

Bulletin 2010–2011



University Calendar

2010-11

Aug. 30 Mon.
 Aug. 30 Mon.
 Sept. 3 Fri.
 Sept. 3 Fri.
 Sept. 6 Mon.
 Oct. 18-22 Mon.-Fri.
 Oct. 22 Fri.
 Nov. 1 Varies
 Nov. 9-12 Tue.-Fri.

Nov. 15-18 Mon.-Thurs.

Nov. 19 Fri.
 Nov. 19 Fri.
 Nov. 25-26 Thurs.-Fri.
 Dec. 10 Fri.
 Dec. 13-16 Mon.-Thurs.
 Dec. 16 Thurs.
 Dec. 17 Fri.
 Dec. 17 Fri.
 Dec. 20 Mon.

2010-11

Jan. 17 Mon.
 Jan. 17 Mon.
 Jan. 21 Fri.
 Jan. 21 Fri.
 Feb. 1 Varies
 Mar. 7 Mon.
 Mar. 11 Fri.
 Mar. 14-18 Mon.-Fri.
 Mar. 29-Apr. 1 Tue.-Fri.

Apr. 4-7 Mon.-Thurs.

Apr. 8 Fri.
 Apr. 8 Fri.
 Apr. 12 Tue.
 Apr. 22-25 Fri.-Mon.
 Apr. 29 Fri.
 May 2-5 Mon.-Thurs.
 May 5 Thurs.
 May 6 Fri.
 May 7-8 Sat.-Sun.
 May 9 Mon.
 May 9 Mon.
 May 16 Mon.

2011

May 16 Mon.
 Aug. 5 Fri.

2011-12

Aug. 29
 Aug. 29
 Sept. 2
 Sept. 2
 Sept. 5
 Oct. 17-21
 Oct. 21
 Oct. 1
 Nov. 8-11

Nov. 14-17

Nov. 18
 Nov. 18
 Nov. 24-25
 Dec. 9
 Dec. 12-15
 Dec. 15
 Dec. 16
 Dec. 16
 Dec. 19

2011-12

Jan. 16
 Jan. 16
 Jan. 20
 Jan. 20
 Feb. 1
 Mar. 5
 Mar. 9
 Mar. 12-16
 Mar. 20-23

Mar. 26-29

Mar. 30
 Mar. 30
 Apr. 17
 Apr. 6-9
 Apr. 27
 Apr. 30-May 3
 May 3
 May 4
 May 5-6
 May 7
 May 7
 May 14

2012

May 14
 Aug. 3

Fall Semester

Semester begins: Classes begin at 8:10 a.m.
 Late registration begins
 Last day to drop courses with full tuition refund
 Last day to register or change registration (drop/add)
 Labor Day (Classes in session, offices closed)
 Fall vacation, no classes
 Mid-semester (academic warnings)
 Last day to apply for degree in May
 Advanced registration for spring semester, seniors and juniors
 Advanced registration for spring semester, sophomores and freshmen
 Last day to change pass/no pass
 Last day to withdraw from courses
 Thanksgiving vacation (begins 4 p.m., Wednesday)
 Last day of classes
 Semester examinations
 Meal service ends with evening meal
 Degree candidates' grades due in registrar's office, 11 a.m.
 Christmas vacation begins, residence halls close
 Grades due in registrar's office, 1 p.m.

Spring Semester

Semester begins: Classes begin at 8:10 a.m.
 Late registration begins
 Last day to drop courses with full tuition refund
 Last day to register or change registration (drop/add)
 Last day to apply for degree in August
 Advanced registration for Summer Session begins
 Mid-semester (academic warnings)
 Spring vacation, no classes
 Advanced registration for fall semester, seniors and juniors
 Advanced registration for fall semester, sophomores and freshmen
 Last day to change pass/no pass
 Last day to withdraw from courses
 Founders Day (Special Schedule)
 Easter Vacation — No Classes (begins 4 p.m. Thursday)
 Last day of classes
 Semester examinations
 Meal service ends with evening meal
 Degree candidates' grades due in registrar's office, 11 a.m.
 Commencement
 Residence halls close for graduating students
 All remaining grades due in registrar's office, 1 p.m.
 Continuous registration for Summer Session

Summer Session

Classes begin
 Summer Session ends

Summer Session Calendar 2011

	First 6-week	Second 6-week	First 8-week	Second 8-week
Registration for Summer Session begins			Mon. 3/7	
Classes begin	Mon. 5/16	Mon. 6/27	Mon. 5/16	Mon. 6/13
Last day to pay tuition & fees	Mon. 5/16	Mon. 6/27	Mon. 5/16	Mon. 6/13
Last date to register for a directed study, practicum, thesis, or internship			Mon. 6/27	
Last day to add or drop courses	The end of the day of the second class meeting			
Last day to withdraw from classes with full tuition refund	Thu. 5/19	Thu. 6/30	Fri. 5/20	Fri. 6/17
Memorial Day observed University closed			Mon. 5/30	
Last day to withdraw from classes with 40% tuition refund*	Tue. 5/24	Wed. 7/5	Fri. 5/27	Fri. 6/24
Last day to change from pass/no pass	Fri. 6/10	Fri. 7/22	Fri. 6/10	Fri. 7/8
Last day to withdraw from classes	Fri. 6/10	Fri. 7/22	Fri. 6/10	Fri. 7/8
Last date to apply for August degree			Tue. 2/1	
Last day of classes	Thu. 6/23	Thu. 8/4	Thu. 7/7	Thu. 8/4
Independence Day observed University closed			Mon. 7/4	
Official transcript from other institutions due for graduation candidates			Mon. 8/1	
Incomplete/In Progress grades revals due			Mon. 8/1	
Grades due	Mon. 6/27	Mon. 8/8	Mon. 7/11	Mon. 8/8
Grades available online			Tue. 8/9	

*Please note the registration fee is non-refundable.

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Notes About This Bulletin

The *Bulletin* has been published solely for information; information as of June 1, 2010. 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 Graduate School 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, Br. Donald J. Stabrowski, C.S.C., Publisher.

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Non-Discrimination

The University, in its educational policies, programs, and procedures, provides equal opportunity for all its students without regard to race, color, religion, sex, age, national or ethnic origin, or disability.

The University of Portland does not discriminate against qualified individuals with disabilities in the recruitment and admission of students, the recruitment and employment of faculty and staff, and the operation of its programs and activities, as specified by applicable federal laws and regulations. The designated coordination point for University compliance with Section 504 of the Rehabilitation Act of 1973 and for ADA is the Vice President for Financial Affairs, in coordination with the University Health Center, Human Resources, and the Office for University Events.

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 and master's degrees in music and music education are 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 and master's 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 Independent Colleges Association
Oregon Independent Colleges Foundation
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 University of Portland's website at www.up.edu/services/default.aspx?cid=9441. To obtain printed copies of this information, please contact the Director of Financial Aid or the offices listed below.

The University of Portland financial aid information:

The University of Portland financial aid handbook and brochures provide information regarding the cost of attending the University of Portland, the financial assistance that is available, how to apply for funds, and the rights and responsibilities of financial aid recipients. They are available upon request in the Office of Financial Aid. Additional information about the terms and conditions under which students receive Federal Family Educational Loans, Direct Loans, and Perkins Loans is available from the Office of Financial Aid.

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. The *University Bulletin* is 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 in the Office of Admissions, the 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/search.asp> 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.

General Information

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, and the Schools of Education, Engineering, 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, 42 undergraduate programs of study, and 15 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 130-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 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.

Goals and Objectives

The University implicitly acknowledges the following goals and objectives as inherent to the implementation and realization of its mission:

- I. To be guided by Catholic academic, intellectual, and pastoral traditions in the formation of a community of scholars.
 - a. To offer a program that includes the study of Catholic life and thought within the framework of a contemporary university curriculum.
 - b. To foster among its Catholic members a community that is supportive of faith and finds its expression in worship and service.
 - c. To foster an atmosphere that is supportive of authentic religious belief and the aspirations of other faiths.
- II. To assist faculty and students in expanding their vision beyond the limits set by their own social and economic background, geographic experience, and nationality.
 - a. To seek the contribution of those of diverse cultural experiences and background in study and in related activities.
 - b. To offer a range of opportunities for study about and in other countries and cultures.
- c. To provide a program in volunteer services and to encourage participants to reflect on the significance of their volunteer experiences.
- III. To offer contemporary curricula grounded in the liberal arts that prepare students for lives of continued learning, including advanced study and in professional practice.
 - a. To offer academic programs at an externally recognized level of quality, through specialized accreditation where appropriate.
 - b. To foster faculty development through sabbatical leaves, continuing education, and research opportunities.
 - c. To offer compensation that is adequate to attract and retain staff and faculty equal to the goals of the University.
 - d. To provide and maintain facilities and equipment equal to the needs of the University.
 - e. To establish and maintain a system of program review that includes articulation of purpose and evaluation of achievement, where possible with the help of external evaluators.
- IV. To offer a core curriculum, required of all baccalaureate students, that advances basic knowledge in the liberal and fine arts, the sciences, and the humanities; that supports the development of competencies in writing, critical thinking, and analysis; and that helps to integrate the objectives of the various curricula.
 - a. To clarify the purposes of the core curriculum and to communicate these purposes to students.
 - b. To examine at regular intervals the evidence of its success and its integration with other curricula.
 - c. To foster connections among disciplines and between academic programs and student services.
- V. To foster programs and learning at levels of excellence that earn broad recognition and that contribute in singular ways to the well-being of the larger community.
 - a. To support the quality of selected programs in such a way as to earn broad recognition and to present

- models for innovation and effectiveness.
- b. To recruit and support outstanding students and to prepare them for distinguished service.
- c. To provide within the University the financial stability needed to achieve these marks of excellence.
- VI. To provide a community in which individual, personal needs receive recognition.
 - a. To maintain the size of the University, its programs, its component parts, and the ratio of staff and faculty to students so that the needs of individuals are easily recognized and served.
 - b. To foster opportunities for faculty, staff, and students to interact in ways that support the combined goals of academic and personal development.
- VII. To give primacy to teaching and the quality of instruction in academic programs.
 - a. To recognize the primacy of teaching in faculty development, in review for promotion and tenure, and in compensation.
 - b. To recognize the essential and complementary contribution of scholarship to the quality of instruction.
 - c. To uphold scholarship, including research and creative endeavors, as integral to a community of scholars.
- VIII. To provide for the development of the whole person through programs which support and complement the goals of the academic curricula.
 - a. To maintain programs in student activities including athletics that foster leadership, social responsibility, and creative contributions to the community through extra and curricular activities.
 - b. To encourage responsible community living through a campus residence program.
 - c. To foster interaction and mutual support between academic and co-curricular student programs.
 - d. To support quality intramural and competitive intercollegiate athletic programs.

- IX. To demonstrate concern for ethical issues, in curriculum and in practice.
 - a. To support study and research on ethical and social justice issues.
 - b. To encourage service to the neediest members of the community and reflection on this experience.
 - c. To provide the opportunity for hearing and redressing of injustices, both within and outside of the University.

Undergraduate Curriculum

Curriculum Objectives

- I. To provide for all students a common fundament of knowledge, a core curriculum, developed within the framework of the liberal tradition in western culture.
 - II. To provide major programs leading to bachelor degrees which prepare students for future employment or further study.
 - III. To provide service courses in the humanities, arts, social sciences, and natural and mathematical sciences for the curricula of the college and professional schools.
 - IV. To develop the student's ability to explore and analyze the basic questions about human nature and society, the universe, and God; to develop the student's ability to think clearly and objectively about these ultimate questions in order to move from the unexamined life to a more coherent and comprehensive verification of personal convictions and actions.
 - V. To develop an understanding of the findings and insights of the humanities, arts, sciences, and fields of professional study in order to prepare students and graduates to live in a complex and changing world.
 - VI. To develop skills in (1) critical, ethical, and historical thinking; (2) cultural literacy, reading, and listening, proficient writing and speaking; and (3) research methodology, including theoretical and mathematical analysis, computing, problem
-

solving, and evaluation.

- VII. To encourage additional service to and links with the community beyond the University through participation in consortia with other private colleges and universities, faculty research and consultation, student internships, urban and rural plunges, and productions, festivals, and performances.

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 value 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.

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 con-

tributing 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 fashions this core curriculum because we believe 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 this 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 these 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.

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 201, POL 202, POL 203, 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.

Exemptions from the University core will be evaluated by the Academic Senate in collaboration with the president. Exemptions will be reviewed at the time of the internal review process that normally takes place in the year preceding the periodic external accreditations of the professional schools.

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.

College of Arts & Sciences

Biology, B.S., B.A.
Chemistry, B.S.
Communication, B.A.
Drama, B.A.
English, B.A.
Environmental Ethics and Policy, B.A.
Environmental Science, B.S.
French Studies, B.A.
General Studies, B.S., B.A.
German Studies, B.A.
History, B.A.
Mathematics, B.S., B.A.
Music, B.A.

Organizational Communication, B.S.
Philosophy, B.A.
Physics, B.S., B.A.
Political Science, B.A.

*Pre-law study

†Pre-medicine study

Psychology, B.A.
Social Work, B.A.
Sociology, B.A.
Sociology/Criminal Justice Track, B.A.
Spanish, B.A.
Theology, B.A.

Dr. Robert B. Pamplin, Jr.

School of Business Administration

Accounting, B.B.A.
Economics, B.B.A., B.A.
Finance, B.B.A.
Global Business, B.B.A.
Marketing and Management, B.B.A.
Operations Technology Management, B.B.A.
B.B.A./M.B.A. Program for Accounting Majors

School of Education

Elementary Education, B.A.Ed.
Music Education, B.M.Ed.
Secondary Education, B.S.S.E.

School of Engineering

Civil and Environmental Engineering, B.S.C.E.
Computer Science, B.S.C.S.
Electrical Engineering, B.S.E.E.
Engineering Management, B.S.E.M.
Mechanical Engineering, B.S.M.E.

School of Nursing

Nursing, 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:

Biology
Business Administration
Catholic Studies
Chemistry
Communication
Computer Science
Drama

*Law schools 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.

Economics
Education
English
Entrepreneurship
Environmental Policy
Environmental Studies
Fine Arts
French
German
HPE: Sport Exercise and Fitness
History
Mathematics
Music
Philosophy
Physics
Political Science
Psychology
Social Justice
Sociology
Spanish
Theology

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 page 127 for information about the curriculum for each graduate degree.

Business Administration, M.B.A., M.S.
Communication, M.A.
Education, M.A., M.A.T., M.Ed.
Education, licensure and post-master's
Engineering, M.E.
Finance, M.S.
Management Communication, M.S.
Nursing, M.S., D.N.P.
Pastoral Ministry, M.A.P.M.
Theatre, M.F.A.

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.

Air Force ROTC Aerospace Studies

Col. Paul Huffman, professor of aerospace studies

Faculty: Durrell, Lehne, McGowan, Gates

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 either concurrently enrolled in both the sophomore and freshman GMC course, a total of two semester hours each term, or attend an extended field training unit the summer between their sophomore and junior year.

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

[1] Be a citizen of the United States.

[2] Successfully pass the Air Force Officer Qualifying Test.

[3] Successfully pass a physical examination (paid for by the Air Force).

[4] Successfully pass the Air Force Physical Fitness Assessment.

[5] 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

Lt. Col. Lewis Doyle, professor of military science and leadership

Faculty: Cardiel, Crabtree, Delint, Healy, Lontai

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.

[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.

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.

Uniforms and Texts

Army ROTC uniforms, basic course texts, and equipment are furnished without charge.

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.

Extracurricular Activities

Ranger Challenge: An Army ROTC varsity sport designed to provide its members with additional adventure training in basic and advanced tactics, rappelling, and cross-country land navigation.

Color Guard: The University of Portland Army ROTC Color Guard participates in a variety of school and civic functions.

Drill Team: Army ROTC offers an exhibition drill team that performs at social and

military functions.

Advanced Special Skills Qualification

Training: Advanced military science and leadership students and select basic military science and leadership students may participate in regular Army training schools: Airborne, Air Assault Schools, Northern Warfare School, and Cadet Troop Leadership training.

Catholic Studies Minor

Directors: Rev. James M. Lies, C.S.C., Ph.D., psychology; Rev. Charles B. Gordon, C.S.C., Ph.D., theology

The Catholic studies minor is a University-wide, interdisciplinary minor designed to permit and encourage students to reach into the broad tradition from which Catholicism as an intellectual tradition developed, to deepen their understanding of Catholicism's rich and living heritage, to examine the contributions the tradition has made to culture and the contributions it has received from culture, and to be aware of its development and influence in the contemporary culture. The minor is open to all students and it is intended to be interdisciplinary. It provides opportunities to explore the dynamic interaction between Church and culture as well as culture and Church. It is intended to challenge students to understand and to contribute to the transformative power of Church teaching in every aspect of life and to understand the development of Church teaching in history. It is intended to provide opportunities for students to engage in sustained reflection on the Catholic tradition and to experience Catholicism in its many facets—intellectual, spiritual, liturgical, artistic, and service. The interdisciplinary nature of the minor distinguishes it from theology, and the more intense intellectual focus as opposed to more focused social justice component distinguishes the minor from the social justice program.

The Catholic studies minor requires 18 credit hours—two required courses and four elective courses. The distribution is as follows: (a) required course: PHL 150: Introductory Philosophy (3 credit hours); (b) required course: THE 457: Foundation of Catholic Theology (3 credit hours); and (c)

elective upper-division courses (12 credit hours) carrying Catholic studies credit. These twelve hours taken for the Catholic studies minor are to be distributed among three academic disciplines. There are presently seven academic disciplines that have courses in the *Bulletin* that are listed in the Catholic studies minor. For more information about the minor please contact either of the directors (lies@up.edu or gordon@up.edu).

Cross-Registration Program

Roberta Lindahl, M.B.A., registrar

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

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 OICA cross-registration form and additional information at (503) 943-7321.

Participating institutions include Concordia University, Corban College, 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, Warner Pacific College, Western Seminary, Western States Chiropractic College, 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 mission 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 3.0, 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: orr@up.edu.

Learning Resource Center

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, 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 knowl-

edgeable 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.

Social Justice Program

Directors:

Lauretta Frederking, Ph.D., political science
Rev. James M. Lies, C.S.C., Ph.D., psychology

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.

All participants in this program — which includes a wide range of religious denominations and a principled adherence to ethical behavior — prepare themselves to challenge unjust systems and become leaders who will create a better world.

The program includes courses in its curriculum such as business, education, English, history, mathematics, philosophy, political science, sociology, and theology. The program leads to a certificate in social justice or a minor in social justice. In addition, the program is available as a continuing education opportunity.

The certificate program requires students to complete 12 credit hours in social justice with a minimum grade of C in each course. These 12 credit hours must be completed in at least three different academic disciplines.

Requirements for the minor include the successful completion of SJP 200 (Perspectives of Social Justice) and SJP 452 (Social Justice Leadership Capstone) and 12 other upper-division credit hours in at least

three different academic disciplines.

For complete details, contact the program co-directors at 5000 N. Willamette Blvd., Portland, Oregon 97203-5798. Telephone (503) 943-8076 or e-mail frederki@up.edu, or (503) 943-7771 or lies@up.edu.

Certificate in Spanish

Lora Looney, Ph.D., coordinator

The University offers a certificate program in Spanish designed for students who are not majoring in Spanish, but who wish to gain genuine proficiency at the same time they are pursuing their own majors. The certificate requires 21 upper-division semester hours including an overseas experience approved by the international languages program. Approved one-semester programs include the ILACA program in Granada, Spain and the University's summer program in Morelia, Mexico and Segovia, Spain.

The certificate in Spanish is awarded at the same time as the baccalaureate degree in the student's major.

Prior to applying to a study abroad program for the certificate, a student must have completed a 301-level language course (or equivalent), maintained a minimum 3.0 grade point average in the target language, and 2.5 grade point average overall. The following is what a semester-abroad course schedule might look like:

Hrs.

3	302+ level of foreign language study
3	Foreign literature course
3	Core course
6	Electives

It is recommended that students start as early as possible in planning their semester abroad.

For complete details contact the foreign language coordinator or the director of studies abroad, University of Portland, 5000 N. Willamette Blvd., Portland, OR 97203-5798. Telephone (503) 943-7286/7221. Toll-free: (800) 227-4568.

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 Rome, and summer-study programs in Salzburg, London, Tokyo, Broome, Australia, Montreal, Canada, Segovia, Spain, and Morelia, Mexico. 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 German language. 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.

Salzburg

René Horcicka, M.A., director in residence

Eva Brandauer, Ph.D., assistant director

Faculty: *E. Aussermair, J. Aussermair, Feldner, Hemetsberger, 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 into a different culture, travel to all corners of Europe, and experience personal growth as a member of the University community in Salzburg.

The University sponsors academic tours for the students while they are abroad. On the fall tours, students examine firsthand the art, religion, and history of Austria, 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, and 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. German language study enhances each student's ability to communicate with Austrian and German people. An important aspect as well 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.

Australia

TBA, 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 students and accounting students may participate as sophomores. The program includes a field trip to the aboriginal community at Broome. In odd-numbered summers, a five-week program for biology students is offered in Broome.

Rome

Fall semester programs are available in Rome, by arrangement with John Cabot University, an independent international university with strength in international relations and international business. The program is open to juniors and seniors.

Summer Studies in Japan

A study/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 deal with 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.

The 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 headquartered in residential facilities in London, convenient to all major sites in the city. The program is open to all qualified students after their freshman year. Enrollment is limited and admission is competitive; application must be made in October; selection of participants will be made and 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.

Morelia, Mexico

Programs in advanced Spanish, social work, Mexican health systems, and Mexican traditions are available every summer in Morelia, Mexico. All instruction is in Spanish and students live with Spanish-speaking families.

Segovia, Spain

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

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 rep-

resentation 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 or 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 descrip-

tion 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 Appeals."

II. Course Registration

[A] The dates for registration of students in both semesters and summer session are set forth in the University calendar contained in this *Bulletin*.

[B] 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.

[C] 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.

[D] 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.

[E] Students may not register for more than 18 semester hours of credit (nine semester hours in the summer session), without the consent of their dean.

[F] 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.

[G] The dates for closing the late registration and the latest date for dropping or adding of classes are listed in the University calendar.

[H] Registration is not complete until a student has been cleared by the Office of Student Accounts (by payment of all tuition and fees and the signing of any financial aid checks, etc. prior to the start of the term). The University reserves the right to cancel the registration of any student who has not been cleared once the term has begun.

[I] 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 chairman, dean, and graduate program director is required.

[J] 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.

[K] 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

[A] If an instructor is 10 minutes late, the class is considered dismissed.

[B] 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.

[C] 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 in which semester examinations are required, the examinations are to be given 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.

V. Grades and Credits

[A] Midterm Grades and Academic

Warning At the mid-point of each semester, instructors shall give a mid-term grade to each student in 100 and 200 level courses. These grades are entered on the student's record, but when a final grade appears at the end of the semester, the mid-term grades disappear.

In upper-division courses, instructors should provide either mid-term grades for the entire class, or shall 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.

[B] 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.

[C] 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.

[D] 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**.

[E] 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.

[F] 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.

[G] 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.

[H] 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.

[I] 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.

[J] 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 students returning to campus within the allowed medical leave period, financial aid policy allows all institutionally controlled funds previously awarded the student to be restored. (For full details, please go to the University of Portland website at www.up.edu/finaid/, click on "Links and Resources," and pull up the most recent *Financial Aid 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:

[A] Appeal the question to the head of the department (unless the department head is a party to the grievance).

[B] 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.

[C] 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 in question 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

[A] Students may challenge courses and/or receive advanced placement with credit upon 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.*

[B] Credit may be granted for advanced placement for those courses required in the student's major program.*

[C] Students who have earned 60 or more semester hours of college credit cannot gain additional credit through the College Level Examination program (CLEP) general tests. They may receive credit for satisfactory scores in specialized subject examinations.

VII. 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. Furthermore, the records of those

*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.

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.

VIII. Transfer of Credits

[A] 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.

[B] 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.

IX. Student Classification

[A] 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.

[B] 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.

[C] 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 page 36 of this *Bulletin* for specific requirements for admission to this student status.

[D] 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.

[E] 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.

X. Graduation and Degrees

[A] 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.

[B] In addition to satisfying the above quantitative 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.

[C] 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 School chapter of this *Bulletin* beginning on page 127.)

[D] 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.

[E] 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.

XI. 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 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%.

XII. Miscellaneous Regulations

[A] Applicability Students and University personnel are bound by all published University rules and regulations.

[B] 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 enrollment management and student life and a notation of such action shall be kept in the student's file in the Office of the Registrar.

[C] 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.

[D] 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.

[E] Exceptions Exception to any academic regulation is permitted only for extraordinary reasons, and then only by the provost.

[F] 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.)

[G] 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.

[H] 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.

[I] University Communication All University of Portland students, faculty, and staff are required to obtain access to the University network, the campus portal (PilotUP) 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.

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 stu-

dent 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, or 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

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 Associate Vice President for Student Life. 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 enrollment management and student life, and student life 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 ap-

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. 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.

Additional Academic Regulations for Graduate Students

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

Office of Student Accounts

2010-2011 Tuition & Fees

TUITION PER SEMESTER

Undergraduate — per semester/	
12 hours or more*	\$ 16,095.00
Undergraduate — per semester	
hour/11 hours or fewer	\$ 1,010.00
Graduate — per semester hour†	\$ 900.00
Auditor — 50% of tuition, 100%	
of course fees	
Students 65 years and older —	
50% of tuition	
Business, Computer Science,	
Economics, Education‡,	
Engineering, Nursing courses	
per semester hour fee	\$ 35.00

PER SEMESTER FEES

Health insurance — full-time	
undergraduate only unless	
waived before or during	
registration as explained	
under "Payment Schedule"	\$ 604.00
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 & FOOD SERVICE RATES

The University offers the following on-campus living options per semester:

ROOM

Traditional Hall	
Standard Room	\$2,645.00
Single Room	\$3,090.00
Double/Single Room	\$3,465.00
Tyson/Haggerty	
Standard Room	\$3,560.00
Single Room	\$4,003.00
Double/Single Room	\$4,450.00

* For foreign programs contact program director.

† For theology, education programs contact graduate program director.

‡ Graduate education programs are exempt from professional fees unless noted under course descriptions.

Meal Plans—Declining Balance

Level 1: \$2,015.00 with \$1,375.00 in Dining Dollars

Level 2: \$2,125.00 with \$1,550.00 in Dining Dollars (Level 2 has a 4.4% bonus incentive)

Level 3: \$2,235.00 with \$1,750.00 in Dining Dollars (Level 3 has 9.7% bonus incentive)
Tyson/Haggerty Base Meal Plan: \$1,820.00 with \$1,180.00 in Dining Dollars

Special accommodations — rates on request
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. Non-resident students may purchase Level 1 or Tyson/Haggerty Base Meal Plan.

Dining Dollars is a prepaid individually funded account for food service purchases on campus. Dining Dollars 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 (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 de-

ducted 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
University Court and Haggerty Hall parking permit, one semester	\$ 100.00
Tuition due date for fall semester is August 13, 2010.	

Tuition due date for spring semester is January 4, 2011.

Students accounts not paid in full by Friday, September 3, 2010 and January 21, 2011 will be assessed a \$75.00 late payment fee.

Lost or stolen ID card fee	\$ 10.00
Returned check fee	\$ 35.00
Thesis in progress fee	\$ 40.00
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 2010-2011****All Students:**

Tuition	\$ 16,095.00
*Health Insurance	\$ 604.00
†Average Fees	\$ 250.00
†Average Books	\$ 650.00
Standard Room/Level 2	\$ 4,770.00
†Average Personal Expenses	\$ 500.00
<u>†Average Transportation</u>	<u>\$ 500.00</u>
Total	\$ 23,369.00

Payment Schedule

Payment in full for tuition, room, and board (where applicable), and any assessed fees are due on or before August 13, 2010 for the fall 2010 semester and January 4, 2011 for the spring 2011 semester. Students must make financial arrangements for any unpaid portion of their bill with the Office of Student Accounts prior to the due date

*Health insurance information found on page 30.

†Amounts are estimated.

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 first part of December 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.

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.

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 day of registration at the beginning of the fall semester. Any health waivers received after this timeline will not be accepted for the current semester. Waivers are available online at www.aetnastudenthealth.com.

Student Government Fee The student government fee is used by the Associated Students of the University of Portland (ASUP) to promote activities.

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.

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.*

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 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 circum-

*Students enrolled in off campus programs should refer to the program handbook.

stances, you may contact the Office of Student Accounts to apply for an exception to the refund policy.

A different refund policy applies to students receiving federal financial aid. Please contact the Office of Financial Aid regarding this policy.

Credit balances are reviewed twice a year and are 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. A student that has a hold in 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 level charges will be prorated if a student withdraws from the University or is released from the residence hall and food service contract. If additional dining dollars have been added by the student on top of the meal plan level a student may provide the food service office a written request for a refund.

Athletics

Athletics/Intramurals

Lawrence R. Williams II, J.D., 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 nearly 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 intercollegiate program competes in the WCC in basketball, golf, tennis, soccer, and cross country. 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 intramural program offers a wide variety of organized sports and recreational activities for the student body, faculty, and staff. Both "pro" and "rec" divisions are offered in basketball, volleyball, indoor/outdoor soccer, ultimate frisbee, tennis, softball, and other sports. Activities include biking, camping, snow skiing, hiking, snowshoeing, and rafting. Classes are offered in many activities including tae kwon do, boxing, scuba diving, yoga, and aerobics. For more information contact recreational services at (503) 943-7177.

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 home to the main office of campus ministry. The director of campus ministry, the administrative assistant, and the associate director for music are located in the chapel. Assistant directors are also located in the Pilot House and in the lower level of Kenna Hall.

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.

Campus Ministry Programs

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., seniors or freshmen). Faculty and staff from the University are invited to participate in the 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.

Garaventa Center for Catholic Intellectual Life and American Culture

Rev. James M. Lies, C.S.C., Ph.D., 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 for Catholic Intellectual Life and American Culture seeks to enhance the intellectual, moral, and religious development of our communities by examining the rich intersection of Catholic faith and American culture. Each year, the Garaventa Center celebrates the Catholic intellectual tradition through lectures, conferences, art exhibits, and concerts. As Catholic, this 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. As American, this commitment is mindful that the spirit of freedom and the spirit of religion together marked the founding of this nation and that freedom and religion can together guide the continued flourishing of the nation and its people.

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

Jon Down, Ph.D., director

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

Peter Rachor, academic programs director

Laura Steffen, coordinator for sustainable 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 business 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 \$16K Challenge is administered by the Center. The 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 a local pool of entrepreneurs, venture capitalists, and other successful mentors who evaluate the teams' business plans,

awarding a total of \$16,000 in cash and prizes among winners of the competition. This experience provides opportunities through team building, mentoring, education, networking, and capital formation.

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.

Enrollment Management and Student Life

John T. Goldrick, J.D., vice president for enrollment management and student life
Rev. John Donato, C.S.C., Ed.D., associate vice president for student life

The Division of Enrollment Management and Student Life is charged with managing the University's enrollment and developing and maintaining a quality of student life consistent with the University's mission and Catholic identity, a quality that enhances the development of the whole person and fosters an environment in which students learn from campus experiences and interaction with the University community.

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 the *Student Handbook*.

The vice president for enrollment management and student life 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 enrollment management and student life at (503) 943-7207.

Office of 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 2011-2012 year may be submitted beginning September 1, 2010. 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 February 1 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 will be awarded on the basis of satisfactory scores on Advance Placement (AP), International Baccalaureate (IB), and the College Level Examination Program (CLEP) 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. CLEP provides a series of objective examinations to assess student proficiency in several general fields: natural science, social science/history, humanities, English composition, and mathematics. Subject examinations are also offered in a wide variety of fields. These tests measure competence in specific college-level academic areas.

There is no grade attached to advanced placement, international baccalaureate, or CLEP credit. 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 under 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 2.5 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 2.5.

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).

Postgraduate and Graduate Students

Admission to the University as a postgraduate or non-matriculated 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 toward a graduate degree. Graduate students should consult the graduate section of the *Bulletin* for admission procedures.

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 non-matriculated 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.

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 resume writing, job searching, choosing a major, 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.

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: cavanaugh@up.edu. Webpage: www.up.edu/career.

Financial Aid

Janet Turner, director

The goal of the financial aid office is to serve students by recognizing that every student's family financial need is unique. 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. Then, the Office of Financial Aid 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 student FAFSA information, financial aid counselors create individual financial aid packages based on applicant data. These financial aid packages can include grants, loans, work study, and scholarships.

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 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.

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.

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 PLUS loans, and private education student loans. For students attending graduate school there are federal graduate PLUS 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.

Scholarships are a form of aid that help students pay for their education. Unlike student loans, scholarships do not have to be repaid. Scholarships come from numerous sponsors. Some scholarships are reserved for students with special qualifications, such as academic, athletic, or artistic talent. Scholarship awards are also available for students who are interested in particular fields of study, who are members of underrepresented groups, who live in certain areas of the country, or who demonstrate financial need.

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.

edu/finaid/handbook.

Contact Information: E-mail: finaid@up.edu. Telephone: 503-943-7311 or toll-free 800-227-4568. Fax: 503-943-7508.

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 U.S. Citizenship and Immigration Services, 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. Telephone (503) 943-7367. Toll free (800) 227-4568.

Public Safety/ Parking

Harold Burke-Sivers, M.T.S., 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 sur-

rounding 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 the various campus traffic and parking regulations. A copy of these regulations is available at the Information Center and at the Office of Public Safety.

Residence Life

Michael Walsh, director

The Office of Residence Life is committed to creating supportive living environments that are safe and inclusive. Residence life promotes mutual respect, faith, and service to others in communities focused on the development of students. Residents are called to communal responsibility and encouraged to explore and develop spirituality and leadership skills for continued education of the mind and the heart outside the classroom.

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 administra-

tive 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.

Shepard Freshman Resource Center

Brenda Greiner, 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.

Early Alert Program

Paul Myers, Ph.D., director

Thomas Greene, Ed.D., director

The Early Alert program is intended to support sophomores, juniors, and seniors 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 po-

tential. 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. On the University's website, there is a white bar with a pull-down menu. Simply open the menu and scroll down to Early Alert. You may contact Early Alert through the e-mail hot link found on the page.

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, 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 serves student organizations and leaders in learning and exercising their skills in the pursuit of their activities.

Approximately 60 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 or academic 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 1580 AM.

The Associated Students of the University of Portland (ASUP), the student government of the undergraduate student body, allocates the student activity 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, an advertising service for campus events; Espresso UP, a free “latte break” on Wednesday evenings in St. Mary’s lounge; and the Pilot Express, a limited shuttle service to the airport and train station in conjunction with official University breaks.

The University celebrates cultural differences among students and values multicultural programs that enrich the educational experience for all students. Student activities provides programs that encourage the sharing of different cultural traditions and values. Multicultural programs include: Ohana, the freshman pre-orientation program for multicultural students; special diverse campus programs and initiatives; the U.P. Diversity Committee; and student diversity coordinators.

The Office of Students Activities serves as a resource to students over 25 years old who may have different needs and concerns than traditional college students.

The student activities office coordinates an orientation program for new undergraduates at the start of the fall and spring semesters, including events planned especially for transfer students, minority students, commuter freshmen, and adult students. It coordinates events for 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 *Student Handbook*, which is an on-line resource including the student code of conduct and other important policies and information. The *Student Handbook* is found at www.up.edu/activities. Each student should receive a copy of the *Student Handbook* every year.

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.

Health & 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 as appropriate.) 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 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.

Persons 18 years or over may assume responsibility for their own health care in the State of Oregon. For more information call (503) 943-7134 or go to the health center webpage at www.up.edu/healthcenter/.

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.

For more information contact the health center at (503)943-7134 or go to the health center webpage at www.up.edu/health-center/.

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.

Moreau Center for Service and Leadership

Laura N. Goble, director

The Moreau Center for Service and Leadership provides students with opportunities to provide direct service and effect social change in Portland, the broader United States and globally. In doing so, the Moreau Center forms spiritually aware servant-scholars and global citizens committed to 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 teaching, faith, and service. Frequent reflection on service is integral to the mission of the office. The office also supports faculty and students in developing service-learning experiences which link course content and community service.

Opportunities include project management, tutoring children and recent refugees, mentoring, visiting the elderly and mentally disabled, serving meals to the homeless, building and repairing homes, working with disabled children and adults, study of migrant farm issues, study of inner city problems, and more.

More information is available by calling (503) 943-7132 or online at www.up.edu/moreaucenter, or by e-mail at moreaucenter@up.edu.

Information Services Division

James Ravelli, vice president for information services

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, reli-

able, 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 requesting technology services and support. Located in Buckley Center 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 account services (e.g., network, electronic mail, portal, and Banner), and telephone/onsite support for help with software applications, hardware issues, and telephones, including voicemail. Contact the help desk at (503) 943-7000; extension 7000 on campus; or help@up.edu. Help sheets are also available on the information services website under "Technical Support."

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, videotape 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 more creatively and effectively. To request a class, training session, or to receive more information on how to implement technology in the classroom, contact or visit the training specialist located in Franz Hall room 113 at (503) 943-8543, or extension 8543 on campus.

Computer Classrooms

There are nine 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, 211, and 212; Engineering 249 and 206; and Old Science 201 and 206. The computer classrooms contain personal computers (PCs) with the exception of Franz 125 and Buckley Center 212, which contain Macintosh computers. Shiley 206, 249, and Franz 125 are also Macintosh computers to 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 26 smart classrooms and 17 smart seminar classrooms on campus. Smart classrooms and seminar rooms contain the latest in audiovisual technology to provide the utmost in interactive education. Smart classrooms are located in Franz 006, 015, 026, 034, 206, 214, 223, and 231; Buckley Center 106, 108, 110, 111, 112,

205, 207, 209, 307, 310, 314, and auditorium; Shiley 101, 123, 124, 301, and 319. The smart seminar rooms are located in Franz 005, 018, 025, 038, 106, 108, 110, 111, 112, 205, 210, 217, 222, 234 and Buckley Center 103, 303, and 309. Each smart seminar room contains a computer, network and Internet access, VCR/DVD player, video projector, screen, and overhead projector with sound system. Smart classrooms also include a 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 eight smart carts, each containing a laptop computer, VCR/DVD player, video projector, and sound system.

Computer Labs (General Purpose)

There are three general purpose computer labs on campus, located in Franz 111, the Clark Memorial Library, 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 match facility hours. 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.

Computer Labs (Special Purpose)

There are eight special purpose computer labs on campus, located in Franz 120 (foreign language lab), Franz 119/120 (learning resource center), Franz 111 (assistive technology lab), Buckley Center 304, and Swindells 128, 143, and 241. Each lab contains PCs or Macintosh computers and specialty software as determined by faculty. Special purpose labs are available for use by students enrolled in courses in engineering, biology, chemistry, mathematics, computer science, nursing, physics, and foreign languages, and by students

with special needs. In some cases, a computer classroom will double as a computer lab for certain courses (e.g., music, GIS, and remote sensing).

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 resident 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.

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 campus portal that serves as a one-stop online source for access to e-mail, announcements, Self-Serve, campus events, the network folders, Moodle, and more.

Moodle

Moodle is an online course management system used by faculty and students to manage class messages, announcements, assignments, PowerPoint presentations, online quizzes, course links, and discussion boards. Moodle is accessible via the Moodle portal at pilots.up.edu.

Gmail

Information services provides a secure, standards-based messaging environment for the student community through an arrangement with Google's Gmail messaging system. The Gmail service provides a

web-based messaging environment that facilitates easy of 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 gain access to their e-mail by logging into the PilotsUP portal, then clicking the "e-mail" tab.

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 support and training, space on supported web servers and access to specialized web applications, information services provides specialized software and training through the University Web Management Center for individuals who manage campus websites and communities ranging from the College of Arts and Sciences and professional schools to student groups and media organizations. Contact web and administrative systems at (503) 943-7880 or extension 7880 on campus.

Software

Twice per year, information services asks faculty to provide their software requirements for the summer, fall, and spring computer classroom and lab software builds. The College of Arts and Sciences and the professional schools 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 nine 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 one gigabyte of personal data storage on the "P" drive. Each student receives 500 megabytes of personal data storage on the "P" drive. Files can be accessed off-campus via the PilotsUP portal at pilots.up.edu.

Policies

The following policies are available on the information services website at www.up.edu/is:

- **Acceptable Use Policy:** reflects the ethical principles of the University community and indicates, in general, the privileges, responsibilities, and limitations of those using University computing resources.
- **Backup Policy:** 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 Policy:** standardizes naming of e-mail accounts and file storage associated with these accounts.
- **Information Security Policy:** 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 Policy:** articulates the Uni-

versity's position involving mass e-mail (sometimes called "bulk email") to distribute official and commercial messages to members of the University community.

■ Password Policy: establishes a standard for the creation of strong passwords.

■ Peer-to-Peer Policy: 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.

Wilson W. Clark Memorial Library

Drew Harrington, M.L.S., dean of the library

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

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 and learning library. In addition to its primary teaching mission, the library combines the latest information technology with traditional resources to serve students, faculty and staff seeking information and pursuing knowledge.

Visit the library's home page at <http://library.up.edu>.

Services

The library faculty and staff provide on-campus and distance education instruction, research expertise, library 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 unit requests and rapidly delivers electronic and print materials not held in our collections.

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

The library media center is available for the University community to view or listen to multimedia materials individually or in groups. A self-service graphics production lab is available for the creation of instructional materials including posters, transparencies, signs, banners, and other graphics.

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

Electronic Resources and Traditional Collections

The library subscribes to an expansive collection of electronic resources—subject research databases, full-text and citation 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 200,000 items, providing a rich and ever-evolving selection of books, journals, CDs, DVDs, e-books, videos, slides, and microforms. These important collections support research, reading, and critical thinking skills developed through broad exposure to ideas.

The Clark Memorial Library collections, built collaboratively by librarians and subject faculty, are mindfully selected to complement 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 26 million additional library resources through the University's membership in the SUMMIT consortium, which provides students either remote or on-site borrowing privileges at all member institutions. SUMMIT borrowing is available on the Clark Memorial Library web pages, allowing users to search and select resources from the collections of 36 academic libraries in Oregon and Washington.

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 7:30 a.m. until midnight, Monday through Thursday; 7:30 a.m. until 9 p.m. on Friday; 10 a.m. until 6 p.m. on Saturday; and 10 a.m. until midnight on Sunday. Special hours are posted for the summer session and for times when school is not in session.

Archives and Artifacts

Rev. Robert Antonelli, 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. The University archivist may be reached by telephone at (503) 943-7116.

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 12 noon, and 1 p.m. to 4 p.m. The Museum director may be reached by telephone at (503) 943-8038.

College of Arts and Sciences

Rev. Stephen C. Rowan, Ph.D., dean

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

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

Matthew J. Baasten, Ph.D., associate dean for students

The curricula and programs of the College of Arts and Sciences are central to the academic life of the University and to its Catholic character. They have been designed to encourage students to formulate and incorporate intellectual, ethical, social, and spiritual values. At the heart of this endeavor is an educational approach that combines excellence in teaching, value-centered instruction, and personal attention to the individual. The faculty, through the curriculum, attempt to order and integrate development of breadth and depth, with keen awareness that education is a question of personal intellectual growth. Close student-faculty relationships ensure that the atmosphere of the college encourages such growth. Learning is a true community effort in which students and faculty actively take part.

The college provides the core curriculum for the entire undergraduate student body. The college offers undergraduate major and minor programs in the humanities, social and natural sciences, as well as interdisciplinary majors and support courses for the professional schools. Graduate programs are offered in communication studies, drama, music, and theology.

College Requirements

The undergraduate programs are designed to build on the University 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.

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.

Many students will accomplish this requirement with CST 100 Persuasion and

Leadership, which advances the University of Portland's core service and leadership element by teaching students how leaders and institutions use communication to exert influence and negotiate power. This course seeks answers to the core question "How does the world work? How could it work better?" All CST 100 course sections introduce students to the aptitudes required for 21st century leadership and share three learning objectives. The student will be able to:

[1] Demonstrate ability to construct, analyze, present, and evaluate persuasive messages.

[2] Demonstrate understanding of how leaders use interpersonal, small group, and public messages to influence.

[3] Demonstrate understanding of ethical issues inherent in persuasive communication.

This course further aids students' University transition via the co-curricular first-year workshops aligned with fall semester CST 100 sections. The CAS core communication requirement helps students engage and explain human social influence in ways that enrich their experiences as students of many disciplines and as citizens of the world. CST 101, CST 107, CST 307, ENG 107, and ENG 311 also fulfill this requirement.

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 33x, 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] Understand how problems in metaphysics are related to problems in other academic disciplines, for example, theology, and to problems in every day 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.

Major Programs

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.

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.

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 language is the gateway to culture, every student in B.A. degree programs will demonstrate proficiency through the intermediate level of 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.

[2] Completion of French, German, or Spanish 202.

[3] International students whose first language is not English.

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

Required: 15 upper-division hours and at least two courses must include a laboratory component. Prerequisites: BIO 206-207, BIO 276-277.

Catholic Studies

Required: PHL 150 (Introductory Philosophy) and THE 457 (Foundation of Catholic Theology) and 12 upper division hours distributed across three disciplines: PCS 320 Anglo-Saxon and Medieval Literature (ENG), PCS 323 Chaucer (ENG 323), PCS 330 Divine Comedy (ENG 330), PCS 333 Medieval Europe (HST 333), PCS 334 Problem of Being (PHL 334), PCS 335 Europe in the Age of Religious War (HST 335), PCS 345 Spain from 1000 - 1700 (HST 345), PCS 354 Colonial Latin America (HST 354), PCS 391 Renaissance Europe 1350-1600 (HST 391), PCS 400 Integrating Seminar in Environmental Studies (ENV 400), PCS 405 Poets, Prophets, Divas, and Divines (THE 405), PCS 422 Modern Catholic Ethics (THE 422), PCS 425 Catholic Social Teaching (THE 425), PCS 426 Comparative Economics (ECN 426), PCS 435 Bioethics (PHL 435), PCS 438 Catholic Mass (THE 438), PCS 441 Responding to God: An Introduction to Spiritual Practice (THE 441), PCS 442 Introduction to Christian Spirituality (THE 442), PCS 452 Social Justice Leadership (SJP 452, PSY 452), PCS 453 Religion and Science (THE 453), PCS 456 Literary Catholicism (THE 456), PCS 457, PCS 459 Theological Themes in Catholic Literature (THE 459), PCS 463 Mystic, Thinker, Teacher: Life and Works of Augustine (THE 463), PCS 467 History of the Catholic Church in America (THE 467), PCS 469 Great Philosophers (Philosophers in the Catholic Tradition) (PHL 469), PCS 472 Medieval Philosophy (PHL 472), PCS 482 Theology in Ecological Perspective (THEP 482), PCS 486 Mysticism of Resistance (THEP 486, SJP 486), PCS 491 Special Offerings in Theology (THE 491).

Chemistry

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

Communication

Required: 15 upper-division hours.

Drama

Prerequisite: DRM 210. Required: 15 upper-division hours to include DRM 321, DRM 350, and DRM 407 or DRM 408. Three of the remaining hours must be a design practicum elective: DRM 351, DRM 353, DRM 363, or DRM 365. The remaining three hours must be a theory elective: DRM 310, DRM 333, DRM 427, DRM 450, or DRM 471.

English

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. Prerequisite: ENG 112.

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), Freshwater Ecology and lab (BIO 363/373) (4 hours), or Stream Ecology and lab (BIO 391/392); one of the following theology courses: Ecology in Theological Perspective (THE 428) or Theological Environmental Ethics (THE 427) (3 hours), or Theology in Ecological Perspective (THEP 482); two courses from the following list: Environmental Policy (ENV 349), States and the Market (POL 378), Business in a Political World (POL 379), Public Administration (POL 333), 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). Total: 16 hours.

Environmental Science

Required: 16 upper-division hours comprised of Ecology in Theological Perspective (THE 428) or Theological Environmental Ethics (THE 427) or Theology in Ecological Perspective (THEP 482) (3 hours); Ecology with lab (BIO 442/472) (4 hours);

and 9 hours from the following list: Animal Behavior (BIO 347), Freshwater Ecology (BIO 363), Freshwater Ecology Lab (BIO 373), Seed Plant Biology (BIO 341), Seed Plant Lab (BIO 371), Marine Biology of the Pacific Northwest (BIO 338), Marine Biology Lab (BIO 368), Stream Ecology (BIO 391), Stream Ecology Lab (BIO 392), Invertebrate Zoology (BIO 436), Invertebrate Lab (BIO 476), 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), 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). Total: 16 hours.

Fine Arts

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

History

Required: 15 upper-division hours. Prerequisite: One 200-level History course.

International Languages and Cultures

(Minors are offered in French, German, and Spanish.) Required: 12 upper-division hours. All lower- and upper-division hours must be taken in the same language. Prerequisite: 12 lower-division hours or equivalent.

Mathematics

Required: 15 upper-division hours (except MTH 387).

Music

Required: MUS 001 (2 semesters), MUS 101, MUS 103, MUS 286 (2 semesters), MUS 243/244/245/252/253 (two semesters), MUS 303, MUS 486 (2 semesters), MUS 443/444/445/452/453 (two semesters), Music Electives (5 credits, only two of which may be lessons or an ensemble). Total: 20 credits plus 2@0.

Philosophy

Required: 15 upper-division hours including at least one course from PHL 331-335 and at least three 400-level PHL courses. Prerequisites: PHL 150 and PHL 220.

Physics

Required: 15 upper-division hours; up to three hours of advanced laboratory credit may be included. Prerequisites: PHY 204-205.

Political Science

Required: 15 upper-division hours. Prerequisite: Any 200-level political science course.

Psychology

Required: 15 upper-division hours. Prerequisite: PSY 101.

Social Justice

Required: SJP 200 and SJP 452 and 12 upper-division hours from Social Justice Program (SJP) listed courses distributed among three academic disciplines.

Sociology

Required: 15 upper-division hours. Prerequisite: SOC 101.

Theology

Required: 15 upper-division hours, selected in consultation with the department advisor, with no more than six hours in any one area of specialization. Prerequisites: THE 101 and THE 205.

Degrees and Programs

Biology

Katie O'Reilly, Ph.D., chair

Faculty: *Ahern-Rindell, Alexander, Beadles-Bohling, Brown, Favero, Flann, Greaves, Kodadek, Lafrenz, Maginnis, Martin, O'Reilly, Snow (emeritus), Taylor, VanHoomissen*

In an increasingly technological world, educated citizens need value-based scientific expertise and skills in critical thinking. 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. 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. A B.S. and a B.A. in biology are offered; a minor is available in biology. A concentration in biology is offered through the environmental studies program.

Learning Outcomes for Biology

Graduates of this program should be able to:

- Demonstrate knowledge of the levels of biological organization and the ability to integrate them: cellular/molecular, organismal, population;
- Demonstrate the ability to integrate the physical sciences (chemistry, physics and mathematics) with biology;
- Employ appropriate experimental design and methods to solve problems in biology;
- Obtain, critically evaluate, and communicate biological information;

■ Demonstrate knowledge of contemporary social and ethical issues related to biology and the professional responsibilities of a biologist.

Preparation for Careers in Health Science, Biology, and Environmental Science

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 studies program. Students interested in entering environmental careers at the bachelor degree level, or entering graduate programs in the environ-

mental 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 studies section of this *Bulletin* (pg. 63).

Scholarship Requirements

Students majoring in biology must maintain a G.P.A. of 2.0 in all biology courses required for the major in order to be eligible for a degree.

Capstone Experience

It is required that students earning a B.S. or B.A. degree in biology participate in a biologically-oriented capstone experience sometime during their junior or senior year. This capstone experience will provide the student an opportunity to synthesize their biological course material into a cohesive and integrated body of knowledge. A capstone experience in the biology discipline can be achieved through the following options:

Hrs.

