period in Spain when Jews, Muslims, and Christians actively participated in the political, economic, and cultural affairs of the Iberian Peninsula. Students will read literary and historic texts, discuss material in class, and complete essays and exams.

SPN 486 - Hispano-Jewish Literature and Culture (3)

This class studies the literature and culture of Jews and their descendants from the Iberian Peninsula (Spain and Portugal) and Latin America, examining the creation, survival, and loss of Jewish identity in these places. Focusing on how Jews coexisted with Christians and Muslims in Medieval Spain, the course also complements SPN 485.

Prerequisite: SPN 301, SPN 302.

SPN 490 - Directed Study (Variable)

Credit Arranged.

SPN 491 - Seminar (Variable)

Credit Arranged.

SPN 492 - Seminar (Variable)

Credit arranged.

SPN 497 - Spanish Internship (Variable)

Academic internships are available for qualified students (3.0 G.P.A.; 3.25 G.P.A. in Spanish). Internships provide Spanish majors with job experience pertinent to the study of Spanish. The internship may be taken for one to three credit hours, and the credit can apply to the Spanish major.

SPN 499 - Senior Thesis (Variable)

Research, study, of original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.

THE - Theology

THE 101 - An Introduction to Religion and Theology (3)

Study of the basic characteristics of religion and theology as exemplified in major religions of the world. The intent is not to compare religions but to understand and appreciate religion in the experience of many cultures and civilizations.

THE 205 - Biblical Tradition and Culture (3)

A theological study of the sources and applications of biblical literature - the Old and New Testaments. Students will learn how to interpret biblical literature in its original and present-day contexts, and retrieve what is pertinent to the shaping of our culture and communal lives today.

Prerequisite: THE 101 and PHL 150 or ENG 112.

THE 302 - Poets, Prophets, Divas, and Diviners (3)

This course traces the development of prophecy and the prophetic tradition in biblical and contemporary times. Selected prophetic texts focus on the character, personality, and mission of various prophets. Other topics include prophetic imagination, creativity, religious experience, justice, compassion, hope and the portrayal of God. Central to the course is the prophets' transformative vision for all times.

Prerequisite: THE 101, THE 205. Crosslisted as: PCS 302, SJP 302, THE 402.

THE 304 - Sages and Singers, Songwriters and Storytellers (3)

This course explores the wisdom writings of ancient biblical and contemporary gurus to discover how wisdom is a gift received from God and daily life. The course invites personal and group reflection aimed at celebration of life and the exploration of contemporary situations in need of wise decision-making skills.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 404.

THE 307 - Theology and Controversy in the Letters of Paul (3)

As a first century missionary, theologian and letter writer, Paul of Tarsus (St. Paul) articulated many of Christianity's basic beliefs and presided over some of Christianity's earliest controversies. This course examines his letters as a way of gaining access to the concerns, the theology, and the growing pains of some of the very first Christians on record.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 407.

THE 312 - Jesus' Ministry in the Gospels (3)

Our most important information on Jesus comes from the Gospels. This course examines the theology and history contained in the gospels in order to gain an understanding of who Jesus was and how his message was received and developed by the early church. In alternating semesters, the course will focus on John, or on Matthew, Mark and Luke.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 412.

THE 315 - Ancient Views on Marriage, Divorce, and Sexuality at the Dawn of Christianity (3)

During the first century of Christianity, the Roman Empire was a complex marketplace of ideas on sexual morality. This course explores the roots, the development and the legacy of early Christian theology on sexual practices and gender relations.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 415.

THE 316 - The Second Coming of Christ in the New Testament and Beyond (3)

This course examines the Jewish roots of Christian "apocalyptic" theology, and discusses the ethical implications of living in an "end time" community, both then and now. Aside from writings in the New Testament, attention will be given to the Old Testament book of Daniel, the Dead Sea Scrolls and modern apocalyptic movements.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 416.

THE 317 - Trickery, Gender, Power, and Politics in the Bible (3)

This course explores questions and issues around gender in the biblical text and how these issues and questions relate to contemporary life. Content focuses on the cultural background of both men and women in the ancient world, and how various attitudes have influenced cultures, decisions, and worldviews down through the ages. Emphasis is on liberation and transformation.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 417.

THE 319 - Biblical Spirituality: Saints and Sinners on a Journey with God (3)

What does it mean to be holy? Who are the saints and sinners in the Bible? How does God relate to them? What is meant by the sacredness of all creation? This course explores such themes as the spirit, the heart, prayer, sacred space, etc. in the context of a biblical-based contemplative and mystical understanding of life.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 419.

THE 320 - Christian Personal Values (3)

The ethical question, "who is the good person?", is founded on the premise that being a Christian makes one a certain type of person with certain values. This course offers a historical study of various philosophical and theological descriptions of the nature of the good person.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 420.

THE 322 - Modern Catholic Ethics (3)

Analysis of several contemporary Catholic ethicists, including Curran, O'Connell, Regan, and McCormick, who have influenced the development of Catholic ethics. A critical examination of natural law, human freedom, conscience, authority, and the moral and rational capacity.

Prerequisite: THE 101, THE 205. Crosslisted as: PCS 322, THE 422.

THE 323 - Christian Social Ethics (3)

Contemporary American Christian thought on the nature of morality and society. An attempt to reveal the dynamics of faith that calls us to do justice. Special consideration given to the development of pacifism in American churches.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 423.

THE 325 - Catholic Social Teaching: A Living Tradition of Thought and Action (3)

The issues of justice from a Catholic perspective as they affect society locally, nationally, and internationally.

Prerequisite: THE 101, THE 205. Crosslisted as: PCS 325, THE 425.

THE 326 - Christian Marriage: Tradition and the Modern Context (3)

Inquiry into the theological, philosophical, psychological, and social aspects of Christian marriage with specific emphasis on commitment and the bond of love. The moral problems of abortion, divorce, and homosexuality, special to the modern context, will be discussed.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 426.

THE 327 - Theological Environmental Ethics (3)

This course explores the field of environmental ethics and its growing impact on the Christian theological-ethical tradition. The course will consider our current environmental situation, survey the history of environmental ethics, examine the positions of major contemporary eco-ethicists, and develop the theological foundations for a Christian environmental ethic.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 427.

THE 328 - Ecology in Theological Perspective (3)

This course explores contemporary Christian theology and its response to environmental and ecological issues. It investigates the scope of our environmental crisis and the emerging insights by Christian theologians concerned about our global environment. Emphasis will be given to ecological issues in the Pacific Northwest, the theology of human existence, the nature of God and the future prospects for sustainability.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 428.

THE 333 - Theological Implications of the Holocaust (3)

Explores contemporary Christian and Jewish theological reflections on the Nazi genocide campaign to eliminate the Jews of Europe. Special emphasis on the documents of the churches until now, on the Austrian and German efforts to cope with this part of recent history, and on the relation of early anti-Judaism in Christian cultures to racism and anti-Semitism.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 433.

THE 335 - Theology of Catholic Worship (3)

Exploration of liturgy as Christian worship, considering ritual symbolism as "the language" (word and action) of worship, and worship as Christian faith in dialogue with God. A critical evaluation of contemporary liturgical reforms in ecumenical perspective.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 435.

THE 338 - The Catholic Mass: Yesterday, Today, and Tomorrow (3)

A historical and theological examination of the Catholic Mass (Lord's Supper) in Church teaching and ecumenical perspective. Special emphasis to be given to the intrinsic nature of its parts in Word and Eucharist, to the devout and active participation by the faithful, and to its significance as source and summit of Christian spirituality in contemporary time and culture.

Prerequisite: THE 101, THE 205. Crosslisted as: PCS 338, THE 438.

THE 339 - Catholic Worship Today (3)

Biblical and theological study of Catholic liturgy in light of the historical tradition, the liturgical movement, and the Second Vatican Council. Special emphasis given to contemporary reforms and their impact on Catholic life today.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 439.

THE 341 - Responding to God: An Introduction to Spiritual Practice (3)

Enrich an awareness of God's presence in the world through a theological and historical exploration of Christian spiritual practices such as lectio divina, meditation, and contemplation. Students will examine key concepts that inform these practices, such as discernment and gratitude, through active and self-reflective participation in spiritual practices.

Prerequisite: THE 101, THE 205. Crosslisted as: PCS 341, THE 441.

THE 342 - Introduction to Christian Spirituality (3)

An exploration of Christian spirituality in terms of images of God, Christian anthropology, prayer, and social and ecological concerns. A critical and dialogical engagement with selected classical texts from the Christian tradition that suggest ways of being in right relationships with God, self, others and the natural world within the context of the 21st century.

Prerequisite: THE 101, THE 205. Crosslisted as: PCS 342, THE 442.

THE 345 - Human Development in Theological Perspective (3)

Explores several different approaches to human development, including faith and moral development as well as the process of socialization and the social roots of knowledge as these influence the fields of religious education and theology.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 445.

THE 347 - Theological Reflection Seminar (1)

This 1 credit course is a formation requirement each semester for students in the Faith and Leadership House. Under the guidance of the Faith and Leadership Staff, the course engages diverse resources of the University and surrounding community to assist students in integrating the program pillars of Faith, Service, Prayer, Community, and Intellectual Life. (Restricted to members of the Faith and Leadership House.)

THE 348 - Theological Dimensions of Suffering and Death (3)

This course surveys issues of suffering and death from biblical, systematic, and ethical perspectives of Theology, as well as psycho-social, legal, and ethical perspectives of the health care profession, especially nursing. Focus is on exploring the human experience of loss and the many dimensions of grief employed in dealing with loss. (Nursing students only.)

Prerequisite: THE 101, THE 205.

THE 349 - Theology of Death and Bereavement (3)

Judeo-Christian theologies of death and their impact on a contemporary religious understanding of death and bereavement. Particular attention given to pastoral liturgical research on the role of religion and religious ritual in the grieving process.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 449.

THE 350 - Grace, Sin, and the Human Condition (3)

What does it mean to be human in light of the mystery of Christ? As they examine the nature of human freedom through the traditional categories of creation, sin, grace and eschatology, students will be challenged to employ the riches of the Roman Catholic tradition in articulating the meaning and destiny of their own humanity.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 450.

THE 351 - Philosophical Thinking (3)

Introduction to the classical and contemporary discussion of the interaction between human reason and religious faith in the Christian tradition, including arguments for and against the existence of God. Emphasis on the philosophical foundations of modern theologies.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 451.

THE 353 - Religion and Science (3)

Historical development of conflicts, especially over the theory of evolution, and the variety of positions presented today by theologians, scientists, and philosophers.

Prerequisite: THE 101, THE 205. Crosslisted as: PCS 353, THE 453.

THE 354 - God and the Theological Imagination (3)

How the traditional idea of God was developed and why it no longer seems adequate to either religious or cultural experience. How Christian theology might imaginatively reformulate the idea of God in order to serve Christian faith and action more adequately.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 454.

THE 355 - Christology (3)

Systematic reflection upon the doctrine of Christ in its biblical, classical, and contemporary historical perspectives. Students will gain insight into the Church's proclamation of Jesus as the Christ by examining the faith experiences of communities past and present in relation to their own experience of faith.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 455.

THE 356 - Literary Catholicism (3)

This course will explore the Catholic theological tradition, primarily as it finds expression in five novelists whose writing is influenced by that tradition.

Prerequisite: THE 101, THE 205. Crosslisted as: PCS 356, THE 456.

THE 357 - Foundations of Catholic Theology (3)

An examination of elements of theological reflection in the Roman Catholic tradition, with emphasis on theological method and the development of doctrine. From the starting point of an experience of faith that is personal and communal, historical and eschatological, students will explore the interrelationships among such theological categories as Revelation, Scripture and Tradition, Grace, Christology, and Ecclesiology.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 457.