- 3 BIO 442, Ecology
- 3 BIO 453, Evolution
- 1 BIO 491, Senior Seminar (Capstone)
- 3 BIO 493, Research
- 3 BIO 497, Internship
- 3 BIO 499, Senior or Honors Thesis
- 3 ENV 400, Integrating Seminar in Environmental Studies

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 Core Requirements – 30 hours (See pg. 8-10)

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

College Requirements, B.A. – 6 hours

- 3 CST 100 —Persuasion and Leadership
- 3 PHL 33x —Metaphysics

Major Requirements – 35 hours

- 4 BIO 206/276 —Organismal and Population Biology/Lab
- 4 BIO 207/277 —Introductory Cell Biology and Genetics/Lab
- 27 Upper-division Biology electives including a Capstone (see pg. 54) and at least three labs, one from each area: cell/organismal/field-population biology. Cell labs – choose one from: BIO 333, Genetics; BIO 372, Cell and Molecular; BIO 379, Microbiology. Organismal labs – choose one from: BIO 376, Developmental; BIO 377, Human Anatomy; BIO 378, Human Physiology. Field-Population labs – choose one from: BIO 371, Field Botany; BIO 373, Freshwater Ecology; BIO 375, Vertebrate; BIO 472, Ecology.

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

- 4 CHM 207/277 —General Chemistry I/Lab
- 4 CHM 208/278 —General Chemistry II/Lab
- 8 CHM 325-326 —Organic Chemistry/
CHM 375-376 —Labs
- 8 PHY 201-202 —General Physics (Algebra-based)/
PHY 271-272 —Labs
or
- 8 PHY 204-205 —General Physics (Calculus-based)/Labs
- 3 MTH 161 —Elementary Statistics
or
- 4 MTH 201 —Calculus I
or
- 3 MTH 361 —Applied Statistics I

General Electives – 21-22 hours (7 must be upper-division if HST and MTH are lower-division)

Total Credit Hours – 120

Biology, B.A.

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 – 30 hours

(See pg. 8-10)

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

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

- 3 CST 100 —Persuasion and Leadership
- 3 PHL 33x —Metaphysics
- 15 Upper division hours outside the primary major, 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.

0-12 Intermediate level of one language (pg. 51)

Major Requirements – 35 hours

- 4 BIO 206/276 —Organismal and Population Biology/Lab
- 4 BIO 207/277 —Introductory Cell Biology and Genetics/Lab
- 27 Upper-division Biology electives including a Capstone (see pg. 54) and at least three labs, one from each area: cell/organismal/field-population biology. Cell labs – choose one from: BIO 333, Genetics; BIO 372, Cell and Molecular; BIO 379, Microbiology. Organismal labs – choose one from: BIO 376, Developmental; BIO 377, Human Anatomy; BIO 378, Human Physiology. Field-Population labs – choose one from: BIO 371, Field Botany; BIO 373, Freshwater Ecology; BIO 375, Vertebrate; BIO 472, Ecology.

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

- 4 CHM 207/277 —General Chemistry I/Lab
- 4 CHM 208/278 —General Chemistry II/Lab
- 3 MTH 161 —Elementary Statistics
or
- 4 MTH 201 —Calculus I
or
- 3 MTH 361 —Applied Statistics I

General Electives – 10-23 hours

Total Credit Hours – 120

Chemistry, B.S.

Steven Mayer, Ph.D., chair

Faculty: *R.R. Bard, R.S. Bard, Cantrell, Hoffman, Lincoln (emerita), S.G. Mayer, Urnezis, Valente, Wood*

There are three options available to students pursuing a bachelor of science 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. A senior capstone experience is required in either lecture or laboratory/research.

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.

Learning Outcomes for Chemistry Majors

The American Chemical Society approved curriculum at the University of Portland is designed to graduate students who can:

- Ask questions, design experiments, and interpret results according to established scientific theory;
- Obtain and use data from the chemical literature;
- Effectively communicate orally and in writing;
- Work effectively with a safety-conscious attitude;
- Demonstrate knowledge of chemistry in four of the five sub-disciplines.

University Core Requirements – 30 hours (See pg. 8-10.)

General Chemistry satisfies the science core requirement. Calculus satisfies the core mathematics requirement. Additional core courses in science and math are not required.

College Requirements, B.S. – 6 hours Hrs.

- 3 Effective Communication (CST 100)
- 3 Metaphysics (PHL 33x)

Major Requirements – 40 hours Hrs.

- 8 CHM 207-208/ – General Chemistry I-II/
277-279 Laboratories
- 4 CHM 314/379 – Analytical Chemistry/
Laboratory
- 8 CHM 325-326/ – Organic Chemistry/
375-376 – Laboratories
- 4 CHM 331/372 – Physical Chemistry/
Laboratory
- 8 MTH 201-202 – Calculus I-II
- 8 PHY 204-205/ – General Physics
or
- 8 PHY 201/271,
PHY 202/272 – General Physics/Labs

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 approved degree.

Option 1 Requirements – 44 hours Hrs.

- 4 CHM 332/373 – Physical Chemistry/Lab
- 3 CHM 444 – Inorganic Chemistry
- 1 CHM 473 – Inorganic Synthesis and Characterization
- 1 CHM 477 – Digital Data Acquisition and Instrument Control
- 2 CHM 412/472 – Advanced Instrumental Methods/Advanced Instrumental Techniques
- 4 MTH 301 – Vector Calculus
- 5 Upper-division science, engineering, or mathematics electives (2 hours must be in chemistry) CHM 493, Research, strongly recommended

General Electives – 24 hrs. (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 Hrs.

- 3 CHM 332 – Physical Chemistry
- 4 CHM 444/473 – Inorganic Chemistry
or
- CHM 453/471 – Biochemistry
- 12 Upper-division science, engineering, or mathematics electives (6 hours must be in upper-division chemistry)

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 Hrs.

- 4 BIO 206/276 — Organismal and Population Biology/Lab
- 4 BIO 207/277 — Introductory Cell Biology and Genetics/Lab
- 2 CHM 412/472 — Advanced Instrumental Methods/Advanced Instrumental Techniques
- 7 CHM 453-454/471 — Biochemistry I-II/Laboratory
- 3 CHM 444 — Inorganic Chemistry
- 4 Upper division biology electives (BIO 330/333, Human Genetics/lab, BIO 354/372, Cell and Molecular Biology with lab, BIO 359/379, Microbiology with lab, or BIO 460, Immunology strongly recommended)
- 5 Upper division science elective, minimum of 1 in chemistry (CHM 493, research, strongly recommended)

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

Total Credit Hours — 120

Communication Studies

Jeff Kerssen-Griep, Ph.D., chair
Faculty: *Fletcher, Heath, Kerssen-Griep, Latin, Lovejoy, Mulcrone (emeritus), Pierce, Shapiro, Simmons*

The mission of the Department of Communication Studies is to explain how people use communication to exert influence and construct knowledge, identities, relationships, and societies. At the heart of its mission is the fundamental concern with the processes through which humans convey messages to audiences and a belief that human communication is central in creating just societies. The department is dedicated to educating students in the lib-

eral arts tradition to produce knowledgeable, responsible, and skilled professional communicators who understand how to communicate effectively and ethically in all human arenas.

The department offers degrees in communication and organizational communication. The bachelor of arts degree is granted in communication, as is the degree master of arts. The bachelor of science degree is awarded in organizational communication, in cooperation with the Dr. Robert B. Pamplin, Jr. School of Business Administration. The master of science degree is granted in management communication, also in cooperation with the Pamplin School of Business Administration.

Learning Outcomes of the Communication Studies Major

[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.

[2] Demonstrate oral communication skills expected of a future professional in the field.

[3] Demonstrate written communication skills expected of a future professional in the field.

[4] Demonstrate communication research skills expected of a future professional in the field.

[5] Demonstrate understanding of ethical values central to the communication discipline.

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

[6] Demonstrate the ability to integrate communication and business scholarship for application in work settings.

Undergraduates earning the bachelor of arts (B.A.) degree with a journalism concentration additionally should be able to:

[6] Demonstrate competency in the generally accepted forms and practices of the journalism profession, including print and online journalism.

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

Undergraduates earning the bachelor of arts (B.A.) degree with a media studies concentration additionally should be able to:

[6] Demonstrate a critical understanding of the role of various forms of mass media in shaping our economy, culture, and political discourse.

Requirements

Students must earn an overall G.P.A. in the major of 2.0 or higher. Each senior is required to complete a capstone project in order to graduate.

Communication, B.A.

The bachelor of arts in communication has two concentrations from which to choose—journalism or media studies—and broadly focuses on the role that mediated messages play in shaping societal attitudes, values, or beliefs.

The journalism emphasis area engages students in the kind of writing and reporting practices professional journalists need. Students take a variety of writing courses, such as public affairs reporting, as well as participate in a practicum course addressing innovations in the field. These students can elect to take feature writing, opinion writing, and an internship course as part of their nine credits of electives. Graduates with a journalism concentration often find jobs in newspapers, television studios, and their organizations focusing on journalistic and technical writing and reporting.

Students pursuing the media studies concentration are involved in critically assessing the social, political, cultural, and economic aspects of mass media. These students take courses such as broadcast criticism, cinema and society, advertising, and visual communication. Students graduating with a media studies emphasis will find professional careers in advertising, public relations, sales, management, etc.

Students in both concentrations can take an academic internship that will help them explore various career options.

University Core Requirements — 39 hours
(See pg. 8-10.)

College Requirements, B.A. — 18-30 hours

- Hrs.**
- 3 Metaphysics (PHL 33x)
 - 15 Credits of upper-division courses outside the primary major, 9 of which must come from 3 different disciplines within the College of Arts and Sciences. This requirement is not fulfilled by the University core.
 - 0-12 Intermediate level of one language (pg. 51)

Communication Core Requirements — 24 hours

- Hrs.**
- 3 CST 101 — Introduction to Communication Studies
 - 3 CST 107 — Effective Public Speaking
 - 3 CST 225 — Fundamentals of Interpersonal Communication
 - 3 CST 300 — Communication Research
 - 3 CST 301 — Media and Society
 - 3 CST 320 — Rhetorical Theory and Criticism
 - 3 CST 332 — Small Group Communication
 - 3 CST 352 — Writing and Reporting

Media Studies Concentration — 9 hours

- 3 CST 440 — Broadcast Criticism
- 3 CST 445 — Cinema and Society
- 3 CST 470 — Communication History

Journalism Concentration — 9 hours

- 3 CST 363 — Journalism Writing Practicum
- 3 CST 403 — Communication Law
- 3 CST 452 — Public Affairs Reporting

9 Communication electives

General Electives — 9-21 hours

Total Credit Hours — 120

Organizational Communication, B.S.

The bachelor of science program in organizational communication educates students to communicate effectively and ethically in modern organizations. Students complete communication and business courses that provide insights into the concepts and practices that underlie human and technical organizational communication systems. This major can prepare students for graduate study in organizational communication and for professional careers in fields such as corporate communication, public relations, and personnel management.

University Core Requirements — 39 hours
(See pg. 8-10.)

College Requirements, B.S. — 18 hours

- 3 Metaphysics (PHL 33x)
 15 Credits of electives

Major Requirements (Communication Courses) — 51 hours**Hrs.**

- | | | |
|----|---|---|
| 3 | CST 101 | — Introduction to Communication Studies |
| 3 | CST 107 | — Effective Public Speaking |
| 3 | CST 225 | — Fundamentals of Interpersonal Communication |
| 3 | CST 300 | — Communication Research |
| 3 | CST 301 | — Media and Society |
| 3 | CST 320 | — Rhetorical Theory and Criticism |
| 3 | CST 332 | — Small Group Communication |
| 3 | CST 352 | — Writing and Reporting |
| 3 | CST 433 | — Organizational Communication Theory |
| 15 | Major electives (15 hours of selected upper-division communication courses) | |
| 9 | Upper-division electives within or outside the major | |

**Human Resources Concentration
Major Requirements (Business Courses) — 12 hours****Hrs.**

- | | | |
|---|---------|---|
| 3 | BUS 200 | — Entrepreneurial Marketing |
| 3 | BUS 442 | — Cross Cultural Management |
| 3 | BUS 360 | — Organizational Behavior |
| | | or |
| 3 | BUS 364 | — Managing Innovation and Technology |
| | | or |
| 3 | BUS 380 | — Family Business and Small Business Management |
| 3 | BUS 462 | — Human Resource Management |

Public Relations/Advertising Concentration**Major Requirements (Business Courses) — 12 hours****Hrs.**

- | | | |
|---|---------|---------------------------------------|
| 3 | BUS 200 | — Entrepreneurial Marketing |
| 3 | BUS 370 | — Marketing Research |
| 3 | BUS 371 | — Consumer Behavior |
| 3 | BUS 443 | — International Marketing Management |
| | | or |
| 3 | BUS 471 | — Integrated Marketing Communications |

Total Credit Hours — 120

English

Herman Asarnow, Ph.D., chair

Faculty: Asarnow, Brassard, Buck-Perry, Hersh, Hiro, Kerman, Larson, Masson, McDonald, Olivares, Orr, Rowan, Sherrer, Walterskirchen

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.

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 advisers, 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.

Learning outcomes for English Majors

[1] Possess a coherent overview of literature in English, including familiarity with genres, literary history, and problems of canonicity.

[2] Read texts closely and think critically, with openness, confidence, and acuity—understanding that literary texts are complex and resist simple interpretation.

[3] Write with clarity and compose well-argued essays.

[4] Know how to conduct productive research in literary studies, equipped with a basic understanding of the major approaches of literary criticism.

[5] Experience literature as a powerful way of knowing about cultures and the lived life.

University Core Requirements — 39 hours
(See pg. 8-10.)

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

- 3 Effective Communication (CST 100)
- 3 Metaphysics (PHL 33x)
- 15 Credits of upper-division courses outside the primary major, 9 of which must come from 3 different disciplines in the College of Arts and Sciences. This requirement is not fulfilled by the University core.

0-12 Intermediate level of one language (pg. 51)

Major Requirements — 31 hours Hrs.

- 3 ENG 225 — Introduction to Literary Studies

Three Historical Survey courses—9 credit hours, total:

One Medieval-to-18th-century course:

- 3 ENG 320 — Anglo-Saxon and Medieval Literature (Beg.—1500)
- 3 ENG 324 — Renaissance British Literature (1500-1660)
- 3 ENG 325 — Eighteenth-Century British Literature (1660-1800)

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

- 3 ENG 344 — Romantic Literature (1800-1830)
- 3 ENG 345 — Victorian Literature (1830-1900)
- 3 ENG 354 — American Literature Early-1865
- 3 ENG 355 — American Literature 1865-1914

One 20th-century course:

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

Two 400-level English courses (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 490, 493, 495-497, and 499 do not count toward this requirement)—6 credit hours, total:

- 3 ENG 420 — Race, Sex, and Gender in Medieval and Renaissance
- 3 ENG 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 Literature
- 3 ENG 480 — Postcolonial Literature
- 3 ENG 491-2 — [one-time courses]

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

One ENG 499—Senior Capstone Project—1 credit hour (for honors, 3 credit hours)

General Electives — 17-29 hours

Total Credit Hours — 120

Historical survey courses broadly ap-

proach 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.

Note: Foreign language literature courses will no longer count toward the English major, beginning with the Class of 2011.

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 studies courses, laboratories, and 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 should be able to:

- 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.
- Demonstrate a proficient understanding of the scientific dimensions of environmental issues, in a manner consistent with the curriculum of their specific major program.
- Obtain and use scholarly information related to environmental issues and sustainability.
- Effectively communicate orally and in writing.
- Synthesize and integrate material in an interdisciplinary team-structured project.

Environmental Ethics and Policy, B.A.

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 Core Requirements — 33 hours
(See pg. 8-10.) The science requirements are satisfied by the program.

College Requirements, B.A. — 6-18 hours Hrs.

- 3 Persuasion and Leadership (CST 100)
- 3 Metaphysics (PHL 33x)
- 0-12 Intermediate level of one language (pg. 51)

Major Requirements — 55 hours Hrs.

25 credits from below:

- 4 BIO 338/368 — Marine Biology of the Pacific Northwest/Lab
or
- 4 BIO 363/373 — Introduction to Freshwater Ecology/Lab
or
- 4 BIO 391/392 — Stream Ecology/Lab
or
- 4 BIO 442/472 — Ecology and Lab
- 3 * THE 423 — Christian Social Ethics
or
- 3 * THE 422 — Modern Catholic Ethics
or
- 3 THE 427 — Theological Environmental Ethics
- 3 THE 428 — Ecology in Theological Perspective
or
- 3 THEP 482 — Theology in Ecological Perspective
or
- 3 THE 453 — Religion and Science
- 3 ECN 322 — Environmental Economics
- 3 ENV 400 — Integrating Seminar in Environmental Studies
- 3 PHL 412/
SJP 412 — Philosophy of Law
or
- 3 PHL 422 — Philosophy of Science
or
- 3 PHL 433 — Heidegger and Ecological Ethics
or
- 3 PHL 437 — The Sublime in Nature
- 3 SCI 110 — Earth Systems Science
or
- 3 SCI 111 — Natural Hazards in the Pacific Northwest
or

- 3 SCI 162 — Introduction to Marine Science
- 3 SCI 182 — Environmental Science

21 credits from below:

- 3 ENV 349 — Environmental Policy
- 3 ENV 493 — Environmental Research
- 1-6 ENV 497 — Environmental Internship
- 3 HST 357 — Technology, Resources, and Environment in World History
- 3 PHL 434 — Environmental Ethics
- 3 POL 320 — United States Urban Politics
- 3 POL 333 — Public Administration
- 3 POL 335 — American Public Policy
- 3 POL 351 — International Law and Organization
- 3 POL 356 — Building World Peace
- 3 POL 378 — States and the Market
- 3 POL 379 — Business in a Political World
- 3 POL 405 — Law and the American Judiciary
- 3 SOC 466 — Violence, Poverty, and the Environment
- 3 THE 402 — Prophets, Divas, and Divines
- 3 THE 458 — Women, Theology, and Globalization

Major Electives — 9 hours

Courses selected from the following:

Hrs.

- 3 CST 401 — Rhetoric and Politics
- 3 ENG 363 — The Literature of Nature and the Out-of-Doors
- 3 ENG 430 — The International Literature of Peace and Justice
- 3 ENG 461 — Oregon and Northwest Writers
- 3 ENV 383 — Environmental Geoscience
- 3 ENV 384 — Remote Sensing and GIS
- 3 ENV 385 — Environmental Microbiology
- 3 ENV 386 — Environmental Chemistry
- 1 ENV 387 — Environmental Laboratory
- 3 ENV 493 — Environmental Research
- 1-6 ENV 497 — Environmental Internship
- 3 HST 314 — American Frontier
- 3 HST 359 — The Modern City
- 3 PHL 412 — Philosophy of Law
- 3 PHL 413/
SJP 413 — Socio-Political Philosophy
- 3 PHL 414/
SJP 414 — Philosophy and Feminism
- 3 PHL 422 — Philosophy of Science
- 3 PHL 433 — Heidegger and Ecological Ethics
- 3 PHL 437 — The Sublime in Nature

* THE 422 or 424 may be substituted for THE 428 or 453 with the director's/associate director's approval.

- 3 POL 320 — United States Urban Politics
- 3 POL 333 — Public Administration
- 3 POL 356 — Building World Peace
- 3 POL 378 — States and the Market
- 3 POL 379 — Business in a Political World
- 3 SOC 434 — Urban Society
- 3 SOC 466 — Violence, Poverty, and the Environment
- 3 THE 445 — Human Development in Theological Perspective
- 3 THE 454 — God and the Theological Imagination
- 3 THE 458 — Women, Theology, and Globalization

General Electives — 14-26 hours**Total Credit Hours — 120 (48 hrs. must be upper-division)**

Environmental Science, B.S.

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 Core Requirements — 30 hours

(See pg. 8-10.)

The science and mathematics requirements are satisfied by the program.

College Requirements, B.S. — 6 hours**Hrs.**

- 3 Persuasion and Leadership (CST 100)
- 3 Metaphysics (PHL 33x)

Major Requirements — 28 hours**Hrs.**

- 4 BIO 206/276 — Organismal and Population Biology/Lab
- 4 BIO 207/277 — Introductory Cell Biology and Genetics/Lab
- 8 CHM 207-208/ — General Chemistry/
277-279 Laboratories
- 3 ENV 383 — Environmental Geoscience
- 3 ENV 400 — Integrating Seminar in Environmental Studies
- 3 POL 200 — Introduction to U.S. Politics
- 3 THE 453, Religion and Science, **or** THE 427, Theological Environmental Ethics, **or** THE 428, Ecology in Theological Perspective, **or** THEP 482, Theology in Ecological Perspective.

Concentration Options

Biology Concentration Requirements — 36 hours**Hrs.**

- 4 BIO 442/472 — Ecology/Lab
- 8 Major Electives (Selected from: BIO 341/371, Seed Plant Biology/Lab; BIO 345/375, Vertebrate Biology/Lab; BIO 347, Animal Behavior; BIO 363/373, Freshwater Ecology/Lab; BIO 338/368, Marine Biology/Lab; BIO 391/392, Stream Ecology/Lab; BIO 436/476, Invertebrate Zoology/Lab; ENV 384, Remote Sensing and GIS; ENV 385, Environmental Microbiology; ENV 387, Environmental Laboratory; CE 367, Environmental Engineering; CS 203/273, Computer Science/Lab; ENV 493, Research; ENV 497, Environmental Internship.)
- 8 CHM 325-326 — Organic Chemistry/
375-376 Laboratories
- 4 CHM 314 — Analytical Chemistry/
379 — Lab
- 4 MTH 201 — Calculus
- 8 PHY 201-202 — General Physics/
271-272 Labs

General Electives — 20 hours**Total Credit Hours — 120 (48 hrs. must be upper-division)****Chemistry Concentration Requirements — 39 hours****Hrs.**

- 4 BIO 363/373 — Introduction to Freshwater Ecology/Lab
or
- 4 BIO 341/371 — Seed Plant Biology/Lab
or
- 4 BIO 338/368 — Marine Biology of the Pacific Northwest/Lab
or
- 4 BIO 345/375 — Vertebrate Biology/Lab
or
- 4 BIO 391/392 — Stream Ecology/Lab
or
- 4 BIO 436/476 — Invertebrate Zoology/Lab
or
- 4 BIO 442/472 — Ecology/Lab
- 4 CHM 314/ — Analytical Chemistry/
379 Lab
- 8 CHM 325-326/ — Organic Chemistry/
375-376 Laboratories
- 4 CHM 331/372 — Physical Chemistry/Lab
or
- 4 CHM 353/371 — Biochemistry/Lab
or
- 4 ENV 386/387 — Environmental Chemistry/Lab
or
- 4 CE 367/376 — Environmental Engineering/Lab
or

- 4 ENV 493 — Environmental Research
or
4 CS 203/233 — Computer Science I/Lab
or
4 ENV 497 — Environmental Internship
3 CHM 412/472 — Advanced Instrumental
Methods/Techniques
8 MTH 201-202 — Calculus I-II
8 PHY 201-202 — General Physics/
271-272 General Physics Labs

General Electives — 17 hours

Total Credit Hours — 120 (48 hrs. must be upper-division)

Physics Concentration Requirements — 41 hours

- 4 BIO 338/368 — Marine Biology of the
Pacific Northwest/Lab
or
4 BIO 341/371 — Seed Plant Biology/Lab
or
4 BIO 345/375 — Vertebrate Biology/Lab
or
4 BIO 363/373 — Introduction to Fresh-
water Ecology/Lab
or
4 BIO 391/392 — Stream Ecology/Lab
or
4 BIO 436/476 — Invertebrate Zoology/Lab
or
4 BIO 442/472 — Ecology/Lab
8 MTH 201-202 — Calculus I/II
4 MTH 301 — Vector Calculus
3 MTH 321 — Differential Equations I:
Ordinary Differential
Equations
8 PHY 204-205 — General Physics/
274-275 Labs
3 PHY 306 — Modern Physics
1 PHY 376 — Modern Physics Lab
4 PHY 371/
471 or 472 — Analog and Digital Elec-
tronics
Advanced Laboratory
6 credit hours of the following courses:
3 PHY 312 — Mechanics
3 PHY 321 — Electrodynamics
3 PHY 322 — Optics
3 CE 367 — Environmental Engineering
3 ENV 384 — Remote Sensing and GIS
3 ENV 493 — Environmental Research
4 CS 203/273 — Computer Science/Lab
3 ENV 497 — Environmental Internship

General Electives — 15 hours

Total Credit Hours — 120 (48 hrs. 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.

History, B.A.

Elise Moentmann, Ph.D., chair

Faculty: *Connelly (emeritus), Covert (emeritus), Eifler, Els, Franco, Hancock, Moentmann, Wheeler, Zimmerman (emerita)*

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 curriculum is designed to inculcate a familiarity with particular periods and issues in the past, with the discipline of history, and with the use of historical inquiry for analysis of contemporary self and society.

Beyond the history major, the program meets such goals as a part of both the University core as well as the general education requirements 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, and environmental studies.

Learning Outcomes for History Majors

The curriculum is specifically designed to provide the following learning goals and outcomes:

- [1] Demonstrate knowledge of key histori-

cal facts, values, and ideas that have shaped civilizations throughout history.

[2] Analyze primary sources in their historical context.

[3] Analyze secondary sources and identify various approaches to historical interpretation through critical reading.

[4] Construct historical arguments based on primary sources and historical method.

[5] Demonstrate the ability to conduct independent historical research.

University Core Requirements — 39 hours
(See pg. 8-10.)

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

- 3 Effective Communication (CST 100)
- 3 Metaphysics (PHL 33x)
- 15 Credits of upper-division courses outside the primary major, 9 of which must come from 3 different disciplines in the College of Arts and Sciences. This requirement is not fulfilled by the University core.
- 0-12 Intermediate level of one language (pg. 51)

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

- 9 Lower-division history (HST 220 and 221 required, plus any other 200-level history course)
- 3 HST 470 — The Practice of History
- 3 HST 471 — Senior Seminar
- 15 Upper-division history courses (must include at least one course each in American, European, and non-Western history at 300-level)
- 6 400-level seminars (must be two different courses, excluding 470, 471; i.e. 420, 430, or 450)

General Electives — 12-24 hours
Total Credit Hours — 120

International Languages and Cultures

Lora Looney, Ph.D., chair

Faculty: Booth, Echenique, Genske, Hill, Looney, McLary, Regan, Warshawsky

The mission of the international languages and cultures program (Spanish, German, and French) is to prepare and motivate students to understand, live, study, and work in international communities at home and abroad. In the international lan-

guages courses required of all B.A. students, as well as in those of its major, minors, and certificates, 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 foreign language proficiency and confidence majors and certificates 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, a Spanish major, a French studies major, a certificate in Spanish, and minors in French, German, and Spanish. The international languages and cultures program offers courses in French, German, and Spanish language, literature, and culture. Students interested in an international languages and cultures major, certificate, or minor should consult with the department chair.

Learning Outcomes for International Languages and Cultures

Students graduating from the University of Portland with a B.A. in French studies, German studies, or Spanish should demonstrate intermediate-high proficiency in the target language, based on the ACTFL Proficiency Guidelines*, in speaking, listening, writing, reading, and cultural proficiency as described below.

*The proficiency goals are based on the ACTFL Proficiency Guidelines published by the American Council on the Teaching of Foreign Languages. See <http://www.actfl.org/i4a/pages/index.cfm?pageid=4236> and Alice Omaggio Hadley, *Teaching Language in Context*, Boston, MA: Heinle & Heinle Publishers, 1993.

Speaking

Students demonstrating intermediate-high proficiency in speaking are able to:

- handle a variety of uncomplicated communicative tasks and social situations.
- narrate and describe in all major time frames (past, present, future), using connected discourse.
- interact with native speakers when the conversation topics are pertinent to everyday life and current events.

Listening

Students demonstrating intermediate-high proficiency in listening are able to:

- understand and respond appropriately to conversations about daily life that include family, school, work and leisure.
- comprehend the main idea in authentic broadcast media.
- understand discussions related to topics of interest when delivered at a normal speed in standardized forms of the language.

Writing

Students demonstrating intermediate-high proficiency in writing are able to:

- meet all practical writing needs such as taking notes on familiar topics, writing uncomplicated letters, simple summaries, and compositions related to work, school experiences, and topics of current and general interest.
- write simple descriptions and narrations of paragraph length on everyday events and situations in different time frames, although not consistently.
- demonstrate style essentially corresponding to the spoken language.

Reading

Students demonstrating intermediate-high proficiency in reading are able to:

- read authentic materials consistently on familiar subjects such as cultural issues and current events found in newspapers and magazines published for the general public.
- read, within the limits of identifiable vocabulary and structural complexity, articles and essays on academic topics and carefully selected literature.

Cultural Proficiency

The acquisition of cultural competency is closely linked to the development of language proficiency; therefore, students graduating with intermediate-high language proficiency will demonstrate an equivalent level of cultural proficiency. They will be able to live, study and work in the target culture after a short period of adjustment. While they will not necessarily be mistaken for native speakers, they will be able to function as respectful ambassadors in the target culture.

See also the following Web site for more complete descriptors of intermediate-high foreign language proficiency: www.sil.org/lingualinks/LANGUAGELEARNING/OtherResources/ACTFLProficiencyGuidelines/TheACTFLGuidelines.htm.

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. Contact the chair of the international languages and cultures department for information on how to access the exam.

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 busi-

ness 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).

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.

In addition to any certificate or degree a student may earn from the University of Portland, it is recommended that all candidates take both oral and written proficiency tests in French in their senior year or after graduation. These tests are administered by outside certified proficiency examiners for a fee. (The American Council of Teachers of Foreign Languages (ACTFL) and the federal government offer oral/aural proficiency testing.) The testing of the students' competency will give the students national certification of their actual skill levels; such certification of both oral and written skills should provide students and employers with an accurate comparative indicator of a student's overall competency in the language.

University Core Requirements — 39 hours
(See pg. 8-10.)

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

- 3 Effective Communication (CST 100)
- 3 Metaphysics (PHL 33x)
- 15 Credits of upper division courses outside the primary major, 9 of which must come from 3 different disciplines in the College of Arts and Sciences. This requirement is not

fulfilled by the University core.

0-12 Intermediate level of one language (pg. 51)

Major Requirements — 27 hours

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

Hrs.

18 upper division credits in French (FRN 301 and above).

Three courses outside the French program from at least two different disciplines chosen from the following list:

- 3 HST 347 — Modern France
- 3 HST 333 — Medieval Europe
- 3 HST 343 — Age of Dictatorship
- 3 HST 342 — 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 — Philosophy and Feminism (when focusing on a French philosopher)
- 3 PHL 469 — Great Philosophers (when focusing on a French philosopher)
- 3 PHL 479 — Existentialism

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. By nature the German studies major 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. Addi-

tionally, 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 studies, 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.

All students pursuing a major in German studies 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 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 programs in Freiburg, Vienna, and Berlin.

In addition to any certificate or degree a student may earn from the University of Portland, it is recommended that all candidates take both oral and written proficiency tests in German in their senior year or after graduation. These tests are administered by outside certified proficiency examiners for a fee. (The American Council of Teachers of Foreign Languages (ACTFL) and the federal government offer oral/aural proficiency testing.) The testing of the students' competency will give the students national certification of their actual skill levels; such certification of both oral and written skills should provide students and employers with an accurate comparative indicator of a student's overall competency in the language.

University Core Requirements — 39 hours
(See pg. 8-10.)

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

- Hrs.**
- 3 Effective Communication (CST 100)
 - 3 Metaphysics (PHL 33x)
 - 15 Credits of upper-division courses outside the primary major, 9 of which must come from 3 different disciplines in the College of Arts and Sciences. This requirement is not fulfilled by the University core.
- 0-12 Intermediate level of one language (pg. 51)

Major Requirements — 27 hours

Hrs.
18 upper-division credits in German (GRM 301 and above)

Three courses outside the German program from at least two different disciplines, chosen from the following list:

- 3 PHL 474 — Hegel and 19th-Century Philosophy
- 3 THE 433 — Theological Implications of the Holocaust (Salzburg only)
- 3 POL 358 — Politics of the European Union
- 3 HST 370 — Early Modern Europe
- 3 POL 372 — Politics of Modern Europe
- 3 HST 342 — Age of Nationalism
- 3 HST 343 — Age of Dictatorship
- 3 HST 346 — History of Modern Germany
- 3 FA 304 — Development of the Fine Arts in Europe (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.

Study Abroad — 6 hours

General Electives — 15-27 hours

Total Credit Hours — 120

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 one semester abroad in a Spanish-speaking country or participation in the University's summer program in Morelia, Mexico or Segovia, Spain.* 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.

In addition to any certificate or degree a student may earn from the University of Portland, it is recommended that all candidates take both oral and written proficiency tests in Spanish in their senior year or after graduation. These tests are administered by outside certified proficiency examiners for a fee. (The American Council of Teachers of Foreign Languages (ACTFL) and the federal government offer oral/aural proficiency testing.) The testing of the students' competency will give the students national certification of their actual skill levels; such certification of both oral and written skills should provide students and employers with an accurate comparative indicator of a student's overall competency in the language.

University Core Requirements — 39 hours
(See pg. 8-10.)

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

- 3 Effective Communication (CST 100)
- 3 Metaphysics (PHL 33x)
- 15 Credits of upper-division courses outside the primary major, 9 of which must come from 3 different disciplines in the College of Arts and Sciences. This requirement is not fulfilled by the University core.

0-12 Intermediate level of one language (pg. 51)

Major Requirements — 27 hours
Hrs.

- 3 SPN 301 — Advanced Spanish Conversation and Composition
- 3 SPN 302 — Advanced Spanish Conversation and Culture
- 3 Culture/Literature of Spain (SPN 303, 304, 407, 408, 410, 412, 422, 480, 482, or 484)
- 3 Culture/Literature of Latin America (SPN 303, 315, 416, 421, 422, 424, 430, or 484)
- 15 Major electives

Study Abroad — 6 hours

General Electives — 15-27 hours

Total Credit Hours — 120

Mathematics

Gregory M. Hill, Ph.D., chair

Faculty: *Akerman (emeritus), Callender, Hallstrom, Hill, Lum, McCoy, Niederhausen, Nordstrom, Peterson, Salomone, Swinyard, Wootton*

Mathematics, an ancient discipline, is both an art and a science. As a basic discipline in the liberal arts, the mathematics program strives to teach problem solving, logical analysis, and abstraction. Through its curriculum it fosters the development of understanding and mathematical skills. It provides the opportunity for students to experience the connections that exist among other disciplines, and opens students to the ideas and visions they might never have considered otherwise. Very practically, mathematics provides students with the foundational skills to become effective leaders in a wide variety of other disciplines as ethical and professional individuals.

The Department of Mathematics offers programs leading to the bachelor of science and the bachelor of arts degrees. We have made it easy to combine a major or minor in mathematics with a major or minor in computer science or physics. Students in mathematics can prepare themselves for graduate work or for careers in teaching, business, industry, or government.

Learning Outcomes For Mathematics Majors

- [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;

*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.

- 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.S.

The Department of Mathematics offers a program leading to the bachelor of science degree in mathematics. The program is constructed for the general mathematics student; however, it is particularly appropriate for students who are also interested in physical science or computer science.

University Core Requirements — 30 hours

(See pg. 8-10.)

General Physics and Calculus fulfill the core science and mathematics requirements.

College Requirements, B.S. — 6 hours

Hrs.

- 3 Effective Communication (CST 100)
- 3 Metaphysics (PHL 33x)

Mathematics Bachelor of Science Requirements

Required Courses for the Major — 48 hours

Hrs.

- 8 MTH 201/202 — Calculus I and II
- 4 CS 203/273 — Computer Science I/Lab
- 8 PHY 204/205 — General Physics I and II
- 4 MTH 301 — Vector Calculus
- 3 MTH 311 — Discrete Structures
- 3 MTH 321 — Ordinary Differential Equations
- 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

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.)

Total credits above: 63

Total credits for a degree: 120

General Electives — 15 hours

Total Credit Hours — 120

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 Core Requirements — 36 hours

(See pg. 8-10.)

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

Hrs.

- 3 Effective Communication (CST 100)
- 3 Metaphysics (PHL 33x)
- 15 Credits of upper-division courses outside the primary major, 9 of which must come from 3 different disciplines in the College of Arts and Sciences. This requirement is not fulfilled by the University core.
- 0-12 Intermediate level of one language (pg. 51)

Major Requirements (Mathematics Courses) — 37 hours

Prerequisites (12 cr. hrs)

Hrs.

- 8 MTH 201-202 — Calculus I-II
- 4 CS 203/273 — Computer Science I/Lab

Required Courses for the Major (25 cr. hrs.)

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

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:

- 8 PHY 204-205 — General Physics I-II
- 8 CHM 207-208/ — General Chemistry I-II/
277-278 Labs

8 BIO 206-207 — Organismal and Population Biology/Introductory Cell Biology and Genetics/Labs
276/277

General Electives — 14-26 hours
Total Credit Hours — 120

Performing and Fine Arts

Michael Connolly, D.M.A., chair
Faculty: Ashton, Baker, Boelling, Bognar, Bowen, Briare, Christen, Connolly, Conkle, Cox, Culver, De Lyser, Doyle (emeritus), Edelblut, Edson, Eubanks, Fabbro, Follett, Ghyselinck, Golla, Hitchcock, Hoddick, Homan, Horning, Imori, Kerns, Kleszynski, Larsen, Lee, Leroi- Nickel, Lindner, M. Logan, H. Logan, Lytle, Martin, Mitchell, Montgomery, Murphy, Murray, Neuman, Parker, Phillips, Pirruccello, Poris, Powell-Ascroft, Peterson, Pynes, Rakich, Ratzlaf, Richards, Schooler, Sessa, Shakhman, Soltero, Stolzowicz, Szerszen, Willis, Wilson

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.

The drama graduate program offers the M.F.A. in directing. (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 undergrad-

uate students with the knowledge, skills, and opportunities necessary for establishing a life-long association with the theatre. Furthermore, its aim is to demonstrate a strong commitment to teaching and learning in a personal, energetic, interactive, liberal arts environment. This is done 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 areas of specialization that prepare students for a myriad of career and educational options. 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 the live theatre.

Learning Outcomes for Drama Majors

Students who successfully complete the B.A. in drama should be able to:

- Know the individuals who have influenced contemporary world theatre and understand and articulate the fundamental theories and conventions that helped shape it.
- Demonstrate the fundamental skills and techniques required of a modern theatre practitioner; performer, designer, or manager.
- Work in an environment of collaboration in a variety of production experiences.
- Apply critical thinking and analytical skills to dramatic literature as it applies to production; performance, design and management.

University Core Requirements — 39 hours
(See pg. 8-10.)

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

- 3 Effective Communication (CST 100)
- 3 Metaphysics (PHL 33x)
- 15 Credits of upper-division courses outside the primary major, 9 of which must come from 3 different disciplines in the College of Arts and Sciences. This requirement is not fulfilled by the University core.
- 0-12 Intermediate level of one language (pg. 51)

Major Common Requirements — 23 hours
Hrs.

- | | | |
|---|-------------|--------------------------------|
| 3 | DRM 210 | — Introduction to Theatre |
| 1 | DRM 272 | — Performance Practicum I |
| 3 | DRM 310 | — Modern Production Theory |
| 3 | DRM 321 | — Acting Workshop I |
| 3 | DRM 350 | — Theatre Crafts |
| 1 | DRM 372/373 | — Production Practicum II |
| 3 | DRM 407 | — Survey of Theatre History I |
| 3 | DRM 408 | — Survey of Theatre History II |
| 3 | DRM 498 | — Senior Capstone |

Emphasis Options
Performance Emphasis — 15 hours
Hrs.

- | | | |
|---|---------|-----------------------|
| 3 | DRM 322 | — Acting Workshop II |
| 3 | DRM 335 | — Voice for the Stage |
| 3 | DRM 422 | — Advanced Acting |
| 3 | DRM 437 | — Audition Workshop |

One design elective selected from:

- | | | |
|---|---------|-------------------------|
| 3 | DRM 351 | — Stage Light and Sound |
| 3 | DRM 353 | — Stage Design |
| 3 | DRM 363 | — Costume Design |
| 3 | DRM 365 | — Theatrical Makeup |

Design/Technical Emphasis — 15 hours
Hrs.

- | | | |
|---|---------|----------------------------|
| 3 | DRM 351 | — Stage Lighting and Sound |
| 3 | DRM 353 | — Stage Design |
| 3 | DRM 363 | — Costume Design |

One production elective selected from:

- | | | |
|---|---------|-------------------------|
| 3 | DRM 365 | — Theatrical Makeup |
| 3 | DRM 450 | — Production Management |
| 3 | DRM 456 | — Decorative Arts |
| 3 | DRM 467 | — Costume Construction |
| 3 | DRM 471 | — Theatre Management |

One advanced design elective selected from:

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

Production Management Emphasis — 15 hours
Hrs.

- | | | |
|---|---------|------------------------------------|
| 3 | DRM 333 | — Directing for the Theatre |
| 3 | DRM 351 | — Stage Light and Sound |
| 3 | DRM 450 | — Production Management |
| 3 | DRM 471 | — Principles of Theatre Management |
| 3 | DRM 472 | — Management Internship |

Basic Drama Endorsement for Education Certificate — 21 hours
Hrs.

- | | | |
|---|---------|-----------------------------|
| 3 | DRM 210 | — Introduction to Theatre |
| 3 | DRM 321 | — Acting Workshop I |
| 3 | DRM 333 | — Directing for the Theatre |
| 3 | DRM 350 | — Theatre Crafts |
| 3 | DRM 351 | — Light and Sound Design |
| 3 | DRM 407 | — Theatre History I |

or

- | | | |
|---|---------|----------------------|
| 3 | DRM 408 | — Theatre History II |
|---|---------|----------------------|
- One advanced design elective selected from:
- | | | |
|---|---------|---------------------|
| 3 | DRM 353 | — Stage Design |
| 3 | DRM 363 | — Costume Design |
| 3 | DRM 365 | — Theatrical Makeup |

General Electives — 10-22 hours
Total Credit Hours — 120

Music, B.A.

The music program strives to advance the comprehensive formation of musicians who can perform music, organize music (composition, improvisation), 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.

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 de-

tails 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 presented to all music majors at the beginning of each year. It is considered an addendum to the *University Bulletin*.

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 delay or deny 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.

Learning Outcomes for Music Majors

The music program at the University of Portland is designed to form musicians in three areas: performance, organization of the sounds of music, and analysis of music. Students who successfully complete the B.A. in music should be able to:

- Perform capably as a soloist or within an ensemble;
- Organize the sounds of music through basic composition;
- Understand the structure and style of compositions, as performers and listeners.

University Core Requirements — 39 hours
(See pg. 8-10.)

College Requirements, B.A. — 21-24 hours Hrs.

- 3 Effective Communication (CST 100)
- 3 Metaphysics (PHL 33x)
- 15 Credits of upper-division courses outside the primary major, 9 of which must come from 3 different disciplines in the College of Arts and Sciences. This requirement is not fulfilled by the University core.

0-12 Intermediate level of one language (pg. 51)

B.A. Music Program

Music Major Requirements: 39-40 credits

- 3 MUS 101 —Music Theory I

- 3 MUS 102 —Music Theory II
- 1 MUS 103 —Aural Skills I
- 1 MUS 104 —Aural Skills II
- 3 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
- 1 MUS 131 —Introduction to Piano (May be waived by the instructor)
- 1 MUS 231 —Piano Skills (Must be completed by the sophomore year)

6 semesters minimum; required every semester in residence:

- 6 MUS 286/486 —Private Lessons (MUS 235, Group Voice Workshop, substitutes for the first semester of private voice lessons)

6 semesters minimum; required every semester in residence:

- 1 MUS 243/443 —Wind Symphony
- 1 MUS 244/444 —University Singers
- 1 MUS 245/445 —University Community Orchestra
- 1 MUS 252 —Women's Chorale

6 semesters minimum, enrolled every semester in residence:

- 0 MUS 001 —Performance Attendance

Instrumental 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.

- 4 MUS 447 or MUS 253/453 —Chamber Ensemble or Jazz Band
- 1 MUS 498 —Senior Capstone, a research paper and recital

Music Electives (upper division, including at least one 3-credit classroom course) — 6 credits

General Electives — 0-13 hours

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.

- 3 MUS 336 —Diction
- 3 MUS 455/ MUS 491 —Musical Theatre Workshop or Opera Workshop
- 1 MUS 498 —Senior Capstone, a research paper and recital

Music Electives (upper division, including at least one 3-credit classroom course) — 4 credits

General Electives — 0-13 hours

Total Credit Hours — 123

General Emphasis Requirements: 4 credits

- | | | |
|---|-----------|--|
| 3 | MUS 3/4xx | — Music Elective classroom course |
| 1 | MUS 498 | — Senior Capstone, a research paper and presentation |

General Electives — 4-17 hours

Total Credit Hours — 120

SPECIAL MUSIC FEES

Private Lessons (MUS 286/486): \$300 per semester hour.

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

Philosophy

Norah Martin, Ph.D., chair

Faculty: 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 na-

ture. 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.

Philosophy, B.A.

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 like 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;
- [2] Engage in the art of dialogue;
- [3] Write technically competent philosophical essays;
- [4] Integrate diverse views in developing their positions on an issue;
- [5] Demonstrate proficiency in the basic concepts of logic.

University Core Requirements — 39 hours
(See pg. 8-10.)

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

- 3 Effective Communication (CST 100)
- 3 Metaphysics (one course from PHL 331 through 335)
- 15 Credits of upper-division courses outside the primary major, 9 of which must come from 3 different disciplines in the College of Arts and Sciences. This requirement is not fulfilled by the University core.
- 0-12 Intermediate level of one language (pg. 51)

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

Hrs.

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

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

Hrs.

- 3 Logic — PHL 421
- 6 History — PHL 471, 472, 473, or 474
- 3 Metaphysics
- or**
- Epistemology — PHL 331, 332, 333, 334, 335, 422, 452, 472, 473, or 479
- 3 Ethics
- or**
- Politics — PHL 413, 414, 430, 434, 435
- 9 Electives — Any 300 or 400 level philosophy class, two of which must be 400-level
- 1 Capstone — PHL 499

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 — 66 hours beyond core and college requirements

Hrs.

- 3 PHL 413 — Socio-Political Philosophy
- 3 PHL 421 — Logic
- 3 PHL 471 — Ancient Philosophy
- 3 PHL 473 — Modern Philosophy
- 3 ECN 120 — Introduction to Macroeconomics
- 3 ECN 121 — Introduction to Microeconomics
- 3 POL 200 — Introduction to United States Politics
- 3 POL 201 — Introduction to International Relations
- or**
- 3 POL 202 — Modern Foreign Governments
- 3 POL 203 — Introduction to Political Theory

- 3 POL 300 — Political Inquiry and Analysis
- 3 Either POL 305 (Ancient and Medieval Political Thought), POL 306 (Modern Political Thought), or POL 307 (Contemporary Political Theory)
- 3 Either POL 335 (American Public Policy) or POL 413 (Ethics and Public Policy)
- 3 PHL/POL 490 — Directed study, junior year
- 3 PHL/POL 499 — Senior thesis
- 21 Electives—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 470, Existentialism; POL 314, American Political Thought.

Total Credit Hours — 126

Physics

Osiel Bonfim, Ph.D., chair

Faculty: *Bonfim, Breen, 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 also provides a solid foundation for students who anticipate a career in secondary education, engineering, or medical research. Students looking for a broad scientific grounding as part of their liberal arts education are also well served by the physics major.

Learning Outcomes for Physics Majors

- [1] Demonstrate critical thinking in the context of science.
- [2] Demonstrate understanding of scientific literature, such as journal articles and textbooks.
- [3] Demonstrate quantitative problem solving skills.
- [4] Demonstrate understanding of the general principles in physics and patterns in nature.
- [5] Integrate the scientific method into problem-solving and experimentation.

Physics, B.S.

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

University Core Requirements — 30 hours
(See pg. 8-10.)

General Physics (PHY 204-205) satisfies the sci-

ence requirement. The core requirement for mathematics is satisfied by Calculus (MTH 201).

College Requirements, B.S. — 6 hours

Hrs.

- 3 CST 100 — Effective Communication
- 3 PHL 33x — Metaphysics

Major Requirements — 75 hours

Hrs.

- 8 MTH 201-202 — Calculus I-II
- 4 MTH 301 — Vector Calculus
- 3 MTH 321 — Differential Equations: Ordinary Differential Equations
- 3 MTH 341 — Introduction to Linear Algebra
- 4 CS 203/273 — Computer Science I/Lab
- 4 PHY 204 or 208 — General Physics/Lab
- 4 PHY 205 or 209 — General Physics/Lab
- 8 CHM 207-208 — General Chemistry I-II
- CHM 277-278 — Laboratory
- 37 upper division science, math or engineering credit hours with a minimum of 28 hours in physics, including:
 - 3 PHY 306 — Modern Physics
 - 3 PHY 356 — Mathematical Methods for Physicists
 - 1 PHY 376 — Modern Physics Lab
 - 2 PHY 371 — Analog and Digital Electronics
- 4 Two of the following advanced labs: PHY 372, 470, 471, 472
- 24 Additional courses in science, math or engineering, of which 15 hours must be in physics.

General Electives — 9 hours

Total Credit Hours — 120

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 Core Requirements—30 hours

(See pg. 8-10)

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

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

Hrs.

- 3 CST 100 — Effective Communication
 - 3 PHL 33x — Metaphysics
- 15 Credits of upper-division courses outside the primary major, 9 of which must come from 3 different disciplines in the College of Arts and

Sciences. This requirement is not fulfilled by the University core.

0-12 Intermediate level of one language (pg. 51)

Major Requirements—48 hours

Hrs.

- 8 MTH 201-202 — Calculus I - II
- 4 MTH 301 — Vector Calculus
- 4 CHM 207/277 — General Chemistry I (with lab)
- or**
- 4 BIO 206/276 — Organismal and Population Biology (with lab)
- 4 PHY 201/271 or 204 or 208 — General Physics/Lab
- 4 PHY 201/271 or 205 or 209 — General Physics/Lab
- 4 PHY 306/376 — Modern Physics (with lab)
- 3 PHY 356 — Mathematical Methods for Physicists
- 17 Major electives (PHY 312, PHY 317, PHY 321, PHY 322, PHY 370, PHY 371, PHY 372, PHY 422, PHY 441, PHY 470, PHY 471, PHY 472).
- General Elective — 9-21 hours

Total Credit Hours—120

Political Science, B.A.

Gary Malecha, Ph.D., chair

Faculty: *Curtis, Frederking, Malecha, Pomerleau, Stabrowski*

The mission of the political science program is to prepare students to become engaged citizens and leaders in political societies. It provides students with the necessary tools for understanding a complex world and for active civic involvement. Political science provides this by offering introductory courses to all students and by preparing majors to enter careers in business, journalism, religious organizations, and for local, national, and international service. Majors are prepared to enter graduate studies in political science, law, and other professional disciplines in top graduate schools worldwide.

The program in political science 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, and behavioral—are explored in the light of their respective theoretical materials.

Program Objectives 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. Successful completion of this program will yield the following outcomes:

- [1] Students will have the knowledge and skills necessary to engage in normative political inquiry and analysis;
- [2] Students will have the knowledge and skills necessary to engage in empirical political inquiry and analysis;
- [3] Students will have the knowledge and skills necessary to understand and analyze politics within the context of the international political system;
- [4] Students will have the knowledge and skills necessary to understand and analyze the American political and legal system;
- [5] Students will have the knowledge and skills necessary to engage in comparative analysis of political systems.

University Core Requirements — 39 hours
(See pg. 8-10.)

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

- 3 Effective Communication (CST 100)
- 3 Metaphysics (PHL 33x)
- 15 Credits of upper-division courses outside the primary major, 9 of which must come from 3 different disciplines in the College of Arts and Sciences. This requirement is not fulfilled by the University core.
- 0-12 Intermediate level of one language (pg. 51)

Major Requirements — 36 hours Hrs.

- 3 POL 200 — Introduction to United States Politics
- 3 POL 201 — Introduction to International Relations
or
- 3 POL 202 — Modern Foreign Government
- 3 POL 203 — Introduction to Political Theory
- 3 POL 300 — Political Inquiry and Analysis
- 3 POL 305 — Ancient Medieval Political Thought
or
- 3 POL 306 — Modern Political Thought
or
- 3 POL 307 — Contemporary Political Theory

- 21 Major electives (must include at least one course each in American Politics, International Relations, and Comparative Politics, one of which must be at the 400 level.)

General Electives — 12-24 hours
Total Credit Hours — 120

Philosophy, Politics, and Policy

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

Psychology, B.A.

Anissa Rogers, Ph.D., chair

Faculty: *Baillet, Downs, Guest, Julka, Lies*

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.
- [2] Think critically about behavior, question assumptions, and consider alternatives.
- [3] Understand, interpret, and design psychological research.
- [4] Express themselves competently both orally and in writing.

University Core Requirements — 39 hours (See pg. 8-10.)

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

- 3 Effective Communication (CST 100)
- 3 Metaphysics (PHL 33x)
- 15 Credits of upper-division courses in the College of Arts and Sciences outside the primary major, 9 of which must come from 3 different disciplines. This requirement is not fulfilled by the University core.
- 0-12 Intermediate level of one language (pg. 51)

Major Requirements — 30 hours Hrs.

- 3 PSY 214 — Research Methods: Design
- 3 PSY 215 — Research Methods: Analysis
- 3 PSY 498 — Senior Seminar

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

- 21 Upper-division psychology electives, including 6 credits from Group 1: PSY 310, Behavioral Neuroscience; PSY 320, Learning; PSY 330, Cognition; PSY 340, Sensation and Perception; and 6 credits from Group 2: PSY 350, Social Psychology; PSY 360, Life Span Development; PSY 370, Personality; PSY 380, Abnormal Psychology.

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, B.A.

Anissa Rogers, Ph.D., chair
Faculty: Gallegos, Rogers

The mission of the Social Work Program at the University of Portland is to prepare students for generalist social work practice in order to assume leadership roles in community and global contexts within increasingly diverse societies through cultural competence and commitment to social justice.

The Social Work Program supports the missions of the University and the College of Arts and Sciences through its commitment to social justice; it affirms the values of human rights and responsibilities, human diversity, self-determination, community, and global solidarity. Based upon the values of the social teachings of the

Catholic Church, the program is dedicated to social work with the vulnerable and marginal in society such as women, the elderly, the disabled, and others considered to be most in need.

The Social Work Program is designed to provide the student with the knowledge and skills necessary for generalist practice in social work. A liberal arts foundation grounded in the physical sciences, social sciences, philosophy, and theology is integrated with the social work theory through an educationally directed field experience, giving a student of generalist perspective of social work.

Goals and Learning Outcomes for Social Work Majors

Goal I: To prepare students to become competent generalist social work practitioners in a wide range of settings, with emphasis on social justice. Social work graduates of the University of Portland should be able to:

- [1] Identify with the social work profession.
- [2] Apply ethical principles in practice.
- [3] Apply critical thinking in practice.
- [4] Incorporate diversity in practice.
- [5] Advocate for human rights and social and economic justice.
- [6] Engage in informed research.
- [7] Apply knowledge of human behavior and the social environment.
- [8] Engage in policy practice to advance social and economic well-being.
- [9] Respond to contexts that shape practice.

[10] Engage, assess, intervene, evaluate with individuals, families, groups, organizations, and communities.

Goal II: To prepare students for advanced graduate study in social work. Social work graduates of the University of Portland should be able to:

- [1] Identify with the social work profession.
- [2] Engage in informed research.
- [3] Engage, assess, intervene, evaluate with individuals, families, groups, organizations, and communities.

Goal III: To encourage and enable students to assume leadership roles in meeting the social service needs of vulnerable populations. Social work graduates of the

University of Portland should be able to:

[1] Advocate for human rights and social and economic justice.

[2] Engage in policy practice to advance social and economic well-being.

[3] Respond to contexts that shape practice.

University Core Requirements — 39 hours
(See pg. 8-10.)

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

3 Effective Communication (CST 100)

3 Metaphysics (PHL 33x)

15 Credits of upper-division courses in the College of Arts and Sciences outside the primary major, 9 of which must come from 3 different disciplines. This requirement is not fulfilled by the University core.

0-12 Intermediate level of one language (pg. 51)

Major Requirements — 42 hours
Hrs.

3 SW 214 — Research Methods: Design

3 SW 305 — Social Work: Service and Social Justice

3 SW 313 — Social Welfare Policy

3 SW 325 — Cultural Diversity and Cultural Competence

3 SW 343 — Human Behavior and the Social Environment

3 SW 386 — Interviewing/Counseling

3 SW 480 — Theory and Practice of SW Intervention I

3 SW 481 — Theory and Practice of SW Intervention II

6 SW 482 — Social Work Practicum I

6 SW 483 — Social Work Practicum II

Students must take PSY 101 and SOC 101 as their core social science courses.

6 Major electives

General Electives — 6-18 hours
Total Credit Hours — 120

Sociology, B.A.

Anissa Rogers, Ph.D., chair

Faculty: *Duff, Monto, McRee, Rookey*

The Sociology Program serves the academic mission of the University by offering an essential University core offering, SOC 101 Introduction to Sociology, as well as a strong undergraduate major program in sociology and a specialized track of that major in criminal justice. Consistent with the principles of a Catholic and Holy Cross education, the faculty are committed to the development of students as socially re-

sponsible, 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 the ability 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, minority 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 will be able to:

[1] Demonstrate an understanding of the major theories and concepts in sociology.

[2] Understand, interpret and design social research.

[3] Express themselves through the written and spoken word.

[4] Think critically about social life, question assumptions, and consider alternatives.

[5] Demonstrate an understanding of the ways that social class, race, ethnicity, and gender affect individuals and shape their perceptions of the world.

Graduates in the criminal justice track of the sociology major will also be able to:

[6] Demonstrate an understanding of the operation of the criminal justice system and social and psychological causes of criminal activity.

University Core Requirements — 39 hours

(See pg. 8-10.)

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

- 3 Effective Communication (CST 100)
 - 3 Metaphysics (PHL 33x)
 - 15 Credits of upper-division courses in the College of Arts and Sciences outside the primary major, 9 of which must come from 3 different disciplines. This requirement is not fulfilled by the University core.
- 0-12 Intermediate level of one language (pg. 51)

Major Requirements — 30 hours

Hrs.

- 3 SOC 214 — Research Methods: Design
- 3 SOC 215 — Research Methods: Analysis
- 3 SOC 380 — Sociological Theory
- 3 SOC 498 — Senior Project Seminar

Students must take SOC 101 as one of their core social science courses. 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 Upper-division sociology electives (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

Criminal Justice Track

This is an interdisciplinary track of the sociology major that encourages a critical exploration of criminal behavior and the criminal justice system. The program, which includes a year-long educationally directed field experience in the senior year, is particularly appropriate for students interested in law enforcement work or corrections.

Learning Outcomes for Criminal Justice Track

Graduates from the University of Portland criminal justice track will be able to:

- [1] Demonstrate an understanding of the major theories and concepts in sociology.
- [2] Understand, interpret and design social research.
- [3] Express themselves through the written and spoken word.
- [4] Think critically about social life, question assumptions, and consider alternatives.
- [5] Demonstrate an understanding of the ways that social class, race, ethnicity, and

gender affect individuals and shape their perceptions of the world.

Graduates in the criminal justice track of the sociology major will also be able to:

- [6] Demonstrate an understanding of the operation of the criminal justice system and social and psychological causes of criminal activity.

Major and Track Requirements — 39 hours Hrs.

Students must take PSY 101 and SOC 101 as their core social science courses.

- 3 SOC 214 — Research Methods: Design
 - 3 SOC 305 — Introduction to Criminal Justice
 - 3 SOC 325 — Cultural Diversity: Cultural Competence
 - 3 SOC 325 — Cultural Diversity and Cultural Competence
- or**
- SOC 436 — Race and Ethnic Relations
 - 3 SOC 360 — Criminology
 - 3 SOC 380 — Sociological Theory
 - 6 SOC 446-447 — Criminal Justice Practicum I & II
 - 3 SOC 498 — Senior Project Seminar

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.

- 3 Elective (POL 344, Civil Liberties; POL 345, Constitutional Law; POL 405, Law in the Political Arena; or course in criminal law)
- 9 Upper-division Psychology or Sociology electives, at least one of which must include SOC 408, Juvenile Delinquency; SOC 410, Corrections; or SOC 444, Deviant Behavior.

General Electives — 9-21 hours

Total Credit Hours — 120

Theology

Will Deming, Ph.D., chair

Faculty: Allison, Baasten, Butkus, Cameron, Deming, Dempsey, Gaudino, Gordon, Hosinski, LaBarre, McManus, McNamara, Rutherford

Theological studies have a prominent role in the University and College of Arts and Sciences core curricula. The Department of Theology is the academic unit of the College of Arts and Sciences whose purpose is to offer quality theological education. Within a Catholic context and in an ecumenical perspective it provides a foundation for: a) critical, spiritual, and ethical

reflection, and its expression; b) nurturing theological scholarship and dialogue; and c) pastoral service on campus and in local churches.

The Department of Theology is one of the most direct and visible ways in which the University promotes its mission as an independently governed Catholic university, fulfilling its commitment to the central tenets of faith and service. By providing formative training in the content and methods of Catholic/Christian theology, the department, in the spirit of *Ex Corde Ecclesiae* (1990), contributes to the manner in which service to God and humanity is valued and personified in our graduates.

The Department of Theology seeks to fulfill its own mission and the stated objectives of the University by providing, as part of the core curriculum, a theology core program consisting of 9 credit hours. As part of the theology core program, all students are required to take three theology courses. The first, THE 101, introduces students to the nature of religion, the great world religions, and the discipline of theology. The second, THE 205, surveys biblical tradition and culture. The third course must be taken from a range of 400-level courses, which provides students with advanced study of a more focused topic within Christian theology, possibly one related to the student's major or one of personal interest.

THE 101 and 205 are prerequisites for all upper-division theology courses.

The Department of Theology offers a program of courses leading to the bachelor of arts degree with a major in theology, a theology minor (described on pg.53), a Catholic studies minor (described on pages 13 and 51) and a master's degree in pastoral ministry (described on pg. 154).

Theology, B.A.

Students desiring to orient themselves more thoroughly in the study of religious values and influences choose theology as a valuable integrating major in the College of Arts and Sciences. Some declare theology as a second major or interdisciplinary area with communication, drama, education, philosophy, psychology, and social service, to mention the most frequent

combinations. Majors may qualify for enrollment in the national honor society for religious studies and theology (Theta Alpha Kappa).

In addition to THE 101 and 205, theology majors take 27 hours of upper-division courses. Of these 27 hours, 3 are allotted to biblical studies, 3 to the history of Christianity, 3 to systematic theology, 3 to theological ethics, 3 to Christian worship, and 3 to spirituality. The remaining 9 hours are allotted to upper-division theology electives, three hours of which may be satisfied by taking a THEP course.

In their senior year, students must complete the Capstone Experience, a culminating event for the theology major. In consultation with his or her advisor during the junior year, the theology major chooses from among the following year's offerings (ordinarily for the fall semester) an upper-division course that relates to a particular area of interest, e.g. Bible, ethics, systematics, etc. With the direction of the course professor the student writes a formal paper of substantive length, usually at least twenty (20) pages. The paper may be interdisciplinary, i.e., written in conversation with other theology faculty and/or with faculty outside the theology department.

The public presentation of the theology capstone paper occurs in two parts. In part one, the department schedules a theology colloquium. There the student presents the paper publicly to theology majors and minors, department faculty, and any interested faculty and students from the University community. The colloquium aims to both feature a student's work in a formal setting and to engage the University community in a scholarly conversation and inquiry. The theology department encourages creation of a format that includes student responses from inside or outside the discipline. Part two is a presentation of the work to a wider, non-theological audience at the University's Founders Day in April.

The theology capstone is recommended for current theology majors. It is mandatory for all theology majors entering in the fall 2005 semester (Class of 2010).

Learning Outcomes for Theology Majors

Graduates in theology from the University of Portland will be able to:

[1] Gain an understanding of the major sub-disciplines of Christian/Catholic theology, their content, and their respective methodologies.

[2] Develop an ability to use and value the lenses of different disciplines, and seek connections among them.

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

[4] Develop the foundational knowledge and skills necessary for informed inquiry, decision making, and communication.

[5] Develop the knowledge, skills, and commitment for ethical awareness and social responsibility in a global context.

University Core Requirements — 39 hours
(See pg. 8-10.)

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

3 Effective Communication (CST 100)

3 Metaphysics (PHL 33x)

15 Credits of upper-division courses outside the primary major, 9 of which must come from 3 different disciplines in the College of Arts and Sciences. This requirement is not fulfilled by the University core.

0-12 Intermediate level of one language (pg. 51)

Major requirements — 33 hours (24 beyond University core requirements)

Biblical Studies — 3 hours

History of Christianity — 3 hours

Systematic Theology — 3 hours

Theological Ethics — 3 hours

Christian Worship — 3 hours

Spirituality — 3 hours

Theology Upper-Division Electives — 9 hours

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

Faculty: Adams, Adrangi, Allender, Anderson, Barnes, Beauchamp, Bernard, Chatrath, DeHoratius, Drake, Easton, Eom, Feldman, Gritta, Gudigantala, Holloway, Jurinski, Kondrasuk, Lewis, Lin, Lippman, Martin, Mitchell, Meckler, Reed, Schouten, Seal, Stephens

The Dr. Robert B. Pamplin, Jr. School of Business Administration was founded in 1939, and it 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 at the graduate level.

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.

Degrees and Programs

The undergraduate program in the School of Business Administration includes six 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 account-

ing, economics, finance, marketing and management, operations and technology management, and global business. Both the B.B.A. and B.A. degrees include a general education component based on the University core curriculum. This is fol-

lowed by other foundation and major courses depending upon the specific major. Minors are offered in business administration, economics, and entrepreneurship.

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;
- Developing and refining skills, abilities, and ways of knowing.

Students are required to take the following courses to meet these goals.

University Core Requirements — 39 hours

- | | | |
|---|---|------------------------------|
| 3 | ENG 112 | — Introduction to Literature |
| 3 | FA 207 | — Fine Arts |
| 3 | MTH 141 | — Finite Mathematics |
| 6 | Science Electives | |
| 3 | History (Any 200 or 300-level course) | |
| 6 | Social science (Courses chosen from two different disciplines: POL 200, Introduction to United States Politics; POL 201, Introduction to International Relations; POL 202, Introduction to Comparative Politics; POL 203, Introduction to Political Theory; PSY 101, General Psychology; SOC 101, Introductory Sociology; CST 225, Fundamentals of Interpersonal Communication) | |
| 6 | Philosophy (PHL 150, Introductory Philosophy; PHL 220, Ethics) | |
| 9 | Theology (THE 101, Introduction to Religion and Theology; THE 205, Biblical Tradition and Culture; upper-division theology elective) | |

Common Business Requirements for B.B.A. degrees — 52-57 hours

In addition to the University core requirements, students in the six B.B.A. majors take similar non-business and business courses. The non-business courses (9-15 hours) taken in the College of Arts and Sciences assist in developing essential skills in speaking, writing, and mathematics.

The common business foundation (42 hours) 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. BUS 100, Introduction to Leadership, must be completed in the student's first two semesters. Students who transfer into the program after the freshman year are also required to complete this course.

Upper-division foundation courses further develop business skills in finance, decision modeling, organizational behavior, and operations and technology management. A final course involves integrating these various foundational skills in managing overall company policy and operations.

Prior to entering upper-division business courses, students must complete statistics (ECN 220 or MTH 161) and other math requirements (MTH 141 and MTH 121 depending on major); MTH 121 Calculus is required for economics, finance, operations and technology management majors and for global business majors who select these concentrations. Students must earn a minimum grade of C in each of these courses. Some approved higher level math courses can be substituted for these courses. All students must enroll in a math course every semester until the math requirements are completed.

Students must complete all of the lower-division business foundation courses with a combined GPA of 2.0 before declaring their major and taking upper-division business courses.

Business Majors Component of B.B.A. Degree

The six majors leading to the B.B.A. degree require different courses tailored to each major. Economics, finance, marketing and management, and operations and technology management require 24 credit hours. This includes three to four courses specific to the major and four to five elective courses within the major. Accounting requires 30 hours of accounting courses. Global business requires 24 to 30 hours including required, elective and language courses. Different requirements exist in the B.A. degree in economics. Students should check

the specific requirements and options within each major.

Professional Development (P4)

Students in the Pamplin School of Business will be engaged in a series of required professional development activities throughout their four years in the program. This will include skills assessment and resume building activities in the freshman year in BUS 100. This is followed by researching career options, job shadowing, interviewing skills, and related career development activities in the sophomore through senior years in BUS 202, BUS 302, and BUS 402.

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 asked to sign an honors pledge and attach it to all submitted course work to affirm the integrity of their scholarship to all concerned.

Degree Programs

B.B.A. with a Major in Accounting

The accounting program is structured to meet the needs of students pursuing either a four or five-year program.

The four-year program is appropriate for:

- [1] Students who wish to pursue professional certification such as a certified management accountant (CMA), certified internal auditor (CIA), certified financial planner (CFP), etc., where a four-year degree is appropriate;
- [2] Students who may pursue certified public accountant (CPA) certification in the future but intend to work for a period of time before returning to complete the necessary education;
- [3] Students who wish to pursue a career in accounting or a related field that does not require certification.

The five-year program is most appropriate for students who intend to pursue CPA certification. Candidates writing the CPA

exam in Oregon (and most other states) must have earned at least 150 semester credit hours. Thirty additional hours (beyond the 120 required for accounting students) will allow students to meet the minimum requirements of most states. Specific requirements on course work vary by state, so students should review their state's requirements. It is strongly recommended that students choose among the following options:

[1] The B.B.A./M.B.A. with a major in accounting on page 96;

[2] A double major, for example, accounting and finance;

[3] A major in accounting with one or more minors which enhance the student's skill set or match the student's interests, such as economics, psychology, fine arts, or a foreign language.

University Core Requirements – 39 hours

- | | | |
|---|---|------------------------------|
| 3 | ENG 112 | — Introduction to Literature |
| 3 | FA 207 | — Fine Arts |
| 3 | MTH 141 | — Finite Mathematics |
| 6 | Science electives | |
| 3 | History (Any 200 or 300-level course) | |
| 6 | Social Science (Courses chosen from two different disciplines: POL 200, Introduction to United States Politics; POL 201, Introduction to International Relations; POL 202, Introduction to Comparative Politics; POL 203, Introduction to Political Theory; PSY 101, General Psychology; SOC 101, Introductory Sociology; CST 225, Fundamentals of Interpersonal Communication) | |
| 6 | Philosophy (PHL 150, Introductory Philosophy; PHL 220, Ethics) | |
| 9 | Theology (THE 101, Introduction to Religion and Theology; THE 205, Biblical Tradition and Culture; upper-division theology elective) | |

Common Business Requirements – 51 hours

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

Non-Business Courses – 9 hours

- | | | |
|---|---------|-----------------------------|
| 3 | CST 107 | — Effective Public Speaking |
| 3 | ENG 107 | — College Writing |
| 3 | ECN 220 | — Statistics for Business |
| | | or |
| 3 | MTH 161 | — Elementary Statistics |

Business Foundation Lower Division—26 hours**Hrs.**

3	BUS 100	— Introduction to Leadership
1	BUS 101	— Software Application Workshop
3	ECN 120	— Principles of Macroeconomics
3	ECN 121	— Principles of Microeconomics
3	BUS 200	— Entrepreneurial Marketing
1	BUS 202	— Professional Development
3	BUS 209	— Financial Accounting
3	BUS 210	— Managerial Accounting
3	BUS 250	— Legal and Social Responsibilities in Business
3	BUS 255	— Management Information Systems

Business Foundation Upper Division—16 hours**Hrs.**

1	BUS 302	— Professional Development Internship
3	BUS 305	— Business Finance
3	BUS 355	— Decision Modeling
3	BUS 360	— Organizational Behavior
3	BUS 361	— Technology and Operations Management
3	BUS 400	— Management Decisions and Policy
0	BUS 402	— Professional Development Workshop

Major Requirements — 30 hours

3	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

Total Credit Hours — 120**B.B.A. with a Major in Finance**

The finance program has four required courses, including International Finance, which provides a global perspective. In addition, students take 12 hours of elective courses that advance their understanding of the complementary areas of economics, accounting, and/or marketing.

University Core Requirements — 39 hours

3	ENG 112	— Introduction to Literature
---	---------	------------------------------

3	FA 207	— Fine Arts
3	MTH 141	— Finite Mathematics
6	Science Electives	
3	History (Any 200 or 300-level course)	
6	Social science (Courses chosen from two different disciplines: POL 200, Introduction to United States Politics; POL 201, Introduction to International Relations; POL 202, Introduction to Comparative Politics; POL 203, Introduction to Political Theory; PSY 101, General Psychology; SOC 101, Introductory Sociology; CST 225, Fundamentals of Interpersonal Communication)	
6	Philosophy (PHL 150, Introductory Philosophy; PHL 220, Ethics)	
9	Theology (THE 101, Introduction to Religion and Theology; THE 205, Biblical Tradition and Culture; upper-division theology elective)	

Common Business Requirements — 57 hours

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

Non-Business Courses—15 hours**Hrs.**

3	CST 107	— Effective Public Speaking
3	ENG 107	— College Writing
3	MTH 121	— Calculus for Business and Social Science
3	ECN 220	— Statistics for Business
	or	
3	MTH 161	— Elementary Statistics
3	Open elective	

Business Foundation Lower Division—26 hours**Hrs.**

3	BUS 100	— Introduction to Leadership
1	BUS 101	— Software Applications Workshop
3	ECN 120	— Principles of Macroeconomics
3	ECN 121	— Principles of Microeconomics
3	BUS 200	— Entrepreneurial Marketing
1	BUS 202	— Professional Development
3	BUS 209	— Financial Accounting
3	BUS 210	— Managerial Accounting
3	BUS 250	— Legal and Social Responsibilities in Business
3	BUS 255	— Management Information Systems

Business Foundation Upper Division—16 hours**Hrs.**

1	BUS 302	— Professional Development Internship
3	BUS 305	— Business Finance
3	BUS 355	— Decision Modeling

- 3 BUS 360 — Organizational Behavior
- 3 BUS 361 — Technology and Operations Management
- 3 BUS 400 — Management Decisions and Policy
- 0 BUS 402 — Professional Development Workshop

Major Requirements — 24 hours**Hrs.**

- 3 BUS 330 — Managerial Finance
 - 3 BUS 430 — Investments
 - 3 BUS 431 — Financial Markets and Institutions
 - 3 BUS 441 — International Finance
- Four of the following electives:
- 3 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 401 — Business Internship
 - 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 480 — Creating a World-Class Venture
 - 3 BUS 485 — Entrepreneurial Ventures
 - 3 Choice of one upper-division Economics course

Total Credit Hours — 120**B.B.A. with a Major in Marketing and Management**

The required courses in the marketing and management program include two essential marketing offerings, the human resource management course, and a management class focused on organizational innovation and technology. Business electives provide additional background in these fields along with a required international course.

University Core Requirements — 39 hours**Hrs.**

- 3 ENG 112 — Introduction to Literature
- 3 FA 207 — Fine Arts
- 3 MTH 141 — Finite Mathematics
- 6 Science Electives

- 3 History (Any 200 or 300-level course)
- 6 Social science (Courses chosen from two different disciplines: POL 200, Introduction to United States Politics; POL 201, Introduction to International Relations; POL 202, Introduction to Comparative Politics; POL 203, Introduction to Political Theory; PSY 101, General Psychology; SOC 101, Introductory Sociology; CST 225, Fundamentals of Interpersonal Communication)
- 6 Philosophy (PHL 150, Introductory Philosophy; PHL 220, Ethics)
- 9 Theology (THE 101, Introduction to Religion and Theology; THE 205, Biblical Tradition and Culture; upper-division theology elective)

Common Business Requirements — 57 hours

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

Non-Business Courses — 15 hours**Hrs.**

- 3 CST 107 — Effective Public Speaking
 - 3 ENG 107 — College Writing
 - 3 ECN 220 — Statistics for Business
- or**
- 3 MTH 161 — Elementary Statistics
 - 6 Open electives

Business Foundation Lower Division — 26 hours**Hrs.**

- 3 BUS 100 — Introduction to Leadership
- 1 BUS 101 — Software Applications Workshop
- 3 ECN 120 — Principles of Macroeconomics
- 3 ECN 121 — Principles of Microeconomics
- 3 BUS 200 — Entrepreneurial Marketing
- 1 BUS 202 — Professional Development
- 3 BUS 209 — Financial Accounting
- 3 BUS 210 — Managerial Accounting
- 3 BUS 250 — Legal and Social Responsibilities in Business
- 3 BUS 255 — Management Information Systems

Business Foundation Upper Division — 16 hours**Hrs.**

- 1 BUS 302 — Professional Development Internship
- 3 BUS 305 — Business Finance
- 3 BUS 355 — Decision Modeling
- 3 BUS 360 — Organizational Behavior

*All internships for credit must be preapproved by the internship coordinator within the Pamplin School of Business.

†BUS 480 is open only for students in the Entrepreneur Scholars program. See page 96.

- | | | |
|---|---------|--|
| 3 | BUS 361 | — Technology and Operations Management |
| 3 | BUS 400 | — Management Decisions and Policy |
| 0 | BUS 402 | — Professional Development Workshop |

Major Requirements — 24 hours**Hrs.**

- | | | |
|---|---------|--------------------------------------|
| 3 | BUS 364 | — Managing Innovation and Technology |
| 3 | BUS 370 | — Marketing Research |
| 3 | BUS 371 | — Consumer Behavior |
| 3 | BUS 462 | — Human Resource Management |

*One of the following international courses:

- | | | |
|---|---------|--------------------------------------|
| 3 | BUS 442 | — Cross-Cultural Management |
| 3 | BUS 443 | — International Marketing Management |

Three of the following electives:

- | | | |
|---|--|---------------------------------------|
| 3 | BUS 452 | — Project Management |
| 3 | BUS 453 | — Supply Chain Management |
| 3 | BUS 471 | — Integrated Marketing Communications |
| 3 | BUS 472 | — Personal Selling |
| 3 | BUS 485 | — Entrepreneurial Ventures |
| 3 | Choice of one upper-division Business, Economics, or Communication Studies elective. | |

Total Credit Hours — 120**B.B.A. with a Major in Operations and Technology Management**

The operations and technology management program includes four required courses covering managerial finance, managing innovation and change, project management, and supply chain management. In addition students take 12 credit hours of electives.

University Core Requirements — 39 hours

- | | | |
|---|---|------------------------------|
| 3 | ENG 112 | — Introduction to Literature |
| 3 | FA 207 | — Fine Arts |
| 3 | MTH 141 | — Finite Mathematics |
| 6 | Science Electives | |
| 3 | History (Any 200 or 300-level course) | |
| 6 | Social science (Courses chosen from two different disciplines: POL 200, Introduction to United States Politics; POL 201, Introduction to International Relations; POL 202, Introduction to Comparative Politics; POL 203, Introduction to Political Theory; PSY 101, General Psychology; SOC 101, Introductory Sociology; CST 225, Fundamentals of Interpersonal Communication) | |
| 6 | Philosophy (PHL 150, Introductory Philosophy; PHL 220, Ethics) | |
| 9 | Theology (THE 101, Introduction to Religion | |

and Theology; THE 205, Biblical Tradition and Culture; upper-division theology elective)

Common Business Requirements — 57 hours

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

Non-Business Courses — 15 hours**Hrs.**

- | | | |
|---|---------------|--|
| 3 | CST 107 | — Effective Public Speaking |
| 3 | ENG 107 | — College Writing |
| 3 | MTH 121 | — Calculus for Business and Social Science |
| 3 | ECN 220 | — Statistics for Business |
| | | or |
| 3 | MTH 161 | — Elementary Statistics |
| 3 | Open elective | |

Business Foundation Lower Division — 26 hours**Hrs.**

- | | | |
|---|---------|---|
| 3 | BUS 100 | — Introduction to Leadership |
| 1 | BUS 101 | — Software Applications Workshop |
| 3 | ECN 120 | — Principles of Macroeconomics |
| 3 | ECN 121 | — Principles of Microeconomics |
| 3 | BUS 200 | — Entrepreneurial Marketing |
| 1 | BUS 202 | — Professional Development |
| 3 | BUS 209 | — Financial Accounting |
| 3 | BUS 210 | — Managerial Accounting |
| 3 | BUS 250 | — Legal and Social Responsibilities in Business |
| 3 | BUS 255 | — Management Information Systems |

Business Foundation Upper Division—16 hours**Hrs.**

- | | | |
|---|---------|--|
| 1 | BUS 302 | — Professional Development Internship |
| 3 | BUS 305 | — Business Finance |
| 3 | BUS 355 | — Decision Modeling |
| 3 | BUS 360 | — Organizational Behavior |
| 3 | BUS 361 | — Technology and Operations Management |
| 3 | BUS 400 | — Management Decisions and Policy |
| 0 | BUS 402 | — Professional Development Workshop |

Major Requirements — 24 hours**Hrs**

- | | | |
|---|---------|--------------------------------------|
| 3 | BUS 330 | — Managerial Finance |
| 3 | BUS 364 | — Managing Innovation and Technology |
| 3 | BUS 452 | — Project Management |
| 3 | BUS 453 | — Supply Chain Management |

*Students may choose to take the remaining international course as one of their business electives.

Four of the following electives—two of the first four are required:

- | | | |
|---|-----------|--|
| 3 | BUS 356 | — Database Management |
| 3 | BUS 456 | —Systems Analysis and Design |
| 3 | BUS 457 | —Inventory Management |
| 3 | BUS 458 | —Operations Management for Competitive Advantage |
| 3 | BUS 312 | —Cost Accounting |
| 3 | ECN 319 | —Intermediate Microeconomics |
| 3 | * BUS 401 | —Business Internship |
| 3 | BUS 440 | —International Economics |
| 3 | BUS 441 | —International Finance |
| 3 | BUS 442 | —Cross-Cultural Management |

Total Credit Hours — 120

B.B.A. with a Major 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 (i.e., all students must complete a foreign language at the intermediate level as a minimum). Completion of an appropriate language course will fulfill the upper-division non-business elective requirement. Students who place into 300-level language when they enter the program can complete a language minor in the 12 hours of the curriculum allotted for language courses. Finally, the cultural immersion requirement can be met through study abroad programs sponsored by the University in Austria, Australia, England, Germany, Japan, Mexico, and Spain, 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.

University Core Requirements — 39 hours

- | | | |
|---|---------|------------------------------|
| 3 | ENG 112 | — Introduction to Literature |
| 3 | FA 207 | — Fine Arts |
| 3 | MTH 141 | — Finite Mathematics |

- | | |
|---|---|
| 6 | Science Electives |
| 3 | History (Any 200 or 300-level course) |
| 6 | Social science (Courses chosen from two different disciplines: POL 200, Introduction to United States Politics; POL 201, Introduction to International Relations; POL 202, Introduction to Comparative Politics; POL 203, Introduction to Political Theory; PSY 101, General Psychology; SOC 101, Introductory Sociology; CST 225, Fundamentals of Interpersonal Communication) |
| 6 | Philosophy (PHL 150, Introductory Philosophy; PHL 220, Ethics) |
| 9 | Theology (THE 101, Introduction to Religion and Theology; THE 205, Biblical Tradition and Culture; upper-division theology elective) |

Common Business Requirements — 57 hours

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

Non-Business Courses—15 hours

Hrs.

- | | | |
|-----------|-----------------|-----------------------------|
| 3 | CST 107 | — Effective Public Speaking |
| 3 | ENG 107 | — College Writing |
| 3 | † MTH 121 | — Calculus for Business |
| or | | |
| 3 | † Open elective | |
| 3 | ECN 220 | — Statistics for Business |
| or | | |
| 3 | MTH 161 | — Elementary Statistics |
| 3 | Open elective | |

Business Foundation Lower Division—26 hours

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 100 | — Introduction to Leadership |
| 1 | BUS 101 | — Software Applications Workshop |
| 3 | ECN 120 | — Principles of Macroeconomics |
| 3 | ECN 121 | — Principles of Microeconomics |
| 3 | BUS 200 | — Entrepreneurial Marketing |
| 1 | BUS 202 | — Professional Development |
| 3 | BUS 209 | — Financial Accounting |
| 3 | BUS 210 | — Managerial Accounting |
| 3 | BUS 250 | — Legal and Social Responsibilities in Business |
| 3 | BUS 255 | — Management Information Systems |

*All internships for credit must be preapproved by the internship coordinator within the Pamplin School of Business.

†MTH 121 Calculus for Business is required for economics, finance, and operations technology management concentrations. The marketing and management concentration has an additional open elective.

Business Foundation Upper Division—16 hours**Hrs.**

1	BUS 302	— Professional Development Internship
3	BUS 305	— Business Finance
3	BUS 355	— Decision Modeling
3	BUS 360	— Organizational Behavior
3	BUS 361	— Technology and Operations Management
3	BUS 400	— Management Decisions and Policy
0	BUS 402	— Professional Development Workshop

Major Requirements — 18 hours

3	ECN 440	— International Economics
3	BUS 441	— International Finance
3	BUS 442	— Cross Cultural Management
3	BUS 443	— International Marketing Management

The two global business major electives must be chosen from one of the five concentration areas below:

Accounting: Choose two of these classes:

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

Economics: Choose two of these classes:

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

Finance: Choose two of these classes:

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

Marketing and Management: Choose two of these classes:

3	BUS 364	— Managing Innovation and Technology
3	BUS 370	— Marketing Research
3	BUS 371	— Consumer Behavior
3	BUS 462	— Human Resources Management

Operations and Technology Management:

Choose two of these classes:

3	BUS 330	— Managerial Finance
3	BUS 364	— Managing Innovation and Technology
3	BUS 452	— Project Management
3	BUS 453	— Supply Chain Management

Language Requirement — 6 to 12 hrs.

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

Total Credit Hours — 120-126**Global Business: Study Abroad Requirement**

Global business majors are required to study abroad in a summer, semester, or year-long program. 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.

During the sophomore year, the dean's office will use the aforementioned factors to evaluate students intending to major in global business. During this process, students may be called in to discuss these factors and their plans for study abroad. 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. Students who apply to transfer into the Pamplin School of Business Administration, either from within or outside the University, may undergo this evaluation immediately upon their request to transfer, depending on the percentage of curriculum they have already completed.

Finally, students who intend to study abroad are encouraged to begin research-

ing 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).

B.B.A. with a Major in Economics

The economics program includes three required courses covering econometrics, intermediate microeconomics, and intermediate macroeconomics. In addition, students take 15 credit hours of economics electives.

University Core Requirements — 39 hours

- | | | |
|-------------|---|------------------------------|
| Hrs. | | |
| 3 | ENG 112 | — Introduction to Literature |
| 3 | FA 207 | — Fine Arts |
| 3 | MTH 141 | — Finite Mathematics |
| 6 | Science Electives | |
| 3 | History (Any 200 or 300-level course) | |
| 6 | Social science (Courses chosen from two different disciplines: POL 200, Introduction to United States Politics; POL 201, Introduction to International Relations; POL 202, Introduction to Comparative Politics; POL 203, Introduction to Political Theory; PSY 101, General Psychology; SOC 101, Introductory Sociology; CST 225, Fundamentals of Interpersonal Communication) | |
| 6 | Philosophy (PHL 150, Introductory Philosophy; PHL 220, Ethics) | |
| 9 | Theology (THE 101, Introduction to Religion and Theology; THE 205, Biblical Tradition and Culture; upper-division theology elective) | |

Common Business Requirements — 57 hours

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

Non-Business Courses—15 hours

- | | | |
|-------------|---------------|--|
| Hrs. | | |
| 3 | CST 107 | — Effective Public Speaking |
| 3 | ENG 107 | — College Writing |
| 3 | MTH 121 | — Calculus for Business and Social Science |
| 3 | ECN 220 | — Statistics for Business |
| | or | |
| 3 | MTH 161 | — Elementary Statistics |
| 3 | Open elective | |

Business Foundation Lower Division—26 hours

- | | | |
|-------------|---------|---|
| Hrs. | | |
| 3 | BUS 100 | — Introduction to Leadership |
| 1 | BUS 101 | — Software Applications Workshop |
| 3 | ECN 120 | — Principles of Macroeconomics |
| 3 | ECN 121 | — Principles of Microeconomics |
| 3 | BUS 200 | — Entrepreneurial Marketing |
| 1 | BUS 202 | — Professional Development |
| 3 | BUS 209 | — Financial Accounting |
| 3 | BUS 210 | — Managerial Accounting |
| 3 | BUS 250 | — Legal and Social Responsibilities in Business |
| 3 | BUS 255 | — Management Information Systems |

Business Foundation Upper Division—16 hours

- | | | |
|-------------|---------|--|
| Hrs. | | |
| 1 | BUS 302 | — Professional Development Internship |
| 3 | BUS 305 | — Business Finance |
| 3 | BUS 355 | — Decision Modeling |
| 3 | BUS 360 | — Organizational Behavior |
| 3 | BUS 361 | — Technology and Operations Management |
| 3 | BUS 400 | — Management Decisions and Policy |
| 0 | BUS 402 | — Professional Development Workshop |

Major Requirements — 24 hours

- | | | |
|----------------------------------|---------------------|--------------------------------------|
| Hrs. | | |
| 3 | ECN 310 | — Econometrics |
| 3 | ECN 319 | — Intermediate Microeconomics |
| 3 | ECN 320 | — Intermediate Macroeconomics |
| Five of the following electives: | | |
| 3 | ECN 322 | — Environmental Economics |
| 3 | ECN 420 | — Industrial Organization |
| 3 | ECN 424 | — Income Inequality |
| 3 | ECN 426 | — Comparative Economics |
| 3 | ECN 427 | — Sports Economics |
| 3 | ECN 428 | — Public Finance |
| 3 | ECN 429 | — Development Economics |
| 3 | ECN 431/
BUS 431 | — Financial Markets and Institutions |
| 3 | ECN 440 | — International Economics |

Total Credit Hours — 120

B.A. in Economics

A second economics major is offered in the School of Business based on a foundation of courses in Arts and Sciences. Stu-

dents in the B.A. degree take three prerequisite economics and statistics courses, followed by three required and five elective courses in economics.

University Core Requirements — 39 hours

- 3 ENG 112 — Introduction to Literature
- 3 FA 207 — Fine Arts
- 3 MTH 141 — Finite Mathematics
- 6 Science Electives
- 3 History (any 200 or 300-level course)
- 6 Social Science (Courses chosen from two different disciplines: POL 200, Introduction to United States Politics; POL 201, Introduction to International Relations; POL 202, Introduction to Comparative Politics; POL 203, Introduction to Political Theory; PSY 101, General Psychology; SOC 101, Introductory Sociology; CST 225, Fundamentals of Interpersonal Communication)
- 6 Philosophy (PHL 150, Introductory Philosophy; PHL 220, Ethics)
- 9 Theology (THE 101, Introduction to Religion and Theology; THE 205, Biblical Tradition and Culture; upper-division theology elective.)

College of Arts and Sciences

Requirements — 30-42 hours

- 3 ENG 107 — College Writing
- 3 ECN 220 — Statistics for Business
- or**
- 3 MTH 161 — Elementary Statistics
- 12 Twelve credit concentration in one of the following: Mathematics, Philosophy, Political Science, Psychology, or Sociology.
- 12 Credits of upper-division CAS courses, 9 of which must come from 3 different disciplines.
- 0-12 *Language competency at the intermediate level.

Major Requirements — 39 hours

Prerequisite courses

- 3 BUS 100 — Introduction to Leadership
- 1 BUS 101 — Software Applications Workshop
- 3 ECN 120 — Principles of Macroeconomics
- 3 ECN 121 — Principles of Microeconomics
- 3 MTH 121 — Calculus for Business and Social Science

Required courses

- 1 BUS 202 — Professional Development
- 1 BUS 302 — Professional Development Internship
- 3 ECN 310 — Econometrics
- 3 ECN 319 — Intermediate Microeconomics

- 3 ECN 320 — Intermediate Macroeconomics
- 0 BUS 402 — Professional Development Workshop

Five of the following electives:

- 3 ECN 322 — Environmental Economics
- 3 ECN 420 — Industrial Organization
- 3 ECN 424 — Income Inequality
- 3 ECN 426 — Comparative Economics
- 3 ECN 427 — Sports Economics
- 3 ECN 428 — Public Finance
- 3 ECN 429 — Development Economics
- 3 ECN 431/
BUS 431 — Financial Markets and Institutions
- 3 ECN 440 — International Economics

Electives: 0-12 hours

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.

Minors

To be awarded a minor at graduation, students must achieve an average G.P.A. of 2.50 or better in their minor classes. Only one upper-division elective can be cross counted for a minor.

Business Administration Minor

The business administration minor is open to students outside the Pamplin School of Business Administration. Students desiring to minor in business must declare this intent with the Pamplin School of Business Administration by the beginning of their junior year.

Minor Prerequisites — 6 hours

- 3 BUS 200 — Entrepreneurial Marketing
 - 3 BUS 209 — Financial Accounting
- Students should take ECN 120 as one of their social science requirements. BUS 209 and MTH 161, MTH 461, ECN 220, or EGR 360 are required to be completed before BUS 305.

Minor Requirements — 15 hours

- 3 BUS 305 — Business Finance
 - 3 BUS 360 — Organizational Behavior
 - 9 Three upper-division business electives.
- This may include one upper-division economics elective, and one Entrepreneur Scholars

*See language requirements for the bachelor of arts degree on page 51.

Program elective. Some electives require calculus as a prerequisite.

Economics Minor

An economy is a system that produces output and distributes it among members of a society. Economics studies show 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.

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.

Minor Prerequisites — 6 hours

- 3 ECN 120 — Principles of Macroeconomics
- 3 ECN 121 — Principles of Microeconomics

Minor Requirements — 15 hours

At least one of the following:

- #3 ECN 319 — Intermediate Microeconomics
- 3 ECN 320 — Intermediate Macroeconomics

Choose four of the following:

- #3 ECN 310 — Econometrics
- 3 ECN 322 — Environmental Economics
- 3 ECN 420 — Industrial Organization
- 3 ECN 424 — Income Inequality
- 3 ECN 426 — Comparative Economics
- 3 ECN 427 — Sports Economics
- 3 ECN 428 — Public Finance
- 3 ECN 429 — Development Economics
- 3 ECN 431/
BUS 431 — Financial Markets and Institutions
- 3 ECN 440 — International Economics

Entrepreneurship Minor

The entrepreneurship minor is open to all students on campus and is interdisciplinary in nature. The program consists of two required courses and three electives for a total of 15 credit hours. The required courses include one of three courses de-

pending on the student's major and BUS 485, which is required of all students. Before taking BUS 485, students must take the prerequisite of BUS 200, Entrepreneurial Marketing. The electives are selected from the College of Arts and Sciences, School of Engineering, and the Pamplin School of Business Administration.

Prerequisite

- 3 BUS 200 — Entrepreneurial Marketing

Minor Requirements — 15 hours

Required courses include the following 6 credit hours. Choose one of the following depending on your major and BUS 485:

- 3 BUS 305 — Business Finance (required for business majors)
- 3 BUS 380 — Family Business and Small Business Management (required for non-business majors)
- 3 BUS 480 — Creating A World-Class Venture (required for Entrepreneur Scholars only)
- 3 BUS 485 — Entrepreneurial Ventures (Prerequisite: BUS 200)

Choose three electives from the following:

- 3 BUS 364 — Managing Innovation and Technology
- 3 * BUS 401 — Business Internship
- 3 BUS 471 — Integrated Marketing Communications
- 3 BUS 472 — Personal Selling
- 3 BUS 481 — Entrepreneur Apprenticeship (Entrepreneur Scholars only)
- 3 BUS 482 — Global Entrepreneurship (Entrepreneur Scholars only)
- 3 CST 333 — Organizational Communication Skills
- 3 CST 481 — Advanced Business Communication
- 3 DRM 471 — Principles of Theatre Management
- 2 EGR 481 — Capstone Project
- 2 EGR 482 — Capstone Project
- 3 ENG 311 — Advanced Writing
- 3 ENV 400 — Integrating Seminar in Environmental Studies

*All internships for credit must be preapproved by the internship coordinator within the Pamplin School of Business.

#Requires calculus as prerequisite.

Entrepreneur Scholars Program

Application to this competitive program is open to all University of Portland students and consists of:

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

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. Business students who are selected for this program can participate in their junior or senior year after they have completed their math and lower division business core requirements. For business students, with the exception of accounting and global business, three credits of this nine-credit program count toward their major.

B.B.A./M.B.A. Program For Accounting Majors

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.

M.B.A. Program Requirements—30 graduate credit hours

Prerequisite

- 3 BUS 500 — Statistical and Quantitative Analysis (can be waived with a grade of B or better in ECN 220 Business Statistics or MTH 161 Elementary Statistics)

Values Perspective —6 hours

Students select two courses from the list below. The third course may be taken as an elective.

- 3 BUS 511 — Cross-Cultural Management
- 3 BUS 512 — Leadership and Higher Level Management
- 3 BUS 513 — Social Responsibility in Organizations

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.

- 3 BUS 505 — Operations Management
- 3 BUS 520 — Applied Marketing Strategies
- 3 BUS 530 — Corporate Finance
- 3 International course chosen from: BUS 525 Sales and the Global Market; BUS 531 International Finance; BUS 535 International Economics; BUS 582 Global Business Law

Capstone Component—3 hours

- 3 BUS 580 — Strategic Issues and Applications in Management

Elective Courses—9 hours

9 Students may take any three graduate business courses beyond the core courses.

Eligibility

To be eligible for the five-year B.B.A./M.B.A. program with the abbreviated M.B.A. requirement of 30 semester credit hours, students must do the following:

[1] Complete a B.B.A. at the University of Portland with a major in accounting and earn at least a B in each of the following:

- 3 ECN 120 — Macroeconomics
- 3 ECN 121 — Microeconomics
- 3 ECN 220 — Statistics for Business
- or**
- 3 MTH 161 — Elementary Statistics
- 3 BUS 200 — Entrepreneurial Marketing
- 3 BUS 209 — Financial Accounting
- 3 BUS 210 — Managerial Accounting
- 3 BUS 255 — Management Information Systems
- 3 BUS 305 — Business Finance
- 3 BUS 361 — Technology and Operations Management
- 3 BUS 365 — Accounting Information Systems

[2] Earn a cumulative G.P.A. of at least 3.00 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.

Students who choose the B.B.A./M.B.A. option are strongly encouraged to complete an accounting internship before graduating.

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.

Executive Certificate in Financial Planning Program

This non-credit program is registered with the Certified Financial Planner Board of Standards, Inc. as an educational program that satisfies CFP Board's education requirement. Students who successfully complete this program and meet the CFP Board's other requirements are qualified to sit for the national CFP® Certification Examination. Ours is a sequential six-module program which meets on Friday evenings and on Saturdays, every other weekend. Students can expect to complete the program in nine months. The program is designed to be taken in its entirety—it is not possible to register for single modules or to take the modules out-of-sequence. Two programs start each year, one in January and one in late summer/early fall. The cost of the program is \$4,500 (price does not include books, which cost approximately \$1,200). Certified Financial Planner Board of Standards, Inc. owns the certification marks CFP®, Certified Financial Planner™, and federally registered CFP (with flame design)® in the U.S., which it awards to individuals who suc-

cessfully complete CFP Board's initial and ongoing certification requirements. For program details contact the director, CFP® Certification Education, School of Business, 5000 N. Willamette Blvd., Portland, Oregon 97203. Phone (503) 943-7727.

E-mail: steffen@up.edu Webpage:

<http://business.up.edu/cfp>.

School of Education

John L. Watzke, Ph.D., dean

Bruce N. Weitzel, Ph.D., assistant dean

Faculty: Anctil, Arwood, Carroll, Christen, Eifler, Greene, Grote, Hood, Kalnin, Liv, Merk, Moore, Morrell, Owens, Rentner, Thacker, Waggoner, Wall, Weitzel

Guided by the University vision of learning as a preparation for community service and leadership, the mission of the School of Education is to develop exceptional professional educators whose practices are informed by current research and who respond effectively to the personal, professional, and ethical challenges educators face in dynamic and diverse communities.

The purpose of the School of Education is to prepare individuals in various stages of their careers to teach and lead in public and private schools. Such educators, the School of Education believes, demonstrate a range of knowledge, skills, and 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, schools, and districts and employ instructional strategies to meet the diverse needs of learners.

The degree programs offer the opportunity for initial and continuing teacher licensure at one of four levels: early childhood (PreK through grade 4); elementary (grades 3 through 8), associated with the degree in elementary education; middle (grades 5 through 9); and high school (grades 9 through 12), associated with the degree in secondary education. The curriculum is based on a well-researched knowledge base including effective teaching practice, reflective teaching, and leadership of the teacher in the classroom, in the school, and in the community.

Embedded in a broad liberal arts tradition, the program integrates liberal studies, content, professional, and pedagogical knowledge with planned field experiences. The curriculum develops professionals with pedagogical competencies and personal attributes characteristic of exceptional educational leaders.

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's accreditation from the Northwest Association of Schools and Colleges. The school 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.

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 programs must receive passing scores on the California Basic Educational Skills Test or the PRAXIS I: Pre-Professional Skills Test and the Multiple Subjects Assessment for Teachers. Middle and high school authorized teachers must receive passing scores on the PRAXIS II tests

in their specific licensure content area. 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.

The programs of the University of Portland School of Education have been approved with no unmet standards by the Oregon Teacher Standards and Practices Commission through 2012.

Admission

The undergraduate teacher education program has 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 PK-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. The matrix components are reviewed annually by the School of Education faculty. Music education candidates must apply concurrently to the music education program.

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, a personal recommendation, and passage of CBEST (passing scores are set by TSPC); scores must be submitted as a prerequisite for admission. Music education applicants must obtain approval from the director of music education to be admitted to the program.

Advancement to the Professional Year: The professional year is a two-semester student teaching experience, beginning

with fall semester field 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 the 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 CBEST and ORELA subtests 1 and 2 for all levels of authorization. Passage of subject area Praxis II tests for middle school and high school levels of authorization (TSPC determines passing scores);
- [2] Minimum of 2.50 cumulative G.P.A. for all academic work at the University of Portland;

[3] A minimum cumulative G.P.A. of 2.70 in all education courses;

[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;

[7a] Music education candidates must pass all performance assessments;

[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 work samples are completed. Permission of the associate dean is required to enroll in the related practicum.

Degree Requirements

The School of Education offers three undergraduate degrees: elementary education, secondary education, and music education. Each degree has special requirements, but all degrees lead to competence in a composite of objectives from relevant learned societies and licensing agencies. The specific program objectives

are identified in the handbooks related to the degree. Candidates are responsible to secure a copy of the handbook for their related degree and acquaint themselves with its contents.

The School of Education faculty involve 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.

Elementary Education The bachelor of arts in education degree leads to recommendation for Oregon licensure. To qualify for the degree and recommendation for Oregon licensure, the following requirements must be met:

[1] Passage of CBEST and ORELA subtests 1 and 2 (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] Successful completion of student teaching to include two work samples, one at each authorization level;

[7] Recommendation for licensure from the associate dean;

[8] Passage of PRAXIS tests (TSPC determines passing scores);

[9] 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 coursework which meets University requirements for a degree.

Secondary Education The bachelor of science in secondary education leads to recommendation for Oregon licensure with endorsements 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.

To qualify for the degree and recommendation for Oregon licensure, the following requirements must be met:

[1] Passage of CBEST and ORELA subtests 1 and 2 (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 **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 PRAXIS 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.

Degrees and Programs

Elementary Education, B.A.Ed.

University Core Requirements – 39 hours
Hrs.

3	Fine Arts (FA 207)
3	History (HST 210 or HST 211)
3	Literature (ENG 112)
3	Mathematics (MTH 161)

6	Philosophy (PHL 150 and PHL 220)
6	Science (PHY 109 and ENV 110)
6	Social Science electives
9	Theology (THE 101, THE 205, plus upper-division theology elective)

Major Requirements – 78 hours

Hrs.