THE 358 - Intercultural Feminist Theology (3)

This course takes as its starting point the suffering of women amidst the reality of globalization. Feminist and Eco-feminist theologies in Latin America, Africa, Asia, and varied North American and European contexts will be examined in search of an inter-contextual Christology that both arises from and addresses the global suffering of women and the earth.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 458.

THE 359 - Theological Themes in Catholic Literature (3)

This course will explore the Catholic theological tradition primarily as it finds expression in recent Catholic writing. Some examples of subjects to be discussed include Jesus Christ, Revelation, the Fall of humanity, the problem of evil, the nature of sacraments and the implications of faith for personal relationships.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 459.

THE 360 - Christianity's First Thousand Years: Emergence and Growth, 100-1200 (3)

The course traces Christianity's meteoric development in the first millennium. It examines the break from Judaism, the formation of the Christian Bible, the age of martyrs, the theological golden period of the late Roman Empire, and the rise of the papacy and monasticism. Its tools are chronological tracking, historical vignettes, analysis of selected texts, and profiles of important figures.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 460.

THE 361 - Christianity's Second Thousand Years: Challenge and Renewal, 1200-2000 (3)

The course traces Christianity’s vigorous but fragmented growth in the second millennium. It studies the grandeur of the medieval cathedrals, the ideas of scholasticism and mysticism, the challenges of the Reformation, the rise of modernity, and the course of Christianity in America. Its tools are chronological tracking, historical vignettes, analysis of selected texts and profiles of important figures.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 461.

THE 363 - Saint Augustine, Teacher of Christianity (3)

Augustine of Hippo (d. 430) grounds the history of western theology, and still informs modern fields like psychology and linguistics. While situating him in Roman antiquity, the course studies his thought as an account of Christian faith seeking understanding. We will read in depth his classic, theologically profound conversion story, the Confessions, and study his thought on God, Scripture, and the grace of Christ.

Prerequisite: THE 101, THE 205. Crosslisted as: PCS 363, THE 463.

THE 365 - A Concise History of Christianity Through Twenty Centuries (3)

The course traces Christianity’s development, from its origins as an obscure Jewish sect, through acceptance and growth in the late Roman Empire and mature self-definition in the Middle Ages, to the challenges of fragmentation and renewal in the Reformation and the modern world. Its tools are chronological tracking, historical vignettes, analysis of selected texts, and profiles of important figures.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 465.

Bible

Upper-division theology electives are open only to juniors and seniors who have successfully completed both THE 101 and THE 205 (exceptions: THE 347 and THEP 300).

THE 402 - Poets, Prophets, Divas, and Diviners (3)

This course traces the development of prophecy and the prophetic tradition in biblical and contemporary times. Selected prophetic texts focus on the character, personality, and mission of various prophets. Other topics include prophetic imagination, creativity, religious experience, justice, compassion, hope and the portrayal of God. Central to the course is the prophets' transformative vision for all times.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 302.

THE 404 - Sages and Singers, Songwriters and Storytellers (3)

This course explores the wisdom writings of ancient biblical and contemporary gurus to discover how wisdom is a gift received from God and daily life. The course invites personal and group reflection aimed at celebration of life and the exploration of contemporary situations in need of wise decision-making skills.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 304.

THE 407 - Theology and Controversy in the Letters of Paul (3)

As a first century missionary, theologian and letter writer, Paul of Tarsus (St. Paul) articulated many of Christianity's basic beliefs and presided over some of Christianity's earliest controversies. This course examines his letters as a way of gaining access to the concerns, the theology, and the growing pains of some of the very first Christians on record.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 307.

THE 412 - Jesus' Ministry in the Gospels (3)

Our most important information on Jesus comes from the Gospels. This course examines the theology and history contained in the gospels in order to gain an understanding of who Jesus was and how his message was received and developed by the early church. In alternating semesters, the course will focus on John, or on Matthew, Mark and Luke.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 312.

THE 415 - Ancient Views on Marriage, Divorce, and Sexuality at the Dawn of Christianity (3)

During the first century of Christianity, the Roman Empire was a complex marketplace of ideas on sexual morality. This course explores the roots, the development and the legacy of early Christian theology on sexual practices and gender relations.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 315.

THE 416 - The Second Coming of Christ in the New Testament and Beyond (3)

This course examines the Jewish roots of Christian "apocalyptic" theology, and discusses the ethical implications of living in an "end time" community, both then and now. Aside from writings in the New Testament, attention will be given to the Old Testament book of Daniel, the Dead Sea Scrolls and modern apocalyptic movements.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 316.

THE 417 - Trickery, Gender, Power, and Politics in the Bible (3)

This course explores questions and issues around gender in the biblical text and how these issues and questions relate to contemporary life. Content focuses on the cultural background of both men and women in the ancient world, and how various attitudes have influenced cultures, decisions, and worldviews down through the ages. Emphasis is on liberation and transformation.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 317.

THE 419 - Biblical Spirituality: Saints and Sinners on a Journey with God (3)

What does it mean to be holy? Who are the saints and sinners in the Bible? How does God relate to them? What is meant by the sacredness of all creation? This course explores such themes as the spirit, the heart, prayer, sacred space, etc. in the context of a biblical-based contemplative and mystical understanding of life.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 319.

Theological Ethics

Upper-division theology electives are open only to juniors and seniors who have successfully completed both THE 101 and THE 205 (exceptions: THE 347 and THEP 300.)

THE 420 - Christian Personal Values (3)

The ethical question, "who is the good person?", is founded on the premise that being a Christian makes one a certain type of person with certain values. This course offers a historical study of various philosophical and theological descriptions of the nature of the good person.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 320.

THE 422 - Modern Catholic Ethics (3)

Analysis of several contemporary Catholic ethicists, including Curran, O'Connell, Regan, and McCormick, who have influenced the development of Catholic ethics. A critical examination of natural law, human freedom, conscience, authority, and the moral and rational capacity.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 322.

THE 423 - Christian Social Ethics (3)

Contemporary American Christian thought on the nature of morality and society. An attempt to reveal the dynamics of faith that calls us to do justice. Special consideration given to the development of pacifism in American churches.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 323.

THE 425 - Catholic Social Teaching: A Living Tradition of Thought and Action (3)

The issues of justice from a Catholic perspective as they affect society locally, nationally, and internationally.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 325.

THE 426 - Christian Marriage: Tradition and the Modern Context (3)

Inquiry into the theological, philosophical, psychological, and social aspects of Christian marriage with specific emphasis on commitment and the bond of love. The moral problems of abortion, divorce, and homosexuality, special to the modern context, will be discussed.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 326.

THE 427 - Theological Environmental Ethics (3)

This course explores the field of environmental ethics and its growing impact on the Christian theological-ethical tradition. The course will consider our current environmental situation, survey the history of environmental ethics, examine the positions of major contemporary eco-ethicists, and develop the theological foundations for a Christian environmental ethic.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 327.

THE 428 - Ecology in Theological Perspective (3)

This course explores contemporary Christian theology and its response to environmental and ecological issues. It investigates the scope of our environmental crisis and the emerging insights by Christian theologians concerned about our global environment. Emphasis will be given to ecological issues in the Pacific Northwest, the theology of human existence, the nature of God and the future prospects for sustainability.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 328.

THE 433 - Theological Implications of the Holocaust (3)

Explores contemporary Christian and Jewish theological reflections on the Nazi genocide campaign to eliminate the Jews of Europe. Special emphasis on the documents of the churches until now, on the Austrian and German efforts to cope with this part of recent history, and on the relation of early anti-Judaism in Christian cultures to racism and anti-Semitism.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 333.

Liturgy

Upper-division theology electives are open only to juniors and seniors who have successfully completed both THE 101 and THE 205 (exceptions:THE 347 and THEP 300.)

THE 435 - Theology of Catholic Worship (3)

Exploration of liturgy as Christian worship, considering ritual symbolism as "the language" (word and action) of worship, and worship as Christian faith in dialogue with God. A critical evaluation of contemporary liturgical reforms in ecumenical perspective.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 335.

THE 438 - The Catholic Mass: Yesterday, Today, and Tomorrow (3)

A historical and theological examination of the Catholic Mass (Lord's Supper) in Church teaching and ecumenical perspective. Special emphasis to be given to the intrinsic nature of its parts in Word and Eucharist, to the devout and active participation by the faithful, and to its significance as source and summit of Christian spirituality in contemporary time and culture.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 338.

THE 439 - Catholic Worship Today (3)

Biblical and theological study of Catholic liturgy in light of the historical tradition, the liturgical movement, and the Second Vatican Council. Special emphasis given to contemporary reforms and their impact on Catholic life today.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 339.

Spirituality and Ministry

Upper-division theology electives are open only to juniors and seniors who have successfully completed both THE 101 and THE 205 (exceptions: THE 347 and THEP 300.)

THE 441 - Responding to God: An Introduction to Spiritual Practice (3)

Enrich an awareness of God's presence in the world through a theological and historical exploration of Christian spiritual practices such as lectio divina, meditation, and contemplation. Students will examine key concepts that inform these practices, such as discernment and gratitude, through active and self-reflective participation in spiritual practices.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 341.

THE 442 - Introduction to Christian Spirituality (3)

An exploration of Christian spirituality in terms of images of God, Christian anthropology, prayer, and social and ecological concerns. A critical and dialogical engagement with selected classical texts from the Christian tradition that suggest ways of being in right relationships with God, self, others and the natural world within the context of the 21st century.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 342.

THE 445 - Human Development in Theological Perspective (3)

Explores several different approaches to human development, including faith and moral development as well as the process of socialization and the social roots of knowledge as these influence the fields of religious education and theology.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 345.

THE 449 - Theology of Death and Bereavement (3)

Judeo-Christian theologies of death and their impact on a contemporary religious understanding of death and bereavement. Particular attention given to pastoral liturgical research on the role of religion and religious ritual in the grieving process.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 349.

Systematic Theology

Upper-division theology electives are open only to junior and seniors who have successfully completed both THE 101 and THE 205 (exceptions: THE 347 and THEP 300.)

THE 450 - Grace, Sin, and the Human Condition (3)

What does it mean to be human in light of the mystery of Christ? As they examine the nature of human freedom through the traditional categories of creation, sin, grace and eschatology, students will be challenged to employ the riches of the Roman Catholic tradition in articulating the meaning and destiny of their own humanity.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 350.

THE 451 - Philosophical Thinking (3)

Introduction to the classical and contemporary discussion of the interaction between human reason and religious faith in the Christian tradition, including arguments for and against the existence of God. Emphasis on the philosophical foundations of modern theologies.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 351.

THE 453 - Religion and Science (3)

Historical development of conflicts, especially over the theory of evolution, and the variety of positions presented today by theologians, scientists, and philosophers.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 353.

THE 454 - God and the Theological Imagination (3)

How the traditional idea of God was developed and why it no longer seems adequate to either religious or cultural experience. How Christian theology might imaginatively reformulate the idea of God in order to serve Christian faith and action more adequately.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 354.

THE 455 - Christology (3)

Systematic reflection upon the doctrine of Christ in its biblical, classical, and contemporary historical perspectives. Students will gain insight into the Church's proclamation of Jesus as the Christ by examining the faith experiences of communities past and present in relation to their own experience of faith.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 355.

THE 456 - Literary Catholicism (3)

This course will explore the Catholic theological tradition, primarily as it finds expression in five novelists whose writing is influenced by that tradition.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 356.

THE 457 - Foundations of Catholic Theology (3)

An examination of elements of theological reflection in the Roman Catholic tradition, with emphasis on theological method and the development of doctrine. From the starting point of an experience of faith that is personal and communal, historical and eschatological, students will explore the interrelationships among such theological categories as Revelation, Scripture and Tradition, Grace, Christology, and Ecclesiology.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 357.

THE 458 - Intercultural Feminist Theology (3)

This course takes as its starting point the suffering of women amidst the reality of globalization. Feminist and Eco-feminist theologies in Latin America, Africa, Asia, and varied North American and European contexts will be examined in search of an inter-contextual Christology that both arises from and addresses the global suffering of women and the earth.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 358.

THE 459 - Theological Themes in Catholic Literature (3)

This course will explore the Catholic theological tradition primarily as it finds expression in recent Catholic writing. Some examples of subjects to be discussed include Jesus Christ, Revelation, the Fall of humanity, the problem of evil, the nature of sacraments and the implications of faith for personal relationships.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 359.

History of Christianity

Upper-division theology electives are open only to juniors and seniors who have successfully completed both THE 101 and THE 205 (exceptions: THE 347 and THEP 300.)

THE 460 - Christianity's First Thousand Years: Emergence and Growth, 100-1200 (3)

The course traces Christianity's meteoric development in the first millennium. It examines the break from Judaism, the formation of the Christian Bible, the age of martyrs, the theological golden period of the late Roman Empire, and the rise of the papacy and monasticism. Its tools are chronological tracking, historical vignettes, analysis of selected texts, and profiles of important figures.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 360.

THE 461 - Christianity's Second Thousand Years: Challenge and Renewal, 1200-2000 (3)

The course traces Christianity's vigorous but fragmented growth in the second millennium. It studies the grandeur of the medieval cathedrals, the ideas of scholasticism and mysticism, the challenges of the Reformation, the rise of modernity, and the course of Christianity in America. Its tools are chronological tracking, historical vignettes, analysis of selected texts and profiles of important figures.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 361.

THE 463 - Saint Augustine, Teacher of Christianity (3)

Augustine of Hippo (d. 430) grounds the history of western theology, and still informs modern fields like psychology and linguistics. While situating him in Roman antiquity, the course studies his thought as an account of Christian faith seeking

understanding. We will read in depth his classic, theologically profound conversion story, the Confessions, and study his thought on God, Scripture, and the grace of Christ.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 363.

THE 465 - A Concise History of Christianty Through Twenty Centuries (3)

The course traces Christianity's development, from its origins as an obscure Jewish sect, through acceptance and growth in the late Roman Empire and mature self-definition in the Middle Ages, to the challenges of fragmentation and renewal in the Reformation and the modern world. Its tools are chronological tracking, historical vignettes, analysis of selected texts, and profiles of important figures.

Prerequisite: THE 101, THE 205. Crosslisted as: THE 365.

THE 490 - Directed Study (Variable)

Guided inquiry for superior juniors and seniors who wish to pursue a particular subject area in Theology more intensely than course offerings permit. By special arrangement with members of the Theology faculty.

THE 491 - Special Offerings (Variable)

Special Offerings.

THE 492 - Seminar (Variable)

Credit arranged.

THE 495 - Workshop (Variable)

Credit arranged.

THE 496 - Workshop (Variable)

Credit arranged.

THE 499 - Senior Thesis (Variable)

Research, study, or original work under the direction of a faculty mentor, leading to a scholarly thesis document with a public presentation of results. Requires approval of thesis director, department chair, and the director of the honors program, when appropriate.

Prerequisite: Senior standing; 3.0 G.P.A. in the capstone area, or good standing in the honors program.

Theological Perspectives

They may be used to fulfill:
a.) an upper-division theology requirement for the theology major or minor, or
b.) the University core requirement for upper-division theology and/or the integrated core discipline (if applicable), or
c.) a CAS upper-division elective, if and only if a student has previously completed all 9 hours of the University core theology requirement. See University core requirements.
d.) an upper-division requirement in a major other than theology, if allowed by that major. (Students should consult their major advisors.)

THEP 300 - Catholicism and the Religious and Theological Roots of Social Justice (3)

A team-taught course introducing: 1) the biblical and scholastic roots of social teaching; 2) Catholic incarnational, sacramental and analogical reasoning; and 3) general social justice theory, with emphasis on current opportunities for furthering the common good within existing social, political, and economic systems.

Crosslisted as: PCS 300, SJP 300.

THEP 348 - Theological Dimensions of Suffering and Death (3)

This course surveys issues of suffering and death from biblical, systematic, and ethical perspectives of Theology, as well as psyco-social, legal, and ethical perspectives of the health care profession, especially nursing. Focus is on exploring the human experience of loss and the many dimensions of grief employed in dealing with loss.

Prerequisite: THE 101, THE 205. Crosslisted as: SW 348.

THEP 385 - Historical and Theological Perspective on the Holocaust (3)

This course examines the historical conditions that made the Holocaust possible, including historic Christian anti-Judaism, as well as the larger context of European and German history. It considers the overlapping ways that the Holocaust remains a theological crisis for Jews and for Christians. Its tools are chronological tracking, historical vignettes, analysis of selected texts and films, and character profiles.

Prerequisite: THE 101, THE 205. Crosslisted as: HST 385.

THEP 481 - Marriage: Social and Ethical Dimensions (3)

A sociological, theological and ethical examination of the institution of marriage. Historical changes over time are discussed along with their moral implications. Issues of gender, love, mate selection, cohabitation, decision making, work, and child rearing are considered along with the moral controversies regarding abortion, divorce, and homosexuality.

Prerequisite: THE 101, THE 205. Crosslisted as: SOC 481.

THEP 482 - Theology in Ecological Perspective (3)

This course investigates the relationship between theology and science, the science of ecology and the related field of environmental science, the major aspects of our current environmental crisis, the underlying historical and social reasons for this crisis, and current attempts to reformulate Christian theology from the perspective of ecology. This course also explores possible solutions for a sustainable future.

Prerequisite: THE 101, THE 205. Crosslisted as: PCS 482, ENV 482.

THEP 483 - Grace in the Wilderness: Conflict in the Bible (3)

This course explores conflict through a biblical, theological, and social scientific lens. Using the biblical text, topical readings, and conflict theory, the course examines intrapersonal and interpersonal conflict, and provides opportunities to explore a variety of conflict mediation and negotiation skills aimed at developing just and transformative relationships for life in a complex world.

Prerequisite: THE 101, THE 205. Crosslisted as: CST 483.

THEP 484 - Early Christians and the Art of Persuasion (3)

By the first century, instruction in the "art of persuasion" (rhetoric) had become commonplace throughout the Roman Empire, influencing even the writing of the New Testament. This course examines the theories of Greek and Roman rhetoricians and their importance for the interpretation of the New Testament.

Prerequisite: THE 101, THE 205.

THEP 491 - Special Offerings (Variable)

Special Offerings.

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Andre Hutchinson, B.B.A.
Director, Physical Plant

Paul J. Luty
Director, Facilities Planning and Construction

Jim Kuffner, M.B.A.
Assistant Vice President, Community Relations/Special Projects

FACULTY

As of August 1, 2012

The final date in a listing indicates the year of first appointment to the University of Portland faculty. More than one date indicates a break in service.

Footnote reference:
1 Part-time
2 On leave
3 Administrative personnel primarily
4 Special faculty status

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Professor, Business Administration
B.A., University of Tehran, 1973; M.B.A., Western Illinois University, 1975; Ph.D., University of Oregon, 1982. At Portland, 1982—

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Associate Professor, Biology
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Rev. David Tyson, C.S.C. Distinguished Professorship
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Susan D. Decker, Ph.D.
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B.A., Miami University, Ohio, 1970, M.S.N., University of Cincinnati, 1973; Ph.D., Portland State University, 1982. At Portland, 1973—

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Associate Professor, Business Administration
A.B., Harvard University, 1990; M.S., University of Sussex, 1994; D.B.A., Harvard Business School, 2002. At Portland, 2007—

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B.S.N., University of Illinois at Chicago, 1969; M.S., University of Oregon, 1974; M.N., Oregon Health Sciences University, 1983; Ph.D., University of Oregon, 1984. At Portland, 1985—

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Associate Professor, Business Administration
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Associate Professor, Philosophy
B.A., Messiah College, 1985; M.A., Claremont Graduate University, 1991; M.A., ibid, 1992; Ph.D., University of California, 1998. At Portland, 2011—

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B.S., College of St. Teresa, 1972; M.S.N., University of Flordia, 1982; D.N.P., Samford University, 2009. At Portland, 2012—

Suzie Stragnell, M.S.
Instructor, Nursing
B.S.N., University of Utah, 1976. M.S., Oregon Health Sciences University, 2005. At Portland, 2006—

Elinor L. Sullivan, Ph.D
Assistant Professor, Biology
B.A., Willamette University, 2000; Ph.D., Oregon Health & Sciences University, 2006. At Portland, 2011—

Craig A. Swinyard, Ph.D.
Assistant Professor, Mathematics
B.A., University of Portland, 1998; M.S.,Portland State University, 2002; Ph.D., ibid, 2006. At Portland, 2008—

Mojtaba B. Takallou, Ph.D.
Associate Professor, Engineering
B.S., California State University, Fresno; 1977; M.S., Oregon State University, 1980; Ph.D., ibid, 1986. At Portland, 1985—

David W. Taylor, Ph.D.
Assistant Professor, Biology
B.A., University of Connecticut, 1994; B.S., ibid, 1994; M.S., University of Michigan, 1996; Ph.D., ibid, 2001. At Portland, 2010—

Agnes Tenney, Ph.D.
Associate Professor Emerita, Chemistry[4]
A.B., Regis College, Mass., 1968; Ph.D., Indiana University, 1975. At Portland, 1977—

Peter R. Thacker, Ed.D.
Associate Professor, Education
B.A., Antioch College, 1971; M.A.T., Lewis and Clark College, 1981; Ed.D., Harvard University, 1990. At Portland, 2004—

Lara Trout, Ph.D.
Associate Professor, Philosophy
B.A., Rockhurst College, 1991; M.A., Marquette University, 1995; Ph.D., Pennsylvania State University, 2005. At Portland, 2005—

Eugenijus Urnezius, Ph.D.
Assistant Professor, Chemistry
D.S., Vilnius University, 1992; Ph.D., Case Western Reserve University, 1999. At Portland, 2009—

Mark W. Utlaut, Ph.D.
Professor, Physics
B.S., University of Colorado, 1974; Ph.D., University of Chicago, 1980. At Portland, 1988—

Edward J. Valente, Ph.D.
Professor, Chemistry
B.S., University of California, 1971; Ph.D., University of Washington, 1977. At Portland, 2009—

Tammy VanDeGrift, Ph.D.
Associate Professor, Engineering
B.A., Gustavus Adophus College, 1999; M.S., University of Washington, 2001; Ph.D., ibid, 2005. At Portland, 2005—

Jacqueline Van Hoomissen, Ph.D.
Associate Professor, Biology
B.S., University of Portland, 1997; Ph.D., University of Georgia, 2002. At Portland, 2002—

Steven R. Vegdahl, Ph.D.
Associate Professor, Engineering
B.S., Stanford University, 1976; Ph.D., Carnegie-Mellon University, 1982. At Portland 1996—

Paul E. Wack, Ph.D.
Professor Emeritus, Physics[4]
A.B., Creighton University, 1941; M.S., Univ. of Notre Dame, 1942; Ph.D., ibid, 1947. At Portland, 1949—

Jacqueline M. Waggoner, Ed.D.
Associate Professor, Education
B.S., Portland State University, 1973; M.S., ibid, 1975; Ed.D., ibid and University of Oregon, 1983. At Portland, 2004—

Hildgund Walterskirchen, M.A.
Adjunct Instructor, Music[1]
B.M., Mozarteum, Salzburg, 1968. M.A., University of Salzburg, 1977. At Portland (Salzburg), 1975—