3	ED 150	– Introduction to Education
3	ED 230	– ECE/ELEM Human Development
3	ED 300	– ECE/ELEM Psychology of Learning
3	ED 320	– Foundations of Education
3	ED 330	– Policies and Practices for Diverse Learners
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 School Reading and Language Arts Methods
3	ED 445	– ECE/ELEM Math 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	HPE 340	– ECE/ELEM Physical Education
3	MTH 105	– Mathematics for Elementary Teachers I
3	MTH 106	– Mathematics for Elementary Teachers II
3	CST 107	– Effective Public Speaking I
3	BIO 103	– Human Biology
9	Electives	

Total – 120 hours

Sample Program

Freshman Year

Hrs. Fall Semester

3	ED 150	– Introduction to Education
3	ENG 107	– College Writing
3	MTH 105	– Mathematics for Elementary Teachers I
3	HST 210	– History of the United

		States: Early America or
3	HST 211	— History of the United States: Modern America
3	PHL 150	— Introductory Philosophy
15	Total	
Hrs.	Spring Semester	
3	ED 230	— ECE/ELEM Human Development
3	CST 107	— Effective Public Speaking I
3	MTH 106	— Mathematics for Elementary Teachers II
3	PHY 109	— Powerful Ideas in Physical Science
3	THE 101	— An Introduction to Theology and Religion
15	Total	

Sophomore Year

Hrs.	Fall Semester	
3	ED 330	— Policies and Practices for Diverse Learners
3	HPE 340	— ECE/ELEM Physical Education
3	ENG 112	— Introduction to Literature
3	PHL 220	— Ethics
18	Total	
Hrs.	Spring Semester	
3	ED 320	— Foundations of Education
3	ED 300	— ECE/ELEM Psychology of Learning
3	FA 207	— Fine Arts
3	THE 205	— Judeo-Christian Culture
3	MTH 161	— Elementary Statistics
3	ENV 110	— Earth Systems Science
3	Elective	
18	Total	

Junior Year

Hrs.	Fall Semester	
3	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	
15	Total	
Hrs.	Spring Semester	
3	ED 481	— Reading, Language, and Cultural Diversity in Schools
3	ED 426	— ECE/ELEM Classroom Relationships and Management
3	ED 442	— ECE/ELEM School Reading and Language Arts Methods
3	Theology elective	
3	Social Science elective	
3	Elective	
15	Total	

Professional Year

Hrs.	Fall Semester	
3	ED 411	— Assessment
3	ED 445	— ECE/ELEM Math and Science Methods
3	ED 470	— ECE/ELEM Student Teaching
3	Elective	
12	Total	
Hrs.	Spring Semester	
3	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
12	Total	
120	Total for four years	

Secondary Education, B.S.S.E.**University Core Requirements — 39 hours**

Hrs.	
3	Fine Arts (FA 207)
3	History (HST 210 or HST 211)
3	Literature (ENG 112)
3	Mathematics (MTH 161)
6	Philosophy (PHL 150 and PHL 220)
6	Science (ENV 182 and any other science course)
6	Social Science electives
9	Theology (THE 101, THE 205, plus upper-division theology elective)

Major Requirements — 81 hours

Hrs.	
3	ED 150 — Introduction to Education
3	ED 231 — MS/HS Human Development
3	ED 301 — MS/HS Psychology of Learning
3	ED 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
	or
3	ED 453 — MS/HS Content Methods: Math
	or
3	ED 454 — MS/HS Content Methods: World Language
	or
3	ED 456 — MS/HS Content Methods: Social Studies
	or

3	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	CST 107	— Effective Public Speaking I
6	Electives	
30	Endorsement courses	

Total — 120 hours

Sample Program

Freshman Year

Hrs.	Fall Semester
3	ED 150 — Introduction to Education
3	HST 210 — History of the United States: Early America
	or
	HST 211 — History of the United States: Modern America
3	ENG 107 — College Writing
3	PHL 150 — Introductory Philosophy
3	Endorsement course
15	Total
Hrs.	Spring Semester
3	ED 231 — MS/HS Human Development
3	CST 107 — Effective Public Speaking I
3	MTH 161 — Elementary Statistics
3	THE 101 — An Introduction to Theology and Religion
3	Endorsement course
15	Total

Sophomore Year

Hrs.	Fall Semester
3	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
18	Total
Hrs.	Spring Semester
3	ED 320 — Foundations of Education
3	FA 207 — Fine Arts
3	ENV 182 — Environmental Science
3	THE 205 — Judeo-Christian Culture
3	Endorsement course
3	Endorsement course
18	Total

Junior Year

Hrs.	Fall Semester
3	ED 427 — MS/HS Classroom Relationships and Management

3	Endorsement course
3	Endorsement course
3	Theology elective
3	Science elective
15	Total
Hrs.	Spring Semester
3	ED 450 — Models of Teaching and Literacy Development
3	Endorsement course
3	Endorsement course
6	Social science elective
15	Total

Professional Year

Hrs.	Fall Semester
3	ED 452 — MS/HS Content Methods: Language Arts
	or
3	ED 453 — MS/HS Content Methods: Math
	or
3	ED 454 — MS/HS Content Methods: World Language
	or
3	ED 456 — MS/HS Content Methods: Social Studies
	or
3	ED 457 — MS/HS Content Methods: Science
3	ED 471 — MS/HS Student Teaching
3	Elective
3	Endorsement course
12	Total
Hrs.	Spring Semester
3	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
12	Total
120	Total for four years

Education Minor — General

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

3	ED 230 or 231 — Human Development
3	ED 320 — Foundations of Education
3	ED 330 — Policies and Practices for Diverse Learners
9	Upper-division education electives

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 MAT) — 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 (MAT) after graduation.

Hrs.

- | | | |
|-----------|------------|---|
| 3 | ED 230/231 | — Human Development |
| 3 | ED 300/301 | — Psychology of Learning |
| 3 | ED 320 | — Foundations of Education |
| 3 | ED 330 | — Policies and Practices for Diverse Learners |
| 3 | ED 426/427 | — Classroom Management |
| 3 | ED 442 | — ECE/ELEM Reading and Language Arts Methods |
| or | | |
| 3 | ED 450 | — Models of Teaching and Literacy Development |

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 MAT program.

Health and Physical Education Minor in Sport Exercise 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

- | | | |
|---|-------------|--|
| 3 | BIO 103 | — Human Biology (or equivalent) |
| 3 | NRS 202 | — Nutrition |
| 3 | HPE 204 | — Introduction to Athletic Training |
| 3 | HPE 210 | — Lifetime Health and Fitness |
| 4 | BIO 307/377 | — Human Anatomy with Lab |
| 3 | HPE 405 | — Kinesiology for Physical Educators |
| 4 | BIO 308/378 | — Human Physiology with Lab |
| 3 | HPE 406 | — Medical Aspects of Athletic Injury |
| 3 | HPE 408 | — Exercise Physiology for Physical Educators |

Candidates interested in this minor should declare intent with the School of Education.

Optional Endorsements

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.

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.

Reading Endorsement Requirements — 18 hours

Hrs.

- | | | |
|---|--------|--|
| 3 | ED 464 | — Reading Practicum PK-12 |
| 3 | ED 480 | — Elements of Reading |
| 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 |

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.

Special Educator Endorsement Requirements — 18 hours

Hrs.

- | | | |
|---|--------|---|
| 3 | ED 403 | — Language and Communication: Supports 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 Educator Practicum: PK-12 |

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. Linguistics is a co-requisite course.

**English for Speakers of Other Languages
Endorsement Requirements – 18 hours
Hrs.**

- | | | |
|---|--------|---|
| 3 | ED 403 | — Language and Communication: Supports and Strategies |
| 3 | ED 404 | — School, Parent, and Community Relations |
| 3 | ED 406 | — Academic Assessment, Curriculum, and Instruction for Diverse Learners |
| 3 | ED 409 | — Methods and Materials for Teaching ESOL Students |
| 3 | ED 481 | — Reading, Language, and Cultural Diversity in Schools |
| 3 | ED 469 | — ESOL Practicum PK-12 |

School of Engineering

Zia A. Yamayee, Ph.D., P.E., dean

Khalid H. Khan, Ph.D., associate dean

Faculty: Albright, Crenshaw, Doughty, Hoffbeck, A. Inan, M. Inan, Kennedy, Khan, Kuhn, Lu, Lulay, Male, Murty, Nuxoll, O'Halloran, Osterberg, Schenberger, Takallou, Van De Grift, Vegdahl, Ward, Yamayee

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 School of Engineering continues its progress within the framework of the University of Portland mission.

The 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 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 School has established a set of program educational objectives. These objectives are listed next.

Program Educational Objectives:

The 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 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
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.

Degrees and Programs

The School of Engineering offers four-year bachelor of science degrees in civil engineering (B.S.C.E.), electrical engineering (B.S.E.E.), and mechanical engineering (B.S.M.E.), as well as engineering management (B.S.E.M.). In addition, a bachelor of science degree in computer science (B.S.C.S.) is offered in the Department of

Electrical Engineering and Computer Science. This department also offers a "computer track" under its degree programs. Similarly, the Department of Civil Engineering offers an "environmental track."

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 School of Engineering. It combines courses from engineering, business, and communication studies. Details of this degree program are given in the graduate section of this bulletin on page 147.

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. With careful planning the student can postpone the selection of a particular engineering major until the end of the second year. 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, B.S.C.E.

Mehmet I. Inan, D.C.E., P.E., chair

The Department of Civil Engineering has made as its primary goal the preparation of civil engineers whose education meets the objectives of the School of Engineering as well as those set in the mission of the University. The faculty has established a set of program educational objectives which are listed below.

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 de-

sign, and provides a cohesive experience aimed at preparing the graduate to function as a successful engineer.

The first three 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.

Core and College Requirements – 27-30 hours

Hrs.

3	ENG 112 — Introduction to Literature
3	FA 207 — Fine Arts
3	History (see Core Curriculum, pg. 8-9)
6	Social science (see Core Curriculum, pg. 8-9)
6	Philosophy (PHL 150, PHL 220)
9	Theology (THE 101, THE 205; upper-division theology elective. 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.)

A number of options are available for Theological Perspectives courses which fulfill the requirements of both an upper-division theology course and a companion core course. Students are required to consult with their advisors regarding this issue.

Mathematics and science requirements in the core curriculum are satisfied by Calculus and General Physics.

Common Engineering Requirements – 34 hours

Hrs.

3	CHM 207 — General Chemistry I
1	CHM 277 — General Chemistry Laboratory

2	* EGR 110 — Introduction to Engineering
3	EGR 351 — Engineering Economics
2	EGR 360 — Analysis of Engineering Data
4	MTH 201 — Calculus I
4	MTH 202 — Calculus II
4	MTH 301 — Vector Calculus
3	MTH 321 — Ordinary Differential Equations
4	PHY 204 — General Physics Lecture and Lab
4	PHY 205 — General Physics Lecture and Lab

Common Civil Engineering Requirements – 51 hours

Hrs.

1	CE 200 — Civil Engineering Seminar
2	CE 201 — Civil Engineering Design Graphics
2	CE 223 — Surveying
3	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
1	CE 371 — Geotechnical Engineering Laboratory
1	CE 376 — Environmental Engineering Laboratory
3	CE 401 — Computational Methods in Civil Engineering
2	CE 481 — Civil Engineering Senior Design Project I
3	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
12	† Technical electives

Civil Track Requirements – 15 hours

Hrs.

1	CE 224 — Surveying Laboratory
2	CE 301 — Construction Materials
2	CE 352 — Structural Analysis II
1	CE 372 — Construction Materials Laboratory
3	CE 442 — Reinforced Concrete Design
3	EGR 212 — Engineering Mechanics — Dynamics
3	#Science elective

Environmental Track Requirements – 15 hours

Hrs.

1	CE 400 — Environmental Engineering Seminar
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*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.

† Approved upper-division technical electives (12 hours — 9 hours in CE).

Approved science elective.

3	CE 466	— Water and Wastewater Design
3	CHM 208	— General Chemistry II
1	EGR 213	— Introduction to Dynamics
3	ENV 385	— Environmental Microbiology
3	ENV 386	— Environmental Chemistry
1	ENV 387	— Environmental Laboratory

Total — 127 credit hours

Sample Program — Civil Track Freshman Year

Hrs. Fall Semester

2	* EGR 110	— Introduction to Engineering
4	MTH 201	— Calculus I
3	PHL 150	— Introductory Philosophy
4	PHY 204	— General Physics Lecture and Lab
3	THE 101	— An Introduction to Religion and Theology

16 Total

Hrs. Spring Semester

1	CE 200	— Civil Engineering Seminar
3	CHM 207	— General Chemistry I
1	CHM 277	— General Chemistry Lab
3	ENG 112	— Introduction to Literature
4	MTH 202	— Calculus II
4	PHY 205	— General Physics Lecture and Lab

16 Total

Sophomore Year

Hrs. Fall Semester

2	CE 201	— Civil Engineering Design Graphics
2	CE 223	— Surveying
1	CE 224	— Surveying Laboratory
3	EGR 211	— Engineering Mechanics — Statics
4	MTH 301	— Vector Calculus
3	‡ Science elective	

15 Total

Hrs. Spring Semester

3	EGR 212	— Engineering Mechanics — Dynamics
3	EGR 322	— Strength of Materials
2	EGR 360	— Analysis of Engineering Data
3	MTH 321	— Ordinary Differential Equations
3	PHL 220	— Ethics
3	THE 205	— Biblical Tradition and Culture

17 Total

Junior Year

Hrs. Fall Semester

2	CE 301	— Construction Materials
3	CE 321	— Geotechnical Engineering
3	CE 351	— Structural Analysis I

1	CE 371	— Geotechnical Laboratory
1	CE 372	— Construction Materials Laboratory

3	ME 311	— Mechanics of Fluids I
3		Theological Perspectives

16 Total

Hrs. Spring Semester

3	CE 315	— Transportation Engineering
2	CE 352	— Structural Analysis II
3	CE 362	— Hydraulic Engineering
3	CE 367	— Environmental Engineering
1	CE 376	— Environmental Engineering Laboratory

3	EGR 351	— Engineering Economics
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15 Total

Senior Year

Hrs. Fall Semester

3	CE 401	— Computational Methods in Civil Engineering
3	CE 442	— Reinforced Concrete Design
2	CE 481	— Civil Engineering Senior Design Project I
3	FA 207	— Fine Arts
6	† Technical electives	

17 Total

Hrs. Spring Semester

3	CE 482	— Civil Engineering Senior Design Project II
3	History	
3	Social Science	
6	† Technical electives	

15 Total

127 Total for four years

Sample Program — Environmental Track

Freshman Year

Hrs. Fall Semester

2	* EGR 110	— Introduction to Engineering
4	MTH 201	— Calculus I
3	PHL 150	— Introductory Philosophy
4	PHY 204	— General Physics Lecture and Lab
3	THE 101	— An Introduction to Religion and Theology

16 Total

Hrs. Spring Semester

1	CE 200	— Civil Engineering Seminar
3	CHM 207	— General Chemistry I
1	CHM 277	— General Chemistry Lab
3	ENG 112	— Introduction to Literature
4	MTH 202	— Calculus II
4	PHY 205	— General Physics Lecture and Lab

16 Total

*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.

†Approved upper-division technical electives (12 hours — 9 hours in CE).

‡Approved science elective.

Sophomore Year**Hrs. Fall Semester**

2	CE 201	— Civil Engineering Design Graphics
2	CE 223	— Surveying
3	CHM 208	— General Chemistry II
3	EGR 211	— Engineering Mechanics — Statics
4	MTH 301	— Vector Calculus
3	THE 205	— Biblical Tradition and Culture

17 Total**Hrs. Spring Semester**

1	EGR 213	— Introduction to Dynamics
3	EGR 322	— Strength of Materials
2	EGR 360	— Analysis of Engineering Data
3	ENV 385	— Environmental Microbiology
3	MTH 321	— Ordinary Differential Equations
3	PHL 220	— Ethics

15 Total**Junior Year****Hrs. Fall Semester**

3	CE 321	— Geotechnical Engineering
3	CE 351	— Structural Analysis I
1	CE 371	— Geotechnical Laboratory
3	EGR 351	— Engineering Economics
3	ME 311	— Mechanics of Fluids I
3		— Theological Perspectives

16 Total**Hrs. Spring Semester**

3	CE 315	— Transportation Engineering
3	CE 362	— Hydraulic Engineering
3	CE 367	— Environmental Engineering
1	CE 376	— Environmental Engineering Laboratory
3	ENV 386	— Environmental Chemistry
3		*Technical elective

16 Total**Senior Year****Hrs. Fall Semester**

3	CE 401	— Computational Methods in Civil Engineering
3	CE 466	— Water and Wastewater Design
2	CE 481	— Civil Engineering Senior Design Project I
3	FA 207	— Fine Arts
3		History
3		*Technical elective

17 Total**Hrs. Spring Semester**

1	CE 400	— Environmental Engineering Seminar
3	CE 482	— Civil Engineering Senior Design Project II
1	ENV 387	— Environmental Laboratory
6		*Technical electives
3		Social science

14 Total**127 Total for four years****Electrical Engineering and Computer Science**

Robert J. Albright, Ph.D., P.E., chair

Steven R. Vegdahl, Ph.D., associate chair

The academic programs of electrical engineering and computer science are established within the mission of the 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 ex-

*Approved upper-division technical electives (12 hours — 9 hours in CE).

perience. 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.

Core and College Requirements — 27-30 hours

Hrs.

3	ENG 112 — Introduction to Literature
3	FA 207 — Fine Arts
3	History (see Core Curriculum, pg. 8-9)
6	Social science (see Core Curriculum, pg. 8-9)
6	Philosophy (PHL 150, PHL 220)
9	Theology (THE 101, THE 205; upper-division theology elective. 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.)

A number of options are available for Theological Perspectives courses which fulfill the requirements of both an upper-division theology course and a companion core course. Students are required to consult with their advisors regarding this issue.

Mathematics and science requirements in the core curriculum are satisfied by Calculus and General Physics.

Common Engineering Requirements — 34 hours

Hrs.

3	CHM 207 — General Chemistry I
1	CHM 277 — General Chemistry Lab
2	*EGR 110 — Introduction to Engineering
3	EGR 351 — Engineering Economics
2	EGR 360 — Analysis of Engineering Data
4	MTH 201 — Calculus I
4	MTH 202 — Calculus II
4	MTH 301 — Vector Calculus
3	MTH 321 — Ordinary Differential Equations
4	PHY 204 — General Physics Lecture and Lab
4	PHY 205 — General Physics Lecture and Lab

Common Electrical Engineering Requirements — 48 hours

Hrs.

3	CS 203 — Computer Science I
1	CS 273 — Computer Science Laboratory I
3	CS 303 — Data Structures I
2	EE 111 — Introduction to Multimedia Processing
3	EE 231 — Logic Design
3	EE 261 — Electrical Circuits
3	EE 262 — Signals and Systems
1	EE 271 — Electrical Circuits Laboratory
3	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
1	EE 371 — Electronic Circuits Laboratory
1	EE 373 — Digital Logic Laboratory
3	EE 480 — Senior Design Project Preparation
3	EE 481 — Senior Design Project
3	ME 331 — Fundamental Thermodynamics
3	† Restricted science or math elective

Electrical Track Requirements — 21 hours

Hrs.

3	EE 403 — Communication Systems
3	EGR 404 — Automatic Control Systems
15	‡ Electrical track electives

Total Credit Hours — 130

Computer Track Requirements — 21 hours

Hrs.

3	CS 304 — Data Structures II
---	-----------------------------

*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.

†BIO 307, BIO 308, CHM 208, PHY 306, MTH 341, or any other science or mathematics course approved by the electrical engineering faculty.

‡Chosen from a list of approved courses.

3	EE 433	— Microprocessor Interfacing and Communications
3	CS 446	— Operating Systems
12	Computer track electives	

Total Credit Hours — 130

Sample Program: Electrical Track Freshman Year

Hrs. Fall Semester

2	*EGR 110	— Introduction to Engineering
4	MTH 201	— Calculus I
3	PHL 150	— Introductory Philosophy
4	PHY 204	— General Physics Lecture and Lab
3	THE 101	— Introduction to Religion and Theology

16 Total

Hrs. Spring Semester

3	CHM 207	— General Chemistry I
1	CHM 277	— General Chemistry Laboratory
2	EE 111	— Introduction to Multimedia Processing
3	ENG 112	— Introduction to Literature
4	MTH 202	— Calculus II
4	PHY 205	— General Physics Lecture and Lab

17 Total

Sophomore Year

Hrs. Fall Semester

3	CS 203	— Computer Science I
1	CS 273	— Computer Science Laboratory I
3	EE 231	— Logic Design
3	EE 261	— Electrical Circuits
1	EE 271	— Electrical Circuits Laboratory
3	MTH 321	— Ordinary Differential Equations
3	THE 205	— Biblical Tradition and Culture

17 Total

Hrs. Spring Semester

3	CS 303	— Data Structures I
3	EE 262	— Signals and Systems
3	EE 332	— Digital Systems Design
1	EE 373	— Digital Logic Laboratory
4	MTH 301	— Vector Calculus
3	PHL 220	— Ethics

17 Total

Junior Year

Hrs. Fall Semester

3	EE 333	— Computer Organization
3	EE 351	— Electronic Circuits I
2	EGR 360	— Analysis of Engineering Data
3	EGR 404	— Automatic Control Systems
3	Theological Perspectives	
3	ME 331	— Fundamental Thermodynamics

17 Total

Hrs. Spring Semester

3	EE 301	— Electromagnetic Fields
3	EE 352	— Electronic Circuits II
1	EE 371	— Electronic Circuits Laboratory
3	EE 403	— Communication Systems
3	Social Science	
3	‡ Electrical track elective	

16 Total

Senior Year

Hrs. Fall Semester

3	EE 480	— Senior Design Project Preparation
3	EGR 351	— Engineering Economics
6	‡ Electrical track electives	
3	† Restricted science or math elective	

15 Total

Hrs. Spring Semester

3	EE 481	— Senior Design Project
3	History	
6	‡ Electrical track electives	
3	FA 207	— Fine Arts

15 Total

130 Total for four years

Sample Program: Computer Track Freshman Year

Hrs. Fall Semester

2	*EGR 110	— Introduction to Engineering
4	MTH 201	— Calculus I
3	PHL 150	— Introductory Philosophy
4	PHY 204	— General Physics Lecture/Lab
3	THE 101	— An Introduction to Religion and Theology

16 Total

Hrs. Spring Semester

3	CHM 207	— General Chemistry I
1	CHM 277	— General Chemistry Lab
2	EE 111	— Introduction to Multimedia Processing
3	ENG 112	— Introduction to Literature
4	MTH 202	— Calculus II
4	PHY 205	— General Physics Lecture, Lab

17 Total

*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.

†BIO 307, BIO 308, CHM 208, PHY 306, MTH 341, or any other science or mathematics course approved by the electrical engineering faculty.

‡Chosen from a list of approved courses.

Sophomore Year**Hrs. Fall Semester**

3	CS 203	— Computer Science I
1	CS 273	— Computer Science Laboratory I
3	EE 231	— Logic Design
3	EE 261	— Electrical Circuits
1	EE 271	— Electrical Circuits Laboratory
3	MTH 321	— Ordinary Differential Equations
3	THE 205	— Biblical Tradition and Culture

17 Total**Hrs. Spring Semester**

3	CS 303	— Data Structures I
3	EE 262	— Signals and Systems
3	EE 332	— Digital Systems Design
1	EE 373	— Digital Logic Laboratory
4	MTH 301	— Vector Calculus
3	PHL 220	— Ethics

17 Total**Junior Year****Hrs. Fall Semester**

3	EE 333	— Computer Organization
3	CS 304	— Data Structures II
3	EE 351	— Electronic Circuits I
2	EGR 360	— Analysis of Engineering Data
3	ME 331	— Fundamental Thermodynamics
3		Theological Perspectives

17 Total**Hrs. Spring Semester**

3	EE 301	— Electromagnetic Fields
3	EE 352	— Electronic Circuits II
1	EE 371	— Electronic Circuits Laboratory
3	EE 433	— Microprocessor Interfacing and Communications
3	CS 446	— Operating Systems
3		Social Science

16 Total**Senior Year****Hrs. Fall Semester**

3	EE 480	— Senior Design Project Preparation
3	EGR 351	— Engineering Economics
6	*	Computer track electives
3	†	Restricted science or math elective

15 Total**Hrs. Spring Semester**

3	EE 481	— Senior Design Project
3		History
6	*	Computer track electives
3	FA 207	— Fine Arts

15 Total**130 Total for four years****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.

*Chosen from a list of approved courses.

†BIO 307, BIO 308, CHM 208, PHY 306, MTH 341, or any other science or mathematics course approved by electrical engineering faculty.

Core and College Requirements — 30 hours

3	ENG 112	— Introduction to Literature
3	FA 207	— Fine Arts
3	History	(see core curriculum, pg. 8-9)
6	Social Science	(see Core Curriculum, pg. 8-9)
6	Philosophy	(PHL 150, PHL 220)
9	Theology	(THE 101, THE 205; upper-division theology elective. The upper-division theology elective may be a Theological Perspectives (THEP) class.

Mathematics and science requirements in the core curriculum are satisfied by Calculus and General Physics.

Computer Science Requirements — 97 hours

Hrs.		
3	CS 203	— Computer Science I
3	CS 204	— Computer Science II
1	CS 273	— Computer Science Laboratory I
1	CS 274	— Computer Science Laboratory II
3	CS 303	— Data Structures I
3	CS 304	— Data Structures II
3	CS 352	— Programming Languages
1	CS 373	— Data Structures Laboratory
1	CS 374	— Computing Systems Laboratory
2	CS 400	— Seminar
3	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
2	EGR 110	— Introduction to Engineering
4	MTH 201	— Calculus I
4	MTH 202	— Calculus II
3	MTH 311	— Discrete Structures
3	MTH 341	— Introduction to Linear Algebra
3	MTH 461	— Probability and Statistics I
4	PHY 204	— General Physics Lecture and Lab
4	PHY 205	— General Physics Lecture and Lab
15	#	Computer science electives
4	†	Restricted science elective and laboratory
3	#	Math or science elective

Total Credit Hours—127

Sample Program**Freshman Year**

Hrs.	Fall Semester	
2	* EGR 110	— Introduction to Engineering
4	MTH 201	— Calculus I
3	PHL 150	— Introductory Philosophy
4	PHY 204	— General Physics Lecture and Lab
3	THE 101	— An Introduction to Religion and Theology

16 Total**Hrs. Spring Semester**

3	CS 203	— Computer Science I
1	CS 273	— Computer Science Laboratory I
3	ENG 112	— Introduction to Literature
4	MTH 202	— Calculus II
4	PHY 205	— General Physics Lecture/Lab

15 Total**Sophomore Year**

Hrs.	Fall Semester	
3	CS 204	— Computer Science II
1	CS 274	— Computer Science Laboratory II
3	MTH 311	— Discrete Structures
3	Social Science	Elective
3	THE 205	— Biblical Tradition and Culture
4	†	Restricted science elective and laboratory

17 Total**Hrs. Spring Semester**

3	CS 303	— Data Structures I
1	CS 373	— Data Structures Laboratory
3	EE 231	— Logic Design
3	#	Math or science elective
3	MTH 341	— Introduction to Linear Algebra
3	PHL 220	— Ethics

16 Total**Junior Year**

Hrs.	Fall Semester	
3	CS 304	— Data Structures II
1	CS 374	— Computing Systems Lab
3	#	Computer Science elective
3	EE 333	— Computer Organization
3	History	
3	MTH 461	— Probability and Statistics I

16 Total**Hrs. Spring Semester**

3	CS 352	— Programming Languages
3	CS 411	— Analysis of Algorithms
6	#	Computer science electives
3	Social Science	

15 Total

*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.

†BIO 206/276, CHM 207/277, or PHY 306/376.

#Chosen from a list of approved courses.

Senior Year**Hrs. Fall Semester**

3	CS 441	— Software Engineering
3	CS 451	— Theory of Computation
3	CS 480	— Senior Design Project Preparation
2	CS 400	— Seminar
3	FA 207	— Fine Arts
3	‡ Computer science elective	

17 Total**Hrs. Spring Semester**

3	CS 446	— Operating Systems
3	CS 452	— Compiler Design
3	CS 481	— Senior Design Project
3	‡ Computer science elective	
3	Theology elective (400-level)	

15 Total**127 Total for four years****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.

Requirements for the minor are listed below:

3	CS 204	— Computer Science II
1	CS 274	— Computer Science Lab II
3	CS 303	— Data Structures I
3	CS 304	— Data Structures II
2	CS 373 and CS 374 Data Structures Laboratory and Computing Systems Laboratory	
6	Upper division computer science courses	

18 Total

For engineering students, the 6 credits of upper division computer science courses must be in addition to any that are used to satisfy the requirements for their major.

Mechanical Engineering, B.S.M.E.

Kenneth E. Lulay, Ph.D., P.E., chair

The mechanical engineering program at the University of Portland is an integral part of the 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.

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.

Core and College Requirements – 27-30 hours

Hrs.	
3	ENG 112 — Introduction to Literature
3	FA 207 — Fine Arts
3	History (see Core Curriculum, pg. 8-9)
6	Social science (see Core Curriculum, pg. 8-9)
6	Philosophy (PHL 150, PHL 220)
9	Theology (THE 101, THE 205; upper-division theology elective. 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.)

A number of options are available for Theological Perspectives courses which fulfill the requirements of both an upper-division theology course and a companion core course. Students are required to consult with their advisors regarding this issue.

Mathematics and science requirements in the core curriculum are satisfied by Calculus and General Physics.

Common Engineering Requirements – 34 hours

Hrs.	
3	CHM 207 — General Chemistry I
1	CHM 277 — General Chemistry Lab
2	* EGR 110 — Introduction to Engineering
3	EGR 351 — Engineering Economics
2	EGR 360 — Analysis of Engineering Data
4	MTH 201 — Calculus I
4	MTH 202 — Calculus II
4	MTH 301 — Vector Calculus
3	MTH 321 — Ordinary Differential Equations
4	PHY 204 — General Physics Lecture/Lab
4	PHY 205 — General Physics Lecture/Lab

Mechanical Engineering Requirements – 68 hours

Hrs.	
1	CS 201 — Introduction to Scientific Programming
3	EE 261 — Electrical Circuits
1	EE 271 — Electrical Circuits Laboratory
3	EGR 211 — Engineering Mechanics—Statics

3	EGR 212 — Engineering Mechanics—Dynamics
3	EGR 221 — Materials Science
1	EGR 270 — Materials Laboratory
3	EGR 322 — Strength of Materials
2	ME 111 — Engineering Graphics
2	ME 301 — Mechanical Engineering Analysis
3	ME 304 — Computer-Aided Engineering
3	ME 311 — Mechanics of Fluids I
2	ME 312 — Mechanics of Fluids II
3	ME 331 — Fundamental Thermodynamics
2	ME 332 — Applied Thermodynamics
3	ME 336 — Heat Transfer
3	ME 341 — Modern Manufacturing Processes
2	ME 351 — Mechanical Systems Lab
1	ME 374 — Fluids Laboratory
1	ME 376 — Thermodynamics Laboratory
4	ME 401 — Machine Design
2	ME 481 — Mechanical Engineering Project I
2	ME 482 — Mechanical Engineering Project II
3	† Restricted math or science elective
12	‡ Technical electives

Total Credit Hours – 129

Sample Program

Freshman Year

Hrs.	Fall Semester
2	* EGR 110 — Introduction to Engineering
4	MTH 201 — Calculus I
3	PHL 150 — Introductory Philosophy
4	PHY 204 — General Physics Lecture and Lab
3	THE 101 — An Introduction to Religion and Theology
16	Total
Hrs.	Spring Semester
3	CHM 207 — General Chemistry I
1	CHM 277 — General Chemistry Laboratory
3	ENG 112 — Introduction to Literature
2	ME 111 — Engineering Graphics
4	MTH 202 — Calculus II
4	PHY 205 — General Physics Lecture/Lab
17	Total

*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.

†BIO 205, BIO 207, CHM 208, PHY 3xx, MTH 3xx, or any other science or mathematics course approved by mechanical engineering faculty.

‡Approved upper-division technical electives (12 hours).

Sophomore Year**Hrs. Fall Semester**

1	CS 201	— Introduction to Scientific Programming
3	EGR 211	— Engineering Mechanics— Statics
3	EGR 221	— Materials Science
2	EGR 360	— Analysis of Engineering Data
4	MTH 301	— Vector Calculus
3	THE 205	— Biblical Tradition and Culture

16 Total**Hrs. Spring Semester**

3	EE 261	— Electrical Circuits
1	EE 271	— Electrical Circuits Laboratory
3	EGR 212	— Engineering Mechanics Dynamics
1	EGR 270	— Materials Laboratory
3	EGR 322	— Strength of Materials
3	MTH 321	— Ordinary Differential Equations
3	PHL 220	— Ethics

17 Total**Junior Year****Hrs. Fall Semester**

0	ME 300	— Junior Workshop
2	ME 301	— Mechanical Engineering Analysis
3	ME 304	— Computer-Aided Engineering
3	ME 311	— Mechanics of Fluids I
3	ME 331	— Fundamental Thermodynamics
3	ME 341	— Modern Manufacturing Processes
2	ME 351	— Mechanical Systems Laboratory

16 Total**Hrs. Spring Semester**

2	ME 312	— Mechanics of Fluids II
2	ME 332	— Applied Thermodynamics
3	ME 336	— Heat Transfer
1	ME 374	— Fluids Laboratory
4	ME 401	— Machine Design
3		Theological Perspectives

15 Total**Senior Year****Hrs. Fall Semester**

1	ME 376	— Thermodynamics Laboratory
2	ME 481	— Mechanical Engineering Project I
6	#	Technical electives
3	†	Restricted math or science elective
3		University core

15 Total**Hrs. Spring Semester**

3	EGR 351	— Engineering Economics
2	ME 482	— Mechanical Engineering Project II

6 # Technical electives

6 University core

17 Total**129 Total for four years****Engineering Management, B.S.E.M.***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.

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,

†BIO 205, BIO 207, CHM 208, PHY 3xx, MTH 3xx, or any other science or mathematics course approved by mechanical engineering faculty.

#Approved upper-division technical electives (12 hours).

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.

Core and College Requirements – 27-30 hours

Hrs.

- | | |
|---|--|
| 3 | ENG 112 — Introduction to Literature |
| 3 | FA 207 — Fine Arts |
| 3 | History (see Core Curriculum, pg. 8-9) |
| 6 | Social science (see Core Curriculum, pg. 8-9) |
| 6 | Philosophy (PHL 150, PHL 220) |
| 9 | Theology (THE 101, THE 205; upper-division theology elective. 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.) |

A number of options are available for Theological Perspectives courses which fulfill the requirements of both an upper-division theology course and a companion core course. Students are required to consult with their advisors regarding this issue.

Mathematics and science requirements in the core curriculum are satisfied by Calculus and General Physics.

Common Engineering Requirements – 34 hours

Hrs.

- | | |
|---|---|
| 3 | CHM 207— General Chemistry I |
| 1 | CHM 277— General Chemistry Laboratory |
| 2 | * EGR 110 — Introduction to Engineering |
| 3 | EGR 351 — Engineering Economics |
| 2 | EGR 360 — Analysis of Engineering Data |
| 4 | MTH 201 — Calculus I |
| 4 | MTH 202— Calculus II |
| 4 | MTH 301 — Vector Calculus |

- | | |
|---|---|
| 3 | MTH 321 — Ordinary Differential Equations |
| 4 | PHY 204 — General Physics Lecture and Lab |
| 4 | PHY 205 — General Physics Lecture and Lab |

Engineering Management Requirements – 62 hours

Hrs.

- | | |
|----|---|
| 3 | BUS 200 — Entrepreneurial Marketing |
| 3 | BUS 209 — Financial Accounting |
| 3 | BUS 210 — Managerial Accounting |
| 3 | BUS 305 — Business Finance |
| 3 | BUS 360 — Organizational Behavior |
| 3 | BUS 361 — Technology and Operations Management |
| 1 | CS 201 — Introduction to Scientific Programming |
| 3 | ECN 121 — Principles of Microeconomics |
| 3 | EE 231 — Logic Design |
| | or |
| 3 | EGR 322 — Strength of Materials |
| 3 | EGR 211 — Engineering Mechanics — Statics |
| 3 | EGR 221 — Materials Science |
| 1 | EGR 270 — Materials Laboratory |
| 2 | EGR 481 — Capstone Project |
| 2 | EGR 482 — Capstone Project |
| 2 | ME 111 — Engineering Graphics |
| 3 | † Restricted math or science elective |
| 12 | # Technical electives |
| 3 | # Restricted technical elective |
| 6 | § Business electives |

Total Credit Hours – 123

Sample Program Freshman Year

Hrs. Fall Semester

- | | |
|---|--|
| 2 | * EGR 110 — Introduction to Engineering |
| 4 | MTH 201 — Calculus I |
| 3 | PHL 150 — Introductory Philosophy |
| 4 | PHY 204 — General Physics Lecture/Lab |
| 3 | THE 101 — An Introduction to Religion and Theology |

16 Total

Hrs. Spring Semester

- | | |
|---|---------------------------------------|
| 3 | CHM 207— General Chemistry I |
| 1 | CHM 277— General Chemistry Laboratory |
| 3 | ENG 112 — Introduction to Literature |
| 2 | ME 111 — Engineering Graphics |

*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.

†CHM 208, PHY 317, MTH 322, MTH 341, or any other science or mathematics course approved by the program chair.

#Technical electives approved by the program chair (12 hours).

§Business electives (6 hours) approved by the program chair.

#CE 301 and CE 372, EE 333, or ME 331.

4	MTH 202— Calculus II
4	PHY 205 — General Physics Lecture/Lab
17	Total

Sophomore Year**Hrs. Fall Semester**

3	BUS 209 — Financial Accounting
1	CS 201 — Introduction to Scientific Programming
3	EGR 211 — Engineering Mechanics Statics
3	EGR 221 — Materials Science
4	MTH 301 — Vector Calculus
3	THE 205 — Biblical Tradition and Culture
17	Total

Hrs. Spring Semester

3	BUS 200 — Entrepreneurial Marketing
3	EE 231 — Logic Design
	or
	EGR 322 — Strength of Materials
1	EGR 270 — Materials Laboratory
2	EGR 360 — Analysis of Engineering Data
3	PHL 220 — Ethics
3	University core
15	Total

Junior Year**Hrs. Fall Semester**

3	BUS 305 — Business Finance
3	BUS 360 — Organizational Behavior
3	ECN 121 — Principles of Micro-economics
3	MTH 321 — Ordinary Differential Equations
3	Theological Perspectives
15	Total

Hrs. Spring Semester

3	BUS 210 — Managerial Accounting
3	EGR 351 — Engineering Economics
3	† Restricted math or science elective
3	# Technical elective
	or
3	# Restricted technical elective
3	University core
15	Total

Senior Year**Hrs. Fall Semester**

3	BUS 361 — Technology and Operations Management
2	EGR 481 — Capstone Project
3	# Technical elective
3	# Technical elective
	or
3	# Restricted technical elective
3	University core
14	Total

Hrs. Spring Semester

6	§ Business electives
6	# Technical electives
2	EGR 482 — Capstone Project
14	Total
123	Total for four years

†Technical electives approved by the program chair (12 hours).

§Business electives (6 hours) approved by the program chair.

#CE 301 and CE 372, EE 333, or ME 331.

School of Nursing

Joanne R. Warner, D.N.S., dean

Susan Randles Moscato, Ed.D., associate dean

Carol Craig, Ph.D., associate dean

Faculty: Banks, Bell, Cameron, Chorpensing, Craig, Davis Sills, Decker, Gatlin, Kaakinen, Krautscheid, Moscato, Napolitano, Oakes, O'Lynn, Orton, Potter, Rosenstiel, Shillam, Simmons, Stragnell, Veltri, Vines, Warner, Webb, Wilson-Anderson, Woo

The School of Nursing offers a bachelor of science in nursing, a master of science degree in nursing, and a doctorate of nursing practice. 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 studies integrating 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 health team. In order to do this they must develop a broad understanding of people, of society, and of 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 major, in combination with a blend of the humanities and sciences, enables students to construct a substantial framework on which they may continue to build through experience and further academic study.

Accreditation: 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.

Professional Society

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.

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 baccalaureate graduate of the School of Nursing will be a:

[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.

Admission Requirements

Applicants for admission must meet the general entrance requirements of the University as set forth in the general information section of this *Bulletin*. Students may be admitted as freshmen or transfer students into the School of Nursing. Freshman students admitted who have transfer credits will be placed into upper division clinical courses at the discretion of the School of Nursing. All entering freshmen will have completed a high school- or college-level general chemistry course prior to enrolling in BIO 205. All entering freshmen whose centered score is less than 530 on the verbal SAT, or its equivalent, must take ENG 107. Acceptance into upper-division nursing courses is dependent upon:

[1] A cumulative G.P.A. of 2.70 or above.

[2] A cumulative G.P.A. of 2.70 or above in the required sciences. Grades of C- or lower in any required science course or pass/no pass grades are not allowed.

[3] Completion of all the prerequisite course work. Lower-division credit may be taken at any accredited college or university, but only courses graded C or above will

be accepted. Courses graded pass/no pass will not be accepted in transfer.

Computer experience/literacy (ability to use a PC for word processing, e-mail, and access to the Internet) is required.

Student Handbook

The School of Nursing 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.

Career Opportunities

The curriculum is designed to prepare graduates for the practice of professional nursing in a variety of settings. Graduates of this program are eligible to sit for the NCLEX-RN, a requirement in all states to obtain professional R.N. licensure. Students/graduates may apply for appointments in the Air Force, Army, or Navy nurse programs.

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 100 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 (bachelor of science in nursing). The student will sign a three-year employment contract with PHS in exchange for tuition coverage.

Program Requirements

The program is eight semesters and one summer session in length. Electives will be individually planned considering the student's interests, ability, and schedule requirements. The requirement for graduation is 120 semester hours.

Students must receive a grade of **C** or better in all nursing courses and a grade of **Pass (P)** in NRS 498.

The school retains only those students who satisfy the requirements of scholar-

ship, health, and professionalism for nursing. Students must consistently demonstrate academic integrity and ethical conduct. Students must fulfill the requirements for the classroom and clinical components of the major. Students must pass a two-component comprehensive examination process prior to being verified to sit for the National Council Licensure Examination (NCLEX-RN).

Nursing, B.S.N.

The School of Nursing curriculum design is as follows:

University Core Requirements – 39 hours

3	FA 207	— Fine Arts
3	History	
3	Literature	
3	Mathematics (MTH 161 Elementary Statistics satisfies the core mathematics requirement)	
6	Science (BIO 307 Human Anatomy and BIO 308 Human Physiology satisfy the core science requirement)	
6	Social science (2 different disciplines)	
6	Philosophy	
9	Theology (must include THE 448)	

Major Requirements – 81 hours

3	BIO 205	— Foundations of Biology
4	BIO 307/ 377	— Human Anatomy/Lab
4	BIO 308/ 378	— Human Physiology/Lab
4	BIO 359/ 379	— Medical Microbiology/Lab
3	MTH 161	— Elementary Statistics
3	THE 448	— Theological Dimensions of Suffering and Death
6	Electives	
3	NRS 101	— Introduction to Nursing and Healthcare
3	NRS 202	— Nutrition
3	NRS 203	— Life Processes and Health Promotion Across the Life Span
2	NRS 301	— Nursing Theory and Knowing: Concepts and Issues
3	NRS 310	— Introduction to Population Health Nursing in a Multicultural Context
2	NRS 311	— Communication in Nursing
5	NRS 312	— Introduction to Professional Nursing Practice (includes 45 lab/clinical hours)
3	NRS 313	— Pathophysiology
3	NRS 315	— Pharmacotherapeutics

4	NRS 321	— Psychiatric Mental Health Nursing (includes 90 clinical hours)
6	NRS 322	— Physiological Nursing (includes 135 clinical hours)
3	NRS 414	— Evidence-based Nursing
2	NRS 418	— Nursing of Families
6	NRS 421	— Advanced Physiological Nursing (includes 135 clinical hours)
6	NRS 422	— Maternal-Child Nursing (includes 90 clinical hours)
4	NRS 424	— Applied Population Health Nursing in a Multicultural Context (includes 90 clinical hours)
3	NRS 429	— Leadership in Professional Nursing
1	NRS 436	— Personal Preparation for Licensure
4	NRS 498	— Capstone Clinical Immersion (includes 135 clinical hours)

Total Credit Hours – 120 (includes 720 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

Hrs.	Fall Semester
3	NRS 101 — Introduction to Nursing and Healthcare
0	NRS 001 — First Year Workshop
3	BIO 205 — Foundations of Biology
0	BIO 005 — BIO 205 Workshop
3	PHL 150 — Introductory Philosophy
3	Social science
3	THE 101 — Introduction to Religion and Theology

15 Total

Hrs. Spring Semester

3	FA 207	— Fine Arts
3	History	
3	Social science	
3	MTH 161	— Elementary Statistics
3	ENG 112	— Introduction to Literature

15 Total

Sophomore Year

Hrs.	Fall Semester
3	BIO 308 — Human Physiology
1	BIO 378 — Laboratory
3	BIO 359 — Medical Microbiology
1	BIO 379 — Laboratory

- 3 NRS 202 — Nutrition
3 Elective

14 Total

Hrs. Spring Semester

- 3 BIO 307 — Human Anatomy
1 BIO 377 — Laboratory
3 THE 205 — Biblical Tradition and Culture
3 NRS 203 — Life Processes and Health Promotion Across the Life Span
3 PHL 220 — Ethics
3 Elective

16 Total

Junior Year

Hrs. Fall Semester

- 2 NRS 301 — Nursing Theory and Knowing: Concepts and Issues
3 NRS 310 — Introduction to Population Health Nursing in a Multicultural Context
2 NRS 311 — Communication in Nursing
5 NRS 312 — Introduction to Professional Nursing Practice
3 NRS 315 — Pharmacotherapeutics

15 Total

Hrs. Spring Semester

- 3 NRS 313 — Pathophysiology
4 NRS 321 — Psychiatric Mental Health Nursing
6 NRS 322 — Physiological Nursing

13 Total

Senior Year

Hrs. Summer Session

- 3 NRS 414 — Evidence-based Nursing
6 NRS 421 — Advanced Physiological Nursing

9 Total

Hrs. Fall Semester

- 2 NRS 418 — Nursing of Families
6 NRS 422 — Maternal-Child Nursing
3 THE 448 — Theological Dimensions of Suffering and Death

11 Total

Hrs. Spring Semester

- 4 NRS 424 — Applied Population Health Nursing in a Multicultural Context
3 NRS 429 — Leadership in Professional Nursing
1 NRS 436 — Personal Preparation for Licensure
4 NRS 498 — Capstone Clinical Immersion

12 Total

120 Total for Four Years

Graduate School

Thomas G. Greene, Ed.D., dean

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.

The Graduate School encompasses 15 degree programs in seven academic areas. The courses, curricula and faculty are provided cooperatively by the Pamplin School of Business Administration, the Schools of Education, Engineering, 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.

Degrees Offered

Business:

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.

[2a] 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 (IV. Grades and Credits).

[2b] Only courses in which a grade of **C-**, **D+**, **D**, **D-**, or **NP** 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 their 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] G.P.A. of 3.00 is required in graduate courses for an advanced 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 trans-

ferred 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 and 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.

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.

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 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 resume. The M.Ed. program requires three letters of recommendation, a resume, and a copy of the teaching certificate. The Post Master Specialty program requires two letters of recommendation, a resume, 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. In education the Miller Analogies Test or Graduate Record Examination is required for the M.Ed. A Basic Skills Test, and the Oregon Educator Licensure Assessment Test (ORELA) and the appropriate PRAXIS Specialty Test (if applicable) are required for the M.A.T. degree. 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 MAT programs, a non-refundable \$500 deposit is required and will be credited towards the first semester tuition.

2010-2011 Tuition and Fees

Information on tuition and fees can be found on page 28 of this *Bulletin*.

Programs

Business Administration

Robin D. Anderson, Ed.D., dean

Faculty: Adams, Adrangi, Allender, Anderson, Barnes, Beauchamp, Bernard, Chatrath, DeHoratius, Drake, Easton, Eom, Feldman, Gritta, Gudigantala, Holloway, Jurinski, Kondrasuk, Lewis, Lin, Lippman, Martin, Meckler, Mitchell, Reed, Schouten, Seal, Stephens

Master of Business Administration (M.B.A.)

Melissa McCarthy, director

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.

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, 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 in identifying and solving 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.

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. Admission to the M.B.A. program is based on the entire application and letters of recommendation, not merely quantitative factors. It is strongly recommended that applicants have 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.

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 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.

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 Course and Competency Exam

All students must take the prerequisite course BUS 500 (Statistics) or pass a statistics competency 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 Competency 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.

To ensure students have the required proficiencies in statistics and Excel applications, all entering students are required

to attend a one-day workshop in Statistical and Quantitative Analysis. Workshops are scheduled before the start of every semester (fall, spring, and summer). Students should plan on participating in the workshop scheduled in conjunction with their registration for BUS 500. (See the M.B.A. program director for further details and scheduling.)

Values Perspective and Core Classes

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, social responsibility, diversity and multiculturalism, and the changing role of managers.

The core courses are designed to provide students with the quantitative and qualitative tools used in business problem solving. Students begin with economic analysis and then move to other advanced topics in 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, operations and technology management, marketing, 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.

Degree Requirements

Prerequisite—3 hours

- | | | |
|---|---------|---|
| 3 | BUS 500 | — Statistical and Quantitative Analysis |
|---|---------|---|

Values Perspective—6 hours

Students select 2 courses from the list below. The third course may be taken as an elective.

- | | | |
|---|---------|--|
| 3 | 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 |

Core Courses—15 hours

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.

- | | | |
|---|---------|--|
| 3 | BUS 501 | — Economic Analysis: if waived based on completion of micro-economics and macro-economics, students can substitute any business elective. |
| 3 | BUS 505 | — Operations Management: if waived based on completion of three OTM courses including operations management, students may substitute any OTM elective. |
| 3 | BUS 506 | — Principles of Accounting: if waived based on completion of managerial and financial accounting, students may substitute BUS 560. |
| 3 | BUS 520 | — Applied Marketing Strategies |

gies: if waived based on completion of three marketing courses, students may substitute any marketing elective.

- | | | |
|---|---------|--|
| 3 | BUS 530 | — Corporate Finance: if waived based on completion of three finance courses, students may substitute any finance elective. |
|---|---------|--|

Concentration/Elective Courses—12 hours

Students can select up to four electives in one concentration area if they seek greater specialization in a particular field. Concentrations are offered in (1) Entrepreneurship, (2) Finance, (3) Health Care Management, (4) Marketing, (5) Operations and Technology Management, and (6) Sustainability. Students choosing not to specialize in one concentration can mix any combination of elective courses if they meet the prerequisites. Students may also elect to take the third values course if they want to have a broader preparation in this area.

Capstone Component—3 hours

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 580 | — Strategic Issues and Applications in Management |
|---|---------|---|

M.B.A. Concentrations—12 hours

Entrepreneurship

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 515 | — Nonprofit Management |
| 3 | BUS 523 | — Negotiation and Persuasion Strategies |
| 3 | BUS 544 | — Managing Innovation and Technology |
| 3 | BUS 570 | — Social Entrepreneurship |
| 3 | BUS 571 | — New Venture Management |
| 3 | BUS 572 | — Family Business Planning |

Finance

Hrs.

- | | | |
|---|---------|--|
| 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 Methods |

- | | | |
|---|---------|---|
| 3 | BUS 538 | — Corporate Financial Strategy: M&A and Restructuring |
| 3 | BUS 539 | — Research Methods in Finance |
| 3 | BUS 553 | — Health Care Finance |
| 3 | BUS 562 | — Real Estate Finance |
| 3 | BUS 568 | — Income Tax Planning |

Health Care Management

Hrs.

- | | | |
|---|---------|--|
| 3 | BUS 551 | — Introduction to Health Care 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 |

Marketing

Hrs.

- | | | |
|---|---------|---|
| 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 |

Operations and Technology Management

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 540 | — Systems Analysis and Design |
| 3 | BUS 542 | — Management Information Systems |
| 3 | BUS 543 | — Decision Modeling |
| 3 | BUS 545 | — Project Management |
| 3 | BUS 546 | — Supply Chain Management |
| 3 | BUS 547 | — Inventory Management |
| 3 | BUS 548 | — Operations Management for Competitive Advantage |
| 3 | BUS 549 | — Excel Spreadsheet Modeling |

Sustainability

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 510 | — Economics and Metrics for Sustainability |
| 3 | BUS 526 | — Sustainable Marketing |
| 3 | CST 59x | — Organizational Communication and Collaboration for Sustainability |
| 3 | ENV 501 | — Systems Thinking, Resilience and Sustainability |

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.

Master of Science in Finance (M.S.)

Arjun Chatrath, D.B.A., director

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.

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.

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. Admission may be considered for those not strictly meeting these criteria but having extensive work experience in finance. Admission to the M.S. 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 For-

eign 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. coordinator for specific requirements.

Degree Requirements

Students can choose one of two tracks: a thesis option or a non-thesis option.

[1] Non-thesis Option: a minimum of 30 hours beyond the common body of knowledge.

Common body of knowledge prerequisites (CBK): The prerequisite courses provide incoming M.S. 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 competency 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.

To ensure that students have the required proficiencies in statistics and Excel applications, all entering students are required to attend a one-day workshop in Statistical and Quantitative Analysis. Workshops are scheduled before the start of every semester (fall, spring, and summer). Students should plan on participating in the workshop scheduled in conjunction with their registration for BUS 500. Please see the M.B.A. program director for further details and scheduling.

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. program. If a student has coursework from a non-AACSB accredited school, it will be reviewed for acceptability by the

M.B.A. coordinator and program director.

Common Body of Knowledge (CBK) Requirements

- Financial Accounting
- Managerial Accounting
- Principles of Microeconomics
- Principles of Macroeconomics
- Business Statistics
- Calculus for Business or equivalent

Prerequisite – 3 hours

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 500 | — Statistical and Quantitative Analysis |
|---|---------|---|

Required Courses – 15 hours

M.S. students will complete a "Trading-Room Project" in each required course.

Hrs.

- | | | |
|---|---------|--------------------------------------|
| 3 | 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 |

Electives – 15 hours

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 531 | — International Finance |
| 3 | BUS 545 | — Project Management |
| 3 | BUS 536 | — Personal Financial Planning |
| 3 | BUS 537 | — Applied Financial and Economic Forecasting Methods |
| 3 | BUS 538 | — Corporate Financial Strategy: M&A and Restructuring |
| 3 | BUS 539 | — Research Methods in Finance |
| 3 | BUS 562 | — Real Estate Finance |
| 3 | BUS 568 | — Income Tax Planning |
| 3 | BUS 590 | — Directed Study (maximum of 3 hours) |

[2] Thesis Option: a minimum of 27 hours beyond the common body of knowledge.

Common Body of Knowledge (CBK) Requirements

- Financial Accounting
- Managerial Accounting
- Principles of Microeconomics
- Principles of Macroeconomics
- Business Statistics
- Calculus for Business or equivalent

Prerequisite – 3 hours**Hrs.**

- | | | |
|---|---------|---|
| 3 | BUS 500 | — Statistical and Quantitative Analysis |
|---|---------|---|

Required Courses – 15 hours

M.S. students will complete a "Trading-Room Project" in each required course.

Hrs.

- | | | |
|---|---------|--------------------------------------|
| 3 | 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 |

Electives – 15 hours**Hrs.**

- | | | |
|---|---------|---|
| 3 | BUS 531 | — International Finance |
| 3 | BUS 536 | — Personal Financial Planning |
| 3 | BUS 537 | — Applied Financial and Economic Forecasting Methods |
| 3 | BUS 538 | — Corporate Financial Strategy: M&A and Restructuring |
| 3 | BUS 539 | — Research Methods in Finance |
| 3 | BUS 545 | — Project Management |
| 3 | BUS 562 | — Real Estate Finance |
| 3 | BUS 568 | — Income Tax Planning |

Thesis – 3 hours**Hrs.**

- | | | |
|---|---------|------------------------------------|
| 3 | BUS 599 | — Written Thesis with Oral Defense |
|---|---------|------------------------------------|

The thesis will follow the guidelines provided by the Graduate School of the University of Portland.

M.B.A./M.S.F. Dual Degree

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. de-

gree. Students take 33 M.B.A. hours and 27 M.S.F. hours.

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. coordinator for specific requirements.

Degree Requirements**MBA Courses to be taken for the dual degree—33 hours****Prerequisite – 3 hours****Hrs.**

- | | | |
|---|---------|--|
| 3 | BUS 500 | — Statistical and Quantitative Analysis (may be waived via exam) |
|---|---------|--|

Values Perspective – 6 hours

Students select 2 courses from the list below.

Hrs.

- | | | |
|---|---------|--|
| 3 | BUS 511 | — Cross Cultural Management |
| 3 | BUS 512 | — Leadership and Higher Level Management |

- 3 BUS 513 — Social Responsibility in Organizations

Required Core Courses—15 hours

Hrs.

- 3 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

Capstone Course – 3 hours

Hrs.

- 3 BUS 580 — Strategic Issues and Applications in Management

Electives – 6 hours

MSF Courses to be taken for the dual degree – 27 hours

Required MSF Courses – 12 hours

Hrs.

- 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

Electives: Choose 5 from the following list – 15 hours

Hrs.

- 3 BUS 531 — International Financial Management
 3 BUS 536 — Personal Financial Planning
 3 BUS 537 — Applied Financial and Economic Forecasting Methods
 3 BUS 538 — Corporate Financial Strategy: M&A and Restructuring
 3 BUS 539 — Research Methods in Finance
 3 BUS 545 — Project Management
 3 BUS 562 — Real Estate Finance
 3 BUS 568 — Income Tax Planning

Executive M.B.A. in Nonprofit Management (E.M.B.A.)

Howard D. Feldman, Ph.D., director

The executive M.B.A. in nonprofit management provides nonprofit executives a 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.

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 and an admission 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 admission standards are a score of 500 on the GMAT and a G.P.A. of 3.00. Admission may be considered for those not strictly meeting these criteria but having extensive work experience in the nonprofit or for-profit sectors. It is strongly recommended that applicants have at least three years of executive experience to fully benefit from the program. Admission is also based on the entire application and letters of recommendation, not merely quantitative factors. Application requirements 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.

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.

**Dual degree students also must complete a trading room project.*

Degree Requirements

The E.M.B.A. curriculum provides students with the foundation of a traditional M.B.A. combined with the flexibility and options to meet the needs of today's non-profit executives. Students begin with self-tutorials in four topics: statistics, finance, financial/managerial accounting, and information technology. The cost of the self-tutorials is approximately \$200 and is not part of the university's tuition and fees. Upon satisfactory completion of the self-tutorials, students begin their coursework by taking three of four values perspective courses. Students also choose three classes from among six offered in our managerial tools track (Negotiations, Excel Spreadsheet Modeling, New Venture Management, Creativity, Communication Across Barriers, and Intercultural Communication). Managerial tools courses enhance the student's communication skills, creativity, and/or provide them with a general understanding of entrepreneurship or spreadsheet modeling. Students begin their directed nonprofit coursework with a required course in Accounting for Nonprofits and then choose four out of five elective courses focused on the nonprofit sector. The capstone class, required of all students, involves a field project to be done preferably with the student's own employer or another suitable organization.

Prerequisite Self-tutorials

All students enrolled in the executive M.B.A. in nonprofit management must take the four self-tutorials and exceed a benchmark score predetermined by our faculty. The self-tutorials provide foundational knowledge in statistics, finance, accounting, and information technology. Student will have up to a year to pass the tutorials, but until doing so cannot take additional class work in our graduate program. 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.

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. Students select 3 courses from the list

below:

Hrs.

- | | | |
|---|---------|--|
| 3 | 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 |

Managerial Tools – 9 hours

Managerial tools courses allow executive M.B.A. students to customize their program to their needs. Students can choose the type of managerial tools best needed for his/her future career. Students can enhance their communication and negotiation skills, learn to be more creative, obtain an understanding of the entrepreneurial process, or learn and/or improve their Excel spreadsheet modeling skills. Other courses, such as BUS 581 Advanced Business Communications and special topic courses offered with a BUS 590-592 designation, may be used to substitute for selected managerial tools courses with the approval of the program director. Students select 3 of the following classes:

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 523 | — Negotiation and Persuasion Strategies |
| 3 | BUS 549 | — Excel Spreadsheet Modeling |
| 3 | BUS 571 | — New Venture Management |
| 3 | CST 511 | — Communication Across Barriers |
| 3 | CST 531 | — Intercultural Communication |

Nonprofit Required Classes—6 hours

The accounting and financial controls class deals with topics such as finance and accounting fundamentals, budgeting and management control, financial reporting and interpreting financial results, and strategy. The nonprofit organization field project is the capstone experience.

Hrs.

- | | | |
|---|---------|--|
| 3 | BUS 514 | — Accounting and Financial Controls for the Nonprofit Organization |
| 3 | BUS 598 | — Nonprofit Organization Field Project |

Nonprofit Electives—12 hours

Students can select up to 4 electives from the classes offered:

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 515 | — Management of Nonprofit Organizations |
| 3 | BUS 517 | — Marketing for the Non-profit Organization |

- | | | |
|---|---------|---|
| 3 | BUS 518 | — Financial Management for the Nonprofit Organization |
| 3 | BUS 519 | — Program Evaluation: Measuring Outcomes |
| 3 | BUS 570 | — Social Entrepreneurship |

Business Internship

A one-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.

B.B.A./M.B.A.

For information on the B.B.A./M.B.A. program in accounting, please refer to pg.96 in the Pamplin School of Business section.

Technology Entrepreneurship Certificate Program

Jon Down, Ph.D., director

The program in technology entrepreneurship is jointly delivered by the University of Portland and Oregon Health and Science University (OHSU). This program is offered to complement or extend an individual's graduate education and provides students with a variety of opportunities to learn commercialization skills in an environment that combines practice and theory. Courses for this program have been approved by the OHSU School of Medicine Graduate Council and the University of Portland.

The program requires two years and 12 semester credits (or 18 quarter credits). It provides a unique experiential learning opportunity for a small cohort of selected 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. (See the director of the Franz Center for Entrepreneurship for further information.)

Technology Entrepreneurship Certificate Program – 12 hours

Hrs.

- | | | |
|---|---------|---|
| 1 | BUS 575 | — Introduction to Commercialization of Technology |
| 1 | BUS 576 | — External Programs and Networking |
| 3 | BUS 577 | — Technology, Entrepreneurship and Law |
| 3 | BUS 578 | — Management and Commercialization of Technology |
| 4 | BUS 579 | — Technology Practicum |

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.

Entrepreneurship

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 515 | — Nonprofit Management |
| 3 | BUS 523 | — Negotiation and Persuasion Strategies |
| 3 | BUS 544 | — Managing Innovation and Technology |
| 3 | BUS 570 | — Social Entrepreneurship |
| 3 | BUS 571 | — New Venture Management |
| 3 | BUS 572 | — Family Business Planning |

Finance

Hrs.

- | | | |
|---|---------|-----------------------------------|
| 3 | 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 553 | — Health Care Finance |

Health Care Management

Hrs.

- | | | |
|---|---------|--|
| 3 | BUS 551 | — Introduction to Health Care 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 |

Marketing

Hrs.

- | | | |
|---|---------|---|
| 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 552 | — Health Care Marketing |

Operations and Technology Management

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 505 | — Operations Management |
| 3 | BUS 540 | — Systems Analysis and Design |
| 3 | BUS 542 | — Management Information Systems |
| 3 | BUS 543 | — Decision Modeling |
| 3 | BUS 545 | — Project Management |
| 3 | BUS 546 | — Supply Chain Management |
| 3 | BUS 547 | — Inventory Management |
| 3 | BUS 548 | — Operations Management for a Competitive Advantage |
| 3 | BUS 549 | — Excel Spreadsheet Modeling |

Sustainability

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 510 | — Economics and Metrics for Sustainability |
| 3 | BUS 526 | — Sustainable Marketing |
| 3 | CST 59x | — Organizational Communication and Collaboration for Sustainability |
| 3 | ENV 501 | — Systems Thinking, Resilience and Sustainability |

Course Offerings

Graduate courses in business administration and finance begin on pg. 165.

Communication Studies

Elayne Shapiro, Ph.D., director

Faculty: Fletcher, Heath, Kerksen-Griep, Latin, Lovejoy, Mulcrone (emeritus), 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.

Learning Outcomes for Communication Studies Graduate Programs

Students who successfully complete all requirements for a masters 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 application of communication theory to oral communication practices including public speaking, group decision-making, collaboration, and principled negotiation.

[3] Demonstrate appropriate and effective professional writing.

[4] 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.

[5] Demonstrate understanding of ethical values central to the communication discipline.

[6] Students earning the master of science (M.S.) degree in management communication additionally should be able to demonstrate ability to integrate communication and business scholarship to solve organizational problems.

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.

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.

Core Requirements — 21 hours

Hrs.

- | | | |
|----|--|----------------------------------|
| 3 | CST 500 | —Research and Writing |
| 3 | CST 510 | —Communication Theory |
| 3 | CST 520 | —Rhetorical Theory and Criticism |
| 12 | Communication electives (six hours each in two areas of selected emphasis) | |
| 15 | credit hours of communication electives from any area. | |

Total Credit Hours—36

Thesis Option

If an M.A. or M.S. student chooses to write a thesis, 3-6 CST elective hours may be used for CST599, the thesis.

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.

Core Courses — 12 hours

Hrs.

- | | | |
|---|---------|---|
| 3 | CST 500 | —Research and Writing |
| 3 | CST 510 | —Communication Theory |
| 3 | CST 533 | —Organizational Communication Theory |
| 3 | CST 534 | —Examining Organizational Communication in Natural Settings |

Program Electives (Communication Courses)—12 hours

Hrs.

- | | | |
|-----|---------|---|
| 3 | CST 502 | —Computer Mediated Communication in Context |
| 3 | CST 511 | —Communication Across Barriers |
| 3 | CST 516 | —Negotiation and Conflict Management |
| 3 | CST 525 | —Advanced Interpersonal Communication |
| 3 | CST 531 | —Intercultural Communication |
| 3 | CST 581 | —Advanced Business Communication |
| 3 | CST 574 | —Graduate Internship |
| 3 | CST 591 | —Organizational Communication and Collaboration |
| 3-6 | CST 593 | —Advanced Research Project |
| 3-6 | CST 599 | —Thesis |

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

Hrs.

- | | | |
|---|---------|--|
| 3 | BUS 508 | —Sustainable Marketing |
| 3 | BUS 517 | —Nonprofit Marketing |
| 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 544 | —Managing Innovation and Change |
| 3 | BUS 571 | —New Venture Management |

Human Resources Track

Hrs.

- | | | |
|---|---------|---|
| 3 | BUS 511 | —Cross-Cultural Management |
| 3 | BUS 512 | —Leadership and Higher Level Management |
| 3 | BUS 513 | —Social Responsibility in organizations |
| 3 | BUS 515 | —Management |
| 3 | BUS 523 | —Negotiation and Persuasion Strategies |
| 3 | BUS 541 | —Human Resource Management |
| 3 | BUS 544 | —Managing Innovation and Change |

Total Credit Hours—36

Course Offerings

Graduate courses in communication studies begin on pg. 181. Business courses required for the M.S. in management communication are listed among the business administration course offerings beginning on pg. 181.

Drama

Andrew W. Golla, director

Faculty: Bowen, Golla, Hoddick, Larsen, Logan

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 undergraduate preparation in dramatic literature and theatre. 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.

A minimum of 60 semester hours is required for the master of fine arts in directing.

Following the production season announcement, each M.F.A. candidate will

begin the thesis production planning and research process with the advisor, and submit to the advisor, within one month, a written synopsis of the intended directing/design concept for approval.

A two-phase oral examination on the thesis is required of each M.F.A. candidate:

[1] An oral examination on the thesis production will be held during the week following the production;

[2] An oral examination on the completed thesis manuscript will be held not later than three weeks prior to the intended date of commencement.

Core Requirements — 39-45 hours

Hrs.

- | | |
|-----|--|
| 3 | DRM 500 — Graduate Research Techniques |
| 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 Seminar |
| 9 | DRM 571 — Graduate Practicum |
| 3 | DRM 572 — Director's Workshop I |
| 3 | DRM 573 — Director's Workshop II |
| 3-9 | DRM 579 — Production Internship |
| 3 | DRM 599 — Thesis |
| 3 | DRM 598 — Thesis Production |

Directing Focus

Requirements — 12 hours

Hrs.

- | | |
|---|--------------------------------------|
| 3 | DRM 522 — Advanced Acting |
| 3 | DRM 533 — Advanced Directing |
| 3 | DRM 537 — Advanced Directing Seminar |
| 3 | Collaborative design elective |

Enrichment — 9 hours

- | | |
|---|--|
| 9 | Electives (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

Graduate courses in drama begin on pg. 188.

Education

Bruce Weitzel, Ph.D., director

Faculty: Anctil, Arwood, Carroll, Christen, Eifler, Greene, Grote, Hood, Kalnin, Merk, Moore, Morrell, Owens, Thacker, Waggoner, 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 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.

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 and are listed in the School of Education graduate manual.

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 18-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, continuing administrative licensure, or continuing licensure. Off-campus candidates are expected to follow a two-year sequence of courses in the specialty options of educational leadership.* Most School of Education degree programs are 36 credit hours in length.

Core Requirements — 18 hours

Hrs.

3	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	— M.Ed. Capstone Project
3	ED 562	— Professional Development Process: Portfolio (with CTL)
or		
3	ED 5xx	— Elective

Specialty Options

Educational Leadership Requirements (on and off campus) — 18 hours

Hrs.

3	ED 570	— Curriculum Development and Implementation
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3	ED 571	— Enhancing Classroom Relationships
3	ED 573	— Quality Teaching and Peer Consultation
3	ED 574	— The Teacher as Leader: Challenges and Opportunities
3	ED 575	— Transforming Schools and Systemic Change
3	ED 578	— Improving the Instructional Process

Total Credit Hours — 36

Reading Endorsement Requirements (on-campus) — 18 hours

Hrs.

3	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 Difficulties PK-12
3	ED 584	— Administration and Evaluation of Reading Programs

Total Credit Hours — 36

Special Educator Endorsement Requirements (on-campus) — 18 hours

Hrs.

3	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

Total Credit Hours — 36

English for Speakers of Other Languages (ESOL) Endorsement Requirements (on-campus) — 18 hours

Hrs.

3	ED 503	— Language and Communication: Support and Strategies
3	ED 504	— School, Parent, and Community Relations

*Students in the off campus M.Ed. (except for Guam) must complete a three-hour residency requirement at the University of Portland campus.

3	ED 506	— Academic Assessments: Curriculum and Instruction for Diverse Learners
3	ED 509	— Methods and Materials for Teaching ESOL Students
3	ED 581	— Reading, Language, and Cultural Diversity in Schools
3	ED 569	— ESOL Practicum PK-12

Total Credit Hours — 36**Initial Administrator License Requirements (on-campus) — 18 hours**
Hrs.

3	ED 544	— Human Resource Development and 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

Total Credit Hours — 36

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 (PreK 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 PK-12 field based experience. Candidates may not transfer credits into the program. The minimum number of hours for this degree is 36 semester hours.

3 Semester (On-Campus) Program

M.A.T. Requirements — 36 hours
Hrs.

3	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 the Curriculum
3	ED 536	— Student Teaching Seminar
3	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

Total Credit Hours — 36

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 along with faculty from cooperating disciplines to comprise a three-person committee. 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 advisory committee, 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 project.

The advisory committee may require the candidate to complete additional semester hours for this degree. The courses in education include the following:

Core Requirements — 18 hours
Hrs.

3	ED 550	— Personal and Professional Growth and Development
3	ED 551	— Social and Cultural Foundations
3	ED 555	— Teacher as Researcher
3	ED 558	— Education Research for Improved Student Learning
3	ED 563	— Master of Arts Capstone Project

and

- 3 Elective
 or
 6 ED 599 — Thesis

Emphasis Options

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, and theology.

Total Credit Hours — 36

Post Master's Specialty Options

The School of Education offers advanced preparation specialty programs for educators who have completed master's degrees. 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.

Reading Endorsement Specialty Requirements (on-campus) — 18 hours

Hrs.

- 3 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 PK-12
 3 ED 584 — Administration and Evaluation of Reading Programs

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 Praxis test will result in an Oregon endorsement.

Special Educator Endorsement Specialty Requirements (on-campus) — 18 hours

Hrs.

- 3 ED 503 — Language and Communication: Support and Strategies
 3 ED 504 — School, Parent, and Community Relations
 3 ED 505 — Behavior Disorders and Interventions
 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

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 Praxis test will result in an Oregon endorsement. Linguistics is a co-requisite course.

English for Speakers of Other Languages (ESOL) Endorsement Specialty Requirements — 18 hours

Hrs.

- 3 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 Diverse Learners

- | | | |
|---|--------|--|
| 3 | ED 581 | — Reading, Language, and Cultural Diversity in Schools |
| 3 | ED 569 | — ESOL Practicum PK-12 |

Continuing Licensure 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 Licensure— 6 hours

- | | | |
|---|--------|--|
| 3 | ED 550 | — Personal and Professional Growth and Development |
| 3 | ED 562 | — Professional Development Process: Portfolio |

Initial Administrator License Specialty

Provides teachers with experiences in addressing the leadership and management needs of contemporary schools. Successful completion of course work and passing scores on the appropriate Praxis test will result in an Oregon endorsement.

Initial Administrator License Specialty Requirements — 18 hours Hrs.

- | | | |
|---|--------|--|
| 3 | ED 544 | — Human Resource Development and 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 |

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 Hrs.

- | | | |
|---|--------|--|
| 3 | 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 |

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.

Neuroeducator Certificate Requirements — 12 hours Hrs.

- | | | |
|---|--------|--|
| 3 | ED 585 | — Neuroscience and Learning |
| 3 | ED 586 | — Foundations of Cognitive Processes 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 (Optional Elective) |

Engineering

Khalid H. Khan, Ph.D., director

Faculty: Albright, Crenshaw, Doughty, Hoffbeck, A. Inan, M. Inan, Kennedy, Khan, Kuhn, Lu, Lulay, Male, Murty, Nuxoll, O'Halloran, Osterberg, Schenberger, Takallou, VanDeGrift, Vegdahl, Ward, Yamayee

The 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 School of Engineering and the Pamplin School of Business Administration and caters to the individual needs of the graduate student. Courses in engineering are selected from civil, environmental, electrical,

cal, 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.

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

Graduate offerings in engineering can be found on the following pages: civil engineering, pg. 178; computer science, pg. 184; electrical engineering, pg. 203; engineering, pg. 206; mechanical engineering, pg. 223. Graduate offerings in business begin on pg. 165.

Nursing

Susan Randles Moscato, Ed.D., director
Faculty: *Craig, Decker, Kaakinen, Moscato, Napolitano, O'Lynn, Potter, Rosenstiel, Shillam, Vines, Warner, Webb, Wilson-Anderson, Woo*

The School of Nursing offers a doctorate 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 degrees in nursing, master degrees in nursing and individuals with a bachelor's degree in other fields who complete the Alternate Entry Master's at the University of Portland (AEM UP) program pre-licensure component.

Graduate Degree Requirements

To complete the requirements for a graduate degree in nursing, students must:

- [1] Complete required semester credit hours for the track 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 project.

Program Format and Computer Requirements

The DNP and CNL programs are offered in a blended format of monthly in-person immersion weekend sessions and web-based teaching and learning modalities. As such, 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 have Microsoft Office 2007, the most 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 and the re-

sources to download Microsoft Office 2007 at no cost to enrolled students.

Student Handbook

The School of Nursing 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.

Doctorate of Nursing Practice (D.N.P.)

The School of Nursing offers an innovative doctorate of nursing practice (D.N.P.) program in the family nurse practitioner (F.N.P.) specialty. 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 in the D.N.P. program. 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 1,027 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 *Practice Doctorate Nurse Practitioner Entry-level Competencies* (NONPF, 2006), 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. 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 three tracks: (1) post-baccalaureate, or post completion of the AEM UP pre-licensure component at the University of Portland, for nurses wanting the F.N.P. specialty, (2) post-master's for nurses certified as nurse practitioners and (3) post-master's for nurses wanting the F.N.P. specialty.

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.
 - [2] Cumulative G.P.A. of 3.0 or higher.
 - [3] For B.S.N. to D.N.P. applicants: Graduate Record Examination (GRE) score of 500 on verbal and 3.5 or above on analytical writing **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 registered nurse (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 nurse practitioner certification and/or history of nurse practitioner practice.
 - [7] Written essay that reflects on the F.N.P. role, the D.N.P. role, and integrative health.
 - [8] Three recommendations from persons able to evaluate current competency in nursing and potential for nursing practice at the most advanced level.
 - [9] College-level statistics course.
 - [10] Ability to use a PC for word processing, e-mail and Internet.
 - [11] Current résumé.
- An admission interview may be requested.

Doctor of Nursing Practice Curriculum Hrs.

- | | |
|---|--|
| 3 | 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 |

3	NRS 520	— Health Assessment for Advanced Practice (includes 45 lab hours)
2	NRS 521	— Nursing of Families for Advanced Practice
5	NRS 522	— Management of Adults with Acute and Simple Chronic Conditions (includes 180 clinical hours)
4	NRS 523	— Management of Pediatric Clients with Acute and Chronic Conditions (includes 120 clinical hours)
3	NRS 525	— Management of Conditions Common to Women (includes 112 clinical hours)
4	NRS 527	— Management of Adults and Older Adults with Complex Chronic Illnesses (includes 120 clinical hours)
2	NRS 533	— Management of Conditions Common to Men
2	NRS 537	— Management of Common Mental Health Conditions in Primary Care (includes 60 clinical hours)
1	NRS 538	— Focused Practicum on Wellness and Screening (includes 30 clinical hours)
3	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
3	NRS 569	— Human Population Ecology
2	NRS 571	— Advanced Pathophysiology I
2	NR 572	— Advanced Pathophysiology II
3	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 and Body Connections
3	NRS 589	— Applied Research: Evaluation and Evidence-based Practice
1	NRS 597	— Practice Improvement Project (must take a minimum of two times)
6	NRS 598	— Residency (includes 360 clinical hours)

83 Total Semester Hours (includes 1,027 total clinical hours)

Clinical Nurse Leader (CNL)

The focus of the master's nursing program is the clinical nurse leader (CNL). The graduate program prepares the nurse to function in an advanced practice role. The CNL provides leadership for the nursing care of clients at the point of care. A broad based graduate education prepares the CNL to oversee the care coordination of a distinct group of clients—individuals, families, or populations. The curriculum is designed to develop clinical competent CNLs 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 CNL 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, 1996) and the *CNL End-of-Program Competencies & Required Clinical Experiences for the Clinical Nurse Leader* (AACN, 2006) in preparation of the curriculum and evaluation of outcomes. The CNL Program includes 500 hours of clinical experience.

The Clinical Nurse Leader project is designed for the student to meet multiple AACN CNL 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 ev-

idence-based interventions, or adapting or designing a research based intervention. Students will develop, implement and evaluate the CNL project in the three clinical courses (NRS 593, NRS 595, NRS 596).

CNL 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 Program at the University of Portland (AEM UP) pre-licensure component.

[2] Cumulative G.P.A. of 3.0 or above.

[3] Graduate Record Examination (GRE) with a score of 500 on verbal and 3.5 or above on analytical writing **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 Oregon; Washington licensure is encouraged for increased options for clinical placement.

[6] A written statement of personal nursing philosophy.

[7] 500-word statement that describes how becoming a clinical nurse leader 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.

An interview may be requested.

Clinical Nurse Leader Curriculum Hrs.

3	NRS 500	— Statistical and Quantitative Analysis
3	NRS 501	— Theoretical Foundations for Advanced Nursing Practice Leadership
2	NRS 534	— Role and Portfolio Development
3	NRS 566	— Resources Management in the Micro Environment
3	NRS 567	— Communication and Relationships
3	NRS 568	— Information Knowledge Systems
3	NRS 569	— Human Population Ecology
4	NRS 570	— Advanced Clinical Foundations (includes 45 lab hours)
1	NRS 585	— Foundations of Integrative

		Health
1	NRS 586	— Evidence for Integrative Health
1	NRS 587	— Integrative Health Leadership
3	NRS 589	— Applied Research: Evaluation and Evidence-based Practice
3	NRS 593	— CNL as Practice I (includes 100 clinical hours)
3	NRS 595	— CNL as Practice II (includes 100 clinical hours)
6	NRS 596	— CNL Residency (includes 300 clinical hours)

42 Total Semester Hours (includes 500 total 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 (MS-CNL) program or the Doctorate of Nursing Practice- Family Nurse Practitioner (DNP-FNP) 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 full-time commitment for class and clinical experience. A bachelor of science in nursing (B.S.N.) is not granted upon completion of the pre-licensure component.

[2] Advanced graduate study component— this component includes employment as an RN, advanced coursework and extensive clinical experience. There are two program options:

[a] Master of Science- Clinical Nurse Leader (MS-CNL) – Students admitted to the MS-CNL program complete the advanced graduate study component in approximately 2 years of part-time coursework and are required to complete a minimum of 500 clinical hours.

[b] Doctorate of Nursing Practice- Family Nurse Practitioner (DNP-FNP) – Students admitted to the DNP-FNP program complete the advanced graduate study compo-

nent in 4 years of part-time coursework and are required to complete a minimum of 1,027 clinical hours.

AEM UP Admission Requirements

[1] Bachelor's degree in a field other than nursing from a regionally accredited college or university.

[2] 3.25 minimum undergraduate grade point average (G.P.A.).

[3] Science G.P.A. of 3.0 or above (only in required science courses).

[4] Graduate Record Examination (GRE) score of 500 on verbal and 3.5 or above on analytical writing score or a score of 50 or greater on the Miller Analogies Test (MAT).

[5] TOEFL iBT score of 100 or a IELTS score of 7.5 if native language is not English.

[6] Writing sample.

[a] If applying for the MS-CNL program: A 500-word statement that describes how becoming a clinical nurse leader will help achieve personal and professional goals.

[b] If applying for the DNP-FNP program: A written essay that reflects on the FNP role, the DNP role, and integrative health.

[7] Recommendation letters.

[a] If applying for the MS-CNL program: Two recommendations that speak to the applicant's academic abilities and professional qualities indicating a fit for nursing and the academic rigors of the program.

[b] If applying for the DNP-FNP program: Three recommendations that speak to the applicant's academic abilities and professional qualities indicating a fit for nursing and the academic rigors of the program.

[8] If applying for the DNP-FNP program: Current résumé.

[9] Completion of all prerequisites by the first class date.

[10] Ability to use a PC for word processing, e-mail and Internet.

[11] Candidates who are competitive after the admission screening (GRE, G.P.A., prerequisites) will be invited to participate in an interview.

[12] \$500 deposit if offered a seat in the program.

AEM UP Prerequisites

Biology with genetics

Chemistry (high school or college)

Human Anatomy and Lab

Human Physiology and Lab

Medical Microbiology and Lab

Life Processes Across the Lifespan

Nutrition

Statistics

AEM UP Pre-Licensure Component Curriculum

Hrs.

6	NRS 507	— Population Health Nursing in a Multicultural Context (includes 90 clinical hours)
2	NRS 510	— Nursing of Families
4	NRS 511	— Physiological Nursing (includes 90 clinical hours)
2	NRS 512	— Clinical Skills (includes 90 lab and clinical hours)
3	NRS 513	— Pathophysiology
3	NRS 515	— Pharmacotherapeutics
1	NRS 516	— Professional Role Development I
7	NRS 517	— Advanced Physiological Nursing (includes 135 clinical hours)
4	NRS 518	— Mental Health Nursing (includes 90 clinical hours)
3	NRS 524	— Leadership and Health Policy for Advanced Nursing Practice
5	NRS 529	— Practicum with Seminar (includes 180 clinical hours)
2	NRS 536	— Professional Role Development II
6	NRS 545	— Nursing of Childbearing & Childrearing Families (includes 90 clinical hours)
3	NRS 546	— Evidence-based Nursing
1	NRS 563	— Personal Preparation for Licensure

52 Total Semester Hours (includes 765 total clinical/lab hours)

AEM UP students are evaluated according to the undergraduate grading requirements during the pre-licensure curriculum. 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 for 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

Hrs.

3	NRS 500	— Statistical and Quantitative Analysis
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3	NRS 501	— Theoretical Foundations for Advanced Nursing Practice Leadership	3	NRS 525	— Management of Conditions Common to Women (includes 112 clinical hours)
2	NRS 534	— Role and Portfolio Development	4	NRS 527	— Management of Adults and Older Adults with Complex Chronic Illnesses (includes 120 clinical hours)
3	NRS 566	— Resources Management in the Micro Environment	2	NRS 533	— Management of Conditions Common to Men
3	NRS 567	— Communication and Relationships	2	NRS 537	— Management of Common Mental Health Conditions in Primary Care (includes 60 clinical hours)
3	NRS 568	— Information Knowledge Systems	1	NRS 538	— Focused Practicum on Wellness and Screening (includes 30 clinical hours)
3	NRS 569	— Human Population Ecology	3	NRS 543	— Social and Health Policy
4	NRS 570	— Advanced Clinical Foundations (includes 45 lab and clinical hours)	3	NRS 547	— Organizational and Systems Leadership
1	NRS 585	— Foundations of Integrative Health	3	NRS 548	— Translational Research
1	NRS 586	— Evidence for Integrative Health	3	NRS 566	— Resources Management in the Micro Environment
1	NRS 587	— Integrative Health Leadership	3	NRS 567	— Communication and Relationships
3	NRS 589	— Applied Research: Evaluation and Evidence-based Practice	3	NRS 568	— Information Knowledge Systems
3	NRS 593	— CNL as Practice I (includes 100 clinical hours)	3	NRS 569	— Human Population Ecology
3	NRS 595	— CNL as Practice II (includes 100 clinical hours)	2	NRS 571	— Advanced Pathophysiology I
6	NRS 596	— CNL Residency (includes 300 clinical hours)	2	NRS 572	— Advanced Pathophysiology II
42 Total Semester Hours (includes 545 total clinical hours)			3	NRS 575	— Advanced Pharmacotherapeutics
AEM UP Advanced Graduate Study Component Curriculum for Doctorate of Nursing Practice – Family Nurse Practitioner Program Hrs.			3	NRS 581	— Integrative Health I: Concepts of Health and Healing
3	NRS 500	— Statistical and Quantitative Analysis	2	NRS 582	— Integrative Health II: Approaches to Care
3	NRS 501	— Theoretical Foundations for Advanced Nursing Practice Leadership	2	NRS 583	— Integrative Health III: Nutrition and Herbal Therapy
3	NRS 502	— Professional Role Development for Advanced Practice Nursing	2	NRS 584	— Integrative Health IV: Mind and Body Connections
3	NRS 520	— Health Assessment for Advanced Practice (includes 45 lab hours)	3	NRS 589	— Applied Research: Evaluation and Evidenced Based Practice
2	NRS 521	— Nursing of Families for Advanced Practice	1	NRS 597	— Practice Improvement Project (each student will take this course a minimum of two times)
5	NRS 522	— Management of Adults with Acute and Simple Chronic Conditions (includes 180 clinical hours)	6	NRS 598	— Residency (includes 360 clinical hours)
4	NRS 523	— Management of Pediatric Clients with Acute and Chronic Conditions (includes 120 clinical hours)	83 Total Semester Hours (includes 1,027 total clinical/lab hours)		

R.N. to M.S.

This graduate program is for registered nurses (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 registered nurse (R.N.) to master of science (M.S.) program must complete specific undergraduate general education courses and bridge courses before entry into the clinical nurse leader (CNL) master's curriculum. A master of science in nursing (B.S.N.) is not granted. For more information about this curricular option, see the School of Nursing website (<http://nursing.up.edu>) or call the School of Nursing at (503) 943-7211.

Nursing Education Certificate Program

The nursing education certificate program is designed for nurses with a master's degree in nursing or currently enrolled in a graduate nursing program interested in pursuing the teaching of nursing. This 10-credit sequence culminates in the awarding of a certificate in nursing education. Courses include:

Hrs.

- | | |
|---|---|
| 2 | NRS 553 — Dimensions of Adult Learning |
| 2 | NRS 554 — Curriculum Development in Nursing |
| 2 | NRS 555 — Course Design and Implementation in Nursing |
| 4 | NRS 556 — Teaching in Nursing Practicum |

The nursing education certificate program courses are offered when a cohort of interested students is formed. For more information about this certificate option, see the School of Nursing website (<http://nursing.up.edu>) or call the School of Nursing (503-943-7211).

Theology

Ray Maria McNamara, Ph.D., director

Jeffrey Allison, C.S.C., coordinator

Faculty: Baasten, Butkus, Cameron, Deming, Dempsey, Gordon, Hosinski, McManus, McNamara, Rutherford

The Northwest Center for Catholic Graduate Theology (NWGT)

(NWGT) 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 cover the entire gamut of theological sub-disciplines. These men and women are recognized for their professional expertise, outstanding teaching abilities, publication records, and pastoral expertise.

As a service to the churches of the Northwest, this graduate program brings a range of outstanding offerings in theology and ministry training to men and women who seek renewal and wish to minister in the churches with knowledge and professionalism.

The NWGT sees theology as an effort to understand 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.

The NWGT approaches theology not only as an exciting enterprise, but also as a vitally important service to the Church. Students and faculty pursue theology in a manner that is mutually formative and relevant for the changing conditions of both church and society.

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.

Theology, M.A.P.M.

This is a graduate, professional program designed to provide pastoral ministers with sound theological foundations, basic ministerial skills, and resources for ministry and personal spirituality. The program is oriented toward laity, deacons, or diaconate aspirants, and religious who are or will be involved in professional pastoral

ministry. The program includes a practicum/internship.

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 to serve the people to whom they minister:

a. Demonstrate the capacity to speak publicly with ease and clarity.

b. Produce written work adapted to specific audiences.

[5] Identify and use appropriate theological resources within a ministerial setting.

Requirements — 40 hours

Hrs.

6 Introductory courses (Old and New Testament, Systemic and Applied Theology)

12 Theological Foundations (Christology, Issues in Religion and Culture, Contemporary Ecclesiology, Church and Social Justice, and Theology of Ministry)

6 Ministerial Skills (Religious Education, Pastoral Counseling) 12 Ministerial Resources (courses are chosen from among those offered in areas of spirituality, liturgy and sacraments, scripture, and ethics based on the needs of the cohort)

3 Practicum in Ministry (The practicum should be closely related to the student's field of concentration and goals. Its design is the responsibility of the student with the assistance of the advisor or designated faculty member. The advisor must approve all placements and supervision. The student and the on-site supervisor are to submit a full report and evaluation to the advisor.)

RELI course descriptions are found on pg. 247.

Course Descriptions

Aerospace Studies

General Military Course

AS 101 Foundations of the U.S. Air Force — 1 cr. hr.

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 The U.S. Air Force — 1 cr. hr.

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 cr. hrs.**

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 cr. hrs.**

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 cr. hr.

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 cr. hr.

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 cr. hrs.**

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 cr. hrs.**

Taken in conjunction with AS 201 and 202. Provides students opportunities to demonstrate fundamental management skills and prepares cadets for Field Training.

The Professional Course

AS 301 Leadership & Management — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.**

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 cr. hrs.**

Taken in conjunction with AS 301 and 302. Provides students opportunities to use fundamental management skills while planning and conducting corps activities.

**Leadership Laboratory is taken a maximum of two hours per week for lower-division and three hours per week for upper-division students. Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to develop each student's leadership potential. Leadership Laboratory involves a study of Air Force customs and courtesies; drill and ceremonies; career opportunities in the Air Force; and the life and work of an Air Force junior officer. Students develop their leadership potential in a practical, supervised laboratory, which includes field trips to Air Force installations.*

AS 401 National Security Affairs & Preparation for Active Duty — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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.

Biology

BIO 103 Human Biology — 3 cr. hrs.

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 cr. hrs.

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 107 Plants as Food and Medicine — 3 cr. hrs.

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 205 Foundations of Biology — 3 cr. hrs.

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 cr. hrs.

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. (BIO 276 may be taken concurrently.)

BIO 207 Introductory Cell Biology and Genetics — 3 cr. hrs.

Introductory principles of biology, including the nature of scientific inquiry, biochemistry, cell structure and function, membrane transport, photosynthesis, cellular respiration, and genetics. Three hours of lecture per week. Credit for BIO 207 will not be granted to students who have completed BIO 205. (BIO 277 may be taken concurrently.)

BIO 276 Organismal and Population Biology Lab — 1 cr. hr.

Laboratory investigation into the structure and function of living organisms. Three hours of laboratory per week. (Corequisite: BIO 206.) Fee: \$60.

BIO 277 Introductory Cell Biology and Genetics Lab — 1 cr. hr.

Laboratory investigation into the structure, function, and development of cells and living organisms. Three hours of laboratory per week. (Corequisite: BIO 207.) Fee: \$60.

BIO 290 Directed Study — credit arranged

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 cr. hrs.

Gross anatomy of the nervous, endocrine, skeletal, muscular, cardiovascular, respiratory, digestive, excretory, and reproductive systems will be covered. Emphasis is on associating

**Leadership Laboratory is taken a maximum of two hours per week for lower-division and three hours per week for upper-division students. Instruction is conducted within the framework of an organized cadet corps with a progression of experiences designed to develop each student's leadership potential. Leadership Laboratory involves a study of Air Force customs and courtesies; drill and ceremonies; career opportunities in the Air Force; and the life and work of an Air Force junior officer. Students develop their leadership potential in a practical, supervised laboratory, which includes field trips to Air Force installations.*

function with structure. Three hours of lecture per week. (Prerequisite: BIO 205 or 207. BIO 377 may be taken concurrently.)

BIO 308 Human Physiology — 3 cr. hrs.

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. BIO 378 may be taken concurrently.)

BIO 320 Biology of Exercise — 3 cr. hrs.

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. (Prerequisites: BIO 206-207/276-277).

BIO 330 Human Genetics — 3 cr. hrs.

The basic principles of human genetics and the societal impact resulting from technological advances in the field. Topics include gene therapy, genetic engineering, and the Human Genome Project. Three hours of lecture per week. (Prerequisites: BIO 206-207, and CHM 207-208 or equivalent.)

BIO 333 Genetics Laboratory — 1 cr. hr.

Overview of laboratory methodology in genetics. Three hours of laboratory per week. (Corequisite: BIO 330 or 445.) Fee: \$60.

BIO 336 Developmental Biology — 3 cr. hrs.

During embryonic development, a fertilized cell gives rise to hundreds of distinct cell types. Control of gene expression, motility, shape, and interaction with other cells and the extracellular environment will be explored in vertebrate and invertebrate species (frog, chicken, mouse, and fruit fly). Three hours of lecture per week. (Prerequisite: BIO 206-207, CHM 207. BIO 376 may be taken concurrently.)

BIO 338 Marine Biology of the Pacific Northwest — 3 cr. hrs.

Taxonomy, morphology, physiology, and ecology of Northwest marine fauna. (Prerequisites: BIO 206-207. BIO 368 may be taken concurrently.)

BIO 341 The Nature of Plants — 3 cr. hrs.

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 206-207. BIO 371 may be taken concurrently.

BIO 342 Neurobiology — 3 cr. hrs.

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. (Prerequisites: BIO 206-207.)

BIO 345 Vertebrate Biology — 3 cr. hrs.

Natural history of vertebrates including morphology, physiology, evolution, and taxonomy of the vertebrate classes. Three hours of lecture per week. (Prerequisite: BIO 206. BIO 375 may be taken concurrently.)

BIO 347 Animal Behavior — 3 cr. hrs.

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 phylogenetic contexts. Three hours of lecture per week. (Prerequisites: BIO 206-207)

BIO 354 Cell and Molecular Biology — 3 cr. hrs.

The structure and function of cells and their components, including cell metabolism, cell communication, cell death, and cell/subcellular techniques. (Prerequisites: BIO 206-207, CHM 207-208 or equivalent. BIO 372 may be taken concurrently.)

BIO 359 Microbiology — 3 cr. hrs.

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 207. BIO 379 may be taken concurrently.)

***BIO 363 Freshwater Ecology — 3 cr. hrs.**

The physical, chemical, and biological components of freshwater ecosystems. (Prerequisites: BIO 206. Corequisite: BIO 373.)

BIO 368 Marine Biology Laboratory — 1 cr. hr.

Laboratory and field experience in the taxonomy, morphology, physiology, and ecology of Northwest marine fauna. (Prerequisite: BIO 206. Corequisite: BIO 338.) Fee: \$60.

BIO 371 Field Botany — 1 cr. hr.

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. (Corequisite: BIO 341.) Fee: \$60.

BIO 372 Cell and Molecular Biology Laboratory — 1 cr. hr.

An overview of current methodology in cell biology, including microscopy, cell culture, and macromolecular isolation/analysis techniques. Three hours of laboratory per week. (Corequisite: BIO 354.) Fee: \$60.

***BIO 373 Freshwater Ecology Laboratory — 1 cr. hr.**

Field and laboratory investigation of freshwater ecosystems. (Corequisite: BIO 363.) Fee: \$60.

BIO 375 Vertebrate Biology Laboratory — 1 cr. hr.

Field and laboratory experience in the natural history and taxonomy of vertebrate organisms. Three hours of laboratory per week. (Corequisite: BIO 345.) Fee: \$60.

BIO 376 Developmental Biology Laboratory — 1 cr. hr.

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. (Corequisite: BIO 336.) Fee: \$60.

BIO 377 Anatomy Laboratory — 1 cr. hr.

Gross anatomy of the human body will be studied using human bones and cadavers. Three hours of laboratory per week. (Corequisite: BIO 307.) Fee: \$60.

BIO 378 Physiology Laboratory — 1 cr. hr.

Homeostatic control of body systems will be explored using the students' bodies and computer-interfaced physiological recording equipment. Three hours of laboratory per week. (Corequisite: BIO 308.) Fee: \$60.

BIO 379 Microbiology Laboratory — 1 cr. hr.

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. (Corequisite: BIO 359.) Fee: \$60.

BIO 384 Remote Sensing and Geographic Information Systems — 3 cr. hrs.

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. (Also listed as ENV 384).

BIO 385 Environmental Microbiology — 3 cr. hrs.

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. (Prerequisites: CHM 207-208. Also listed as ENV 385.)

BIO 387 Service Learning In Biology — 1 cr. hr.

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 206-207.)

BIO 397 Internship — 1 cr. hr.

Field experience in selected industries or agencies. Department permission and supervision is required. P/NP. (Prerequisites: BIO 206-207/276-277.)

BIO 415 Readings in Biology — 1 cr. hr.

Seminar on topics in biology, including medicine, ecology, animal behavior, biochemistry, genetics and evolution. One hour of discussion per week. (Prerequisite: BIO 206-207, BIO 276-277, and permission of instructor.)

BIO 423 Computational Biology — 3 cr. hrs.

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. (Prerequisites: MTH 201, CS 303. Also listed as CS 423.)

***BIO 436 Invertebrate Zoology — 3 cr. hrs.**

Morphology, physiology, and taxonomy of the invertebrate phyla. Three hours of lecture per week. (Prerequisite: BIO 206-207. BIO 476 may be taken concurrently.)

BIO 442 Ecology — 3 cr. hrs.

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. BIO 472 may be taken concurrently.)

BIO 445 Molecular Genetics — 3 cr. hrs.

Principles of eukaryotic and prokaryotic genetics, including the nature of the genetic material, gene expression and regulation, mutation and repair, and molecular genetics techniques. (Prerequisites: BIO 206-207/276-277, and CHM 325. BIO 475 may be taken concurrently.)

BIO 447 Cancer Biology — 3 cr. hrs.

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. (Prerequisites include any of the following courses: BIO 330, BIO 354 (preferred), BIO 445, or permission of the instructor).

BIO 453 Evolution — 3 cr. hrs.

Introduction to the theories of life, sources of genetic variation, speciation, and extinction. Three hours of lecture per week. (Prerequisites: BIO 206-207.)

***BIO 460 Immunology — 3 cr. hrs.**

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. (Prerequisites: BIO 206-207/BIO 276-277. BIO 470 may be taken concurrently.)

***BIO 470 Immunology Laboratory — 1 cr. hr.**

Laboratory exercises on immunological techniques including cell tissue culture, ELISA immunoassay, agglutination, immunization, and antibody measurement. Three hours of laboratory per week. (Corequisite: BIO 460.) Fee: \$60.

BIO 472 Ecology Laboratory — 1 cr. hr.

Laboratory and field investigation of community structure, productivity, and population dynamics. Three hours of laboratory per week. (Corequisite: BIO 442.) Fee: \$60.

***BIO 476 Invertebrate Zoology — 1 cr. hr.**

Laboratory and field investigation of the invertebrate phyla. Three hours of laboratory per week. (Corequisite: BIO 436.) Fee: \$60.

BIO 477 Human Anatomy Dissection — 1 cr. hr.

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 dissections for use in BIO 377. A minimum of 3 hours/week is required. Fee: \$60.

BIO 493 Research — 1 cr. hr.

Faculty-directed student research. Before enrolling, a student must consult with a faculty member to define the project. May be repeated for credit. (Prerequisites: BIO 206-207/276-277.) Fee: \$60.

BIO 497 Internship — 1 cr. hr.

Intensive field experience in selected industries or agencies. Department permission and supervision is required. (Prerequisites: BIO 206-207/276-277.)

BIO 499 Senior Thesis — 1 cr. hr.

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 hon-

ors program, when appropriate. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area or good standing in the honors program.)

Business Administration

†BUS 100 Introduction to Leadership — 3 cr. hrs.

Introduces students to the key bases in leadership (team building, communication, and problem solving). Covers these skills within global and ethical frameworks. Must be completed by all students during the first two semesters in the business program. (Prerequisite: Business majors only. Fall semester restricted to first-time freshman. Spring semester open to all business students.) Fee: \$115.

†BUS 101 Software Applications Workshop — 1 cr. hr.

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 Entrepreneurial Marketing — 3 cr. hrs.

Covers fundamentals of entrepreneurial and marketing concepts, including idea generation, market research, and product development. Other concepts in the entrepreneurial model include environmental influences, consumer behavior, feasibility studies, and the creation and execution of strategies for reaching objectives. (Prerequisite: Sophomore status.)

BUS 202 Professional Development — 1 cr. hr.

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. (Prerequisites: BUS 100 and sophomore status in business.)

†BUS 209 Financial Accounting — 3 cr. hrs.

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 cr. hrs.

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

*Course may be offered periodically.

†Required of all undergraduate B.B.A. majors in business.

behavioral effects of the information. (Prerequisite: BUS 209.)

***BUS 250 Legal and Social Responsibility in Business — 3 cr. hrs.**

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.

***BUS 255 Management Information Systems — 3 cr. hrs.**

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 issued pertaining to the fast-growing field of information systems. (Prerequisite: BUS 101).

***BUS 302 Professional Development Internship — 1 cr. hr.**

Includes several P4 workshops and career development activities in junior year. Students then will arrange an internship experience of at least 40 hours after their junior year that is related to their chosen major concentration. Students will submit short reflection papers during this internship and a performance evaluation from their supervisor. The P4 internship requirement applies to students entering in 2008-2009 and subsequent academic years. (Prerequisite: BUS 202, Preapproval by internship director.) Fee: \$30.

BUS 305 Business Finance — 3 cr. hrs.

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. (Prerequisites: BUS 209 and ECN 220 or EGR 360 or MTH 161.)

BUS 310 Intermediate Accounting I — 3 cr. hrs.

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. (Prerequisites: BUS 209, BUS 210, Junior status.)

BUS 311 Intermediate Accounting II — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 355 Decision Modeling — 3 cr. hrs.**

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. (Prerequisites: BUS 255 and ECN 220, or EGR 360, or MTH 161.)

BUS 356 Database Management — 3 cr. hrs.

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 Organizational Behavior — 3 cr. hrs.**

Increases student understanding of human behavior in organizations. Emphasis on student skill building and problem solving in topics including personality, values, motivation, communication, teamwork, conflict management, decision-making, and leadership. Includes P4

activities where students update resumes, do practice interviews and engage in other career development activities. (Prerequisite: Junior status.)