Karen Ward, Ph.D.
Associate Professor, Engineering
B.S., University of Oregon, 1978; M.S., Oregon Graduate Institute of Science and Technology, 1992; Ph.D., ibid, 2001. At Portland, 2005—

Joanne R. Warner, Ph.D.
Professor, Nursing[3]
B.A., Augustana College, 1972; M.A., Univ. of Iowa, 1976; Ph.D., Indiana Univ., 1990. At Portland, 2005—

Matthew D. Warshawsky, Ph.D.
Associate Professor, Spanish
B.A., Swarthmore College, 1992; M.A., Ohio State University, 1998; Ph.D., Ohio State University, 2002. At Portland, 2002—

Rev. Ronald J. Wasowski, C.S.C., Ph.D.
Associate Professor, Environmental Science
B.S., University of Notre Dame, 1970; M.Th., ibid, 1973; M.A., University of California at Los Angeles, 1978; Ph.D., ibid, 1983. At Portland 1998—

John L. Watzke, Ph.D.
Professor, Education[3]
B.A., University of Iowa, 1990; M.A., ibid, 1994; Ph.D., Ibid, 2000. At Portland, 2010—

Sarah Nike Weiger, Ph.D.
Assistant Professor, English
B.A., University of Michigan, 2003; M.A., Cornell Univ., 2007; Ph.D., ibid, 2011. At Portland, 2011—

Christine Lynn Weilhoefer, Ph.D.
Assistant Professor, Biology
B.A., Connecticut College, 1994; M.A., University of Texas, 1998; Ph.D., Portland State University, 2005. At Portland, 2012—

Bruce N. Weitzel, Ph.D.
Associate Professor, Education
B.S., Portland State University, 1969; M.S., ibid, 1971; Ph.D., Michigan State University, 1980. At Portland, 2004—

Karl Wetzel, Ph.D.
Professor Emeritus, Physics[4]
B.S., Georgetown University, 1959; M.S., Yale University, 1960; Ph.D., ibid, 1965. At Portland, 1969—

Rev. Arthur F. Wheeler, C.S.C., Ph.D.
Associate Professor, History[3]

B.S.F.S., Georgetown University, 1973; M.A., University of Notre Dame, 1976; Ph.D., ibid, 1979; M.Div., ibid, 1983. At Portland, 1987—

Lawrence Wheeler, M.A.
Adjunct Instructor, Performing & Fine Arts[1]
B.A., Portland State University, 1976; M.A., ibid, 1978. At Portland, 1983—

John M. White, M.S.
Visiting Instructor, Biology
B.S., California State University, 1991; M.S., ibid, 2003. At Portland 2012—

Kaye Wilson-Anderson, D.N.S.
Associate Professor, Nursing
B.S.N., Delta State University, 1981. D.N.S., Louisiana State University Health Sciences Center, 2003. At Portland, 2007—

Warren J. L. Wood, Ph.D.
Assistant Professor, Chemistry
B.S., Willamette University, 2000; Ph.D., University of California, 2005. At Portland, 2007—

Blair D. Woodard, Ph.D.
Assistant Professor, History
B.A., University of California, 1992; M.A., University of New Mexico, 2001; Ph.D., ibid, 2010. At Portland, 2012—

Aaron Wootton, Ph.D.
Associate Professor, Mathematics
BSc., University of Southampton, 1998; Ph.D., University of Arizona, 2004. At Portland 2005—

Anita Lee Malen Wynne, Ph.D.
Professor Emerita, Nursing[4]
B.S., San Diego State University, 1972; M.S., University of Colorado, 1974; Ph.D., University of Oklahoma, 1982; F.N.P., Gonzaga University, 1996. At Portland, 1981—

Zia A. Yamayee, Ph.D.
Br. Godfrey Vassallo, C.S.C. Distinguished Professorship
Professor, Engineering
B.S.E.E., Kabul University 1972; M.S.E.E., Purdue University, 1976; Ph.D., ibid, 1978. At Portland, 1996—

Min Yu, Ph.D.
Assistant Professor, Business
B.E., Tongji University, 2005; M.E., ibid, 2008; Ph.D., University of Massachusetts Amherst, 2012. At Portland, 2012—

Gerhard Zecha, Ph.D.
Adjunct Professor, Philosophy[1]
Ph.D., University of Salzburg, 1968. At Portland, (Salzburg), 1968-75, 1976—

Loretta E. Zimmerman, Ph.D.
Professor Emerita, History[4]
B.A., Newcomb College, 1957; M.A., Tulane University, 1961; Ph.D., ibid, 1964. At Portland, 1967—

DEGREES CONFERRED

§ Summa Cum Laude
† Magna Cum Laude
# Honors Program
‡ Maxima Cum Laude
* Cum Laude

August 5, 2011

Graduate School

Master of Arts

Jennifer Lynn Elsea
Major: Education

Rebecca Leslie Palmer
Major: Communication

Kevin Thomas Welch
Major: Pastoral Ministry

Master of Education

Karen Pauline Antoniuk
Tracey Arthur Arbuthnott
Mary Catherine Barkwell
Paula Elvie Binassi-D'Amours
Dane Richard Conroy
Robin Carol Derow
Kathleen Ellen Dudek
Jennifer Joanne El Khatib
Evelyn Anna Gaudet
Jodi Louise Harding
Derek Roy Hatch
David M. Holbrow
Tracy James Kennerd
Ashley Elizabeth Kenney
Michael Jonathan Lastiwka
Daniel Martin MacDonald
Jill Elizabeth McNamee
Paula Marie Miller
Dawn Gay Miskew
Deborah Elaine Mousseau
Debra Louise Nelson
Lauren Grace O'Connor
Kristin Rae Pearse
Allison Veronica Pech
Holly Lynette Rogers
Fernando Dave Runco
Lucie Anne Salucop
Jacqueline Marie Shea
Joyce Moira Sneddon
Robert Thomas Sykora
Daniel David James Verhoeff
Debra Elaine Waters
Careyann Mae Werth
Kathy Ann Wheeler
Kenneth Walter Wlos
Michele Marie Yuzdepski

Master of Arts in Teaching

Elizabeth McElmeel Corbin
David Andrew Gifford
Scott Bert Goodyear
Peter J Halloran
Shane Patrick Hoey
Meghan Michelle Larsen
Joseph E. Lontai
Jacob Ross Sherman
Luke Aaron Stager

Master of Science

Brian Edward Kowalski
Major: Finance

Master of Business Administration

Jacob Edward Baker
Steven Eugene Bauer
Jeremy T. Burnett
Atchari Chorwichian
Peter James DeFazio
Sharissa Marie Dove
Sergio Alvarez Islas
Ami Minh Thai Huu Nguyen
Ryan Craig Palmer
Douglas Joseph Roe
Alizabeth Rose Roth
Nicholas Harold Santangelo
Pisit Sopakdithapong
Evan Hamilton Swanson
Reyn H Tanaka
Cher Tillis
Cassandra S. Waggoner

College of Arts and Sciences

Bachelor of Arts

Adrienne Rebecca Carlson
Major: Communication
Second Major: French Studies
Minor: Spanish
Alexander John Stanford
Major: Psychology
Karen Renee Wilhite
Major: Social Work
Minor: Philosophy

David James Williams
Major: Political Science

Bachelor of Science

Hayz Grant
Major: Biology
Kelsey Caye Hood
Major: Organizational Communication
Amanda Marie Leonard
Major: Organizational Communication
Warren Lewis Maunu
Major: Chemistry: Biochemistry
Kimberly-Ann KamYee Mow
Major: Biology
Tuyen Nhat Nguyen
Major: Biology
Leah Ellen Marie Peranzi-Wilder
Major: Organizational Communication
Lindsey L. Schnapp
Major: Organizational Communication
Shane Vierck
Major: Biology
Rachael Ann Williams
Major: Life Science
Minor: HPE: Sport Exercise & Fitness

School of Nursing

Bachelor of Science in Nursing

David Edward Acree†
Jesseann Melissa Aguon
Meagan Sarah Alanko
Megan Anne Allmaras
Kali Kerissa Anderson
Hilary Esme Andreas
Andrew Michael Applegate§
Matthew James Bailey
Enrique Barrera, Junior
Caitlin Hicks Bartlett
Kyra R. Bennett
Debra Lynn Bonn†
Yelena Bulek
Regina K. Bullock
Ponga Kakusu Campbell
Elizabeth June Clementson†
Shannon Rey Coffey
Annie Rebecca Coffman
Suzann Melissa Corrado
Natalie Diane Delozier
Mike P. Descloux
Shannon Estelle Doucet†
Reanna Lynn El-Sabbagh
Thatcher James Ferris
Renata Alison Fusso
Sheree Tiffany Gruber
Jason Brant Handy
Laura Marie Iwata†
Sarah Jane†
Tera Eileen Jannusch
Minor: Theology
Caitlin Kindy Jeck
Minor: Spanish
Chelsea Jean Johnson
Ashley Piilani Kehoe
Van Hong Le
Megan Elizabeth-McOmie Leader
Shellaina Renee Leitz
Christopher Yuan Xia Lum
Sasha Marie Mankowski
Donna Rae McBee
Erin Shawn McManus†
Senait T. Mekonnen
Channy Namgung
Derek Todd Narragon
Meklete Worku Nedi
Lauren Kathleen Noll
Courtnee Mayumi Nunokawa
Cristen Marie Peterson
Jason L Phillips
Yelena V. Pinchuk
Jade Alise Rawlins
Laura Lenor Rickett
Christopher James Rinehart†
Maksim Vladimirovich Roslov
Shane Marr Rountree
Angelo Henry Jalos Ruiz
Christina Alexandra Russell†
Kathryn Elizabeth Wren Sanford
Cherry Rose Vilar Santos
Kristen Ann Schmidlin†
Jayme R. Schroeder
Rachel Marie Soetaert Seidelman
Irina Skalozub
Daniel Lawrence Smith
Scott Edward Stewart*
Darian Marie Still
Elizabeth Anne Sullivan
Shane Vierck
Sarah Josephine Westbrook
Carissa Roberta Wilberg
Kelsey Marie Williams†
Lorri Anne Woods†
Simone Bailey Wright
Minor: Psychology
Maya Austin Cross Yandell†

Dr. Robert B. Pamplin School of Business Administration

Bachelor of Business Administration

Kevin James Armijo
Major: Finance

Isaiah Mychal Fentress
Major: Accounting
Jedidiah James Fugle
Major: Marketing and Management
Brendan John Garlinghouse
Major: Accounting
Second Major: Finance
Samuel Andrew Greer
Major: Operations Technology Management
Brent Michael Miller
Major: Accounting
Second Major: Operations Technology Management
Garrett James Queen
Major: Finance
Miranda Nicole Rickert
Major: Finance
Clark Anthony Shafer
Major: Marketing and Management
Aviad Stein
Major: Global Business
Jared Wayne Stohl
Major: Accounting
Second Major: Finance
Bryan Russell Thorp
Major: Marketing and Management
Lisa Nalani Tokuyoshi
Major: Accounting
Second Major: Finance

Donald P. Shiley School of Engineering

Bachelor of Science in Electrical Engineering

Carolyn Michelle Farris‡
Major: Electrical Track
Minor: Computer Science

Bachelor of Science in Mechanical Engineering

Eric Joseph Walinski

Bachelor of Science in Civil Engineering

Michael David Doane
Major: Environmental Track

Bachelor of Science in Engineering Management

Mansour Mohammed S. Alameri

Humaid Abdulla Alhammadi
Minor: Business Administration

December 16, 2011

Graduate School

Master of Arts

Nichole Marie Krieck
Major: Education

Master of Education

Noshista Soleina Benavente
Stephanie Joy Campos
Marites Alfonso Canare
Liza Marie Quinata Castro
Rachel LeonGuerrero Crisostomo
Lesley Ann Malbog Gomez
Jo Ann Chargualaf Gutierrez
Joseph James Leahy
Divina Gracia Catabay Leones
Rosalind San Agustin Mendiola
Nanette Marie Nededog
Len Marie Manajero Papelera
Arlene Torres Parcia
Cynthia Marie Dulos Mortera Paulino
Ryan Jesse Paulino
Janae E. Reimer
Liza Jane Pablo Sahagon
Ivan Cole Taijeron
Pauline Therese Quichocho Taitingfong
Mabel Ann Mendiola Uncangco
Crystal Quitugua Unsiog