***BUS 361 Technology and Operations Management — 0 cr. hrs.**

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. (Prerequisites: ECN 220 or EGR 360 or MTH 161, Business 355 recommended Junior Status.)

BUS 364 Managing Innovation and Technology — 3 cr. hrs.

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. (Prerequisites: BUS 360 recommended, Junior status.)

BUS 365 Accounting Information Systems — 3 cr. hrs.

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. (Prerequisites: BUS 210, BUS 255, Junior status.)

BUS 370 Marketing Research — 3 cr. hrs.

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. (Prerequisites: BUS 200 and ECN 220 or MTH 161, Junior status.)

BUS 371 Consumer Behavior — 3 cr. hrs.

Provides an in-depth examination of the internal mental processes and external factors that shape consumers' responses to marketing strategies, their purchase decisions, and product usage behavior. Emphasizes application of core concepts to marketing decisions. (Prerequisites: BUS 200, Junior status.)

BUS 380 Family Business and Small Business Management — 3 cr. hrs.

Develops the entrepreneurial mindsets and skills needed to create or build a business. Focus is on issues pertinent to family businesses, understanding of critical success factors, small business management and marketing, and ability to read and use financial statements.

(Open only to non-business majors. Prerequisite: junior status.)

***BUS 400 Management Decisions and Policy — 3 cr. hrs.**

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 a computer simulation. Taken during one of the student's last two semesters. (Business majors only.)

BUS 401 Business Internship — credit arranged

Students may complete a second internship related to their major areas in a different organization than a previous internship. Students should pick up the internship registration packet from the Dean's office. (Prerequisites: Preapproval by internship director, business majors only, and senior status.)

BUS 411 Advanced Accounting I — 3 cr. hrs.

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 cr. hrs.

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, government securities. (Prerequisite: BUS 305)

BUS 431 Financial Markets and Institutions — 3 cr. hrs.

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 and BUS 305. BUS 330 is recommended. Also listed as ECN 431.)

BUS 432 Personal Financial Planning — 3 cr. hrs.

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 441 International Finance — 3 cr. hrs.

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 442 Cross-Cultural Management — 3 cr. hrs.

Helps students gain a systematic understanding of cultural differences across and within nations and the impact thereof on business practice and managerial behavior. Includes in-depth comparative cultural analysis. Develops students' global mindsets and multicultural skills, including cultural sensitivity, intercultural communication, negotiations, and cooperation. (Prerequisite: BUS 360 recommended, Senior status.)

BUS 443 International Marketing Management — 3 cr. hrs.

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. (Prerequisite: BUS 200. Also listed as SJP 443.)

BUS 450 Advanced Business Law — 3 cr. hrs.

Covers legal and accounting issued 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.)

BUS 452 Project Management — 3 cr. hrs.

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 cr. hrs.

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.)

BUS 456 Systems Analysis and Design — 3 cr. hrs.

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 cr. hrs.

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. (Prerequisites: BUS 361.)

BUS 458 Operations Management for Competitive Advantage — 3 cr. hrs.

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 Resource Management — 3 cr. hrs.

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. (BUS 360 recommended, senior status.)

BUS 464 Business Taxation — 3 cr. hrs.

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.)

BUS 465 Auditing — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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.)

BUS 471 Integrated Marketing Communications — 3 cr. hrs.

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: BUS 200.)

BUS 472 Personal Selling — 3 cr. hrs.

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. (Prerequisites: BUS 200, Junior status.)

BUS 480 Creating a World-Class Venture — 3 cr. hrs.

Coverage of conceptual entrepreneurial skills needed to create a business that is globally competitive. Emphasis on creation and implementation of a plan for a potential world-class venture. (Open only to Entrepreneur Scholars. Also listed as PCS 480.) Fee: \$3,000.

BUS 481 Entrepreneur Apprenticeship — 3 cr. hrs.

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.)

BUS 482 Global Entrepreneurship — 0 cr. hrs.

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.)

BUS 485 Entrepreneurial Ventures — 3 cr. hrs.

Designed for juniors and seniors interested in creating a new business venture or students at this level who wish to familiarize themselves with the concepts, issues, and techniques of new venture creation and entrepreneurship. The course will focus on identifying and evaluating new business opportunities. (Prerequisite: BUS 200, junior 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 Business 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 Business 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 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, dean, and director of the honors program, when appropriate. (Prerequisites: Senior standing, 3.0 GPA in the thesis area or good standing in the honors program.)

Graduate Courses

M.B.A. program information can be found in the Graduate School section on page 131.

BUS 500 Statistical and Quantitative Analysis — 3 cr. hrs.

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 a basic proficiency with Microsoft Excel. See the M.B.A. coordinator for details on required statistics workshop. (Also listed as NRS 500.)

BUS 501 Economic Analysis — 3 cr. hrs.

Provides a comprehensive review of macro- and microeconomics topics as background for M.B.A. study.

BUS 505 Operations Management — 0 cr. hrs.

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.)

BUS 506 Principles of Accounting — 3 cr. hrs.

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 cr. hrs.

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. (Prerequisite: Natural Step Workshop.)

BUS 511 Cross-Cultural Management — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

The course covers the key accounting and financial control concepts necessary for effective financial management. It provides an overview of budgeting; managerial controls, financial statement analysis, capital budgeting and other long-term decisions, cost models, risk assessment and auditing, among other topics.

Students gain experience with the basic accounting and financial tools supporting the successful management of a nonprofit organization. (Prerequisite: permission of program director.)

BUS 515 Management of Nonprofit Organizations — 3 cr. hrs.

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 program director.)

BUS 517 Marketing for the Nonprofit Organization — 3 cr. hrs.

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 program director.)

BUS 518 Financial Management for the Nonprofit Organization — 3 cr. hrs.

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 program director.)

BUS 519 Program Evaluation: Measuring Outcomes — 3 cr. hrs.

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 program director.)

BUS 520 Applied Marketing Strategies — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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, a basic marketing principles course or its equivalent.)

BUS 530 Corporate Finance — 3 cr. hrs.

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.)

BUS 531 International Finance — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Deals with the exchange of goods, services, and capital across national boundaries. The record of these transactions, the balance of payment accounts, is 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 cr. hrs.

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.)

BUS 537 Applied Financial and Economic Forecasting Methods — 3 cr. hrs.

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 using actual data from the web. (Prerequisite: BUS 501 or equivalent.)

BUS 538 Corporate Financial Strategy: M & A Restructuring — 3 cr. hrs.

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, the nature of information conveyed by financial decisions. (Prerequisite: BUS 530.)

BUS 539 Research Methods in Finance — 3 cr. hrs.

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, 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.)

BUS 540 Systems Analysis and Design — 3 cr. hrs.

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 542.)

BUS 541 Human Resource Management — 3 cr. hrs.

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 Management Information Systems — 3 cr. hrs.

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 543 Decision Modeling — 3 cr. hrs.

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; BUS 542 recommended).

BUS 544 Managing Innovation and Technology — 3 cr. hrs.

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 cr. hrs.

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 505 or equivalent.)

BUS 546 Supply Chain Management — 3 cr. hrs.

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 cr. hrs.

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 500; BUS 505 recommended.)

BUS 548 Operations Management for a Competitive Advantage — 3 cr. hrs.

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. Working knowledge of Excel necessary. (Prerequisite: BUS 500; BUS 505 recommended).

BUS 549 Excel Spreadsheet Modeling — 3 cr. hrs.

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, 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 Health Care Management — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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.)

BUS 554 Health Care Information Systems — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 562 Real Estate Finance — 3 cr. hrs.

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).

BUS 563 Financial Statement Analysis — 3 cr. hrs.

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 506 or equivalent.)

BUS 565 Auditing — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 dispo-

sitions, compensation, employee stock option, international taxation and family tax planning. (Prerequisite: BUS 506 or equivalent).

BUS 570 Social Entrepreneurship — 3 cr. hrs.

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 program director)

BUS 571 New Venture Management — 3 cr. hrs.

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 cr. hrs.

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 Commercialization of Technology — 1 cr. hr.

Explores how to recognize and screen technology opportunities in diverse areas, from e-commerce to information systems, telecommunications, and biotechnology. This course will discuss how to license technology that others have patented and license a student's own technology to others as well as using creative revenue streams. (Prerequisite: TEC program student status.)

BUS 576 External Programs and Networking — 1 cr. hr.

Requires 15 hours of off-campus programs and seminars that will be offered by the growing community of people interested in innovation, entrepreneurship or commercialization of technology in Oregon. The course may also involve interviewing off-campus entrepreneurs or business experts. Additionally, a paper and presentation will be required on the lessons learned through the experience. (Prerequisite: TEC program student status.)

BUS 577 Technology, Entrepreneurship and Law — 3 cr. hrs.

Concentrate 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 Commercialization of Technology — 3 cr. hrs.

Expands on the learning gained through other aspects of the TEC program by going into depth on the concepts and tools necessary to analyze the value of a new technology, create products, and get products to market. Students can expect a useful, hands-on course where they will comprehend the critical issues and learn practical skills and tools for commercializing technologies. (Prerequisite: TEC program student status.)

BUS 579 Technology Practicum — 4 cr. hrs.

Applies skills developed through the TEC program to commercialize an invention. A specific invention is selected by the students and approved by the course instructor. The practicum project will be completed by an individual team with a UP business student and an OHSU student. Each team will have mentors on their project and must spend one academic year developing it. (Prerequisite: TEC program student status.)

BUS 580 Strategic Issues and Applications in Management — 3 cr. hrs.

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 Communications — 3 cr. hrs.

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. (Also listed as CST 581.)

BUS 582 Global Business Law — 3 cr. hrs.

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 583 Graduate Business 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.

Course counts as one credit elective. (Prerequisites: Approval of the M.B.A. director.)

BUS 590 Directed Study — credit arranged

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, MBA director, and dean.)

BUS 591 Seminar — credit arranged

New Venture Funding will examine the process and techniques used in the Venture Capital industry and explore their application to new company formation. Students will 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.

BUS 592 Seminar — credit arranged

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 MBA program.

BUS 598 Nonprofit Organization Field Project — 3 cr. hrs.

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 student's ability to integrate their academic experiences within the practices of the nonprofit sector. (Prerequisite: permission of program director)

Catholic Studies

PCS 320 Anglo-Saxon and Medieval Literature — 3 cr. hrs.

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. (Also listed as ENG 320.)

PCS 330 Dante's Divine Comedy — 3 cr. hrs.

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. (Also ENG 330)

PCS 333 Medieval Europe — 3 cr. hrs.

A broad study of the history of Medieval Europe, from St. Augustine to the Hundred Years' War, with special emphasis on politics and culture. (Also listed as HST 333.)

PCS 334 The Problem of Being — 3 cr. hrs.

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 ontological foundations of logic, and the question of God. (Also listed as PHL 334)

PCS 335 Europe in the Age of Religious War — 3 cr. hrs.

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. (Also listed as HST 335.)

PCS 345 Spain from 1000 to 1700, Medieval and Early Modern Spain — 3 cr. hrs.

This course will examine Spain's long centuries of contact and conflict between Christian and Muslim regions and its expansion abroad as a world power. (Also HST 345)

PCS 354 Colonial Latin America — 3 cr. hrs.

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. (Also listed as HST 354.)

PCS 400 Integrating Seminar in Environmental Studies — 3 cr. hrs.

A project-oriented seminar in which student teams with varying backgrounds in environmental studies develop action plans to deal with regional environmental issues. (Also listed as ENV 400.)

PCS 402 Poets, Prophets, Divas, and Diviners — 3 cr. hrs.

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. (Also listed as THE, SJP 402)

PCS 422 Modern Catholic Ethics — 3 cr. hrs.

Analysis of several contemporary Catholic ethicists, including Curran, O'Connell, Regan, and McCormick, who have influenced the develop-

ment of Catholic ethics. A critical examination of natural law, human freedom, conscience, authority, and the moral and rational capacity. (Also listed as THE 422.)

PCS 425 Catholic Social Teaching: A Living Tradition of Thought and Action — 3 cr. hrs.

The issues of justice from a Catholic perspective as they affect society locally, nationally, and internationally. (Also listed as THE 425, SJP 425)

PCS 426 Comparative Economics — 3 cr. hrs.

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. (Prerequisites: ECN 120 and 121 or the permission of the instructor. Also listed as ECN 426.)

PCS 435 Bioethics — 3 cr. hrs.

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. (Also listed as PHL 435)

PCS 438 The Catholic Mass: Yesterday, Today, and Tomorrow — 3 cr. hrs.

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 devout and active participation by the faithful, and to its significance as source and summit of Christian spirituality in contemporary time and culture. (Also listed as THE 438)

PCS 441 Responding to God: An Introduction to Spiritual Practice — 3 cr. hrs.

Enrich an awareness of the presence and responses to 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. (Also listed as THE 441)

PCS 442 Introduction to Christian Spirituality — 3 cr. hrs.

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 suggests ways of being in right relationships with God, self, others and the natural world within the context of the 21st century. (Also listed as THE 442)

PCS 452 Social Justice Leadership — 3 cr. hrs.

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. (Also listed as SJP 452, PSY 452.)

PCS 453 Religion and Science — 3 cr. hrs.

Historical development of conflicts, especially over the theory of evolution, and the variety of positions presented today by theologians, scientists, and philosophers. (Also listed as THE 453.)

PCS 456 Literary Catholicism — 3 cr. hrs.

This course will explore the Catholic theological tradition, primarily as it finds expression in six novels whose writing is influenced by that tradition. (Also listed as THE 456.)

PCS 459 Theological Themes in Catholic Literature — 3 cr. hrs.

Course will explore the Catholic theological tradition primarily as it finds expression in recent Catholic writing. Examples of subjects to be discussed include Jesus Christ, Revelation, the fall of humanity and the problem of evil, the nature of sacraments, and the implications of faith for personal relationships. (Also listed as THE 459.)

PCS 463 Mystic, Thinker, Teacher: The Life and Work of Augustine of Hippo, 354-430 — 3 cr. hrs.

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. (Also THE 463)

PCS 469 Great Philosophers — 3 cr. hrs.

This course is devoted to an intensive study of the work of a single philosopher. Different philosophers will be featured in different semesters. (Also listed as PHL 469.)

PCS 472 Medieval Philosophy — 3 cr. hrs.

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. Also listed as PHL 472.)

PCS 480 Creating a World-Class Venture — 3 cr. hrs.

Coverage of conceptual entrepreneurial skills needed to create a business that is globally competitive. Emphasis on creation and implementation of a plan for a potential world-class venture. (Open only to Entrepreneur Scholars. Also listed as BUS 480.) Fee: \$3,000.

PCS 482 Theology in Ecological Perspective — 3 cr. hrs.

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. (Also listed as THEP 482, ENV 482)

Chemistry

CHM 7 General Chemistry Workshop — 0 cr. hrs.

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 90-120 minutes each week.

CHM 8 General Chemistry Workshop — 0 cr. hrs.

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 90-120 minutes each week.

CHM 25 Organic Chemistry Workshop — 0 cr. hrs.

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 90 minutes each week.

CHM 26 Organic Chemistry Workshop — 0 cr. hrs.

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 90 minutes each week.

CHM 105 Chemistry in Art — 3 cr. hrs.

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 cr. hrs.

For science and engineering majors. Introduction to stoichiometry, atomic structure, bonding, and reactions. Principles of solution chemistry and chemical thermodynamics included. (Prerequisite or corequisite: 100-level mathematics course or equivalent. May be taken concurrently with CHM 277.)

†CHM 208 General Chemistry II — 3 cr. hrs.

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: CHM 207 or equivalent. May be taken concurrently with CHM 278/279.)

***CHM 277 General Chemistry Laboratory — 1 cr. hr.**

One three-hour laboratory period per week. (Corequisite: CHM 207.) Fee: \$60.

***CHM 278 General Chemistry Laboratory — 1 cr. hr.**

One three-hour laboratory period per week. (Corequisite: CHM 208.) Fee: \$60.

***CHM 279 General and Analytical Chemistry Laboratory — 1 cr. hr.**

Accelerated one three-hour laboratory per week with an emphasis on analytical techniques to include data collection and interpretation. Required for chemistry/biochemistry majors. (Corequisite: CHM 208.) Fee: \$60.

CHM 290 Directed Study — credit arranged

For special lower division study under the direction and with the permission of a staff member. Content and credit to be arranged. Can be repeated.

***CHM 293 Special Chemistry Lab — credit arranged**

For special lower-division laboratory projects. Content and credit to be arranged. Fee: \$60 per credit hour.

CHM 314 Analytical Chemistry — 3 cr. hrs.

Lecture presentation of the principles of wet and instrumental methods and the treatment of

*Protective eye wear required.

†Workshops may be recommended or required.

analytical data. (Prerequisites: CHM 208, CHM 279, or permission of instructor. May be taken concurrently with CHM 379.)

†**CHM 325 Organic Chemistry — 3 cr. hrs.**

The first course in this sequence will allow the student to develop a broad understanding of the theoretical concepts of organic chemistry. Nomenclature, stereochemistry, and substitution/elimination/addition reactions are important components. Spectroscopic techniques for the determination of molecular structure including NMR, IR, UV/vis, and MS are integrated with presented theories. (Prerequisite: CHM 208, Corequisite: CHM 025)

***CHM 326 Organic Chemistry — 3 cr. hrs.**

In the second course in this sequence, synthetic pathways leading to the formation of carbonyl compounds, acids, and acid derivatives will be developed in detail. Molecules of biological importance will be studied using the concepts developed earlier in this sequence. (Prerequisite: CHM 325, Corequisite: CHM 026)

CHM 331 Physical Chemistry I — 3 cr. hrs.

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. (Prerequisites: CHM 208, PHY 205, MTH 202, or permission of instructor.)

CHM 332 Physical Chemistry II — 3 cr. hrs.

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. (Prerequisite: CHM 331 or permission of instructor.)

***CHM 370 Special Chemistry Laboratory — credit arranged**

For special upper-division laboratory projects. Content, credit, and fee to be arranged. (Prerequisite: CHM 326.) Fee: \$60 per credit hour.

***CHM 372 Physical Chemistry Laboratory I — 1 cr. hr.**

Atomic and molecular spectroscopy to illustrate the postulates of quantum mechanics, particle in a box, harmonic oscillator, rigid rotator, and electronic structure of atoms. (Prerequisite: CHM 331.) Fee: \$60.

***CHM 373 Physical Chemistry Laboratory II — 1 cr. hr.**

Experiments designed to investigate thermodynamics with applications to phase equilibria, chemical equilibria, solute-solvent interactions, and electrochemistry. (Prerequisite: CHM 332.) Fee: \$60.

***CHM 375 Organic Chemistry Laboratory — 1 cr. hr.**

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 have the opportunity to modify reactants, reagents, and /or condition for reactions. The student will learn the operation and capabilities of our FT-IR, FT-NMR, and GC-MS instruments. (Corequisite: CHM 325.) Fee: \$60.

***CHM 376 Organic Chemistry Laboratory — 1 cr. hr.**

The mechanism of aromatic electrophilic substitution reactions will be investigated. In this course Green Chemistry and the reproducibility of experimental results are emphasized. Development and completion of a multiple-week, individual project is an important component of this course. (Prerequisite: CHM 375, Corequisite: CHM 326.) Fee: \$60.

***CHM 379 Analytical Chemistry — 1 cr. hr.**

Experiments in quantitative analysis, including wet, spectroscopic, electrochemical, and chromatographic methods. Additional emphasis on statistics, computerized data analysis, and report writing. (Corequisite: CHM 314.) Fee: \$60.

‡**CHM 386 Environmental Chemistry — 3 cr. hrs.**

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. Also listed as ENV 386.)

CHM 387 Service Learning in Chemistry — 1 cr. hr.

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 207-208.)

CHM 390 Directed Study — credit arranged

Credit arranged by student in cooperation with faculty.

CHM 393 Research in Chemistry — credit arranged

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.

*Protective eye wear required.

†Workshops may be recommended or required.

‡Course offered in alternate years.

CHM 412 Advanced Instrumental Methods — 1 cr. hr.

Theory and practice of modern chemical instrumentation. (Prerequisite: CHM 331 or permission of instructor. Corequisite: CHM 472.)

CHM 444 Inorganic Chemistry — 3 cr. hrs.

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 — 3 cr. hrs.

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: CHM 326, or permission of instructor.)

***CHM 464 Polymer Science — 3 cr. hrs.**

A study covering the synthesis, physical properties, fabrication processes, and uses of nonbiological polymers. Specific topics to be discussed are 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 470 Special Chemistry Laboratory — 1 cr. hr.**

For special upper division laboratory projects. Content and credit to be arranged. (Prerequisite: CHM 331.) Fee: \$60 per credit hour.

***CHM 471 Biochemistry Laboratory — 1 cr. hr.**

Techniques include modern methods for separation and quantitation of biological materials, including centrifugation, high pressure liquid chromatography, spectrophotometry, and gel electrophoresis. (Prerequisite or corequisite: CHM 453.) Fee: \$60.

***CHM 472 Advanced Instrumental Techniques — 1 cr. hr.**

A survey of modern instrumentation analysis including the use of spectroscopy, electrochemistry and chromatography for quantitative and qualitative analysis. (Corequisite: CHM 412.) Fee \$60.

***CHM 473 Inorganic Synthesis and Characterization — 1 cr. hr.**

Techniques of inorganic synthesis including nitrogen-vacuum line, drybox, non-aqueous solvents. Methods of purification and characterization. (Prerequisite: CHM 331.) Fee: \$60.

***CHM 477 Digital Data Acquisition and Instrument Control — 1 cr. hr.**

Instruction in electronic circuits and computer programming for use in data acquisition and instrument control. Fee: \$60.

CHM 490 Directed Study — credit arranged

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 — credit arranged

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 in Chemistry — credit arranged

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. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.)

*Protective eye wear required.

†Workshops may be recommended or required.

‡Course offered in alternate years.

Civil Engineering

CE 200 Civil Engineering Seminar — 1 cr. hr.

Survey of the civil engineering profession and its works. Invited speakers, field trips, and projects.

CE 201 Civil Engineering Design Graphics — 2 cr. hrs.

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 cr. hrs.

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 cr. hr.

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. (Corequisite: CE 223.) Fee: \$20.

CE 301 Construction Materials — 0 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 — 2 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Introduction to environmental engineering, concentrating on scientific aspects and how they relate to design and operation of environmental control facilities. Quantitative analysis and description of human and natural environmental disturbances. Topics include materials balance, application of environmental chemistry and microbiology, overview of potable water treatment, pollution control, and surface water quality. (Prerequisites: CHM 207, MTH 202.)

CE 371 Geotechnical Laboratory — 1 cr. hr.

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. (Corequisite: CE 321.) Fee: \$20.

CE 372 Construction Materials Laboratory — 1 cr. hr.

Laboratory experiments with concrete, timber, and steel. Determining strength and stiffness properties of these materials by mechanical testing. (Prerequisite: EGR 322. Corequisite: CE 301.)

CE 376 Environmental Engineering Laboratory — 1 cr. hr.

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. (Prerequisite: ME 311. Corequisite: CE 367.) Fee: \$20.

CE 400 Environmental Engineering Seminar — 1 cr. hr.

An overview of environmental institutions, policies, and regulations.

CE 401 Computational Methods in Civil Engineering — 3 cr. hrs.

Application of computational methods to civil engineering problems. Numerical differentiation and integration. Matrix methods for structural analysis. Solving differential equations with finite difference and variational methods. Analysis of discrete and continuous mechanical systems. (Prerequisite: MTH 301 and MTH 321. Corequisite: CE 351.)

CE 404 Construction Engineering — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 445 Timber Design — 3 cr. hrs.

Analysis and design of structures employing timber beams, columns, and tension members. Design of laminated components, structural diaphragms, shear walls, and connections. Wind and earthquake forces are considered. Design methods are applied in a course project. (Prerequisite: CE 351.)

CE 452 Earthquake Engineering — 3 cr. hrs.

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. (Prerequisites: CE 321, CE 352, MTH 321.)

CE 462 Sustainable Design — 3 cr. hrs.

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 consent of instructor.)

CE 464 Water Resources Engineering — 3 cr. hrs.

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, EGR 360, or consent of instructor.)

CE 466 Water and Wastewater Design — 3 cr. hrs.

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. (Prerequisites: CE 362 and CE 367.)

CE 468 Solid and Hazardous Waste Engineering — 3 cr. hrs.

Introduction to the technology used to manage solid and hazardous wastes and immediate sites contaminated with toxic chemicals, solid waste collection, recycling, refuse derived fuels, and sanitary landfill design. Risk assessment, treatment/storage disposal facility design, remedial investigations and feasibility studies, fate and transport analysis, remediation of contaminated groundwater and soils. (Corequisite: CE 367)

or consent of instructor.)

CE 481 Civil Engineering Senior Design Project I — 2 cr. hrs.

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. (Prerequisite: Senior standing in civil engineering.)

CE 482 Civil Engineering Senior Design Project II — 3 cr. hrs.

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. (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 — credit arranged

CE 492 Seminar — credit arranged

Graduate Courses

CE 504 Construction Engineering — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 Solid and Hazardous Waste Engineering — 3 cr. hrs.

Advanced study in the technology used to manage solid and hazardous wastes and remediate sites contaminated with toxic chemicals. Solid waste collection, recycling, refuse derived fuels, and sanitary landfill design. Preparation of a comprehensive design report encompassing risk assessment, treatment/storage disposal facility design, remedial investigations and feasibility studies, fate and transport analysis, remediation of contaminated groundwater and soils.

CE 590 Directed Study — credit arranged

CE 591 Seminar — credit arranged

CE 592 Seminar — credit arranged

CE 599 Thesis — credit arranged

CE 599X Thesis in Progress — 0 cr. hrs.

Registration for any graduate student who has received the grade of IP in CE 599 is required while the thesis is in progress. Fee: \$40

Communication Studies

CST 100 Persuasion and Leadership — 3 cr. hrs.

This course gives students a framework to understand and improve oral communication abilities essential for leadership responsibilities. The course enhances a student's ability to present ideas in dyads, small groups, and public contexts. Learning goals include improving students' abilities to articulate arguments, evaluate messages evidence, and productively influence discussion and teamwork. (Restricted to first-year students)

CST 101 Introduction to Communication Studies — 3 cr. hrs.

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 cr. hrs.

Theory and practice of oral communication, with special emphasis on issue analysis and argumentation in public communication.

CST 200 University Speech Team — 1 cr. hr.

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 cr. hrs.

Students study theories and pragmatics of interpersonal communication. Topics include perception, culture, language, self-concept, non-verbal messages, conflict, and the formation and maintenance of relationships.

CST 290 Directed Study — credit arranged

CST 297 Practicum — credit arranged

One to three credit hours.

CST 300 Communication Research — 3 cr. hrs.

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 cr. hrs.

Provides students theory and analysis necessary to understand mass media processes and messages as they shape personal, cultural, political, and civic life. History and contemporary development of media forms and processes are investigated.

CST 307 Advanced Public Speaking — 3 cr. hrs.

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 cr. hrs.

Introduces students to theories and concepts of rhetoric useful in understanding and evaluating persuasive public communication. (Prerequisite for CST 435, 440, 445.)

CST 332 Small Group Communication — 3 cr. hrs.

Provides theory and experiences necessary to develop an understanding of group dynamics and the role of communication in building group skills. Emphasizes understanding groups as they are situated in natural contexts. Students apply theories of collaboration, dialogue, principled negotiation and consensus decision making to group process.

CST 333 Organizational Communication — 3 cr. hrs.

Designed to develop and apply oral and written communication skills in organizational settings. Skills such as web page design, conducting and responding to interviews, group decision making, and writing business reports are studied.

CST 352 Writing and Reporting — 3 cr. hrs.

Instruction in news gathering and writing. Includes a variety of assignments such as hard news, speeches, sports, feature subjects, and interviews.

***CST 361 Introduction to Advertising — 3 cr. hrs.**

Study of theory, practical, and ethical aspects of the advertising business. The course includes guest lectures and interviews with professionals. (Prerequisite: CST 352 or concurrent enrollment.)

CST 362 Introduction to Public Relations — 3 cr. hrs.

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 concurrent enrollment.)

CST 363 Journalistic Writing Practicum — 3 cr. hrs.

Instruction and experience in writing for publication. Student's class work will be published in either The Beacon or other publication venues. Course may be repeated one time. (Prerequisite: CST 352.)

***CST 364 Visual Communication — 3 cr. hrs.**

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 — Credit arranged***CST 401 Rhetoric and Politics — 3 cr. hrs.**

Detailed study of the role of political rhetoric and mass media in the formulation of public policy. State and national elections are studied, and students write criticisms of campaign rhetoric and mass media.

***CST 402 Computer-Mediated Communication in Context — 3 cr. hrs.**

This course explores communication implications of on-line interaction in a variety of contexts. Students investigate: problems of doing CMC research, identity in virtual space, creating community on-line, effectiveness of social support in cyberspace, creating and maintaining relationships on-line, computer-supported cooperative work, organizational use of CMC, long-distance learning, and political uses of CMC.

***CST 403 Communication Law — 3 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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. (Also listed as SJP 411.)

CST 416 Negotiation and Conflict Management — 3 cr. hrs.

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. (Also listed as SJP 416.)

***CST 425 Advanced Interpersonal Communication — 3 cr. hrs.**

Investigates the dynamics of human communication in building, maintaining, or altering interpersonal relationships. Particular emphasis is given to family communication.

***CST 431 Intercultural Communication — 3 cr. hrs.**

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. (Also listed as SJP 431.)

CST 433 Organizational Communication — 3 cr. hrs.

Exposes students to theories of organizational communication and to methods used in their application. Emphasis is on solving actual business and organizational communication problems.

CST 434 Examining Organizational Communication in Natural Setting — 3 cr. hrs.

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 cr. hrs.**

Study of mass mediated communication using various critical frameworks, including rhetorical, ideological, semiotic, argumentation, and narrative analysis. (Prerequisite: CST 320.)

***CST 440 Broadcast Criticism — 3 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

Provides instruction about news reporting of public affairs, and covers such areas 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 cr. hrs.**

Surveys various forms of opinion writing. Includes instruction in writing and critiqued written assignments. (Prerequisite: CST 352.)

***CST 464 Feature Writing — 3 cr. hrs.**

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 470 Communication History — 3 cr. hrs.**
 Surveys the development of public communication history. Examines communication as both an institution and as a set of historically grounded social practices. Includes a research component in which students conduct historical research using primary sources.

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 cr. hrs.

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 cr. hrs.

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. (Also listed as THEP 483)

CST 490 Directed Study — credit arranged

CST 491 Seminar — credit arranged

CST 492 Seminar — credit arranged

CST 495 Workshop — credit arranged

CST 496 Workshop — 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. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.)

Graduate Courses

CST 500 Research and Writing — 3 cr. hrs.

Introduction to methods and findings of critical, analytical, qualitative, and quantitative research and techniques of preparing graduate-level research papers.

***CST 501 Rhetoric and Politics — 3 cr. hrs.**

Detailed study of the role of political rhetoric and media in the formulation of public policy. State and national elections are studied, and students write criticisms of campaign rhetoric and media coverage.

***CST 502 Computer-Mediated Communication in Context — 3 cr. hrs.**

This course explores communication implications of on-line interaction in a variety of contexts. Students investigate problems of doing research in CMC, identity in virtual space, creating community on-line, effectiveness of social support in cyberspace, creating and maintenance of relationships on-line, computer-supported cooperative work, organizational use of CMC, long-distance learning, and political uses of CMC.

CST 503 Communication Law — 3 cr. hrs.

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.

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 cr. hrs.

Introduces students to theories and concepts of rhetoric useful in understanding and evaluating persuasive communication.

***CST 525 Advanced Interpersonal Communication — 3 cr. hrs.**

Investigates the dynamics of human communication in building, maintaining, or altering interpersonal relationships. Particular emphasis is given to family communication.

***CST 531 Intercultural Communication — 3 cr. hrs.**

Course provides an introduction to the dynam-

ics 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 Organizational Communication Theory — 3 cr. hrs.

Exposes students to theories of organizational communication and to methods used in their application. Emphasis is on solving actual business and organizational communication problems.

***CST 534 Examining Organizational Communication in Natural Settings — 3 cr. hrs.**

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 cr. hrs.**

Study of mass media communication using various critical frameworks, including rhetorical, ideological, semiotic, argumentation, narrative analysis.

***CST 540 Broadcast Criticism — 3 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

Surveys various forms of opinion writing. Includes instruction in writing and critiqued written assignments.

***CST 564 Feature Writing — 3 cr. hrs.**

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 570 Communication History — 3 cr. hrs.**

Surveys the historical development of mass communication in the United States from the colonial period through the mid-twentieth century. Examines mass communication as an institution and as a set of historically grounded social practices. Several interpretive historical perspectives are examined. Students will generate, develop and conduct a unique historical research project using primary sources.

CST 574 Graduate Internship — 3 cr. hrs.

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 cr. hrs.

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. (Also listed as BUS 581.)

CST 590 Directed Study — credit arranged

CST 591 Seminar — credit arranged

CST 592 Seminar — 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 Workshops — credit arranged

CST 599 Thesis — credit arranged

3-6 cr. hrs., 1 or 2 semesters.

CST 599X Thesis in Progress — 0 cr. hrs.

Registration for any graduate student who has received the grade of IP in Thesis 599 is required while the thesis is in progress. Fee: \$40.

Computer Science

CS 201 Introduction to Scientific Programming — 1 cr. hr.

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 Computer Science I — 3 cr. hrs.

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 204 Computer Science II — 3 cr. hrs.

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 274.)

CS 273 Computer Science Laboratory I — 1 cr. hr.

Weekly three-hour laboratory to support CS 203. (Corequisite: CS 203.)

CS 274 Computer Science Laboratory II — 1 cr. hr.

Weekly three-hour laboratory to support CS 204. (Corequisite: CS 204.)

CS 290 Directed Study — credit arranged

CS 303 Data Structures I — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 373 Data Structures Laboratory — 1 cr. hr.

Weekly 3-hour laboratory to support CS 303. Use of software tools and data structures to support software development (UNIX operating system). (Prerequisite or corequisite: CS 303.)

CS 374 Computing Systems Laboratory — 1 cr. hr.

Weekly 3-hour laboratory. Assembly language and systems programming. (Prerequisite: CS 303.)

CS 382 Advanced Programming Techniques — 1 cr. hr.

The course focuses on developing and practicing techniques for rapid programming in a small team environment: approaches to prob-

lem 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 or corequisite: CS 303.)

CS 400 Seminar — 2 cr. hrs.

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 cr. hrs.

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. (Prerequisites: CS 304, MTH 311, and MTH 461.)

***CS 421 Artificial Intelligence — 3 cr. hrs.**

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 or corequisite: CS 304.)

CS 423 Computational Biology — 3 cr. hrs.

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. (Prerequisites: MTH 201, CS 303. Also listed as BIO 423.)

***CS 432 Computer Graphics — 3 cr. hrs.**

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 spring of even-numbered years. (Prerequisites: MTH 201 and CS 303.)

***CS 434 Database Management Systems — 3 cr. hrs.**

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 or corequisite: CS 304.)

CS 441 Software Engineering — 3 cr. hrs.

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 cr. hrs.**

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 Internet-working — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.**

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 or corequisite: CS 304. Prerequisite: CS 421.)

***CS 448 Computer Systems Security — 3 cr. hrs.**

Cryptography, program security, security in operating systems, security in computer networks, security administration and policies. Course is taught in fall of even-numbered years. (Prerequisite: CS 303.)

CS 451 Theory of Computation — 3 cr. hrs.

Introduction to finite automata, Turing machines, formal languages, and computability. (Prerequisites: CS 203 and MTH 311.)

CS 452 Compiler Design — 3 cr. hrs.

Lexical analysis, syntactic analysis, type checking, and code generation. Introduction to optimization. (Prerequisites: CS 304, CS 374, and CS 451.)

CS 480 Senior Design Project Preparation — 3 cr. hrs.

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. (Prerequisite: Senior standing.)

CS 481 Senior Design Project — 3 cr. hrs.

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. (Prerequisite: CS 480.)

CS 490 Directed Study — credit arranged**CS 491 Seminar — credit arranged****CS 492 Seminar — credit arranged****CS 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. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area or good standing in the honors program.)

Graduate Courses**CS 500 Seminar — 2 cr. hrs.**

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 cr. hrs.

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 cr. hrs.**

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 cr. hrs.

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 cr. hrs.**

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 spring of even-numbered years.

***CS 534 Database Management Systems — 3 cr. hrs.**

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 cr. hrs.

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 cr. hrs.**

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 Internet-working — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.**

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 cr. hrs.**

Cryptography, program security, security in operating systems, security in computer networks, security administration and policies. Course is taught in fall of even-numbered years.

CS 551 Theory of Computation — 3 cr. hrs.

Introduction to finite automata, Turing machines, formal languages, and computability.

CS 552 Compiler Design — 3 cr. hrs.

Lexical analysis, syntactic analysis, type checking, and code generation. Introduction to optimization.

CS 590 Directed Study — credit arranged**CS 591 Seminar — credit arranged****CS 592 Seminar — credit arranged**

Dance

DNC 214 Jazz Dance — 2 cr. hrs.

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 cr. hrs.

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 — 2 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Continuation of Ballet I. May be repeated for a maximum of 6 credit hours. May not be audited.

Drama

DRM 210 Introduction to Theatre — 3 cr. hrs.

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 cr. hr.

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 cr. hrs.

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, Brook, Schechner, Robert Edmond Jones, Lee Simonson, Grotowski, Brecht, and others.

DRM 321 Acting Workshop — 3 cr. hrs.

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 cr. hrs.

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 325.)

DRM 325 Acting for Non-Majors — 3 cr. hrs.

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 the Theatre — 3 cr. hrs.**

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 the Stage — 3 cr. hrs.

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 325.)

DRM 337 Stage Combat/Movement for the Actor — 3 cr. hrs.

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 cr. hrs.**

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 cr. hrs.

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.

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 cr. hr.

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.

DRM 373 Management Practicum II — 1 cr. hr.

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.

First of a rotating series of upper-division acting courses. Course focuses on a variety of dramatic styles. Students will perform monologues and scenes from Greek plays as well as those of the English Renaissance, French Neoclassic period, and English Restoration. (Prerequisite: DRM 322.)

DRM 424 Graduate Preparation Workshop — 1 cr. hr.

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 Stage and Screen Writing — 3 cr. hrs.**

Study of the aesthetics and techniques involved in the written dramatic form for stage, video, and film production. Emphasis upon writing, workshop critiques, and discussion of student's plays and screenplays.

DRM 437 Audition Techniques — 3 cr. hrs.

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 — 1 cr. hr.**

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 both the educational, community and professional theatre. (Prerequisite: DRM 350 or permission of instructor.)

***DRM 451 Advanced Stage Lighting and Sound — 3 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.

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. (Also listed as MUS 455.)

***DRM 456 Decorative Arts for the Stage — 3 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.

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 — credit arranged

DRM 492 Seminar — credit arranged

DRM 493 Research — credit arranged

DRM 494 Research — credit arranged

DRM 495 Workshop — credit arranged

DRM 496 Workshop — credit arranged

DRM 497 Internship — credit arranged

DRM 498 Senior Capstone Project — 3 cr. hrs.

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. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.)

Graduate Courses

DRM 500 Research Techniques in the Performing Arts — 3 cr. hrs.

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. (Also listed as MUS 500.)

DRM 507 Survey of Theatre History I — 3 cr. hrs.

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 cr. hrs.**

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 cr. hrs.**

Study of selected theories of dramatic criticism from Aristotle to the present.

DRM 522 Advanced Acting — 3 cr. hrs.

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

This advanced course is designed to include lectures and practical experience in directorial techniques.

DRM 537 Advanced Directing Seminar — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 — credit arranged

Students in the final year of the program will be assigned to a professional theatre company where they will gain work experience in their specialization as assistant directors or stage managers. Total hours of internship will determine level of credit.

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 — credit arranged**DRM 592 Seminar — credit arranged****DRM 593 Research — credit arranged****DRM 594 Research — credit arranged****DRM 595 Drama Workshop — credit arranged****DRM 596 Drama Workshop — credit arranged****DRM 597 Internship — credit arranged****DRM 598 Thesis Production — 3 cr. hrs.**

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 cr. hrs.

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.)

DRM 599X Thesis in Progress — 0 cr. hrs.

Registration for any graduate student who has received the grade of IP in Thesis 599 is required while the thesis is in progress. Fee: \$40.

Economics

†ECN 120 Principles of Macroeconomics — 3 cr. hrs.

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 cr. hrs.

Analyzes the behavior of consumers, workers, and firms in market economies. Examines issues in the context of both competitive and

*Course offered in alternate years.

†Required of all undergraduate B.B.A. majors in business.

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 220 Statistics for Business — 3 cr. hrs.

Covers topics relevant to understanding business statistics as well as carrying out independent research. Topics include descriptive statistics, probability distributions, hypothesis testing, and regression analysis. (Prerequisite: MTH 141.)

ECN 310 Econometrics — 3 cr. hrs.

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. (Prerequisites: ECN 120, ECN 121, MTH 121 and ECN 220 or MTH 161.)

ECN 319 Intermediate Microeconomics — 3 cr. hrs.

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. (Prerequisites: ECN 120, ECN 121, MTH 121, and ECN 220 or MTH 161.)

ECN 320 Intermediate Macroeconomics — 3 cr. hrs.

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. (Prerequisites: ECN 120, ECN 121.)

ECN 322 Environmental Economics — 3 cr. hrs.

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 420 Industrial Organization — 3 cr. hrs.

Analyzes the structure and conduct of American industry, with special focus on government's role, for example in enforcing antitrust law. Examines the evolution of present-day industrial structure and the possible consequences of market power for pricing, output decisions, profits, innovation, and efficiency. (Prerequisites: ECN 120 and ECN 121 or the

permission of instructor.)

ECN 424 Income Inequality — 3 cr. hrs.

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. (Prerequisites: ECN 121 or the permission of instructor. Also listed as SJP 424.)

ECN 426 Comparative Economics — 3 cr. hrs.

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. (Prerequisites: ECN 120 and ECN 121 or the permission of the instructor. Also listed as PCS 426.)

ECN 427 Sports Economics — 3 cr. hrs.

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. (Prerequisites: ECN 120, ECN 121.)

ECN 428 Public Finance — 3 cr. hrs.

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, and the incidence of taxes. Also includes an analysis of the effects of government resource allocation on private sector decisions. (Prerequisites: ECN 120, 121)

ECN 429 Development Economics — 3 cr. hrs.

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). (Prerequisites: ECN 120, ECN 121)

ECN 431 Financial Markets and Institutions — 3 cr. hrs.

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 or BUS 305. BUS 330 is recommended. Also listed as BUS 431.)

ECN 440 International Economics — 3 cr. hrs.

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. (Prerequisites: ECN 120, ECN 121, and ECN 220 or 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. (Prerequisites: Senior and 3.0 G.P.A. in the thesis area or good standing in the honors program.)

Education

ED 150 Introduction to Education — 3 cr. hrs.

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 students observe and assist PK-12 teachers. (Prerequisite: fingerprint clearance.)

ED 230 ECE/ELEM Human Development — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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.

ED 301 MS/HS Psychology of Learning — 3 cr. hrs.

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.

ED 320 Foundations of Education — 3 cr. hrs.

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. (Also listed as SJP 320. Prerequisite: Fingerprint clearance)

ED 330 Policies and Practices for Diverse Learners — 3 cr. hrs.

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 387 Service Learning in Reading — 1 cr. hr.

This seminar supports candidates as they work in early childhood and elementary classrooms in the America Reads program. Candidates will

discuss questioning strategies, ways to facilitate group work, how to deal with problems in the classroom, and learn how to interact with early childhood and elementary students. This is a pass/no pass course. May be repeated for credit.

ED 391 Seminar — credit arranged

ED 400 ECE/ELEM Curriculum and Instruction — 3 cr. hrs.

The course is designed to introduce future teachers to an overview of early childhood/elementary school curriculum, instruction, and assessment. Students 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. (Prerequisites: ED 230, ED 320, and fingerprint clearance)

ED 403 Language and Communication: Support and Strategies — 3 cr. hrs.

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. (Prerequisites: ED 330 or ED 502.)

ED 404 School, Parent, and Community Relations — 3 cr. hrs.

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 cr. hrs.

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. (Prerequisites: ED 330 or ED 502.)

ED 406 Academic Assessment: Curriculum and Instruction for Diverse Learners — 3 cr. hrs.

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. (Prerequisites: ED 330 or ED 502 and fingerprint clearance.)

ED 408 Functional Assessment: Curriculum and Instruction for Diverse Learners — 3 cr. hrs.

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. (Prerequisites: ED 330 or ED 502 and fingerprint clearance).

ED 409 Methods and Materials for Teaching ESOL — 3 cr. hrs.

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 cr. hrs.

Examines and applies the major concepts, theories, and research related to the nature and acquisition of language. 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. (Also listed as ENG 410)

ED 411 Assessment — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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. (Prerequisites: ED 300, ED 330 or concurrent, and fingerprint clearance)

ED 427 MS/HS Classroom Relationships and Management — 3 cr. hrs.

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. (Prerequisites: ED 300, ED 330 or concurrent, and fingerprint clearance).

ED 442 ECE/ELEM Reading and Language Arts Methods — 3 cr. hrs.

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. (Prerequisites: ED 400, and fingerprint clearance).

ED 445 ECE/ELEM Mathematics and Science Methods — 3 cr. hrs.

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. (Prerequisites: ED 400, ED 426, ED 442 and fingerprint clearance.)

ED 447 Fostering Creativity in the Classroom — 3 cr. hrs.

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. (Prerequisites: ED 400, ED 426, ED 442, FA 207 and fingerprint clearance)

ED 450 Models of Teaching and Literacy Development — 3 cr. hrs.

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. (Prerequisites: ED 231, ED 301, ED 320, ED 330, and fingerprint clearance)

ED 452 MS/HS Content Methods: Language Arts — 3 cr. hrs.

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. (Prerequisites: ED 231, ED 301, ED 320, ED 330, ED 427, ED 450, and fingerprint clearance).

ED 453 MS/HS Content Methods: Math — 3 cr. hrs.

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. (Prerequisites: ED 231, ED 301, ED 320, ED 330, ED 427, ED 450, and fingerprint clearance)

ED 454 MS/HS Content Methods: World Language — 3 cr. hrs.

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. (Prerequisites: ED 231, ED 301, ED 320, ED 330, ED 427, ED 450, and fingerprint clearance).

ED 456 MS/HS Content Methods: Social Studies — 3 cr. hrs.

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. (Prerequisites: ED 231, ED 301, ED 320, ED 330, ED 427, ED 450 and fingerprint clearance.)

ED 457 MS/HS Content Methods: Science — 3 cr. hrs.

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. (Prerequisites: ED 450 and fingerprint clearance.)

ED 464 Reading Practicum PK-12 — 3 cr. hrs.

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.

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 cr. hrs.

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.

ED 469 ESOL Practicum PK-12 — 3 cr. hrs.

ED 469/569 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.

ED 470 ECE/ELEM Student Teaching — 3 cr. hrs.

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. (Prerequisites: ED 400, ED 426, ED 442.)

ED 471 MS/HS Student Teaching — 3 cr. hrs.

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. (Prerequisites: ED 427, ED 450.)

ED 472 ECE/ELEM Student Teaching — 3 cr. hrs.

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 cr. hrs.

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. (Prerequisites: ED 471.)

ED 475 MS/HS Student Teaching Advanced — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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. (Prerequisites: ED 442 or ED 450, and permission of instructor.)

ED 481 Reading, Language, and Cultural Diversity in Schools — 3 cr. hrs.

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 cr. hrs.
Reviews current theory, knowledge and practice of reading and written communication for students in 4-12 classrooms. 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 cr. hrs.

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. (Prerequisites: ED 480, ED 450 or ED 442, permission of instructor, and fingerprint clearance).

ED 486 MS/HS Seminar for Student Teachers — 3 cr. hrs.

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 cr. hrs.

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 — credit arranged

ED 491 Seminar — credit arranged

ED 492 Seminar — credit arranged

ED 495 Workshop — credit arranged

ED 496 Workshop — 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. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area or good standing in the honors program.)

Graduate Courses

ED 502 Policies and Practices for Diverse Learners — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Emphasizes developing knowledge, understanding, and communication skills to discover and apply the resources of communities and families to meet the needs of students in their classroom and school. 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 cr. hrs.

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. (Prerequisites: ED 330 or ED 502.)

ED 506 Academic Assessments: Curriculum and Instruction for Diverse Learners — 3 cr. hrs.

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. (Prerequisites: ED 330 or ED 502 and fingerprint clearance.)

ED 508 Functional Assessments: Curriculum and Instruction for Diverse Learners — 3 cr. hrs.

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. (Prerequisites: ED 330 or ED 502 and fingerprint clearance.)

ED 509 Methods and Materials for Teaching ESOL — 3 cr. hrs.

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 cr. hrs.

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. (Also listed as ENG 510).

ED 514 Children's and Adolescent Literature and Library — 3 cr. hrs.

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 motivation and teaching through print and technological media.

ED 515 Readings in Education Administration — credit arranged

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 — credit arranged

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 and Educational Technology — 3 cr. hrs.

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 cr. hrs.

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 530 Dimensions of Education — 3 cr. hrs.

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 cr. hrs.

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 Assessment and Evaluation in Inclusive Classrooms — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 — 3 cr. hrs.

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 cr. hrs.

Examines educational research (both qualitative and quantitative) and statistical methods in light of current research on effective teaching, school practices, and data-driven decision mak-

ing. 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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 and Management — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Offers opportunities for life-long learning by developing personal understanding and mastery as a reflective practitioner and teacher leader. Candidates make explicit their values,

goals, and preferred learning/leadership/teaching styles in order to deepen their knowledge of students. As a final outcome, candidates develop a personal and professional plan to guide their growth which applies theory to practice.

ED 551 Social and Cultural Foundations — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 562 Professional Development Process: Portfolio — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Practicum is a supervised field experience that provides opportunities for students to meet pro-

fessional competencies as recommended by the state and national organizations. Prior approval by Reading Faculty Advisor. Fee \$55 per credit.

ED 565 Teacher Internship — 3 cr. hrs.

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 — 1 cr. hr.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 The Teacher as Leader: Challenges and Opportunities — 3 cr. hrs.

Develops new understandings about the role of teacher as constructivist leader in today's schools. This keystone course focuses on new role opportunities and expectations for teachers as participatory decision-makers in school-based change initiatives. Using their schools as laboratories, teacher leaders test assumptions and develop a professional theory-of-action for their roles as emerging teacher leaders.

ED 575 Transforming Schools and Systemic Change — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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. (Prerequisites: ED 442/450 or ED 535, and permission of instructor.)

ED 581 Reading, Language, and Cultural Diversity in Schools — 3 cr. hrs.

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 cr. hrs.

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 PK-12 — 3 cr. hrs.

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. (Prerequisites: ED 480 or ED 580, or ED 442, permission of instructor, and fingerprint clearance.)

ED 584 Administration and Evaluation of Reading Programs — 3 cr. hrs.

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. (Prerequisites: ED 4/580, ED 4/581, ED 4/583, and instructor permission.)

ED 585 – Neuroscience and Learning

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 – Cognitive Process in Learning

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-Bio Aspects of Learning

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

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 – Neuroed Translational Research

Participants are expected to spend a minimum 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 — credit arranged

ED 591 Seminar — credit arranged

ED 592 Seminar — credit arranged

ED 595 Workshop — credit arranged

ED 596 Workshop — credit arranged

ED 598 MED Capstone Project — 3 cr. hrs.

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.

ED 599X Thesis in Progress — 0 cr. hrs.

Registration for any candidate who has received the grade of IP in Thesis 599 is required while the thesis is in progress. Fee: \$40.

Electrical Engineering

EE 111 Introduction to Multimedia Processing — 2 cr. hrs.

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 or corequisite: MTH 201.)

EE 231 Logic Design — 3 cr. hrs.

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 cr. hrs.

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 or corequisite: MTH 202, PHY 205. Corequisite: EE 271.)

EE 262 Signals and Systems — 3 cr. hrs.

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 cr. hr.