Master of Business Administration

Saba Ahmed
Haylee Renee Bruce
Tyler Donald Bruce
Peter Gordon Christmas
Richard Allen Fleming
Aaron Andrew Hausa
Scott Michael Huberty
Joy Melody Huff
Janelle Eileen Keller
Brian Alexander Lavelle
John Mary Marshea
Matthew Shawn McCoy
Mohamed Ali Mrabet
Patrick Stephen Randall
Karmia Krissanty Tanjung
Danielle Elizabeth Turner

College of Arts and Sciences

Bachelor of Arts

Ralph Naoe Bansale
Major: History

Minor: Education
Mikahl Aleisha Banwarth-Kuhn*
Major: Mathematics
Minor: Spanish
Elizabeth Rae Carroll*
Major: Communication
Minor: French
Stephanie Marie Chamness
Major: English
Francesco Valentino Console
Major: Biology
Minor: Business Administration
Michael Mathew Fritz
Major: Biology
Emily Jean Hart
Major: Psychology
Minor: Sociology
Morgan Michelle Hecht*#
Major: English
Michelle Marriott Housen
Major: Political Science
Minor: Communication
Second Minor: Psychology
Alexis Marie Jagelski
Major: Spanish
Minor: History
Gillian Siobhan Keller
Major: Organizational Communication
Minor: Psychology
Timothy de Jonghe Kenney
Major: Psychology
Anthony Duke Licker
Major: English
Mara Beth McGreevey
Major: History
Minor: Drama
Megan Clarice Mena*
Major: History
Second Major: Spanish
Martin Ray Nelson
Major: History
Adriana Florence Nusbickel*
Major: Political Science
Minor: Spanish
Michelle Kate Olivier
Major: Psychology
Second Major: Sociology
McKennon Taylor O'Rourke
Major: Political Science
Juliana Rose Ringold*
Major: Mathematics
Second Major: German Studies
Tamae Satou
Major: Spanish
Beverly Jane Scott
Major: English
Gabriel Aaron Twining
Major: Psychology
Second Major: Sociology
Holly Lynn Vanderpool
Major: English

Bachelor of Science

Lauren Ashley Lucette Berg
Major: Organizational Communication
Andrew Buchanan Berigan
Major: Mathematics
Daniel Richard Browne
Major: Environmental Science
Minor: Chemistry
Claire Angela Brumfield
Major: Biology
Stephanie Marie Chamness
Major: Organizational Communication
James William Fallon-Côté
Major: Life Science
Minor: Spanish
Second Minor: Sociology
Cameron Keilty-Lucas
Major: Life Science
Joseph Kevin Kurtz
Major: Biology
Minor: Chemistry
Chelsea Pearl Mitchell†#
Major: Organizational Communication
Second Major: Spanish
Michael Savage Nielsen
Major: Organizational Communication
Toby Gurney Pond
Major: Organizational Communication
Molly Katherine Rouse
Major: Life Science
Minor: French
Carolyn Michelle Sutter
Major: Organizational Communication
Minor: Sociology
Robert Thomas Thiel
Major: Chemistry: Biochemistry
Emma M. Tomaszewski
Major: Environmental Science

School of Nursing

Bachelor of Science in Nursing

Hailee Anne DeYoung
Leslee Nicole Dinsdale
Courtney Ann Marsh
Cearra Sophia Piontek
Minor: Sociology
Rachel Marie Shoberg
Phillip Reed Soper*

Dr. Robert B. Pamplin School of Business Administration

Bachelor of Business Administration

Abdulaziz Mohammad Alahmad
Major: Accounting
Daniel Francesco Bugni
Major: Marketing and Management
Stanley LingFeng Chen
Major: Marketing and Management
Lyndy Jean Davis
Major: Marketing and Management
Danielle Lauren Foxhoven
Major: Marketing and Management
Kara Fumiko Hamada
Major: Marketing and Management
Victoria Nykole Jayka
Major: Marketing and Management
Sandra Danette Jefferies
Major: Finance
Ryan Stefan Kawulok
Major: Marketing and Management
Tessa Nicole Mini
Major: Marketing and Management
Alison Ann Schweickert*
Major: Marketing and Management
Alexander Joseph Tadros
Major: Global Business
Minor: Economics
Kalen Siuman Tse‡
Major: Accounting

Donald P. Shiley School of Engineering

Bachelor of Science in Mechanical Engineering

Randolph Scott Harding

Bachelor of Science in Civil Engineering

Ali E AlAli
Major: Civil Track
Hannah Elizabeth Marre
Major: Environmental Track
Tyler James Thompson
Major: Civil Track

Bachelor of Science in Engineering Management

Jumana Fouad Almuzel
Mohammed Ibrahim Alruqaie
Michelle Louise Kittler

May 5, 2012

Graduate School

Doctor of Nursing Practice

Rori Lee Hartzell
Johnny Phillip Payne
Maya Blauw Strom

Master of Arts

Christine Ann Benenson
Major: Pastoral Ministry
Kevin Michael Fillo
Major: Pastoral Ministry
John Bernard Krebsbach
Major: Pastoral Ministry
Kevin Michael Mangers
Major: Pastoral Ministry
Lisa Renee Mangers
Major: Pastoral Ministry

Master of Fine Arts

Caitlin Elise Crisp
Major: Drama

Master of Education

Eryn Gregg Barker
Grant Edward Barron
Janice Renée Barton
Shelley Ann Bell
Lynette Alma Bonnah
Tracy Ann Bradley
Barbara Beatrice Brilz
Nancy J. Bromley
Pamela Joy Chromiak
Richard Mark Dawson
Katherine Marie Griffin
Kerri-Lynn Michelle Hickman
Christine Denise Ivanc
Jennifer Dawn Johnson
Dina Marie Kilgo
Karin Malinda Kincaid
Steven Barrett Langer
Suzanne Lise LeGars
Monika Anna Lukas
Jill Berenice Linda Mackenzie
Donna Jo Malain
Sarah Ann Mandolesi- Kahanyshyn
Roslyn June Marcelo
Vincent Patrick Masog
Anne Christine Miller-Montgomery
Sami Mohammed Muamar
Jennifer Aileen O'Brien
Daniela Alessandra Maria Orsini

Nozomi Senga
Amylia Arvida Soetaert
Curtis Kenneth Starko
Kristine Werzun

Master of Arts in Teaching

Joseph Dayton Raphael Balinbin
Kerensa Alayne Brougham
Jacob Robert Brown
Hallie Marie-Ade Caron
Katherine Hastings Chapman
Julie Marie Clark
Anna Rose Conaway
Hana Elizabeth Courtney
Anya Simone Dalkin
Rachael Meredith Dee
Patrick William Soliday Dehart
Natalie Dickinson
Shawn Collin Draper
Marie Kathleen Edgerton
Caitlin Elizabeth Elsner
Kelly Marie Fitzsimmons
Jeanne Hunter Giles
Daniel Patrick Hannon
Madelyn Darr Higgins
Alicia Martin Irwin
Robert John Kelley
Paula Louise Knapp-Davey
Bradley Christopher Langton
Jeffrey Dean Lewis
Lindsey Gabrielle Lewis
Ashley Hope Mayfield
Kyler Sean McClary
Jonathan Francis McCool
Daniel Patrick McCusker
Samuel Perry Monroe
Teresa Colleen O'Mara
Emily Kirstin Pierce
Robert Alexander Ward Plowman
Alyssa Whitney Potok
Grant Austin Poujade
Aundréa Elizabeth Roberts
Maria Jesus Ruiz-Tolento
Alexis Megan Sampson
Kaye McKinnon Schmidt
Jesse Paul Strauch
Andrew Stuart Thompson
Michelle van Grunsven
Alyssa Saturnina Veliz
Bridget Elizabeth Powers Watson
Alexa Marie Zeazas

Master of Engineering

Craig Charles Hopkins
Major: Engineering

Master of Science

Ali Asaad Alusaimi
Major: Finance
Catherine Lynn Hall
Major: Clinical Nurse Leader
Kristine Jo Harrington
Major: Clinical Nurse Leader
David Andrew Dunkin Maile
Major: Management Communication
Karla G Marvich
Major: Clinical Nurse Leader
Audra Keaton Mattila
Major: Clinical Nurse Leader
Robyn Mariah McDonald
Major: Clinical Nurse Leader
Kathleen B. Neff
Major: Clinical Nurse Leader
Khiem Dinh Nguyen
Major: Finance
Heather Anne Ochan
Major: Clinical Nurse Leader
Tyler James Ochsner
Major: Management Communication
Andrew P. O'Shea
Major: Clinical Nurse Leader
Abigail Frances Pohlschneider
Major: Clinical Nurse Leader
Dana Ann Smothers
Major: Clinical Nurse Leader
Nicole Christine VanDomelen
Major: Clinical Nurse Leader
Jennifer L. Zeigler
Major: Clinical Nurse Leader
Elisa Sadika Zeiter
Major: Clinical Nurse Leader

Master of Business Administration

Ali Asaad Alusaimi
Nipaporn Charuchinda
Xiaoyu Fan
Cory B Friedman
Maria Dolores Hobson
Alexandru Ianos
Major: Business Administration
James Oliver Knowlton
Linda Sue Lechler
Wilson Lim
Rebecca Ellen Luxenberg
Cecily Lora O'Rielly
Christina Angela Palmer
Daniel Avery Phillips
Michael Joseph Phillips
Jeffrey Daniel Rask
Fares Seaidi
Jordan Janelle Sehestedt
Nicholas Spark Smith

Victor Thomas Thekkedom
Stefanie Joanne Utberg
Mark Victor Hughes White
Andrew Robert Wright
Charles Stephen Yemm

May 6, 2012

College of Arts and Sciences

Bachelor of Arts

Laura Elizabeth Atwell*
Major: Communication
Minor: Fine Arts
Rosalie L. Baber
Major: Social Work
Minor: Psychology
Nina Marissa Baio
Major: Social Work
Dana Lynn Barbar
Major: Communication
Sara Bianca Bayer
Major: Biology
Sean Peter Beckman
Major: Political Science
Ruth Benzar‡#
Major: Spanish
Eugene Taylor Bergmann
Major: History
Minor: Entrepreneurship
Second Minor: Political Science
Danielle Leverne Bibbs
Major: Communication
Minor: Spanish
Brianna Laurel Bobiak
Major: English
Minor: Chemistry
Second Minor: Biology
Bree Anna Bowman*
Major: Sociology
Minor: German
Amelia Kathleen Brasch*
Major: Social Work
Minor: Psychology
Elaine Melanie Bressi
Major: English
Second Major: French Studies
Emilia Carmel Brizuela
Major: Environmental Ethics & Policy
Second Major: Spanish
Kyle Christopher Buchberger
Major: German Studies
Minor: History
Marc Anthony Brugato Buker
Major: Political Science
Second Major: Philosophy
Minor: Social Justice
Aimee Rew Cash‡
Major: Social Work
Minor: Psychology
Second Minor: Sociology
Henry Ernesto Castillo
Major: History
Marlia Cha
Major: Environmental Ethics & Policy
Katherine Arden Chamlou
Major: Biology
Minor: Psychology
Edward Stanley Chavez
Major: Political Science
Second Major: German Studies
Minor: History
Matthew Paul Corrado
Major: Communication
Minor: HPE: Sport Exercise & Fitness
Jaimie Rose Coulter
Major: Communication
Samantha Rene Coulter
Major: Communication
Robert William-Borra Croft
Major: Social Work
Colleen Anne Cunningham
Major: Spanish
Minor: Fine Arts
Theresa Morrell Cutter
Major: Psychology
Second Major: Spanish
Minor: Fine Arts
Alexandra Nicole Dale
Major: English
Tessa Maria Daniels*
Major: History
Minor: Chemistry
Mark Austin Davinroy
Major: Music
Mary Margaret Dolan O'Brien*
Major: Communication
Second Major: German Studies
Minor: Spanish
Holly Noel Duffy*
Major: Communication
Second Major: German Studies
Ryan Day Dunkley
Major: Psychology
Second Major: Sociology
Frances Grace Dyer
Major: Communication
Minor: Philosophy
Laura Rose Eager
Major: English
Minor: Psychology
Molly Brooke Enger*
Major: History
Second Major: German Studies