Measurement experience with a variety of basic electrical instruments. The student engineer will verify many of the principles of electrical circuit theory. (Corequisite: EE 261.) Fee: \$20.

EE 301 Electromagnetic Fields — 3 cr. hrs.

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. (Prerequisites: EE 261, MTH 301, PHY 205.)

EE 332 Digital Systems Design — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Basic concepts of electronic circuit analysis and design. Physical operation and modeling of diodes, Bipolar Junction Transistors and MOS-FETs. 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 cr. hrs.

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 cr. hr.

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. (Corequisite: EE 352) Fee: \$20.

EE 373 Digital Logic Laboratory — 1 cr. hr.

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. (Corequisite: EE 332.) Fee: \$20.

EE 402 Microwave and Optical Transmission — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 or corequisite: EE 351.)

EE 424 Power System Applications — 3 cr. hrs.

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 cr. hrs.

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 through laboratory assignments. (Prerequisite: EE 333)

EE 434 ASIC Design — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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. (Prerequisites: EE 333)

EE 438 Introduction to Digital VLSI Design — 3 cr. hrs.

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. (Prerequisites: EE 231 and EE 351.)

EE 439 Microprocessor System Design — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Analysis and design of advanced MOS analog electronic circuits. Topics include advances 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 cr. hrs.

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 cr. hrs.

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. (Prerequisite: Senior standing.)

EE 481 Senior Design Project — 3 cr. hrs.

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. (Prerequisite: EE 480)

EE 490 Directed Study — credit arranged

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 — credit arranged**EE 492 Seminar — credit arranged****Graduate Courses****EE 502 Microwave and Optical Transmission — 3 cr. hrs.**

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 Communications — 3 cr. hrs.

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 through laboratory assignments.

EE 534 ASIC Design — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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.

EE 537 Advanced Computer Architecture — 3 cr. hrs.

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.

EE 538 Introduction to Digital VLSI Design — 3 cr. hrs.

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.

EE 539 Microprocessor System Design — 3 cr. hrs.

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.

EE 543 Computer Vision — 3 cr. hrs.

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.

EE 551 Advanced Analog Electronics — 3 cr. hrs.

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 cr. hrs.

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 — credit arranged**EE 591 Seminar — credit arranged****EE 592 Seminar — credit arranged****EE 599 Thesis — credit arranged****EE 599X Thesis in Progress — 0 cr. hrs.**

Registration for any graduate student who has received the grade of IP in EE 599 is required while the thesis is in progress. Fee: \$40.

Engineering

EGR 110 Introduction to Engineering — 2 cr. hrs.

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: \$20.

EGR 211 Engineering Mechanics-Statics — 3 cr. hrs.

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. (Prerequisites: MTH 201, PHY 204.)

EGR 212 Engineering Mechanics-Dynamics — 3 cr. hrs.

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. (Prerequisites: MTH 202, EGR 211.)

EGR 213 Introduction to Dynamics — 1 cr. hr.

Mathematical description of the motion of bodies. Introduction of kinematics without considering applied forces. (Prerequisite: EGR 211.)

EGR 221 Materials Science — 3 cr. hrs.

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 cr. hr.

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. (Prerequisite: EGR 221.) Fee: \$20.

EGR 322 Strength of Materials — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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. (Prerequisites: EGR 221, EGR 322)

EGR 425 Welding Engineering — 3 cr. hrs.

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 cr. hrs.

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. (Prerequisite: Senior standing in Engineering Management.)

EGR 482 Capstone Project II — 2 cr. hrs.

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. (Prerequisite: Senior standing in Engineering Management.)

EGR 490 Directed Study — credit arranged
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 — credit arranged

EGR 492 Seminar — credit arranged

EGR 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. (Prerequisites: 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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 — credit arranged

EGR 591 Seminar — credit arranged

EGR 592 Seminar — credit arranged

English

ENG 101 English as a Second Language for Foreign Students: Advanced — 3 cr. hrs.

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 cr. hrs.

Course aimed at the 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. (Prerequisites: ENG 101 for students who need this preparatory course.)

ENG 112 Introduction to Literature — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Elements of poetry for beginning and intermediate 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.

ENG 309 Writing Workshop: Fiction — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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. (Also PCS 330)

ENG 337 Modern World Novel — 3 cr. hrs.

Examination of the remarkable achievement in form as well as the modernist search for meaning in great world novelists like Conrad, Hesse, Camus, Faulkner, Achebe, Joyce, Kazantzakis, Solzhenitsyn, Mishima.

ENG 338 Modern World Drama — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 1800-1830 — 3 cr. hrs.

Works of Wordsworth, Coleridge, Byron, 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 cr. hrs.

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 — 3 cr. hrs.

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 350 History and Politics in Fiction — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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.

ENG 356 American Literature 1914-1945 — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Study of British and American authors from Wordsworth to Lewis Thomas who have celebrated, defended, and popularized themes and subjects from nature and natural history.

ENG 370 American Women Writers — 3 cr. hrs.

A survey of women writers from America's beginnings to present day with attention to the historical and social context of writers and works.

ENG 372 Multi-Ethnic American Literature — 3 cr. hrs.

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 cr. hrs.

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 380 Empire, Colonialism, and Independence: Postcolonial Literature and Culture — 3 cr. hrs.

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. (Also listed as SJP 380.)

ENG 420 Otherness in Early British Literature (1000-1700) — 3 cr. hrs.

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 cr. hrs.

The impact of language on human life, especially its importance in creating and sustaining peace or violence. Works of contemporary writers. (Also listed as SJP 430.)

ENG 447 British Literature since 1945 — 3 cr. hrs.

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 460 Contemporary American Poetry — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 482 Modernism in British Fiction — 3 cr. hrs.

A selection of novels and short stories by major authors from the period 1900-1930, including Conrad, Forster, Ford, Lawrence, Mansfield, Woolf, Bowen, and Rhys.

ENG 493 Research — credit arranged

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 — credit arranged

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 — 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. The Senior Thesis is taken in conjunction with an approved upper division English class. Requires approval of thesis director, department chair, dean, and the director of the honors program, when appropriate. (Prerequisites: Senior standing; good standing.)

Environmental Science

ENV 110 Earth Systems Science — 3 cr. hrs.

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 (no prerequisites).

ENV 111 Natural Hazards in the Pacific Northwest — 3 cr. hrs.

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 (no prerequisites).

ENV 162 Introduction to Oceanography — 3 cr. hrs.

Survey of the world's oceans in terms of chemical, physical, and geological principles, and examples of marine habitats (no prerequisites).

ENV 182 Environmental Science — 3 cr. hrs.

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 (no prerequisites).

ENV 349 Environmental Policy — 3 cr. hrs.

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. (Also listed as SJP 349, POL 349).

ENV 383 Environmental Geoscience — 3 cr. hrs.

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 cr. hrs.

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. (Also listed as BIO 384).

ENV 385 Environmental Microbiology — 3 cr. hrs.

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. (Prerequisites: CHM 207-208. Also listed as BIO 385.)

ENV 386 Environmental Chemistry — 3 cr. hrs.

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. Also listed as CHM 386.)

ENV 387 Environmental Laboratory — 1 cr. hr.

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 cr. hrs.

A project-oriented seminar in which student teams with varying backgrounds in environmental studies develop action plans to deal with regional environmental issues. (Also listed as PCS 400.)

ENV 482 Theology in Ecological Perspective — 3 cr. hrs.

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. (Also listed as THEP 482, PCS 482)

ENV 493 Environmental Research — credit arranged

Faculty-directed student research. Before enrolling, a student must consult with an environmental studies faculty member to define the project.

ENV 497 Environmental Internship — credit arranged

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 Sustainability — 3 cr. hrs.**

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.

Fine Arts**FA 125 Basic Design — 3 cr. hrs.**

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 cr. hrs.

Western culture through the study of art forms from Roman-Hellenistic times to the Renaissance. (Salzburg only.)

FA 207 Introduction to Fine Arts — 3 cr. hrs.

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 cr. hrs.

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 cr. hr.

Students will develop one roll of BW film, make a contact sheet, and at least two 8x10 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. (Corequisite: FA 215) Fee: \$75.00

FA 226 Painting I — 2 cr. hrs.

Studio supervision in basic design and painting techniques. Class is conducted by a series of seminar conferences and projects with the requirement of a terminal creative project. Students are expected to provide all necessary materials. May not be audited.

FA 228 Ceramics I — 2 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Western culture through the study of art forms from the Renaissance to the twentieth century. (Salzburg only.)

FA 307 The Arts in Portland — 3 cr. hrs.

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. Course Fee: \$100.

FA 315 Black and White Photography II — 3 cr. hrs.

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. (Prerequisites: FA 215 and FA 216 or permission of instructor.) Fee: \$75.00

FA 317 Creative Photography — 3 cr. hrs.

Students will learn a range of alternative photographic processes and equipment, such as pin-hole and Holga cameras and cyanotypes. May be repeated for a maximum of 6 credit hours. May not be audited. (Prerequisites: FA 215 and FA 216 or permission of instructor.) Fee: \$75.00

FA 318 Digital Photography — 2 cr. hrs.

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 6 credits. Fee \$75.

FA 325 3-D Design — 3 cr. hrs.

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 cr. hrs.

Studio supervision in advanced design and painting techniques. Class is conducted by a series of seminar conferences and projects with the requirement of a terminal creative project. 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 cr. hrs.

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. (Prerequisite: FA 228 or equivalent, or permission of instructor.) Fee: \$20.

FA 343 Drawing II — 2 cr. hrs.

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 cr. hrs.

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. (Prerequisite: FA 242 or permission of instructor.) Fee: \$40.

FA 345 Sculpture II: Stone Carving — 2 cr. hrs.

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. (Prerequisite: FA 244 or permission of instructor.) Fee: \$30.

FA 346 Printmaking — 2 cr. hrs.

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 cr. hrs.

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. No prerequisite.

FA 351 Art History II — 3 cr. hrs.

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.

French

FRN 101 Elementary French — 3 cr. hrs.

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 cr. hrs.

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 201 Intermediate French — 3 cr. hrs.

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.)

FRN 202 Intermediate French — 3 cr. hrs.

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.)

***FRN 205 Accelerated Intermediate French — 6 cr. hrs.**

This intensive course which substitutes for FRN 201 and 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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 497 French Internship — credit arranged

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.

Geography

GEO 301 Cultural Geography — 3 cr. hrs.

A survey of global cultures and interrelationships between environment and culture. Focus on language, religion, migrations, and cultural transformation in an increasingly interdependent world. (Also listed as SJP 301.)

German

GRM 100 Conversational German — 3 cr. hrs.

Conversationally oriented program intended especially for students going on to the Salzburg program, but open to anyone who has not studied German before.

GRM 101 Elementary German — 3 cr. hrs.

Acquisition of vocabulary and structures necessary to execute basic communicative tasks. One additional hour per week of lab work in the Language Learning Center required.

GRM 102 Elementary German — 3 cr. hrs.

Acquisition of vocabulary and structures necessary to execute basic communicative tasks. One additional hour per week of lab work in the Language Learning Center required.

GRM 105 Accelerated Elementary German — 6 cr. hrs.

This class provides students with the opportunity to learn a full year of German in six weeks 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 going to Salzburg who did not take German 101-102.

GRM 113 Advanced Elementary German — 3 cr. hrs.

Continued development of vocabulary, structures, and speaking strategies, partially through cultural assignments in Salzburg. (Prerequisite: GRM 100 or equivalent. Salzburg only.)

GRM 114 Advanced Elementary German — 3 cr. hrs.

Continued development of vocabulary, structures, and speaking strategies, partially through cultural assignments in Salzburg. (Prerequisite: GRM 100 or equivalent. Salzburg only.)

GRM 201 Intermediate German — 3 cr. hrs.

Review and further development of proficiency

skills. One additional hour per week of lab work in the Language Learning Center required.

(Prerequisite: Full year of college German, two years of high school German, or equivalent.)

GRM 202 Intermediate German — 3 cr. hrs.

Review and further development of proficiency skills. One additional hour per week of lab work in the Language Learning Center required.

(Prerequisite: Full year of college German, two years of high school German, or equivalent.)

GRM 207 Accelerated Intermediate German — 6 cr. hrs.

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 additional opportunities for immersion in German and Germanic culture in

GRM 290 Directed Study — Credit Arranged

GRM 301 German Conversation and Composition — 3 cr. hrs.

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 cr. hrs.

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 303 Introduction to German Cultural Studies: Contemporary German Identity — 3 cr. hrs.

Examines the social and cultural developments, which frame the ongoing discussion concerning German identity in modern German-speaking countries through the lenses of various disciplines such as literature, history, politics, the arts, and media. Topics may include national identity, unity, globalization, German language in the world, and Germanness outside of Germany.

GRM 304 Contemporary German Culture — 3 cr. hrs.

Examines the social and cultural developments in contemporary German-speaking countries via media (e.g. newspapers, online environments, popular music, current film). Emphasis will be placed on synthesizing and analyzing media to arrive at a reading of German-speaking cultures in context, which examines all levels of cultural production.

GRM 311 Advanced Composition and Conversation — 3 cr. hrs.

This course is designed for students studying during the academic year in Salzburg, Austria, who have completed the equivalent of at least four semesters of beginning and intermediate German. Students will focus primarily on increasing the proficiency of their receptive and productive skills in German language. The content of the course will focus primarily on Austrian daily life and customs, allowing students to engage with the local culture as an important means of increasing their cultural and language proficiency in German.

GRM 312 The Austrian Image: Dream or Reality? — 3 cr. hrs.

Analysis of contemporary literature, film, and music will help students to understand how Austria's cultural history defines its present.

GRM 403 Survey of 20th-Century German Literature — 3 cr. hrs.

Exploration of major 20th-century writers in Germany, Austria, and Switzerland. Conducted in German.

GRM 404 Survey of 20th-Century German Literature — 3 cr. hrs.

Exploration of major 20th-century writers in Germany, Austria, and Switzerland. Conducted in German.

GRM 406 Understanding Contemporary Germany Through Film — 3 cr. hrs.

An exploration of German history, culture, language, and the German psyche via German film. Cinematic samples representing each major period of German history from the 1920s to the present will be explored to gain an understanding of the prevailing zeitgeist and the artistic means used in portraying it. Conducted in German.

GRM 408 German Play Reading and Performance — 3 cr. hrs.

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.

GRM 421 Advanced German Culture — 3 cr. hrs.

Exploration of Germany's historical development and contemporary German culture. Conducted in German.

GRM 422 Advanced Austrian Culture — 3 cr. hrs.

Cultural and historical exploration of Austria. Students will research and discuss topics relevant to contemporary Austria. Conducted in German.

GRM 497 German Internship — credit arranged

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 — 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. (Prerequisites: Senior standing, 3.0 GPA in the thesis area or good standing in the honors program.)

Health and Physical Education

HPE 108 Life Skills for Student Athletes — 1 cr. hr.

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 cr. hr.

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 cr. hr.

Introduction to weight training techniques for the development of muscular strength and endurance. The course includes the development of an individualized program.

HPE 115 Swimming Skill Improvement — 1 cr. hr.

Development of swimming techniques focusing on stroke improvement and achievement of personal goals.

HPE 116 Swim Conditioning — 1 cr. hr.

Development of fitness for swimming using a variety of training techniques to achieve individual goals.

HPE 117 Water Aerobics — 1 cr. hr.

Development of strength, endurance, flexibility, balance, and feelings of well-being through aerobics in the water.

HPE 118 — 1 cr. hr.

Students will learn the rules of Ultimate Frisbee and develop the skills to play the game. Students will be expected to develop leadership and communication skills, ethics and respect in sportsmanship (Spirit of the Game). A healthy personal lifestyle and attitude will be encouraged.

HPE 204 Introduction to Athletic Training — 3 cr. hrs.

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 cr. hrs.

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.)

HPE 218 — 1 cr. hr.

Students will continue to develop and apply selected leadership and communication skills, the importance of respectful and ethical sportsmanship, and healthy lifestyle and attitudes. Using a combination of demonstrations, discussions, and active participation, students will comprehend how team sports skills can be applied to any endeavor or challenge in life. Prerequisite: HPE 118.

HPE 309 Stress Management — 3 cr. hrs.

Students will examine the nature and physiological impact of stress on health and well being, the psychology of stress including stress emotions and personalities. Stress management techniques will be examined and practiced in the development of spirituality, coping strategies, and relaxation techniques.

HPE 340 ECE/ELEM Physical Education — 3 cr. hrs.

Provides future teachers 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 research and evaluate their effectiveness by critically reviewing and analyzing resources for the teaching of physical education.

HPE 405 Kinesiology for Physical Educators — 3 cr. hrs.

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. (Prerequisites: HPE 204, BIO 307, BIO 377.)

HPE 406 Medical Aspects of Athletic Injuries — 3 cr. hrs.

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 407 Sports Psychology for Physical Educators — 3 cr. hrs.

Provides the student with knowledge and skill application germane to the psychological environment of sports and its implications.

HPE 408 Exercise Physiology for Physical Educators — 3 cr. hrs.

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. (Prerequisites: HPE 204, BIO 308, BIO 378.)

Graduate Courses**HPE 504 Introduction to Athletic Training — 3 cr. hrs.**

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 cr. hrs.

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. (Prerequisites: HPE 504, 3 hours human anatomy.)

HPE 506 Medical Aspects of Athletic Injuries — 3 cr. hrs.

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. (Prerequisites: HPE 504, 3 hours of biology.)

HPE 507 Sports Psychology for Physical Educators — 3 cr. hrs.

Provides the student with knowledge and skill application germane to the psychological environment of sports and its implications. Graduate students: research paper required.

HPE 508 Exercise Physiology for Physical Educators — 3 cr. hrs.

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 human physiology.)

HPE 509 Stress Management — 3 cr. hrs.

Students will examine the nature and physiological impact of stress on health and well being, the psychology of stress including stress emotions and personalities. Stress management techniques will be examined and practiced in the development of spirituality, coping strategies, and relaxation techniques.

HPE 510 Lifetime Health and Fitness — 3 cr. hrs.

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.)

History

Introductory Surveys

HST 210 United States: Early America — 3 cr. hrs.

Survey of the American nation from colonial times to 1876. Offered annually.

HST 211 United States: Modern America — 3 cr. hrs.

Survey of the American nation from 1876 to the present. Offered annually.

HST 220 Foundations of Western Civilization — 3 cr. hrs.

Introduction to history through the study of Western civilization from classical times through the seventeenth century. Offered annually.

HST 221 Modern Western Civilization — 3 cr. hrs.

Development of Western civilization from the seventeenth century to the present and its impact on the non-Western world. Offered annually.

HST 251 Modern East Asia — 3 cr. hrs.

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 255 Africa, the Middle East and Asia — 3 cr. hrs.

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 310 Colonial North America — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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. (Also listed as SJP 312.)

HST 313 United States: Civil War Era — 3 cr. hrs.

From the Jacksonian era through the Civil War to the emergence of a modern state.

HST 314 American Frontier — 3 cr. hrs.

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, 1820-1945 — 3 cr. hrs.

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 cr. hrs.

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. (Also listed as SJP 318.)

HST 322 American Protest and Reform — 3 cr. hrs.

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.

HST 323 African American History — 3 cr. hrs.

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. (Also listed as SJP 323)

HST 324 Modern American Women's History — 3 cr. hrs.

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.

HST 325 American Military History — 3 cr. hrs.

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

HST 327 US Diplomatic History — 3 cr. hrs.

This course covers American foreign policy from 1776 to the present, examining what is unique about American foreign policy, and what influences have shaped policy making as the United States rose from colonial status to a world superpower.

HST 333 Medieval Europe — 3 cr. hrs.

A broad study of the history of Medieval Europe, from St. Augustine to the Hundred Years' War, with special emphasis on politics and culture. (Also listed as PCS 333.)

HST 335 Europe in the Age of Religious Wars — 3 cr. hrs.

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. (Also listed as PCS 335.)

HST 336 Europe in the Age of Enlightenment — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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. (Also listed as SJP 343.)

HST 345 Spain from 1000 to 1700, Medieval and Early Modern Spain — 3 cr. hrs.

This course will examine Spain's long centuries of contact and conflict between Christian and Muslim regions and its expansion abroad as a world power.

HST 346 Modern Germany — 3 cr. hrs.

Study of the varying political forms of German life over the past two centuries with emphasis on the war and the Nazi dictatorship. (Also listed as SJP 346.)

HST 347 Modern France — 3 cr. hrs.

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 cr. hrs.

This course introduces students to the history of Japan since 1500. Emphasis on the political, social, intellectual, and cultural developments of Japan from the period of the three great unifiers in the 16th century through its economic dominance in the late 20th century.

HST 352 The United States and the Pacific Rim — 3 cr. hrs.

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 pre-

sent. 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 353 Muslim World to 1600 — 3 cr. hrs. Muslim world from the rise of Islam until the sixteenth century when the Ottoman Empire was at its height. Focus on cultural, political, and economic developments in the Middle East and Mediterranean basin.

HST 354 Colonial Latin America — 3 cr. hrs. 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. (Also listed as PCS 354.)

HST 355 Roman Empire and China's Han Dynasty — 3 cr. hrs.

These roughly contemporaneous empires share significant features in common. Students in this course will study these two empires side by side to better appreciate the features of both. Students will also examine the role of the Silk Road in connecting the two and in nourishing the diverse civilizations through which it passed.

HST 357 Technology, Resources, and Environment in World History — 3 cr. hrs.

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. (Also listed as SJP 357.)

HST 358 Disease and Medicine in World History — 3 cr. hrs.

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 germ theory, and the intersection between economic development and human health. (Also listed as SJP 358.)

HST 359 The Modern City — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Study of World War II from immediate causes to Cold War conclusions with a balanced treatment of military, political and social (Home-front) events and issues. (Also listed as SJP 365)

HST 370 Early Modern Europe — 3 cr. hrs.

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.

HST 372 Study of British History — 3 cr. hrs.

Study of special topics in British history. (London Program.)

HST 375 History of Modern Ireland — 3 cr. hrs.

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

(Prerequisite: One history course at 200- or 300-level must be completed before taking a 400-level history course.)

HST 420 Seminar in American History — 3 cr. hrs.

In-depth seminar on history and historiography on a selected topic in American history. Designed for history major and minor students.

HST 430 Seminar in European History — 3 cr. hrs.

In-depth seminar on history and historiography on a selected topic in European history. Designed for history major and minor students.

HST 450 Seminar in Non-Western History — 3 cr. hrs.

In-depth seminar on history and historiography on a selected topic in non-Western history. Designed for history major and minor students.

HST 470 The Practice of History — 3 cr. hrs.

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.

HST 471 Senior Seminar — 3 cr. hrs.

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 — 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. (Prerequisites: Senior standing, 3.0 in the thesis area, and/or good standing in the honors program.)

Mathematics

MTH 105 Mathematics for Elementary Teachers — 3 cr. hrs.

Rational numbers and subsystems. Probability and statistics. Real numbers and geometry. Algebraic structures. Emphasis on problem solving. (Prerequisite: MTH 105 for MTH 106. Does not fulfill the core requirement.)

MTH 106 Mathematics for Elementary Teachers — 3 cr. hrs.

Rational numbers and subsystems. Probability and statistics. Real numbers and geometry. Algebraic structures. Emphasis on problem solving. (Prerequisite: MTH 105 for MTH 106. Does not fulfill the core requirement.)

MTH 111 Precalculus I — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.**

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 cr. hrs.

Introduction to differential and integral calculus with emphasis on applications to business and economics. (Prerequisite: MTH 111.)

MTH 141 Finite Mathematics — 3 cr. hrs.

Matrices, systems of linear equations, linear programming. Sets and counting, probability.

(Prerequisite: MTH 111.)

MTH 161 Elementary Statistics — 3 cr. hrs.

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 cr. hrs.

The study of the differential and integral calculus with emphasis on applications in the natural and physical sciences. (Prerequisite: MTH 112 or permission of instructor.)

MTH 202 Calculus II — 4 cr. hrs.

Techniques of integration, numerical integration, applications of integration, sequences and series, including Taylor series. (Prerequisite: MTH 201 passed with C- or better or permission of instructor.)

MTH 301 Vector Calculus — 4 cr. hrs.

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 passed with C- or better, or permission of instructor.)

MTH 311 Discrete Structures — 3 cr. hrs.

Topics may include: set theory, logic, methods of proof, combinatorics, recurrence relations, graphs, and Boolean algebra. (Prerequisite: MTH 201.)

MTH 321 Ordinary Differential Equations — 3 cr. hrs.

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 passes with C- or better, or permission of instructor.)

***MTH 322 Partial Differential Equations — 3 cr. hrs.**

Fourier series. Inner product spaces. Solutions to heat, wave, and Laplace's equations. Green's functions. (Prerequisite: MTH 321.)

MTH 323 Nonlinear Dynamics — 3 cr. hrs.

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)

*Course offered in alternate years.

†Course offered on demand.

MTH 341 Introduction to Linear Algebra — 3 cr. hrs.

Systems of linear equations and matrices, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors. (Prerequisite: MTH 202.)

***MTH 345 Number Theory — 3 cr. hrs.**

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 cr. hrs.

Numerical techniques for computer-aided solution of non-linear equations, systems of equations, interpolation, numerical integration and differentiation, and solution of ordinary differential equations. (Prerequisite: CS 203, MTH 321 or MTH 341.) Fee: \$25.

MTH 356 Mathematical Methods for Science and Engineering — 3 cr. hrs.

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 cr. hrs.

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 makes substantial use of programming in a statistical software package. (Prerequisite: MTH 201)

MTH 387 Service Learning in Mathematics — 1 cr. hr.

This seminar supports students as they work in local high school and middle school mathematics classrooms in the Outreach Excel Program. Students will discuss questioning strategies, ways to facilitate group work, how to deal with problems in the classroom, go over curriculum being used in the classroom, and learn how to interact with high school and middle school students. This

***MTH 401 Real Analysis I — 3 cr. hrs.**

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 intro-

duction to Euclidean or metric spaces. (Prerequisite: MTH 311.)

***MTH 402 Real Analysis II — 3 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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. (Prerequisites: MTH 301, MTH 341.)

***MTH 435 Topology — 3 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.

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 cr. hrs.

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 491 Seminar in Mathematics — credit arranged

Carries a title reflecting the subject or subjects

*Course offered in alternate years.

†Course offered on demand.

studied and/or the nature of the class structure. May be repeated for credit.

MTH 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. (Prerequisites: 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 that 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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.**

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 cr. hrs.

Probability, discrete, and continuous random variables, expectation, important probability distributions, introduction to sampling, estimation, and hypothesis testing. (Prerequisites: MTH 301, MTH 341.)

***MTH 562 Probability and Statistics II — 3 cr. hrs.**

Topics from simple linear and multiple regression, analysis of variance and design of experiments, methods for categorical data, distribution-free methods. (Prerequisite: MTH 561.)

Mechanical Engineering

ME 111 Engineering Graphics — 2 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 Computer Aided Engineering — 3 cr. hrs.

This course builds on the concepts learned in strength of materials and introduces finite elements 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. (Prerequisites: EGR 322, ME 111.) Fee: 20

ME 311 Mechanics of Fluids I — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Application of thermodynamic principles in analyzing power and refrigeration systems, non-reacting gas mixtures, psychrometrics, and combustion. (Prerequisites: CHM 207, ME 331.)

ME 336 Heat Transfer — 3 cr. hrs.

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 cr. hrs.

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. (Prerequisites: EGR 221, EGR 322.)

ME 351 Mechanical Systems Laboratory — 2 cr. hrs.

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; prerequisite or corequisite: MTH 321.)

ME 374 Fluids Laboratory — 1 cr. hr.

Experimental analysis of fluid mechanics principles including pressure losses through pipes and fittings, pump turbine characteristics, drag force measurements, compressible flows, boundary layers, etc. (Corequisite: ME 312.) Fee: \$20.

ME 376 Thermodynamics Laboratory — 1 cr. hr.

Experimental studies of thermal systems including compressors, steam turbine power cycles, refrigeration, air-conditioning, Otto engine cycle, evaporative cooling towers, and heat exchangers. (Prerequisite: ME 332.) Fee: \$20.

ME 401 Machine Design — 4 cr. hrs.

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. (Prerequisites: EGR 221, EGR 322.)

ME 403 Engineering Design: Product Realization — 3 cr. hrs.

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 cr. hrs.

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. (Prerequisites: ME 311, ME 331.)

ME 421 Failure Analysis — 3 cr. hrs.

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. (Prerequisites: EGR 221, EGR 322.)

ME 423 Applied Strength of Materials — 3 cr. hrs.

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 cr. hrs.

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. (Prerequisite: EGR 322.) Fee: \$20.

ME 434 Heating, Ventilating, and Air Conditioning — 3 cr. hrs.

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 cr. hrs.

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. (Prerequisites: ME 332, ME 336.)

ME 443 Systems and Measurement — 3 cr. hrs.

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. (Prerequisites: EE 261 and EGR 212.)

ME 445 Advanced Computer Aided Design & Manufacturing — 3 cr. hrs.

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. (Prerequisite: ME 351) Fee: \$30.

ME 453 Mechanical Vibrations — 3 cr. hrs.

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. (Prerequisites: EGR 212, MTH 321.)

ME 454 Noise and Vibration Control — 3 cr. hrs.

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. (Prerequisite: Senior standing.) Fee: \$20.

ME 462 Biomechanics — 3 cr. hrs.

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 Engineering Project I — 2 cr. hrs.

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. (Prerequisite: Senior standing.)

ME 482 Mechanical Engineering Project II — 2 cr. hrs.

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. (Prerequisite: Senior standing.)

ME 490 Directed Study — credit arranged

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 — credit arranged

ME 492 Seminar — credit arranged

Graduate Courses

ME 503 Engineering Design: Product Realization — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 — credit arranged**ME 591 Seminar — credit arranged****ME 592 Seminar — credit arranged****ME 599 Thesis — credit arranged****ME 599X Thesis in Progress — 0 cr. hrs.**

Registration for any graduate student who has received the grade of IP in ME 599 is required while the thesis is in progress. Fee: \$40.

Military Science and Leadership

MSL 101 Leadership and Personal Development — 1 cr. hr.

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 cr. hr.

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 cr. hr.

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 cr. hr.

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 cr. hr.

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 cr. hr.

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 cr. hrs.

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.

(Corequisites: MSL

MSL 202 Foundations of Tactical Leadership — 2 cr. hrs.

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. (Corequisites: MSL 222, MSL 232.)

MSL 221 Leadership Laboratory — 1 cr. hr.

Open only to (and required of) students in MSL 201. Learn and practice basic leadership and development skills. (Corequisites: MSL 201, MSL 231.)

MSL 222 Leadership Laboratory — 1 cr. hr.

Open only to (and required of) students in MSL 202. Build self-confidence and team-building leadership skills that can be applied throughout life. (Corequisites: MSL 202, MSL 232.)

MSL 231 Basic Course Physical Fitness — 1 cr. hr.

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. (Corequisites: MSL 201, MSL 221.)

MSL 232 Basic Course Physical Fitness — 1 cr. hr.

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. (Corequisites: MSL 201, 221)

MSL 240 Basic Leadership Internship — 3 cr. hrs.

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 cr. hrs.

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. (Corequisites: MSL 321, MSL 331.)

MSL 302 Leadership in Changing Environments — 3 cr. hrs.

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. (Corequisites: MSL 322, MSL 332.)

MSL 321 Advanced Leadership Laboratory — 1 cr. hr.

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.

MSL 322 Advanced Leadership Laboratory — 1 cr. hr.

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.

MSL 331 Advanced Course Physical Fitness — 1 cr. hr.

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.

MSL 332 Advanced Course Physical Fitness — 1 cr. hr.

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.

MSL 340 Leadership Development and Assessment Course — 3 cr. hrs.

A five-week course conducted at Fort Lewis, Washington. Only open to students who have completed MSL 301 and 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.

MSL 401 Developing Adaptive Leaders — 3 cr. hrs.

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. (Corequisites: MSL 421, MSL 431.)

MSL 402 Leadership in a Complex World — 3 cr. hrs.

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. (Corequisites: MSL

MSL 421 Advanced Leadership Laboratory — 1 cr. hr.

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 cr. hr.

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 cr. hr.

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 cr. hr.

Participate in and learn to plan and lead physical fitness programs. Develops the physical fitness required of an officer in the Army. Empha-

sis on the development of an individual fitness program and the role of exercise and fitness in one's life.

Music

MUS 1 Performance Attendance — 0 cr. hrs.

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 P/NP only.)

MUS 100 Fundamentals of Music — 3 cr. hrs.

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 cr. hrs.

Detailed study of musical concepts and elements, with an emphasis on foundations. (Corequisite: MUS 103.)

MUS 102 Music Theory II — 3 cr. hrs.

Continued study of concepts of music emphasizing the diatonic vocabulary. (Prerequisite: MUS 101. Corequisite: MUS 104.)

MUS 103 Aural Skills I — 1 cr. hr.

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.)

MUS 104 Aural Skills II — 1 cr. hr.

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.)

MUS 131 Introduction to Piano — 1 cr. hr.

Basic class introduction to piano emphasizing keyboard facility through literature, harmonizing melodies, sight reading, improvising. Required of music majors. Instructor permission required.

MUS 201 Music Theory III — 3 cr. hrs.

Emphasis on chromatic harmony, analysis, listening, and creative work. (Prerequisite: MUS 102 or permission of instructor.)

MUS 202 Music Theory IV — 3 cr. hrs.

Extensions of the common practice period. Introduction to twentieth century practice. (Prerequisite: MUS 201.)

MUS 203 Development of Music in Europe — 1 cr. hr.

Survey of music history from Bach to Beethoven. (Salzburg only.)

MUS 230 Class Piano — 1 cr. hr.

Basic class instruction at the piano emphasizing keyboard facility through literature, harmonizing melodies, sight reading, improvising. Open to all students.

MUS 231 Keyboard Lab — 1 cr. hr.

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 230 or permission of instructor.)

***MUS 232 The Basics of Playing Brass and Percussion Instruments — 1 cr. hr.**

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 Woodwind Instruments — 1 cr. hr.**

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 cr. hr.**

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 cr. hr.

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. (Prerequisite for MUS 186: Private Voice Lessons.)

MUS 236 Beginning Guitar — 1 cr. hr.

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 cr. hr.

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 cr. hr.

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 cr. hr.

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 cr. hr.

Ensemble for the reading and performing of all styles of band literature. Open to all University students with high school experience. May be taken 8 times for credit.

MUS 244 University Singers — 1 cr. hr.

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 Community Orchestra — 1 cr. hr.

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 8 times for credit.

MUS 246 Chapel Music Ensemble — 1 cr. hr.

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 cr. hr.

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 cr. hr.

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 cr. hr.

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. (Prerequisite: Declared music major/minor, permission of instructor, or MUS 235.) Fee: \$300.00.

MUS 290 Directed Study — credit arranged

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 cr. hrs.**

A study of the people, events, and elements of musical performance-practice which contributed to the development of the various style trends before 1750. Required for music majors. Open to others with permission of instructor.

MUS 302 Music History II — 3 cr. hrs.

A continuation of Music 301. A further study of musical style trends and their practitioners from 1750 to present. Required for music majors. Open to others with permission of instructor.

MUS 303 Classical Music and Musicians — 3 cr. hrs.

A survey of classical music, from the middle ages to the present, that examines landmark styles, genres, and composers. (Prerequisite: FA 207.) Fee: \$100.

MUS 304 Development of Music in Europe II — 1 cr. hr.

Survey of music history from Beethoven to the present (Salzburg only).

***MUS 307 Scoring and Arranging — 3 cr. hrs.**

A study of the basic techniques in effective scoring and arranging for various instrumental and vocal ensembles. (Prerequisite: Two years of music theory or permission of instructor.)

MUS 309 World Music — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

Techniques of conducting choral and instrumental ensembles with practical experience in laboratory situations. Required of all music majors and minors.

MUS 336 Diction and Movement for Singers — 3 cr. hrs.

This course is intended to meet the needs of all voice students anticipating continued involvement in group or solo activities. Study will be divided between concentration on principles of voice production and articulation using the IPA for use with foreign languages, and those of body awareness and expression.

***MUS 338 Teaching Elementary School Music — 2 cr. hrs.**

Philosophy, materials, and methods of teaching classroom music from kindergarten through elementary school.

***MUS 339 Teaching Middle School Music — 2 cr. hrs.**

Philosophy, materials, and methods of teaching instrumental, general, and vocal music for grades 6-9.

MUS 340 Teaching Secondary School Music — 2 cr. hrs.

Philosophy, materials, and methods of teaching instrumental, general, and vocal music for grades 10-12.

MUS 409 Composition — 3 cr. hrs.

Contemporary techniques of composition as applied to vocal and instrumental media. May be repeated for a maximum of 12 credits. (Prerequisites: MUS 101-102, MUS 201-202.)

MUS 411 History of Rock and Roll — 3 cr. hrs.

A survey of Rock and Roll from its roots to the present day, including styles, performers, composers, and culture. (Prerequisite: FA 207)

MUS 412 History of Musical Theatre — 3 cr. hrs.

An exploration of this American art form, from operetta and music comedy to contemporary musical theatre. Open to all students. (Prerequisite: FA 207)

MUS 413 Liturgical Music — 3 cr. hrs.

A study of Catholic liturgical music, including Church documents and liturgical books, music repertoire and liturgical performance and historical context. (Prerequisite: FA 207)

MUS 414 History of Jazz — 3 cr. hrs.

A study of Jazz from its roots to the present day, including styles, performers, composers, and culture. (Prerequisite: FA 207)

MUS 442 Guitar Ensemble — 1 cr. hr.

An ensemble experience for guitar players of sufficient skill. Literature of all style periods will be performed. Enrollment by permission of instructor. (Prerequisite for MUS 442: 2 semesters of MUS 242.)

MUS 443 Wind Symphony — 1 cr. hr.

Ensemble for the reading and performing of all styles of band literature. Open to all University students with high school experience. May be taken 8 times for credit. (Prerequisite for MUS 443: 2 semesters of MUS 243.)

MUS 444 University Singers — 1 cr. hr.

Repertoire includes music from all periods and styles. Open to all University students by audition. May be taken 8 times for credit. (Prerequisite for MUS 444: 2 semesters of MUS 244.)

MUS 445 University Community Orchestra — 1 cr. hr.

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 8 times for credit. (Prerequisite for MUS 445: 2 semesters of MUS 245.)

MUS 446 Chapel Music Ensemble — 1 cr. hr.

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 for MUS 446: 2 semesters of MUS 246.)

MUS 447 Chamber Ensembles — 1 cr. hr.

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 cr. hr.

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 for MUS 452: 2 semesters of MUS 252.)

MUS 453 University Jazz Ensemble — 1 cr. hr.

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 for MUS 453: 2 semesters of MUS 253.)

MUS 455 Musical Theatre Workshop — 3 cr. hrs.

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. (Also listed as DRM 455.)

MUS 486 Private Lessons — 1 cr. hr.

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. (Prerequisite: 2 semesters of MUS 286 and/or MUS 235) Fee: \$300.

MUS 490 Directed Study — credit arranged

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 498 Senior Capstone — 1 cr. hr.

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.

Graduate Courses**MUS 500 Research Techniques in the Performing Arts — 3 cr. hrs.**

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. (Also listed as DRM 500.)

MUS 501 Seminar in Music Styles and Analysis — 3 cr. hrs.

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 cr. hrs.**

Free approach to tonal polyphony leading to contemporary techniques employing unusual scale forms. Offered by special arrangement.

***MUS 507 Scoring and Arranging — 3 cr. hrs.**

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.**

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 cr. hr.

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 cr. hr.
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 cr. hr.
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 cr. hr.

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 cr. hr.
An ensemble that studies and rehearses chamber music. Repertoire is determined by the instruments played by students. May be repeated 4 times for credit. Registration by permission of instructor.

MUS 552 University Choral Union — 1 cr. hr.
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 cr. hr.
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 cr. hrs.
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. (Also listed as DRM 555)

MUS 586 Private Lessons — 1 cr. hr.
Graduate level private instruction, performance, and literature. See MUS 186 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 — credit arranged
Maximum of six hours of directed study allowed.

MUS 599 Thesis — credit arranged
Research document, or performance and related research document.

MUS 599X Thesis in Progress — 0 cr. hrs.
Registration for any graduate student who has received the grade of IP in Thesis 599 is required while the thesis is in progress. Fee: \$40.

Nursing

NRS 101 Introduction to Nursing and Healthcare — 3 cr. hrs.

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 cr. hrs.

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 and Health Promotion Across the Lifespan — 3 cr. hrs.

Focuses on human growth and development and health promotion across the lifespan. This course explores theories of human physical, cognitive, and psychosocial development and is a basis for all clinical nursing courses. Prerequisites or corequisites: NRS 101 and BIO 205.

NRS 301 Nursing Theory and Knowing: Concepts and Issues — 2 cr. hrs.

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 Introduction to Population Health Nursing in a Multicultural Context — 3 cr. hrs.

This course introduces key concepts of population health nursing with an emphasis on diverse and vulnerable populations. Students apply these concepts through the completion of the initial stages of community assessment. 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 cr. hrs.

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 val-

ues/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 cr. hrs.

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.

(Corequisite: NRS 301) Fee: \$380.

NRS 313 Pathophysiology — 3 cr. hrs.

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.

(Prerequisites: BIO 205, 307, 308, 359, or permission of instructor.)

NRS 315 Pharmacotherapeutics — 3 cr. hrs.

Principles of pharmacokinetics, pharmacodynamics, and pharmacotherapeutics. Drug therapy is presented as an integral component of nursing practice. Application is made to clients with selected health and illness problems. (Prerequisites: BIO 205, 307, 308, 359, or permission of instructor.)

NRS 321 Psychiatric Mental Health Nursing — 4 cr. hrs.

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. (Prerequisites: NRS 313 and 322).

NRS 322 Physiological Nursing — 6 cr. hrs.

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. Students learn to plan, implement and evaluate nursing care. Time management, resource utilization, evidence-based practice, interdisciplinary collaboration, and client advocacy will be utilized. 135 hours of clinical. (Prerequisites: NRS 312 and 315.)

NRS 401 Professional Role Transition — 3 cr. hrs.

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 transi-

tions are explored. Teaching strategies include guided, self-paced learning activities. Limited to RN learners.

NRS 414 Evidence-based Nursing — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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. (Prerequisite: NRS 313 and 322). Fee: \$200.

NRS 422 Maternal-Child Nursing — 6 cr. hrs.

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. (Prerequisites: NRS 313, 322).

NRS 424 Applied Population Health Nursing in a Multicultural Context — 4 cr. hrs.

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. (Prerequisites: NRS 310, 313, 321, and 322.)

NRS 429 Leadership in Professional Nursing — 3 cr. hrs.

This course focuses on nursing leadership and client care management core competencies needed by the nurse to function in a complex environment across the health care continuum.

Emphasis is on the theory and practice skills needed to coordinate patient care, delegate, work as a member of a team, and achieve quality, cost effective outcomes. (Prerequisite: Graduating senior, concurrent with clinical course.)

NRS 436 Personal Preparation for Licensure — 1 cr. hr.

Focuses on the learner's refinement of self-appraisal skills and plans for professional development necessary for lifelong learning as a nurse professional. The NCLEX test plan serves as the learner's reference for the minimum competencies of the essential knowledge, skills, and values for completion of the program. Students will demonstrate knowledge and application of UPSON program outcomes. Corequisite: NRS 498.

NRS 492 Nursing Electives — credit arranged

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 — 1 cr. hr.

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. May be taken up to four times for credit.

NRS 498 Capstone Clinical Immersion — 4 cr. hrs.

Students demonstrate achievement of University core competencies and School of Nursing Program Outcomes in a 135 hour clinical immersion working 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: Graduating Senior. Corequisite: NRS 436)

Graduate Courses

NRS 500 Statistical and Quantitative Analysis — 3 cr. hrs.

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 cr. hrs.

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 — credit arranged

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 cr. hrs.

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. (For AEM UP students only. Prerequisites: NRS 512, 515, and 518).

NRS 508 Nursing of Populations and Families: Theory and Issues — 3 cr. hrs.

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 cr. hrs.

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. (AEM UP students only. Corequisite: NRS 545)

NRS 511 Physiological Nursing/Pre-licensure AE — 4 cr. hrs.

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. (For AEM UP students only. Prerequisite: NRS 512. Corequisite: NRS 518.) Fee: \$200.

NRS 512 Clinical Skills/Pre-licensure AE — 2 cr. hrs.

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. (For AEM UP students only.) Fee: \$175.

NRS 513 Pathophysiology/Pre-licensure AE — 3 cr. hrs.

Pathophysiology focuses on the theoretical bases and manifestations of responses to pathophysiology, both effective and ineffective, with an emphasis on the individual. (For AEM UP students only.)

NRS 515 Pharmacotherapeutics/Pre-licensure AE — 3 cr. hrs.

Principles of pharmacokinetics, pharmacodynamics, and pharmacotherapeutics. Drug therapy is presented as an integral component of nursing practice. Application is made to clients with selected health and illness problems. (For AEM UP students only.)

NRS 516 Professional Role Development I/Pre-licensure AE — 1 cr. hr.

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. (For AEM UP students only.)

NRS 517 Advanced Physiological Nursing/Pre-licensure AE — 7 cr. hrs.

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. (AEM UP students only. Prerequisites: NRS 511, 513, 515).

NRS 518 Mental Health Nursing/Pre-licensure AE — 4 cr. hrs.

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. Profes-

sional, legal, and ethical issues in psychiatric mental health nursing are examined. Includes 90 hours of clinical experience. (For AEM UP students only. Prerequisite: NRS 515. Corequisites: NRS 511 and 513).

NRS 519 Advanced Pathophysiology — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

This course is designed to provide the AEM UP student with leadership knowledge and skills needed to function effectively in complex envi-

ronments 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. (For AEM UP students only).

NRS 525 Management of Conditions Common to Women — 3 cr. hrs.

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 112 hours of clinical experience.

NRS 526 Grant Proposal Development — 2 cr. hrs.

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 — 4 cr. hrs.

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 120 hours of clinical experience.

NRS 528 Clinical Management Practicum — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

First of a two course sequence, this course explores the logic, methods of research, and sta-

tistical 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 Evidence Based Nursing Care II — 1 cr. hr.

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 cr. hrs.

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 Role and Portfolio Development — 2 cr. hrs.

This course focuses on the developing role of the Clinical Nurse Leader in health care delivery systems. Content includes issues of advanced nursing practice including advocacy, social justice, ethics and cultural care. Students will design a professional portfolio to guide professional development.

NRS 535 Complimentary and Alternative Therapies — 2 cr. hrs.

Students will be introduced to several complimentary 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. Demonstration and participation of several

NRS 536 Professional Role Development II/Pre-licensure AE — 2 cr. hrs.

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. (For AEM UP students only. Prerequisite: NRS 516.)

NRS 537 Management of Common Mental Health Conditions in Primary Care — 2 cr. hrs.

This course focuses on the assessment and appropriate diagnosis of mental health condi-

tions 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 cr. hr.

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 for Advanced Nursing Practice — 3 cr. hrs.

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 cr. hrs.

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 Childrearing Families/Pre-licensure AE — 6 cr. hrs.

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 cr. hrs.

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. (For AEM UP students only. Prerequisite: Statistics course.)

NRS 547 Organizational and Systems Leadership — 3 cr. hrs.

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 cr. hrs.

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 553 Dimensions of Adult Learning — 2 cr. hrs.

Introduces principles of adult learning and teaching to higher education instructors. Through an introduction to philosophy of education, theories of learning behavior, models of teaching, strategies of critical thinking, and metacognition, and the purposes and methods for assessment of learning, students will formulate their own knowledge base relative to their own goals as higher education instructors.

NRS 554 Curriculum Development in Nursing — 2 cr. hrs.

This course focuses on conceptualizing and developing current, progressive nursing education programs through the application of the knowledge base and research related to health care, theories of learning, curriculum, evaluation, and measurement.

NRS 555 Course Design and Implementation in Nursing — 2 cr. hrs.

This course focuses on designing and implementing the courses within the nursing curriculum. Specific attention will be given to the selection and organization of content, the teaching strategies and methods that will enhance the student's learning, and the evaluation of learning. Strategies and methods will reflect current information systems and technology. Settings will include classroom, on-line, laboratory, and clinical settings.

NRS 556 Teaching in Nursing Practicum — 4 cr. hrs.

This course focuses on the development of skills essential to the role of the nurse educator in the classroom and clinical venues. Includes practice in teaching in these multiple areas.

NRS 560 Advanced Clinical Practice — 1 cr. hr.

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 cr. hrs.

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 cr. hr.

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 cr. hr.

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. (For AEM UP students only. Corequisite: NRS 529).

NRS 566 Resources Management in the Micro Environment — 3 cr. hrs.

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 cr. hrs.

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 — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 575 Advanced Pharmacotherapeutics — 3 cr. hrs.

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 cr. hrs.

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 — 3 cr. hrs.

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. (Prereq-

uisite: NRS 501 or instructor permission).

NRS 582 Integrative Health II: Approaches to Care — 2 cr. hrs.

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 health care practices. Emphasis in this course is on understanding the framework and beliefs that drive each integrative health care approach.

NRS 583 Integrative Health III: Nutrition and Herbal Therapy — 2 cr. hrs.

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 cr. hrs.

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 cr. hr.

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 cr. hr.

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 cr. hr.

Building upon NRS 585 and NRS 586, students will envision, in detail, the implementation of integrative practice within their preferred clinical setting. (Prerequisites: NRS 585 and NRS 586.)

NRS 589 Applied Research: Evaluation and Evidence-based Practice — credit arranged

Provides framework to evaluate effectiveness of programs, appropriateness of research in pro-

viding 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. (Prerequisites: NRS 500 and NRS 501).

NRS 592 Nursing Topical Electives — credit arranged

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 cr. hrs.

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. (Prerequisites: NRS 501, 534, 567, 568, 569, and 589). Fee: \$35.

NRS 595 Clinical Nurse Leader as Practice II — 3 cr. hrs.

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 cr. hrs.

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. (Prerequisites: Completion of all courses of the CNL curriculum and portfolio review.)

NRS 597 Practice Improvement Project — 1 cr. hr.

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 — 6 cr. hrs.

This course is the clinical culmination of the DNP program. Completion of residency will demonstrate achievement of DNP entry level program competencies. Students are expected to integrate the program's non-NP specialty courses into practice. In addition, post-baccalaureate students are expected to progress in the level of complexity in their practice. Includes 360 hours clinical experience. Fee: \$35.

Philosophy

PHL 150 Introductory Philosophy — 3 cr. hrs.

An introduction to philosophy as a distinctive mode of thinking with an overview of its historical development and its main issues in metaphysics, epistemology, logic, and socio-political philosophy. A writing embedded course.

PHL 220 Ethics — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 prob-

lem of evil, and the relationship of faith and reason.

PHL 334 Metaphysics: Problem of Being — 3 cr. hrs.

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 ontological foundations of logic, and the question of God. (Also listed as PCS 334)

PHL 335 Metaphysics: Self and Identity — 3 cr. hrs.

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.

Electives

Upper-division electives prerequisite: PHL 150 and PHL 220 must be successfully completed before taking upper-division philosophy electives.

PHL 410 Philosophy of Education — 3 cr. hrs.

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.

PHL 412 Philosophy of Law — 3 cr. hrs.

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. (Also listed as SJP 412.)

PHL 413 Socio-Political Philosophy — 3 cr. hrs.

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. (Also listed as SJP 413.)

PHL 414 Philosophy and Feminism — 3 cr. hrs.

An investigation of the philosophical underpinnings of various feminist theories and their implications for philosophical inquiry from De Beauvoir to Irigaray. (Also listed as SJP 414.)

PHL 421 Logic — 3 cr. hrs.

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.

PHL 422 Philosophy of Science — 3 cr. hrs.

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.

PHL 423 Philosophy of Language — 3 cr. hrs.

Some questions we will consider are: What is truth? How can a sequence of sounds or marks on paper mean anything? To what extent does our language control how we see the world? How can we understand an infinite number of sentences when we only know a few thousand words? Are some theories incommensurable with others?

PHL 430 Advanced Ethics — 3 cr. hrs.

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.

PHL 434 Environmental Ethics — 3 cr. hrs.