Minor: Fine Arts
Nicholas George Etzel*
Major: German Studies
Madelyn Regina Findlay*
Major: Philosophy
Madeline Rose Forinash*
Major: Psychology
Minor: Education
Second Minor: Social Justice
Chanel Cassandra Gardella
Major: Spanish
Second Major: Social Work
Amanda Elise Garman
Major: Social Work
Second Major: Spanish
Marie Patricia Gerdtz
Major: History
Second Major: Spanish
Melissa Mercado González
Major: Political Science
Second Major: Spanish
Samantha Andrea Gonzalez
Major: Psychology
Second Major: Spanish
Adrienne Susan Graddon
Major: Communication
Minor: Catholic Studies
Amelia R Gradt
Major: English
Minor: French
Alexandra Christine Lee Graham
Major: English
Minor: Sociology
Michelle Jamieson Grant
Major: Drama
Second Major: English
Catherine Anna Griffith†#
Major: Environmental Ethics & Policy
Minor: Environmental Science
Alex Grimaldi*#
Major: Political Science
Jack Logan Hafner
Major: Mathematics
Michelle Renée Hamilton
Major: Sociology
Second Major: Psychology
Minor: Communication
Cecilie Songhee Han
Major: Psychology
Minor: Fine Arts
Kevin Andrew Hannon
Major: English
Minor: Fine Arts
Second Minor: Sociology
Gabrielle Alyse Hansen*
Major: Philosophy
Second Major: Spanish
Amelia Rose Hart
Major: Environmental Ethics & Policy
Claire Aliese Hendrix
Major: Sociology
Minor: Social Justice
Kevin Warren Rockett Hershey*#
Major: Spanish
Jessica Anne Hethcoat
Major: English
Minor: Psychology
Lucas Gabriel Hill
Major: Sociology
Second Major: German Studies
Scott Denman Hines
Major: Psychology
Minor: Communication
Rachel Katherine Hinnen
Major: Biology
Minor: German
Second Minor: Spanish
Jason Michael Hortsch*#
Major: Mathematics
Minor: German
Second Minor: English
Amanda Elise Horvath*
Major: Environmental Ethics & Policy
Second Major: Spanish
Brandon Jay Huddleston
Major: Communication
Peter John Hulseman
Major: Mathematics
Zachary James Imfeld
Major: Theology
Minor: Catholic Studies
Megan Mika Irinaga
Major: Philosophy
Second Major: German Studies
Minor: Social Justice
Pedro Ivan Jimenez
Major: Biology
Eleanor Lee Johnson
Major: Drama
Second Major: History
Kristin Nicole Johnson
Major: Political Science
Lauren Danielle Johnson
Major: Sociology
Minor: Fine Arts
Elizabeth Ann Keaveny*
Major: Spanish
Second Major: Political Science
Monica Anne Kendall
Major: Mathematics
Minor: Social Justice
Sean Devlin Kendrick
Major: Theology
Second Major: German Studies

Mary Kathryn Kiely
Major: Philosophy
Second Major: Spanish
Minor: Music
Geoffrey Edward Kiernan
Major: History
Second Major: Philosophy
Joyce Lorene King
Major: English
Megan Kimberly Kirchgasler
Major: Psychology
Minor: Sociology
Second Minor: Neuroscience
Kelsey Jo Kiser
Major: English
Sarah Catherine Kries#
Major: French Studies
Second Major: Philosophy
Megan Patricia La Fleur
Major: Drama
Jocelyne Jewel LaFortune
Major: German Studies
Second Major: English
Katherine Marie Lafrenz
Major: Social Work
Second Major: Psychology
Minor: Spanish
Second Minor: Social Justice
Christopher Allan Landtiser
Major: Political Science
Second Major: German Studies
Steven Christopher Langston
Major: Sociology
Second Major: Psychology
Minor: Communication
Charles S Lattin
Major: Drama
Nichole Renee Lehr
Major: Social Work
Minor: Spanish
Second Minor: Sociology
Andrew Peter Lundquist
Major: Communication
Eric Raymond Lyness
Major: Drama
Adam Taro Lyon
Major: History
Minor: English
Second Minor: Political Science
Daniel James Anthony Lyons
Major: Psychology
Jessica Anne Visaya Mabanag
Major: Social Work
Carly Christine Alexis MacKay
Major: Psychology
Alma Reneé Madrigal-Castillo
Major: Spanish
Jessica Suzanne Marsh‡
Major: Psychology
Second Major: German Studies
Minor: French
Brenden Cathil McAleese
Major: Political Science
Monica Marie McAllister
Major: Spanish
John Raynold McCarty
Major: English
Bianca Adele McCluskey†
Major: German Studies
Second Major: English
Minor: History
Kassandra Dawn McCluskie
Major: Communication
Minor: Sociology
Mark Richard McGinnis
Major: Sociology
Minor: Fine Arts
Andrew Ian McLauchlan
Major: Sociology
Minor: Spanish
Kaitlyn Marie McNamara†
Major: Psychology
Minor: HPE: Sport Exercise & Fitness
Katie Elizabeth Metzger†
Major: Biology
Minor: English
Molly Elizabeth Mitchell
Major: Psychology
Anna Michelle Mottice*
Major: Music
Minor: Drama
Elizabeth Anne Murphy
Major: Sociology
Minor: Spanish
Second Minor: Psychology
Sarah Yoshie Nanbu*
Major: Environmental Ethics & Policy
Minor: Economics
Arianna Jacquelyn Nassib
Major: Communication
Second Major: Spanish
Michael John Navarrete
Major: Spanish
Danielle Marie Nelson
Major: English
Second Major: Philosophy
Christopher Ryan Nichols
Major: History
Minor: Business Administration
Second Minor: Political Science
Brittany Belinda Nowers
Major: Drama
Marissa Yvonne Ohlstrom
Major: Psychology
Minor: Chemistry

Alexa Lynn Olin
Major: Psychology
Minor: Spanish
Taylor M. Olson
Major: History
Madison Mershon O'Mara
Major: Psychology
Minor: Spanish
Priscilla Ellen Osredkar
Major: Communication
Rebecca Anne Otto
Major: History
Second Major: German Studies
Ian Mikhail Paja
Major: History
Second Major: German Studies
Cassondra Rose Passon
Major: History
Minor: Political Science
Collin William Pedeaux
Major: Social Work
Second Major: Spanish
Minor: Psychology
Nadia Yunus Peer
Major: Communication
Minor: Fine Arts
Joseph Michael Penka
Major: History
Minor: English
Second Minor: Political Science
Gregory Perez
Major: Political Science
Elizabeth Ann Perry
Major: Political Science
Anne Marie Pettycrew†
Major: English
Second Major: Spanish
Minor: Education
Samuel Voelker Phipps
Major: German Studies
Caitlyn Marie Prien
Major: Sociology
Second Major: Social Work
Robyn A Pryor
Major: Drama
Second Major: English
Vincent Randall Purchase
Major: Political Science
Kelsey Ann Reavis
Major: Spanish
Andrew Joshua Riley
Major: History
Alexandria Marie Risinger
Major: Political Science
Minor: Spanish
Lilia Graciela Rivera
Major: Psychology
Second Major: French Studies
Minor: German
Second Minor: Spanish
Brittany Rene Robbins*
Major: Psychology
Minor: Neuroscience
Anthony James Robertson
Major: History
Minor: Education
Elizabeth Aurora Romero
Major: English
Second Major: Political Science
Yaneira Yaneli Romero-Torres
Major: Social Work
Minor: Sociology
Second Minor: Spanish
Danielle Elizabeth Ross
Major: Sociology
Minor: Psychology
Mackenzie K. Ryan†
Major: Psychology
Second Major: Spanish
Corbin M Salas
Major: Spanish
Minor: Biology
Emily M Salisbury
Major: Psychology
Minor: Sociology
Jeffrey Alexander Sanchez
Major: Sociology
Jonathan Louis Sandau
Major: Political Science
Minor: Philosophy
Michael Bhim Savara†
Major: Social Work
Hannah Jean Schultz
Major: Communication
Minor: Political Science
Adrienne Lynn Shelnutt*
Major: Political Science
Second Major: Drama
Minor: Social Justice
Claire Johannsen Shepek
Major: Social Work
Patrick Stanley Sheridan
Major: Political Science
Rachel Emily Simms
Major: Environmental Ethics & Policy
Brian Patrick Simpson
Major: Political Science
Whitney Lynn Simpson†#
Major: History
Second Major: English
Christine Marie Smith
Major: History
Joseph Carl Starzl
Major: Philosophy
Second Major: German Studies

Minor: English
Second Minor: Spanish
Charles Bottjer Steele
Major: Environmental Ethics & Policy
Dane Stringfellow
Major: Psychology
Jane Strugatsky*
Major: Environmental Ethics & Policy
Second Major: Spanish
Gabriela Michele Sucher
Major: Psychology
Minor: Spanish
Erica Marie Swanson
Major: Spanish
Elizabeth Nicole Sykes
Major: Sociology
Minor: Communication
Marit Esther Tegelaar†
Major: Communication
Second Major: Sociology
Rhiannon Shalene Teixeira
Major: Psychology
Eleanor Jean Thompson†
Major: French Studies
Second Major: Spanish
Patrick Jeffry Torrellas
Major: History
Beatrice Uwimana
Major: Political Science
Traci Carolyn Vanaken
Major: Mathematics
Minor: Education
Ashton Marie Walters
Major: Spanish
Second Major: German Studies
Eric Alfred Waterford
Major: Communication
Stephen Joseph Weaver
Major: History
Peary Ebdon Webster
Major: Music
Natalie Rose Wheeler
Major: Communication
Minor: Education
Second Minor: Social Justice
Moonwalker Williams*#
Major: English
Minor: Communication
Alyssa Rae Sun Lin Wirthlin
Major: Social Work
Second Major: Spanish
Karilyn Marie Wise
Major: Biology
Caitlin Margaret Yilek
Major: Spanish
Second Major: German Studies
Minor: Communication
Jose Ricardo Zegarra†
Major: Spanish

Bachelor of Science

Lindsay Elizabeth Baker
Major: Biology
Minor: Psychology
Second Minor: Chemistry
Macedonio De Jesus Barragan
Major: Biology
Minor: Chemistry
Diondra Elizabeth Beck
Major: Mathematics
Ruth Benzar†#
Major: Biology
Minor: Chemistry
Aurora Skye Blucher#
Major: Mathematics
Brieanna Rachelle Brown†
Major: Biology
Minor: Chemistry
Megan Kimberly Brown
Major: Organizational Communication
Elizabeth Claire Bryant
Major: Biology
Minor: Environmental Science
Kelly Earl Burgett
Major: Biology
Second Major: German Studies
Kristen Renae Burke
Major: Chemistry: Biochemistry
Kaitlynn Marie Caldwell
Major: Organizational Communication
Second Major: German Studies
Jeremiah Terry Calsing
Major: Biology
Minor: Chemistry
Brittany Lynn Cannon
Major: Chemistry: Biochemistry
Minor: Mathematics
Zachary Lawrence Chelsky*
Major: Biology
Valerie Salagubang Chiong
Major: Chemistry: Biochemistry
Second Major: Biology
Marissa Lee Clement
Major: Life Science
Minor: Psychology
Matthew Alexander Conti
Major: Environmental Science
Elizabeth Morgan D'Amelio-Bidleman†
Major: Biology
Minor: Chemistry
Second Minor: French
William Reid David
Major: Biology

Spencer Gabriel Degerstedt#
Major: Biology
Minor: Philosophy
Second Minor: Spanish
Daniel Lloyd Eardley
Major: Environmental Science
Minor: Environmental Ethics & Policy
Elliot William Frank
Major: Biology
Lauren Ann Freeland
Major: Biology
Minor: Chemistry
Second Minor: Entrepreneurship
Kelsey Renee Friedemann*
Major: Organizational Communication
Minor: Entrepreneurship
Second Minor: Fine Arts
Mary Berhe Giday
Major: Organizational Communication
Miriam Nabil Hakim†
Major: Biology
Minor: Spanish
Second Minor: Chemistry
Eric Michael Halliday
Major: Biology
Second Major: Spanish
David James Harrell†
Major: Life Science
Erica Marie Havey
Major: Biology
Minor: Chemistry
Laura Day Healy
Major: Biology
Minor: Chemistry
Geoffrey William Hernandez
Major: Organizational Communication
Eric Charles Holpainen
Major: Biology
Minor: Chemistry
Reilly Elise Hourigan
Major: Mathematics
Kate Elizabeth Huber#
Major: Biology
Minor: Environmental Science
Margaret Anne Hyams
Major: Biology
Minor: Chemistry
Melissa Kuuleialoha Iida
Major: Biology
Minor: Chemistry
Masis Isikbay§
Major: Biology
Kurt Damas Iversen‡
Major: Physics
Minor: Mathematics
Lana Jesic
Major: Biology
Minor: Chemistry
Livia Lili Jurju
Major: Biology
Alfred Kipchumba
Major: Organizational Communication
Peter John Kirby
Major: Physics
Emily Anne Klingler
Major: Organizational Communication
Minor: Spanish
Hailey K Knettles
Major: Environmental Science
Beth Anne Krautscheid‡#
Major: Chemistry: Biochemistry
Halley Anne Kreminski
Major: Biology
Keri Ann Krenowicz
Major: Organizational Communication
Second Major: Psychology
Minor: Business Administration
Daín A Landholm
Major: Biology
Second Major: Chemistry: ACS
Diane Nguyen Le†
Major: Chemistry: Biochemistry
Minor: Biology
Christopher Wai Lew*#
Major: Chemistry: Biochemistry
Second Major: Spanish
Minor: Biology
Darlene Salavedra Lim
Major: Biology
Minor: Chemistry
Katherine Ann Link
Major: Life Science
Minor: Neuroscience
Salvatore Joseph Liotta
Major: Biology
Edward Brandon Jordan Alipio Maldonado, Jr†
Major: Biology
Minor: Chemistry
Daymara Isabel Martinez-Alvarez
Major: Biology
Minor: Spanish
Natasha Ann Mautz
Major: Mathematics
Minor: Business Administration
Second Minor: Economics
Monica Marie McAllister
Major: Biology
Minor: Chemistry
Christopher Michael McCarthy
Major: Biology
Bethany Diane McInturff†
Major: Biology
Minor: Chemistry
Ryan Michael McLaughlin
Major: Physics

Second Major: Mathematics
Andrea Lynn Molina
Major: Biology
Minor: Spanish
Second Minor: Chemistry
Olga Mosiychuk
Major: Organizational Communication
Camila Kaori Nakasone
Major: Biology
Minor: Business Administration
Second Minor: Chemistry
Michael John Navarrete
Major: Biology
Thanh-Truc Thi Nguyen
Major: Biology
Minor: Chemistry
Elizabeth Keziah Nousen†
Major: Life Science
Minor: Psychology
Second Minor: English
Daniel Kenyon O'Connell
Major: Biology
Frank W Ohmes
Major: Biology
Wyatt Patrick Olson
Major: Chemistry: ACS
Minor: Biology
Michael Wallace Pacholec
Major: Environmental Science
Minor: Environmental Ethics & Policy
Madeleine Ann Padon
Major: Environmental Science
Minor: Education
Ruth Beatrice Passernig
Major: Biology
Second Major: German Studies
Michelle Hui Pengshung‡
Major: Chemistry: Biochemistry
Minor: Biology
Kelly My Linh Pham
Major: Biology
Minor: Psychology
Second Minor: Chemistry
Diane Phan
Major: Biology
Minor: Chemistry
Katherine Aileen Portell†#
Major: Organizational Communication
Minor: Drama
Brian Alexander Preston
Major: Life Science
Julieanna Faye Price
Major: Biology
Minor: French
Catherine R Schuster
Major: Mathematics
Minor: Spanish
Kramer Eric Scott
Major: Organizational Communication
James Allen Matthew Sinclair
Major: Chemistry: Biochemistry
Kailey Korinne Singleton
Major: Mathematics
Second Major: Physics
Luke David Slater
Major: Organizational Communication
Stephanie Marie Songey
Major: Chemistry: Biochemistry
Minor: Biology
Anna Nicole Spurrier
Major: Organizational Communication
Megan Aileen Supinski*
Major: Chemistry: Biochemistry
Second Major: Biology
Anthony Tran
Major: Biology
Minor: Chemistry
John Joseph Varner
Major: Life Science
Minor: Spanish
Hillary Ann White
Major: Organizational Communication
Eric John Wiessner
Major: Chemistry: Biochemistry
Second Major: Biology
Eric M Wilkman
Major: Biology
Minor: Chemistry
Second Minor: History
Alyssa Janel Williams
Major: Life Science
Minor: HPE: Sport Exercise & Fitness
Frank R Winczewski
Major: Chemistry: Biochemistry
Jordan Robert Young
Major: Biology
Minor: Spanish
Second Minor: Chemistry

School of Nursing

Bachelor of Science in Nursing

Deanna Aceves
Laura Ann Bachand*
Danielle Elaine Balsz
Jennifer Marie Barefoot
Kayla Marie Bauman*
David Howard Bessman
Leah Frances Biesiadecki
Rebekah Sue Biesiadecki
Heather A Bladek
Niki Rachelle Bothman
Second Major: Spanish
Sherri Diane Bowyer†

Emma Davidson Brenner
Alexa Marie Brewer*
Sara Elizabeth Bubar
Minor: Biology
Rachel Cooper Caldwell
Kristin Joy Cannard
Jenny Louise Carson
Karina Rose Carter
Julia Genoveva Catanese
Allie Nicole Chavez
Gabriele Cox Colangelo
Kayley Rose Coogan
Weston James Corbin†
Ann Elizabeth Cowan‡
Ana Cecilia Lim David†
Minor: Biology
Second Minor: HPE: Sport Exercise & Fitness
Erin A. DeVos
Patricia O'Sullivan Dreher*
Megan Chase Drouhard*
Zachary Jamison Eaton
Tiffany Ann Eder*
Nicole Kathryn Edmiston
Kyle William Figura
Minor: Biology
Katelyn Alise Fisher‡
Serena Morgan Ford
Vanessa Anne Gillman
Marcella Lynn Glaeser
James Edwin Gozdiff
Amanda Michelle Griguhn§
Heather Lynn Gustafsson
Rebecca Ellen Hannon
Andrus C Harper
Brooke Lindsey Hart
Jessica Lynn Harty
Libby Aleece Heintz†
Second Major: Spanish
Traci Lynn Herrington
Minor: Theology
Alicia Ann Howard
Svetlana Tatiyana Hunt
Kristian Allen Ingebretsen
Casey Lynn Johnson
Stephan Andrew Johnson
Susan Kang
Alisha Nalani Kimiko Kaulia
Minor: Psychology
Kelsey Shizuko Kawasaki
Jessica Anne Knappert
Emily Helena Knight*#
Emily Ann Krill*
Anna-Lise Kristine Krippaehne
Minor: Spanish
Tammy Mindy Krueger
Julie Ann Landers
Devin Josée Landry
Minor: Spanish
Alexa Rae Menendez Langit
Birgit Hausen Langmann
Christie Joyce Rivera Lanuevo
Nancy Lee
Scott Andrew Lewis
Elizabeth Ann Mardesich
Kathryn Marie Marsh†
Second Major: Spanish
Susan Janean Mattox*
Brooke Christine McAllister
Minor: Spanish
Justina June McCrea
Ashton Dawn Meyer
Andrea Jean Milholland
Stacie Akemi Nakashima*
Marissa Anne Nardinger
Adena Renee Nelson
Kathleen Patricia O'Connor
Minor: Spanish
Alex Phan
Jessi Rene'e Pinnock
Marissa Lorna Evelyn Plummer
Michelle Anne Porter
Allison Ainsley Ramsay
Kirsten Riley Rederos
Michelle Elizabeth Reynolds
Minor: Psychology
Madeleine Renee Richardson
Julie Anne Rilling
Matthew Key Rockowski
Larisa del Rosario Sazon
Second Major: Psychology
Kelsey Lauren Siekkinen
Olivia Isabella Silva
Danielle Lauren Snyder
Anthony James Sollars
Kailey Erin Sparks
Second Major: Spanish
Demi Lee Stinson
Emily Grace Rose Stratton
Jeikell Grace Mamaril Suguitan
Erica Marie Swanson
Nathaniel McCauley Thornton
Minor: Sociology
Elizabeth Helen Tolliver
Jessica Renee Tubbs
Holli Lynn Tuss
Kathryn Lyn Warmack
Minor: Spanish
Alissa Jenae White†
Lindsey Leann White†
Jennifer Anne Willett
Sarah Joan Williamson
Skye Chiyono Young
Minor: Psychology

Dr. Robert B. Pamplin JR. School of Business Administration

Bachelor of Business Administration

Jerlyn Ann Acupan
Major: Operations Technology Management
Second Major: Finance
Brittany Nicole Anderson
Major: Accounting
Minor: Entrepreneurship
Amanda Nicole Aplet
Major: Marketing and Management
Angelica Arias
Major: Marketing and Management
Amy Louise Attinasi
Major: Accounting
Second Major: Finance
Minor: German
Katrina M Ause§#
Major: Operations Technology Management
Second Major: Spanish
Minor: Mathematics
Angela Kalyn Baker
Major: Accounting
Kellen Oliver Batson
Major: Accounting
Second Major: Finance
Michael Anthony Wilhite Bautista
Major: Finance
Second Major: Marketing and Management
Amanda Marie Becker
Major: Marketing and Management
Kurt Joseph Berning†
Major: Finance
Second Major: Operations Technology Management
Andrea Danielle Bettag*
Major: Operations Technology Management
Second Major: Global Business
Minor: Spanish
Brandon Otis Betts
Major: Operations Technology Management
Matthew Nelson Beverly
Major: Operations Technology Management
Locke P Bielefeldt
Major: Finance
Adam Christopher Bowlsby
Major: Marketing and Management
Nakeisha Danielle Brown
Major: Finance
Melissa Lee Buisán*
Major: Marketing and Management
Kevin Kealoha Olivier Chong
Major: Global Business
Minor: French
Kevin James Convery
Major: Global Business
Second Major: German Studies
Ruth Charlotte Croft
Major: Global Business
Natalie Nicole Day
Major: Marketing and Management
Kiel Pierce Knoblauch Dowlin
Major: Finance
Donald Edward Drummond
Major: Accounting
Brendan James Ermish
Major: Accounting
Minor: History
Ryan Hume Ettinger
Major: Marketing and Management
Rachel Claire Femling*
Major: Accounting
Minor: German
Megan Nicole Foltz†
Major: Accounting
Second Major: Finance
Beau Allen Fraser
Major: Finance
Hannah Christine Gray*
Major: Economics
Minor: Political Science
Lacey Meredith Hall
Major: Operations Technology Management
Second Major: Finance
Brett Stephen Helbling
Major: Accounting
Kiernan Baird Hogan
Major: Global Business
Second Major: Spanish
Spencer Steven Holst
Major: Finance
Kaitlan Elizabeth Hronek
Major: Marketing and Management
Wen Ni Hu
Major: Operations Technology Management
Michael Anthony Johansen
Major: Operations Technology Management
Lauryl Kelly Johnson
Major: Global Business
Minor: French
Erica Anne Jornlin
Major: Marketing and Management
Bryant Patrick Judge
Major: Accounting
Second Major: Finance
Armine Kalan
Major: Global Business
Alan Sergey Katsiyev
Major: Marketing and Management
Alexander J Kimura
Major: Economics
Kenneth James King*
Major: Finance
Second Major: German Studies

Anna Kiritchenko*
Major: Marketing and Management
Sarah Kathleen Klemsz†
Major: Operations Technology Management
Second Major: Finance
Minor: Entrepreneurship
Jack Mitchel Kortum
Major: Marketing and Management
Kyle Mathew Kraus
Major: Marketing and Management
Darren Thomas Kwan
Major: Finance
David Joseph Lavin
Major: Operations Technology Management
Triska Colleen Lee†
Major: Global Business
Emily M. Lindgren#
Major: Global Business
Second Major: Finance
Halina Simone Kim Lukoskie
Major: Marketing and Management
Second Major: French Studies
Isaac Steven Randal McKinley
Major: Operations Technology Management
Second Major: Finance
Nemanja Mitrovic
Major: Finance
Emma Marie Borromeo Nelson†
Major: Marketing and Management
Second Major: Global Business
Minor: Spanish
Irene Melanie Garcia Niedo
Major: Accounting
Amatul Noor
Major: Accounting
Ariel Bianca Nordsten-Foster*
Major: Accounting
Second Major: Finance
Christopher Brian O'Dell*
Major: Finance
Second Major: Accounting
Sandra Michelle Olson
Major: Accounting
Mark Allen Piper
Major: Accounting
Keegan Reedy
Major: Marketing and Management
Minor: Philosophy
Ryan Katsuyoshi Sakai
Major: Finance
Second Major: Marketing and Management
Christopher Gilbert Salas
Major: Accounting
Cristina E Schicchi
Major: Marketing and Management
Ariana Rose Sewell*
Major: Accounting
Kelly Jean Shelgren
Major: Finance
Second Major: French Studies
Christopher Robert Siegfried
Major: Economics
Shannon Rachel Smith‡
Major: Finance
Second Major: Accounting
Jamie Marie Squires‡
Major: Operations Technology Management
Minor: Mathematics
Caitlin Alicia Steinberg
Major: Accounting
Zachery Alden Steinkamp
Major: Marketing and Management
Jason Kai Wing Tai
Major: Accounting
Tyler Alan Thompson
Major: Global Business
Minor: Spanish
Artem V Tkach
Major: Finance
Jarrett Marcus Trtek
Major: Accounting
Second Major: Finance
Kelsey Claire Little Tuttle†
Major: Economics
Second Major: Global Business
Elle Teiko Uchida
Major: Economics
Christopher Jon Vennes
Major: Operations Technology Management
Deanna Vu
Major: Accounting
Samuel Creed Wegman
Major: Marketing and Management
Minor: Entrepreneurship
Marshawna Rashé Williams
Major: Marketing and Management
Zachary Brent Williams†
Major: Accounting
Andrew Matthias Wuertzer
Major: Marketing and Management
Minor: Entrepreneurship
Tiana Kawaihono Yamamoto
Major: Economics
Second Major: Finance

Bachelor of Arts

Daniel Pinto Coelho
Major: Economics
Nicolas Fransisco Cordero*
Major: Economics
Minor: Mathematics

McKinley Ray Pfahl
Major: Economics

Donald P. Shiley School of Engineering

Bachelor of Science in Mechanical Engineering

Yousif Adnan Abulhassan
Connor Patrick Barbaree
Spencer Alexander Boland
Brett Lyle Bowers
Katherine Elisabeth Braun†
Second Major: French Studies
Steven Edward Cooper
Laura JoAnn Coulter*
Second Major: French Studies
Tulley William Craig
Joel David Cramer
Antonio Elias DeVilbiss
Kelly Joseph Edmond‡
Minor: Mathematics
Shawn Christopher Ell
Erin Marie Ersland*
Nicholas Jon Etheredge
Nicholas George Etzel†
Minor: Mathematics
Amy Nicole Flora‡
Minor: Mathematics
Matthew Thomas Haly
Drew Thomas Hegarty, 2nd Lt
Ailrick Caine Holy
Minor: Mathematics
Andrew James Hudak IV†
Shandon Linn James
Jared Michael Johnston
Ali Juhayf
Gregory Robert Kachmarik
Zaki W. Kaldawi
Mindy Marie King
Evan Kienholz Koenig
Jacob Severson Lampe
Joshua Gerritt Letendre
Dallas D Lund
Mario Vincent Marchitto
Kamden James McHenry
Daniel James McIntosh
Zachary Allen McMullen
Andrew Douglas Moore
Aaron Richard Morris
McKendree Patrick Nelson*
Kyle Lee Oberst
Rex Daniel Rieth, 2nd Lt‡
Matthew Jose Rodrigues†
Brian Fredrick Schimschok
Cory Douglas Schmidt
Wil Andrew Sixour
Zachary J Stroh
Stuart James Tanasse*
Alissa Marie Tseu
Minor: Mathematics
Timothy James Vanderwerf
Anthony Charles Vitellaro*

Bachelor of Science in Electrical Engineering

Steven Michael Beyer*
Major: Computer Track
Minor: Computer Science
Patrick Canavan Bloem*
Major: Computer Track
Minor: Computer Science
Preston Mann Boyd
Major: Electrical Track
Ian Patrick Burns
Major: Computer Track
Michael Than Chhor*
Major: Electrical Track
Chelsea Alexandria Colvin
Major: Computer Track
Brendan Rowin Figuly
Major: Electrical Track
Adrian Douglas Gorman
Major: Computer Track
Cori Mieko Goya
Major: Electrical Track
Brent Thomas Groulik
Major: Electrical Track
Trever John Hickey†#
Major: Computer Track
Minor: Computer Science
Matthew Garrick Johnson*
Major: Electrical Track
Kelcey Ann Lajoie†
Major: Electrical Track
Jeremy Brett McCarroll
Major: Computer Track
Cyrus Brian Medrano
Major: Electrical Track
Caroline Nakaye
Major: Electrical Track
Caleb James Pentecost
Major: Electrical Track
Minor: Computer Science
Devin Jacob Pentecost
Major: Computer Track
Minor: Computer Science
Nathan Dietsch Perkins
Major: Electrical Track
Rosemary Bridget Peters†#
Major: Electrical Track
Sean D Pfister
Major: Electrical Track
Andrew Harrison Tanasse
Major: Computer Track
Jess Brian Tate‡
Major: Computer Track

Kirby Robert Wigton#
Major: Electrical Track
Charles Parker Wood
Major: Electrical Track
Allan Taylor Young
Major: Electrical Track

Bachelor of Science in Civil Engineering

Fahad F A Sh A Alhajri*
Major: Civil Track
Sarah Marie Auer
Major: Civil Track
Michael Cameron Bates
Major: Civil Track
Jennifer Rachell Brannan†
Major: Civil Track
Kyle Robert Cochran
Major: Civil Track
Colton Lawrence Edward 'Iolgni Collins
Major: Environmental Track
Jennifer Megan Doyle#
Major: Civil Track
Randall Simpliciano Duldulao
Major: Civil Track
William Edward Gibbs
Major: Civil Track
Kevin Patrick Kelly
Major: Civil Track
Jonathan Christian Kenyon
Major: Civil Track
Kari Nalani Kuboyama
Major: Civil Track
Siraj Mohmoud Magadmi
Major: Civil Track
John William Megrditchian
Major: Civil Track
Jennifer S Miner
Major: Environmental Track
Steven Michael O'Dowd
Major: Civil Track
Michael Alan Pratt
Major: Civil Track
Hannah Elizabeth Renken
Major: Civil Track
Andrew Davis Adelino Salmeri
Major: Civil Track
Eric Jon Schnepel
Major: Civil Track
Rei Kimino Seo Uesugi
Major: Civil Track
Ellen Regina Webster#
Major: Environmental Track
Minor: Spanish

Bachelor of Science in Engineering Management

Alistair Johan Rokstad
ReZina May TecleMariam
Sean Christopher Thomas

Bachelor of Science in Computer Science

Thomas Norman Aaro
Maxwell J Ackley*
Minor: Mathematics
James Michael Ailes*
Minor: Mathematics
Muhammad Suliman Alraddadi
Samuel Benjamin Burich
Brian Patrick Burns
Minor: Mathematics
Kapua Lililehua Chandler
Second Major: Mathematics
Zachary Paul Faltersack
Minor: Mathematics
Elliott James Heath
Adam Dominic Kauth
Christopher Patrick Lewis§
Minor: Mathematics
Cole Parker Mercer
Marshall Wellman Miller
Minor: Mathematics
Colin Fenton Ari Radford
Jace Nolan Raile
Abishekkha Sundaram
Minor: Mathematics
Corwin Allen Swanson
Benjamin Michael Walker
Stewart Charles Wilson
Minor: Mathematics

School of Education

Bachelor of Arts in Education

Gabriela Arenas
Second Major: Spanish
Margaret Frances Betts*
Melanie Rose Betz†
Allison Nichole Bingaman
Daniel Roy Boettcher
Hayley Catherine Brands§
Minor: Spanish
Stacey McGovern Burns
Second Major: Spanish
Heather Lynn Butterwegge
Catherine Mary Cooney†
Nicole Ann Cross*
Kara Rose Kahoelani De Rego
Minor: Spanish
Hannah Kate Delaney
Claire Anne Douglass
Kaelyn Marie East

Minor: Spanish
Claire Elisabeth Eldred
Minor: English
Chelsea Hope Faltersack
Marie Therese Fraser
Timothy James Garaventa
Joanna Christine Goodwin
Second Major: Spanish
Lauren Ann Krigbaum*
Tricia Kiyoko Miura
Daniel Joseph Morantte
Elizabeth Janet Pomeroy
Kelsey Erin Louise Rataushk
Chloé Hannah Ruffin
Natalie Joanne Schlappi
Rachel Ann Marie Schultz
Catherine Gretchen St Marie
Carrie Elizabeth Turrell
Brian Thomas Walsh

Bachelor of Science in Secondary Education

Kelley Ann Diehl
Second Major: English
Kathleen Elizabeth Doyle
Second Major: English
Minor: French
Derek Andrew Duman
Second Major: Mathematics
Erin Leigh Flotte
Second Major: Mathematics
Katie Lynne Hansen
Second Major: Mathematics
Katherine Denise McConn
Second Major: English
Sarah Nichole Moran‡
Second Major: English
Laryssa Lee Retzlaff
Second Major: English

Bachelor of Music Education

Douglas Chandler Orofino†
Breighley Kathleen Sexton*

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