An inquiry into our obligations to the non-human world and the philosophical basis of that obligation. (Also listed as SJP 434.)

PHL 435 Bioethics — 3 cr. hrs.

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. (Also listed as PCS 435)

PHL 451 Philosophy and Psychology — 3 cr. hrs.

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.

PHL 469 Great Philosophers — 3 cr. hrs.

This course is devoted to an intensive study of the work of a single philosopher. Different philosophers will be featured in different semesters. (Also listed as PCS 469.)

PHL 471 Ancient Philosophy — 3 cr. hrs.

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.

PHL 472 Medieval Philosophy — 3 cr. hrs.

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. Also listed as PCS 472.)

PHL 473 Modern Philosophy — 3 cr. hrs.

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.

PHL 474 Hegel and 19th-Century Philosophy — 3 cr. hrs.

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. (Also listed as SJP 474.)

PHL 479 Existentialism — 3 cr. hrs.

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.

PHL 499 Senior Capstone — 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 and department chair.

Physics

PHY 109 Powerful Ideas in Physical Science — 3 cr. hrs.

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. (No prerequisites.)

PHY 163 Astronomy — 3 cr. hrs.

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. (No prerequisites.)

PHY 201 General Physics — 3 cr. hrs.

Algebra based physics with life science focus. Vectors, kinematics, Newtonian Mechanics, sta-

tics, dynamics. (Corequisite: PHY 271.)

PHY 202 General Physics — 3 cr. hrs.

Algebra based physics with life science focus. Sound, waves, optics, electricity and magnetism. (Prerequisites: PHY 201 or PHY 204. Corequisite: PHY 272.)

PHY 204 General Physics Lecture and Lab — 4 cr. hrs.

Calculus based physics. Vectors, kinematics, Newtonian mechanics, statics, dynamics, and simple harmonic motion. This course includes a lab component. (Corequisite: MTH 201.) Fee: \$60.

PHY 205 General Physics Lecture and Lab — 4 cr. hrs.

Calculus based physics. Electricity and magnetism; Maxwell's equations, circuits. This course includes a lab component. (Prerequisites: MTH 201, PHY 204 with a grade of C- or higher. Corequisite: MTH 202.) Fee: \$60.

PHY 208 Integrated Physics/Math Lecture and Lab — 4 cr. hrs.

Vectors, kinematics, Newtonian mechanics, statics, dynamics, and simple harmonic motion. This course is integrated with MTH 201 and includes a lab component. (Corequisite: MTH 201.) Fee: \$60.

PHY 209 Integrated Physics/Math Lecture and Lab — 4 cr. hrs.

Electricity and magnetism; Maxwell's equations, circuits, light, and radiation. This course is integrated with MTH 202 and includes a lab component. (Prerequisites: MTH 201, PHY 204 or PHY 208 with a grade of C- or higher. Corequisite: MTH 202.) Fee: \$60.

PHY 270 Special Physics Lab and Research — credit arranged

For special lower division projects or research. Content, credit, and fee to be arranged.

†PHY 271 General Physics Lab — 1 cr. hr.

Laboratory course to accompany PHY 201-202. One three-hour laboratory each week. Fee: \$60 per semester.

PHY 272 General Physics Lab — 1 cr. hr.

Laboratory course to accompany PHY 201-202. One three-hour laboratory each week. Fee: \$60 per semester.

PHY 290 Directed Study — credit arranged

PHY 306 Modern Physics — 3 cr. hrs.

Special relativity, quantum theory, atomic and nuclear physics. Offered each spring semester. (Prerequisites: PHY 204-205, MTH 201-202. Corequisite: PHY 376.)

***PHY 312 Mechanics — 3 cr. hrs.**

Kinematics and dynamics of classical 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. (Prerequisites: PHY 201-202 or PHY 204-205. Corequisite: MTH 321 or PHY 356.)

***PHY 317 Introduction to Laser Technology — 3 cr. hrs.**

Optics; gaussian beams; atomic theory; laser theory and exposition; applications. Offered on an occasional basis. (Prerequisites: PHY 201-202 or PHY 204-205, MTH 201.)

***PHY 321 Electrodynamics — 3 cr. hrs.**

Electric and magnetic fields and their interaction with matter; Maxwell's equations. Offered fall semesters of even years. (Prerequisites: PHY 201-202 or PHY 204-205. Corequisite: MTH 321 or PHY 356.)

***PHY 322 Optics — 3 cr. hrs.**

Geometrical and physical optics, imaging and aberrations; interference, diffraction, and polarization; applications to instrumentation and lasers. Offered spring semester of odd years. (Prerequisites: PHY 201-202 or PHY 204-205, MTH 202.)

PHY 356 Mathematical Methods for Science and Engineering — 3 cr. hrs.

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 370 Special Physics Laboratory and Research — credit arranged

For special upper division projects or research. Content, credit, and fee to be arranged.

PHY 371 Analog and Digital Electronics — 2 cr. hrs.

Instruction in electronic circuits and computer software for use in data acquisition and instrument control. Offered each fall semester. (Prerequisite: PHY 356 or MTH 321.) Fee: \$120.

PHY 372 Advanced Laboratory — credit arranged

Laboratory work in atomic and nuclear physics; electricity and magnetism; physical optics; laser physics; and undergraduate experimental research. Minimum of one credit required of physics majors. Fee: \$60 per credit.

†PHY 376 Modern Physics Lab — 1 cr. hr.

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.

***PHY 411 Introduction to Quantum Mechanics — 3 cr. hrs.**

Experimental basis for the quantum theory and the fundamental ideas of non-relativistic and

*Course not offered every year.

†A student who withdraws from the affiliated lecture course after mid-semester may, with permission of the instructor, continue in this lab course.

relativistic quantum mechanics. Offered fall semester of odd years. (Prerequisites: PHY 201-202 or PHY 204-205, MTH 321-322 or PHY 356, PHY 306.)

***PHY 412 Introduction to Quantum Mechanics II — 3 cr. hrs.**

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 cr. hrs.**

Lattices and crystal structures; classification properties discussed. Several field trips are made. Offered on an occasional basis. (Prerequisites: PHY 201-202 or 204-205, MTH 321 or PHY 356.)

***PHY 441 Thermal and Statistical Physics — 3 cr. hrs.**

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. (Prerequisites: PHY 201-202 or PHY 204-205, MTH 321 or PHY 356.)

PHY 470 Special Physics Laboratory and Research — credit arranged

For special upper-division projects or research. Content, credit, and fee to be arranged.

PHY 471 Advanced Laboratory — credit arranged

Laboratory work in atomic and nuclear physics; electricity and magnetism; physical optics; laser physics; and undergraduate experimental research. Minimum of one credit required of physics majors. Fee: \$60 per credit.

PHY 472 Advanced Laboratory — credit arranged

Laboratory work in atomic and nuclear physics; electricity and magnetism; physical optics; laser physics; and undergraduate experimental research. Minimum of one credit required of physics majors. Fee: \$60 per credit.

PHY 490 Directed Study — credit arranged

PHY 491 Physics Seminar — credit arranged

PHY 492 Physics Seminar — credit arranged

PHY 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. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area or good standing in the honors program.)

Political Science

Introductory Courses

POL 200 Introduction to United States Politics — 3 cr. hrs.

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 cr. hrs.

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 202 Modern Foreign Governments — 3 cr. hrs.

This course is an introduction to the various forms of political life throughout the globe. There is an emphasis on parliamentary government, democratic and authoritarian forms of governance, and the history of these forms.

POL 203 Introduction to Political Theory — 3 cr. hrs.

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 270 Development of European Political Systems — 3 cr. hrs.

Historical study of political systems from the French Revolution to World War II. (Salzburg only.)

POL 290 Directed Study — credit arranged

POL 292 University Mock Trial Team — 1 cr. hr.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 Theory — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 333 Public Administration — 3 cr. hrs.

A study of public administration and the modern state in the American political system. The focus of this course is on the development and context of the American administrative state, bureaucratic structure, politics and processes, and the role played by administrative organizations in policy implementation and governmental regulation.

POL 335 American Public Policy — 3 cr. hrs.

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 workings of the policy process. (Also listed as SJP 335.)

POL 344 Constitutional Law I: Federalism and Separation of Powers — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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. (Also listed as ENV 349, SJP 349).

International Relations

POL 351 International Law and Organizations — 3 cr. hrs.

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. (Also listed as SJP 351.)

POL 356 Building World Peace — 3 cr. hrs.

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. (Also listed as SJP 356.)

POL 358 Politics of the European Union — 3 cr. hrs.

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 372 Politics of Modern Europe — 3 cr. hrs.

A comparative study of the major countries of Southern, Central, and Northern Europe. Institutions and parties, participation and representation in Great Britain, France, Italy, Spain, Serbia, Germany, Poland, Hungary, and Romania will be examined.

POL 373 Politics of Latin America — 3 cr. hrs.

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. (Also listed as SJP 373.)

POL 374 Politics of Asia — 3 cr. hrs.

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, Pak-

istan, and Afghanistan, and the Asian Pacific countries of China, Vietnam, Thailand, Cambodia, North Korea, South Korea, Indonesia, and the Philippines.

POL 378 States and the Market — 3 cr. hrs.

This course examines the relationship between politics and economics from a cross-national perspective. What are the differences between a market and command economy and what are the consequences in terms of policy? How does democracy, authoritarianism, or transitions toward democracy affect the types of economic policies adopted by particular countries?

POL 379 Business in a Political World — 3 cr. hrs.

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 — credit arranged

These courses involve special topics in different areas of political science and are offered periodically.

POL 392 Special Topics — credit arranged

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 cr. hrs.

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.

POL 415 Congress and Legislative Process — 3 cr. hrs.

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.

POL 419 The US Presidency — 3 cr. hrs.

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.

Political Theory

Prerequisite: POL 203 or permission of instructor.

POL 421 Seminar in Political Theory — 3 cr. hrs.

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.

POL 423 Jurisprudence and Constitutional Interpretation — 3 cr. hrs.

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.

POL 430 Ethics and Public Policy — 3 cr. hrs.

This course examines the ethical dimensions of some of the most hotly-debated contemporary public policy issues. These include: affirmative action, euthanasia, abortion, torture, pornography and free speech, the War on Drugs, the War on Terror, the death penalty, ethics and foreign policy, and environmental ethics.

International Relations

Prerequisite: POL 201 or permission of instructor.

POL 453 Great Powers and Their Foreign Policies — 3 cr. hrs.

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.

POL 455 Foreign Policies of Latin America — 3 cr. hrs.

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. (Also SJP 455)

Comparative Politics

Prerequisite: POL 201 or POL 202 or permission of instructor.

POL 470 Comparative Immigration — 3 cr. hrs.

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.

POL 472 Culture, Community and Political Organization — 3 cr. hrs.

This course develops the theoretical and empirical links between culture, community and political organization. Students study the debates and country evidence concerning culture and democracy by addressing questions like whether or not all countries can become democratic. Cases include the U.S. but also communities in other countries.

POL 490 Directed Study — credit arranged

Individual study under the direction of a member of the political science department, with the approval of the chairman.

POL 491 Seminar — credit arranged

POL 492 Seminar — credit arranged

POL 495 Workshop — credit arranged

POL 496 Workshop — credit arranged

POL 497 Internship — credit arranged

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 — 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. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.)

Psychology

Not all courses are offered annually. Contact psychology faculty for the current schedule of offerings. PSY 101 is a prerequisite for all upper division psychology courses.

PSY 101 General Psychology — 3 cr. hrs.

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 cr. hrs.

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. Also listed as SOC 214 and SW 214.)

PSY 215 Research Methods: Analysis — 3 cr. hrs.

Introduction to psychological and sociological research with emphasis on quantitative methods. Topics include sampling, hypothesis testing, statistical analysis, and computer usage.

(Prerequisite or corequisite: PSY 214 or SOC 214 or permission of instructor. Also listed as SOC 215.)

PSY 310 Behavioral Neuroscience — 3 cr. hrs.

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.

PSY 315 Evolutionary Psychology — 3 cr. hrs.

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.

PSY 320 Psychology of Learning — 3 cr. hrs.

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 214 or permission of instructor.)

PSY 330 Cognition — 3 cr. hrs.

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 214 or permission of instructor.)

PSY 340 Sensation and Perception — 3 cr. hrs.

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 214 or permission of instructor.)

PSY 350 Social Psychology — 3 cr. hrs.

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. (Also listed as SOC 350.)

PSY 355 Gendered Perspectives on the Body and Human Sexuality — 3 cr. hrs.

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. (prerequisites: PSY 101 or SOC 101. Also listed as SW 355, SOC 355.)

PSY 360 Life Span Development — 3 cr. hrs.

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.

PSY 365 Moral Development — 3 cr. hrs.

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.

PSY 370 Personality — 3 cr. hrs.

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.

PSY 375 The Self — 3 cr. hrs.

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. (Also listed as SOC 375.)

PSY 380 Abnormal Psychology — 3 cr. hrs.

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.

PSY 391 Seminar — credit arranged

PSY 392 Seminar — credit arranged

PSY 400 History of Psychology — 3 cr. hrs.

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.

PSY 401 Internship I — 1 cr. hr.

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. This course may be taken twice. Limited to majors and minors. (Also listed as SOC 401, SW 401)

PSY 402 Internship II — 1 cr. hr.

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. This course may be taken twice. Limited to majors and minors. (Also listed as SOC 402, SW 402.)

PSY 430 Psychology of Language — 3 cr. hrs.

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.

PSY 450 Cross Cultural Psychology — 3 cr. hrs.

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. (Also listed as SOC 450.)

PSY 452 Social Justice Leadership — 3 cr. hrs.

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. (Also listed as SJP 452, PCS 452.)

PSY 455 Heath Psychology — 3 cr. hrs.

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.

PSY 461 Introduction to Gerontology — 3 cr. hrs.

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 economical

issues for older adults in our society. (Prerequisites: PSY 101 or SOC 101 or permission of instructor. Also listed as SOC 461, SW 461)

PSY 463 Children, Youth, and Society — 3 cr. hrs.

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. (Also listed as SOC 463 and SJP 463.)

PSY 470 Psychology of Aggression — 3 cr. hrs.

Major theories which account for aggressive behavior or violence. Emphasis given to personality, social, biological, and environmental determinants of aggression and violence. (Also listed as SJP 470.)

PSY 480 Clinical and Counseling Psychology — 3 cr. hrs.

Review of major theories and techniques of psychotherapy; issues in the contemporary practice of psychotherapy.

PSY 482 Group Counseling — 3 cr. hrs.

Introduction to group dynamics, contemporary models of group counseling, and the development of group skills.

PSY 490 Directed Study — credit arranged

Guided inquiry for superior students by arrangement with the psychology faculty.

PSY 491 Seminar — credit arranged

PSY 492 Seminar — credit arranged

PSY 494 Research — credit arranged

Participate directly in the research process with a faculty member. Before enrolling a student must consult with a faculty member to define project. (Prerequisites: PSY 214 and PSY 215.)

PSY 498 Senior Seminar — 3 cr. hrs.

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. (Prerequisites: PSY 214 and PSY 215.)

PSY 499 Senior Thesis — credit arranged

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. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area or good standing in the honors program.; PSY 214 and PSY 215.)

Religion

RELI 500 Research Methods in Religious Studies — 1 cr. hr.

Writing and research as ways of exploring and learning. An orientation to techniques of research and writing in religious studies, generation of bibliography, library use, mechanics of academic style, research cycle and communication tactics. (Taken on a pass/fail basis.)

RELI 501 Studies in Old and New Testament — 3 cr. hrs.

An introduction to scholarly issues concerning the historical context, history of composition, and pastoral application of the Old and New Testament.

RELI 502 Studies in Theology — 3 cr. hrs.

A survey of the methods, issues, and patterns of questioning typical of theological inquiry.

RELI 503 Biblical and Theological Foundations — 3 cr. hrs.

Claiming the biblical and theological traditions in the contemporary world through critical skills in exegesis and hermeneutics.

RELI 504 Issues of Religion and Culture — 3 cr. hrs.

This colloquium integrates the diverse topics of our graduate programs by addressing the intersection of the Church and society. Theology as a faithful challenge to the Church and the world.

RELI 512 Prophets of Israel — 3 cr. hrs.

Traces the development of prophecy from pre-Israelite to contemporary times. Focusing on the prophetic writings of the Hebrew and Christian Scriptures specifically, the course affords students the opportunity to explore selected biblical texts from a historical, social, cultural, literary and theological perspective. The course also invites students to assess critically selected prophetic texts from a hermeneutical perspective.

RELI 515 The Gospels — 3 cr. hrs.

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.

RELI 516 Johannine Literature — 3 cr. hrs.

The Gospel of John and the Johannine letters.

RELI 517 Letters of Paul — 3 cr. hrs.

Paul's life and theology as reflected in his letters.

RELI 518 Book of Revelation and General Epistles — 3 cr. hrs.

How to interpret the Book of Revelation and the Epistle of James, Hebrew, Jude, and 1 and 2 Peter.

RELI 522 Christology — 3 cr. hrs.

An introduction to systematic reflection on the mystery of Jesus the Christ. The course will be divided into three parts: Biblical Christology,

Classical (Patristic, Doctrinal and Medieval) Christology, and Contemporary Christology.

RELI 530 Theological Ethics — 3 cr. hrs.

Analysis of several contemporary Catholic ethicists, including Curan, O'Connell, Regan and McCormick, who have influenced the development of Catholic ethics. A critical examination of ethical issues such as natural law, human freedom, conscience, authority and the moral and rational capacity.

RELI 535 Church and Social Justice — 3 cr. hrs.

The issues of justice from a church perspective as they affect society locally, nationally, and internationally.

RELI 540 Contemporary Ecclesiology — 3 cr. hrs.

Contemporary trends in the post-Vatican II Church: critical issues assessed in light of Church teaching, conciliar directions and contemporary life.

RELI 545 Human Development in Theological Perspective — 3 cr. hrs.

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.

RELI 550 Theology of Ministry — 3 cr. hrs.

Theological foundations for ministry in the church, including historical roots and contemporary experience. Attention will be given to both the theory and practice of ministry. Skills of theological reflection will provide the method of inquiry and direction for collaborate pastoral response.

RELI 551 Introduction to Pastoral Counseling — 3 cr. hrs.

Foundations of theological models, methodology, and practice crucial to pastoral counseling. Special attention given to counseling theory and related pastoral issues with emphasis on theological reflections and evaluative methods.

RELI 554 Foundations of Religious Education — 3 cr. hrs.

Investigation of the philosophical and theological foundations of Christian religious education. Such issues as anthropology, epistemology, hermeneutics, the political nature of education, and the centrality of the Kingdom of God for Christian religious education will be systematically explored. Special emphasis will be placed on contemporary perspectives, especially that of Thomas H. Groome and his approach of Shared-Christian Praxis.

RELI 558 Practicum — 3 cr. hrs.

A field-based experience involving demonstrated competence in ministry. (Prerequisite: permission of instructor.)

RELI 562 Liturgical and Sacramental Spirituality — 3 cr. hrs.

The integration of liturgical celebration, personal spirituality, and Christian living.

RELI 569 Liturgical Pastoral Theology — 3 cr. hrs.

An advanced course in liturgical theology designed to study the nature of liturgy and how it is experienced today in light of historical and theological tradition. Special emphasis is given to the roots of the liturgical movement and ecumenism in the 20th century and their impact on contemporary worship.

RELI 573 Contemporary Christian Spirituality — 3 cr. hrs.

A contemporary exploration of human relationships, self, community, world and God, through the lens of Christian spirituality.

Social Justice

SJP 200 Perspectives on Social Justice — 3 cr. hrs.

This course introduces students to issues of social justice. Through a disciplinary framework, students explore theories and factors that underlie social integrity, economic prosperity and human rights. Students will also explore the power of participation in affecting change.

SJP 301 Cultural Geography — 3 cr. hrs.

A survey of global cultures and interrelationships between environment and culture. Focus on language, religion, migrations, and cultural transformation in an increasingly interdependent world. (Also listed as GEO 301.)

SJP 305 Social Work: Service and Social Justice — 3 cr. hrs.

A history of social work and role of social justice in social work programs, services, and agencies (and its impact on specific populations); includes an overview of intervention methods with groups, organizations, and individuals, with an emphasis on values and belief systems that affect the field. (Prerequisite: PSY 101 and SOC 101 or instructor permission. Also listed as SW 305.)

SJP 312 Plains Indians History — 3 cr. hrs.

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. (Also listed as HST 312.)

SJP 316 Literature and Culture of Contemporary Mexico — 3 cr. hrs.

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.

SJP 318 Cold War America — 3 cr. hrs.

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. (Also listed as HST 318.)

SJP 320 Foundations of Education — 3 cr. hrs.

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. (Also listed as SJP 320. Prerequisite: Fingerprint clearance)

SJP 323 African American History — 3 cr. hrs.

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. (Also listed as HST 323)

SJP 325 Cultural Diversity and Cultural Competence — 3 cr. hrs.

Course addresses the pluralistic nature of American society and the world through analyses of the social psychology of prejudice and discrimination. Students learn to apply critical thinking to an understanding of cultural differences. The course also covers various theories and strategies of culturally competent social intervention. (Prerequisite: SW 305 or instructor permission. Also listed as SOC 325, SW 325.)

SJP 335 American Public Policy — 3 cr. hrs.

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. (Also listed as POL 335.)

SJP 343 Europe in the Age of Dictatorship — 3 cr. hrs.

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. (Also listed as HST 343.)

SJP 346 Modern Germany — 3 cr. hrs.

Study of the varying political forms of German life over the past two centuries with emphasis on the war and the Nazi dictatorship (Also listed as HST 346.)

SJP 349 Environmental Policy — 3 cr. hrs.

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. (Also listed as ENV 349, POL 349.)

SJP 351 International Law and Organizations — 3 cr. hrs.

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. (Also listed as POL 351.)

SJP 356 Building World Peace — 3 cr. hrs.

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. (Also listed as POL 356.)

SJP 357 Technology, Resources and Environment in World History — 3 cr. hrs.

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. (Also listed as HST 357.)

SJP 358 Disease and Medicine in World History — 3 cr. hrs.

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. (Also listed as HST 358.)

SJP 365 History of the Second World War — 3 cr. hrs.

Study of World War II from immediate causes to Cold War conclusions with a balanced treatment of military, political and social (Home-

front) events and issues. (Also listed as HST 365.)

SJP 373 Politics of Latin America — 3 cr. hrs.

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. (Also listed as POL 373.)

SJP 374 Politics of Asia — 3 cr. hrs.

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.

SJP 380 Empire, Colonialism and Independence: Postcolonial Literature and Culture — 3 cr. hrs.

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. (Also listed as ENG 380.)

SJP 402 Poets, Prophets, Divas, and Diviners — 3 cr. hrs.

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. (Also listed as THE, PCS 402.)

SJP 405 International Welfare: Health Systems in Mexico — 3 cr. hrs.

Students spend six weeks with a Mexican family while participating in this course in Morelia, Mexico. The focus is on issues impacting the health of individuals and communities in Mexico and the service systems designed to address these issues. (Prerequisite: Two years of college-level Spanish or equivalent required. Also listed as SOC 405, SPN 405, SW 405.)

SJP 411 Communication Across Barriers — 3 cr. hrs.

Exploration of barriers to effective communication between members of differing sexes, races, and generations. Consideration of causes of problems and effective strategies for solutions. (Also listed as CST 411.)

SJP 412 Philosophy of Law — 3 cr. hrs.

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. (Also listed as PHL 412.)

SJP 413 Socio-Political Philosophy — 3 cr. hrs.

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. (Also listed as PHL 413.)

SJP 414 Philosophy and Feminism — 3 cr. hrs.

An investigation of the philosophical underpinnings of various feminist theories and their implications for philosophical inquiry from De Beauvoir to Irigaray. (Also listed as PHL 414.)

SJP 416 Negotiation and Conflict Management — 3 cr. hrs.

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. (Also listed as CST 416.)

SJP 423 Christian Social Ethics — 3 cr. hrs.

Contemporary American Christian thought on the nature of morality and society. An attempt to reveal the dynamics of faith that call us to do justice. Special consideration given to the development of pacifism in American churches. (Also listed as THE 423.)

SJP 424 Income Inequality — 3 cr. hrs.

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. Also listed as ECN 424.)

SJP 425 Catholic Social Teaching: A Living Tradition of Thought and Action — 3 cr. hrs.

The issues of justice from a Catholic perspective as they affect society locally, nationally, and internationally. (Also listed as THE 425, PCS 425.)

SJP 430 International Literature of Peace and Justice — 3 cr. hrs.

The impact of language on human life, especially its importance in creating and sustaining peace or violence. Works of contemporary writers. (Also listed as ENG 430.)

SJP 431 Intercultural Communication — 3 cr. hrs.

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. (Also listed as CST 431.)

SJP 433 Theological Implications of the Holocaust — 3 cr. hrs.

Explores contemporary Christian and Jewish theology 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 illumination of the development of early anti-Judaism of the Christian cultures to the racist anti-Semitism. (Also listed as THE 433.)

SJP 434 Environmental Ethics — 3 cr. hrs.

An inquiry into our obligations to the nonhuman world and the philosophical basis of that obligation. (Also listed as PHL 434.)

SJP 443 International Marketing Management — 3 cr. hrs.

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. (Prerequisite: BUS 200. Also listed as BUS 443.)

SJP 452 Social Justice Leadership Capstone — 3 cr. hrs.

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. (Also listed as PSY 452, PCS 452.)

SJP 455 Foreign Policies of Latin America — 3 cr. hrs.

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. (Also listed as POL 455.)

SJP 458 Women, Suffering, and Globalization — 3 cr. hrs.

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 exam-

ined in search of an inter-contextual Christology that both arises from and addresses the global suffering of women and the earth. (Also listed as THE 458.)

SJP 463 Children, Youth and Society — 3 cr. hrs.

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. (Also listed as PSY 463 and SOC 463.)

SJP 466 Violence, Poverty, and the Environment — 3 cr. hrs.

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. (Also listed as SOC 466 and SW 466.)

SJP 470 Psychology of Aggression — 3 cr. hrs.

Major theories which account for aggressive behavior or violence. Emphasis given to personality, social, biological, and environmental determinants of aggression and violence. (Also listed as PSY 470.)

SJP 474 Hegel and 19th-Century Philosophy — 3 cr. hrs.

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. (Also listed as PHL 474.)

SJP 486 The Mysticism of Resistance: Global Perspectives on Gender, Poverty, and Violence — 3 cr. hrs.

This course is designed to engage students in critical theological reflection rooted in social analysis of women's experiences of violence and poverty in a context of globalization. Through classroom and experimental learning students will come to understand the feminist paradigm as a model for transformation. (Also listed as THEP 486, SW 486.)

Social Work

Not all courses are offered annually. Contact social work faculty for the current two-year schedule of offerings.

SW 214 Research Methods: Design — 3 cr. hrs.

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 instructor permission. Also listed as PSY 214, SOC 214.)

SW 305 Social Work: Service and Social Justice — 3 cr. hrs.

A history of social work and role of social justice in social work programs, services, and agencies (and its impact on specific populations); includes an overview of intervention methods with groups, organizations, and individuals, with an emphasis on values and belief systems that affect the field. (Prerequisite: PSY 101 and SOC 101 or instructor permission. Also listed as SJP 305.)

SW 313 Social Welfare Policy — 3 cr. hrs.

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 305 or instructor permission.)

SW 325 Cultural Diversity and Cultural Competence — 3 cr. hrs.

Course addresses the pluralistic nature of American society and the world through analyses of the social psychology of prejudice and discrimination. Students learn to apply critical thinking to an understanding of cultural differences. The course also covers various theories and strategies of culturally competent social intervention. (Prerequisite: SW 305 or instructor permission. Also listed as SOC 325, SJP 325.)

SW 343 Human Behavior in the Social Environment — 3 cr. hrs.

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. (Prerequisites: SW 305, SW 214, or instructor permission. Also listed as SOC 343.)

SW 355 Gendered Perspectives on the Body and Human Sexuality — 3 cr. hrs.

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. Also listed as PSY 355, SOC 355.)

SW 386 Interviewing and Counseling — 3 cr. hrs.

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 305, SW 214 or instructor permission.) Fee: \$30.

SW 391 Seminar — credit arranged
SW 401 Internship I — 1 cr. hr.

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 3 credits in internships. (Also listed as PSY 401, SOC 401.)

SW 402 Internship II — 1 cr. hr.

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 3 credits in internships. (Also listed as PSY 402, SOC 402.)

SW 405 International Welfare: Health Systems in Mexico — 3 cr. hrs.

Students spend six weeks with a Mexican family while participating in this course in Morelia, Mexico. The focus is on issues impacting the health of individuals and communities in Mexico and the service systems designed to address these issues. (Prerequisite: Two years of college-level Spanish or equivalent required. Also listed as SOC 405, SPN 405, SJP 405.)

SW 461 Introduction to Gerontology — 3 cr. hrs.

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 economical issues for older adults in our society. (Prerequisites: PSY 101 or SOC 101 or permission of instructor. Also listed as PSY 461, SOC 461.)

SW 466 Violence, Poverty, and the Environment — 3 cr. hrs.

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. (Also listed as SOC 466 and SJP 466.)

SW 480 Theory and Methods of Social Work Practice I — 3 cr. hrs.

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. (Prerequisites: All SW courses except 482, 483, all lower division University and CAS requirements. Corequisite: SW 482.)

SW 481 Theory and Methods II — 3 cr. hrs.

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. (Prerequisites: All SW courses except 483; all lower-division University and CAS requirements. Corequisite: SW 483.)

SW 482 Social Work Practicum I — 6 cr. hrs.

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 480 and 481; all lower-division University and CAS requirements. Corequisite: SW 480.)

SW 483 Social Work Practicum II — 6 cr. hrs.

Intensive supervised field experience in selected social work agencies. Students spend 16 hours per week in the field. Social work majors only. (Prerequisites: All SW courses except 481; all lower-division University and CAS requirements. Corequisite: SW 481.)

SW 486 The Mysticism of Resistance: Global Perspectives on Gender, Poverty, and Violence — 3 cr. hrs.

This course is designed to engage students in critical theological reflection rooted in social analysis of women's experiences of violence and poverty in a context of globalization.

Through classroom and experimental learning students will come to understand the feminist paradigm as a model for transformation. (Also listed as PCS 486, THEP 486, SJP 486.)

SW 490 Directed Study — credit arranged

SW 491 Seminar — credit arranged

SW 492 Seminar — credit arranged

SW 494 Research — credit arranged

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 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. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.)

Sociology

Not all courses are offered annually. Contact sociology faculty for the current two-year schedule of offerings. SOC 101 is a prerequisite for all upper division sociology courses.

SOC 101 Introduction to Sociology — 3 cr. hrs.

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 cr. hrs.

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. Also listed as PSY 214, SW 214.)

SOC 215 Research Methods: Analysis — 3 cr. hrs.

Introduction to psychological and sociological research with emphasis on quantitative methods. Topics include sampling, hypothesis testing, statistical analysis, and computer usage. (Prerequisite or corequisite: SOC or PSY 214 or permission of instructor. Also listed as PSY 215.)

SOC 301 Social Problems — 3 cr. hrs.

Introduction to the major social problems of contemporary society, their nature, causes, and possible solutions; theories of deviancy.

SOC 305 Sociology of Crime and Justice — 3 cr. hrs.

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.

SOC 310 General Anthropology — 3 cr. hrs.

Views the variety of lifestyles and belief systems with which humans live and have lived.

SOC 325 Cultural Diversity and Cultural Competence — 3 cr. hrs.

Course addresses the pluralistic nature of American society and the world through analyses of the social psychology of prejudice and discrimination. Students learn to apply critical thinking to an understanding of cultural differ-

ences. The course also covers various theories and strategies of culturally competent social intervention. (Prerequisite: SW 305 or instructor permission. Also listed as SJP 325, SW 325.)

SOC 343 Human Behavior in the Social Environment — 3 cr. hrs.

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. (Prerequisites: SW 305, SW 214, or instructor permission. Also listed as SW 343.)

SOC 350 Social Psychology — 3 cr. hrs.

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. (Also listed as PSY 350.)

SOC 355 Gendered Perspectives on the Body and Human Sexuality — 3 cr. hrs.

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. (Prerequisites: PSY 101 or SOC 101. Also listed as SW 355, PSY 355.)

SOC 360 Criminology — 3 cr. hrs.

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.

SOC 375 The Self — 3 cr. hrs.

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. (Also listed as PSY 375.)

SOC 380 Sociological Theory — 3 cr. hrs.

Comprehensive study of sociological theories from the late nineteenth century to the present; the relationship between theory and research. Required of majors in sociology.

SOC 391 Seminar — credit arranged

SOC 392 Seminar — credit arranged

SOC 401 Internship — credit arranged

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. This course may be taken twice.

Limited to majors and minors. (Also listed as PSY 401, SW 401.)

SOC 402 Internship II — credit arranged

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. This course may be taken twice. Limited to majors and minors. (Also listed as PSY 402, SW 402.)

SOC 405 International Welfare: Health Systems in Mexico — 3 cr. hrs.

Students spend six weeks with a Mexican family while participating in this course in Morelia, Mexico. The focus is on issues impacting the health of individuals and communities in Mexico and the service systems designed to address these issues. (Prerequisite: Two years of college-level Spanish or equivalent required. Also listed as SW 405, SPN 405, SJP 405.)

SOC 408 Juvenile Delinquency — 3 cr. hrs.

Analysis of theories and research concerning the nature, extent, course, and control of delinquent behavior. (Prerequisite: SOC 214.)

SOC 410 Sociology of Corrections — 3 cr. hrs.

Overview of the correctional process demonstrated through the use of an actual case record. Highlights the role and function of law enforcement, legal services, and the court. Stresses the rehabilitation function of correctional institutions and probation and parole.

SOC 422 Sociology of Gender — 3 cr. hrs.

Examination of historical and recent changes and role expectations for men and women. Included is an analysis of real vs. perceived differences and biological vs. socially induced differences. Discussion focuses on the consequences of gender roles and work and family including responses to changing gender roles.

SOC 423 Sociology of Sport — 3 cr. hrs.

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.

SOC 434 Urban Society — 3 cr. hrs.

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.

SOC 435 Social Class and Inequality — 3 cr. hrs.

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. (Also listed as SJP 435.)

SOC 436 Race and Ethnic Relations — 3 cr. hrs.

This course introduces students to basic concepts and terms surrounding race relations from a sociological perspective. In addition, students will engage in lectures, essays, and exams that focus on race relations in the U.S., including how race intersects with class and gender, interpersonal relationships, pop culture, crime and justice, and the environment.

SOC 444 Sociology of Deviant Behavior — 3 cr. hrs.

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.

SOC 446 Criminal Justice Practicum I — 3 cr. hrs.

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.

SOC 447 Criminal Justice Practicum II — 3 cr. hrs.

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.

SOC 450 Cross Cultural Psychology — 3 cr. hrs.

Explores relationships between cultural variables and human behavior. The development of cross cultural psychology and research methodologies used by cross cultural researchers is examined. Theories that reflect the cultural, social, and developmental perspectives on behavior are considered. (Also listed as PSY 450.)

SOC 461 Introduction to Gerontology — 3 cr. hrs.

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 economical issues for older adults in our society. (Prerequisites: PSY 101 or SOC 101 or permission of instructor. Also listed as PSY 461, SW 461.)

SOC 463 Children, Youth and Society — 3 cr. hrs.

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. (Also listed as PSY 463 and SJP 463.)

SOC 466 Violence, Poverty, and the Environment — 3 cr. hrs.

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. (Also listed as SJP 466 and SW 466.)

SOC 481 Marriage: Social and Ethical Dimensions — 3 cr. hrs.

An inquiry into the theological, philosophical, psychological, and social aspects of marriage, with specific emphasis on commitment and the bond of love. The moral problems of abortion, divorce, and homosexuality in the modern context will be addressed. (Also listed as THEP 481.)

SOC 490 Directed Study — credit arranged

Guided inquiry for superior students by special arrangement with the sociology faculty.

SOC 491 Seminar — credit arranged

SOC 492 Seminar — credit arranged

SOC 493 Research — credit arranged

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 — credit arranged

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 498 Senior Project Seminar — 3 cr. hrs.

Advanced analysis, integration, application, and criticism of the field of sociology. Students will complete a senior project. Sociology majors only. (Prerequisites: SOC 214 and SOC 380, or permission of instructor.)

SOC 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, and department chair. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program, SOC 214, and SOC 380.)

Spanish

SPN 101 Elementary Spanish — 3 cr. hrs.

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 for SPN 102: SPN 101 or equivalent.)

SPN 102 Elementary Spanish — 3 cr. hrs.

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 for SPN 102: SPN 101 or equivalent.)

SPN 105 Accelerated Beginning Spanish — 6 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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.

***SPN 205 Accelerated Intermediate Spanish — 6 cr. hrs.**

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 — credit arranged

SPN 301 Advanced Spanish Composition and Culture — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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.

SPN 380 Spanish for the Medical and Social Services Professions — 3 cr. hrs.

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 382 Mexican Customs and Traditions — 3 cr. hrs.

Foreigners perceive Mexican history and culture through customs and traditions. This course enables students to understand the importance that Mexicans place on their social activities and public festivities. Mexican customs, traditions, and the values behind them are compared with those typical of U.S. society. Guided tours to relevant historical sites supplement materials studied in class. (Morelia, Mexico. Prerequisite: SPN 202.)

SPN 405 International Welfare: Health Systems in Mexico — 3 cr. hrs.

Students spend six weeks with a Mexican family while participating in this course in Morelia, Mexico. The focus is on issues impacting the health of individuals and communities in Mexico and the service systems designed to address these issues. (Prerequisite: Two years of college-level Spanish or equivalent required. Also listed as SOC 405, SW 405, SJP 405.)

SPN 407 Don Quixote — 3 cr. hrs.

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 of Spanish Literature — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 480 Medical Translation and Interpretation — 3 cr. hrs.

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 cr. hrs.

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 communica-

tion values in both English and Spanish-speaking communities.

SPN 482 Cultural Perspectives of Modern Spain — 3 cr. hrs.

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 cr. hrs.

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 cr. hrs.

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 490 Directed Study — credit arranged**SPN 491 Seminar — credit arranged****SPN 492 Seminar — credit arranged****SPN 497 Spanish Internship — credit arranged**

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 — credit arranged

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. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.)

Theology

THE 101 An Introduction to Religion and Theology — 3 cr. hrs.

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 cr. hrs.

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. (Prerequisites: THE 101; and PHL 150 or ENG 112.)

THE 347 Theological Reflection Seminar — 1 cr. hr.

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.)

Bible**THE 402 Poets, Prophets, Divas, and Diviners — 3 cr. hrs.**

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. (Also listed as PCS, SJP 402.)

THE 404 Sages and Singers, Songwriters and Storytellers — 3 cr. hrs.

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.

THE 407 Theology and Controversy in the Letters of Paul — 3 cr. hrs.

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.

THE 412 Jesus' Ministry in the Gospels — 3 cr. hrs.

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.

THE 415 Ancient Views on Marriage, Divorce, and Sexuality at the Dawn of Christianity — 3 cr. hrs.

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.

THE 416 The Second Coming of Christ, in the New Testament and Beyond — 3 cr. hrs.

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.

THE 417 Trickery, Gender, Power, and Politics in the Bible — 3 cr. hrs.

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.

THE 419 Biblical Spirituality: Saints and Sinners on a Journey with God — 3 cr. hrs.

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.

Theological Ethics**THE 420 Christian Personal Values — 3 cr. hrs.**

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. An historical study of various philosophical and theological descriptions of the nature of the good person.

THE 422 Modern Catholic Ethics — 3 cr. hrs.

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. (Also listed as PCS 422.)

THE 423 Christian Social Ethics — 3 cr. hrs. 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. (Also listed as SJP 423.)

THE 425 Catholic Social Teaching: A Living Tradition of Thought and Action — 3 cr. hrs. The issues of justice from a Catholic perspective as they affect society locally, nationally, and internationally. (Also listed as PCS, SJP 425.)

THE 426 Christian Marriage: Tradition and the Modern Context — 3 cr. hrs.

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.

THE 427 Theological Environmental Ethics — 3 cr. hrs.

This course explores the field of environmental ethics and its growing impact on the Christian Theological-ethical tradition. The course will provide a brief summary of 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.

THE 428 Ecology in Theological Perspective — 3 cr. hrs.

This course explores contemporary Christian theology and its response to environmental and ecological issues. It investigates the scope of our environmental crisis and 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.

THE 433 Theological Implications of the Holocaust — 3 cr. hrs.

Explores contemporary Christian and Jewish theology 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 illumination of the development of early anti-Judaism of the Christian cultures to the racist anti-Semitism. (Also SJP 433.)

Liturgy

THE 435 Theology of Christian Worship — 3 cr. hrs.

Exploration of liturgy as Christian worship, considering ritual symbolism as language (word and action) of worship, and worship as Christian faith in dialogue with God. A critical evalua-

tion of contemporary liturgical reforms in ecumenical perspective.

THE 438 The Catholic Mass: Yesterday, Today, and Tomorrow — 3 cr. hrs.

A historical and theological examination of the Catholic Mass (Lords Supper) in Church teaching and ecumenical perspective. Special emphasis to be given to the intrinsic nature of its parts in Word and Eucharist, to devout and active participation by the faithful, and to its significance as source and summit of Christian spirituality in contemporary time and culture. (Also listed as PCS 438.)

THE 439 Catholic Worship Today — 3 cr. hrs.

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.

Spirituality and Ministry

THE 441 Responding to God: An Introduction to Spiritual Practice — 3 cr. hrs.

Enrich an awareness of the presence and responses to 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. (Also listed as PCS 441.)

THE 442 Introduction to Christian Spirituality — 3 cr. hrs.

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 suggests ways of being in right relationships with God, self, others and the natural world within the context of the 21st century. (Also listed as PCS 442.)

THE 445 Human Development in Theological Perspective — 3 cr. hrs.

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.

THE 448 Theological Dimensions of Suffering and Death — 3 cr. hrs.

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 universal experience of loss and the many dimensions of grief employed in dealing with loss. (Nursing students only.)

THE 449 Theology of Death and Bereavement — 3 cr. hrs.

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.

Systematic Theology**THE 450 Grace, Sin, and the Human Condition — 3 cr. hrs.**

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 creatively to employ the riches of the Roman Catholic tradition in articulating the meaning and destiny of their own humanity.

THE 451 Philosophical Thinking — 3 cr. hrs.

Introduction to the classical and contemporary discussion of the interaction between human reason and religious faith (Christian tradition) including arguments for and against the existence of God. Emphasis on the philosophical foundations of modern theologies.

THE 453 Religion and Science — 3 cr. hrs.

Historical development of conflicts, especially over the theory of evolution, and the variety of positions presented today by theologians, scientists, and philosophers. (Also listed as PCS 453.)

THE 454 God and the Theological Imagination — 3 cr. hrs.

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.

THE 455 Christology — 3 cr. hrs.

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.

THE 456 Literary Catholicism — 3 cr. hrs.

This course will explore the Catholic theological tradition, primarily as it finds expression in five novelists whose writing is influenced by that tradition. (Also listed as PCS 456.)

THE 457 Foundations of Catholic Theology — 3 cr. hrs.

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.

THE 458 Women, Suffering, and Globalization — 3 cr. hrs.

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. (Also listed as SJP 458.)

History of Christianity**THE 460 Christianity's First Thousand Years: Emergence and Growth, 100-1200 — 3 cr. hrs.**

The course traces Christianity's meteoric development in the first millennium. It examines the break from Judaism, 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.

THE 461 Christianity's Second Thousand Years: Challenge and Renewal, 1200-2000 — 3 cr. hrs.

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.

THE 463 Saint Augustine, Teacher of Christianity — 3 cr. hrs.

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. (Also listed as PCS 463.)

THE 465 A Concise History of Christianity Through Twenty Centuries — 3 cr. hrs.

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.

THE 490 Directed Study — credit arranged

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 — credit arranged

THE 492 Seminar — credit arranged

THE 496 Workshop — credit arranged

THE 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. (Prerequisites: Senior standing; 3.0 G.P.A. in the thesis area, or good standing in the honors program.)

Theological Perspectives

THE 101 and 205 must be successfully completed before taking THEP courses. Theological Perspectives courses integrate theology with another University core discipline. 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 pages 6 and 7 for the specific 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 468 The Religious Heritage of America — 3 cr. hrs.

Examination in historical perspective of the beliefs, laws, and rituals found in America's main religious groups: Protestants, Catholics, and Jews. In addition, historical survey of religious movements indigenous or unique to America: Shakers, Mormonism, Christian Science, Pentecostalism, and the Black Church, plus American civil religion.

THEP 481 Marriage: Social and Ethical Dimensions — 3 cr. hrs.

An inquiry into the theological, philosophical, psychological, and social aspects of marriage, with specific emphasis on commitment and the bond of love. The moral problems of abortion, divorce, and homosexuality in the modern context will be addressed. (Also listed as SOC 481.)

THEP 482 Theology in Ecological Perspective — 3 cr. hrs.

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. (Also listed as PCS 482, ENV 488.)

THEP 483 Grace in the Wilderness: Conflict in the Bible — 3 cr. hrs.

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. (Also listed as CST 483.)

THEP 484 Early Christians and the Art of Persuasion — 3 cr. hrs.

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.

THEP 485 Historical and Theological Perspectives on the Holocaust — 3 cr. hrs.

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.

THEP 486 The Mysticism of Resistance: Global Perspectives on Gender, Poverty and Violence — 3 cr. hrs.

This course is designed to engage students in critical theological reflection rooted in social analysis of women's experiences of violence and poverty in a context of globalization. Through classroom and experimental learning students will come to understand the feminist paradigm as a model for transformation. (Also listed as SW 486, SJP 486, PCS 486.)

THEP 491 Special Offerings — credit arranged.

Graduate Courses

Bible

THE 504 Sages and Singers, Songwriters and Storytellers — 3 cr. hrs.

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.

THE 505 Poets, Prophets, Divas, and Divines — 3 cr. hrs.

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.

THE 507 Theology and Controversy in the Letters of Paul — 3 cr. hrs.

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.

THE 512 Jesus' Ministry in the Gospels — 3 cr. hrs.

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.

THE 515 Ancient Views on Marriage, Divorce, and Sexuality at the Dawn of Christianity — 3 cr. hrs.

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.

THE 516 The Second Coming of Christ, in the New Testament and Beyond — 3 cr. hrs.

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.

THE 517 Trickery, Gender, Power, and Politics in the Bible — 3 cr. hrs.

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.

THE 519 Biblical Spirituality: Saints and Sinners on a Journey with God — 3 cr. hrs.

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.

Theological Ethics

THE 520 Christian Personal Values — 3 cr. hrs.

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. An historical study of various philosophical and theological descriptions of the nature of the good person.

THE 522 Modern Catholic Ethics — 3 cr. hrs.

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.

THE 523 Christian Social Ethics — 3 cr. hrs.

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.

THE 525 Catholic Social Teaching: A Living Tradition of Thought and Action — 3 cr. hrs.

The issues of justice from a Catholic perspective as they affect society locally, nationally, and internationally.

THE 526 Christian Marriage: Tradition and Modern Context — 3 cr. hrs.

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.

THE 527 Theological Environmental Ethics — 3 cr. hrs.

This course explores the field of environmental ethics and its growing impact on the Christian Theological-ethical tradition. The course will provide a brief summary of 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.

THE 528 Ecology in Theological Perspective — 3 cr. hrs.

This course explores contemporary Christian theology and its response to environmental and ecological issues. It investigates the scope of our environmental crisis and 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.

Liturgy**THE 535 Theology of Christian Worship — 3 cr. hrs.**

Exploration of liturgy as Christian worship, considering ritual symbolism as 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.

THE 538 The Catholic Mass: Yesterday, Today, and Tomorrow — 3 cr. hrs.

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 devout and active participation by the faithful, and to its significance as source and summit of Christian spirituality in contemporary time and culture.

THE 539 Catholic Worship Today — 3 cr. hrs.

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.

Spirituality and Ministry**THE 541 Responding to God: An Introduction to Spiritual Practice — 3 cr. hrs.**

Enrich an awareness of the presence and responses to 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.

THE 542 Introduction to Christian Spirituality — 3 cr. hrs.

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 suggests ways of being in right relationships with God, self, others and the natural world within the context of the 21st century.

THE 545 Human Development in Theological Perspective — 3 cr. hrs.

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.

THE 548 Theological Dimensions of Suffering and Death — 3 cr. hrs.

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 universal experience of loss and the many dimensions of grief employed in dealing with loss. (Nursing students only.)

THE 549 Theology of Death and Bereavement — 3 cr. hrs.

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.

Systematic Theology**THE 550 Grace, Sin, and the Human Condition — 3 cr. hrs.**

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 creatively to employ the riches of the Roman Catholic tradition in articulating the meaning and destiny of their own humanity.

THE 551 Philosophical Theology — 3 cr. hrs.

Introduction to the classical and contemporary discussion of the interaction between human reason and religious faith (Christian tradition) including arguments for and against the existence of God. Emphasis on the philosophical foundations of modern theologies.

THE 553 Religion and Science — 3 cr. hrs.

Historical development of conflicts, especially over the theory of evolution, and the variety of positions presented today by theologians, scientists, and philosophers.

THE 554 God and the Theological Imagination — 3 cr. hrs.

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.

THE 555 Christology — 3 cr. hrs.

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.

THE 556 Literary Catholicism — 3 cr. hrs.

This course will explore the Catholic theological tradition, primarily as it finds expression in five novelists whose writing is influenced by that tradition.

THE 557 Foundations of Catholic Theology — 3 cr. hrs.

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.

THE 558 Women, Suffering, and Globalization — 3 cr. hrs.

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.

History of Christianity**THE 560 Christianity's First Thousand Years: Emergence and Growth, 100-1200 — 3 cr. hrs.**

The course traces Christianity's meteoric development in the first millennium. It examines the break from Judaism, 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.

THE 561 Christianity's Second Thousand Years: Challenge and Renewal. 1200-2000 — 3 cr. hrs.

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.

THE 563 Saint Augustine, Teacher of Christianity — 3 cr. hrs.

Besides being the most provocative teacher in the history of Western Christianity, only Saint Augustine of Hippo (354-430) remains a force in contemporary thought. Besides his ranking importance in Christian theology for more than fifteen hundred years, his thinking still informs fields as diverse as psychology, political science, and philosophy. This course will track the life and thought while situating

THE 565 A Concise History of Christianity Through Twenty Centuries — 3 cr. hrs.

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.

Applied Pastoral Ministry**THE 580 Theology and Practice of Ministry — 3 cr. hrs.**

An examination of the theology, history, spirituality, and practice of ministry in the Church. Two-thirds of the course will be experiential learning of local ministries via guest speakers, on-site visits, and interviews of pastoral ministers. One-third will be analysis of the historical, theological, and spiritual roots of ministry drawn into reflection on the dimensions of ministry today and in the

THE 581 Theology and Ministry in the Church — 3 cr. hrs.

A continuation of the academic work begun in THE 580, which will comprise two-thirds of the course. The final third will be a supervised field education placement in a local ministry. The written work of this course will synthesize the academic content and the ministerial experience in a research/reflection paper. The course will be flexible enough to accommodate a one-credit

**THE 582 Applied Pastoral Ministry —
3 cr. hrs.**

Students enrolled in this course will spend two-thirds of their time working at their supervised pastoral ministry assignment and becoming skilled in the various modes of doing theological reflection on their work via written verbatims, journaling, case studies, and/or critical incidents under the guidance of their supervisor. The remaining third will be a weekly seminar devoted to analyzing the present

THE 590 Directed Study — credit arranged

THE 591 Seminar — credit arranged

THE 592 Seminar — credit arranged

THE 595 Workshop — credit arranged

THE 596 Workshop — credit arranged

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*Dean, College of Arts and
Sciences*

Robin D. Anderson, Ed.D.
*Dean, Dr. Robert B. Pam-
plin, Jr., School of Business
Administration*

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Dean, School of Education

Zia A. Yamayee, Ph.D.

Dean, School of Engineering
Joanne R. Warner, D.N.S.
Dean, School of Nursing

Wilson W. Clark

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Drew Harrington, M.L.S.
*University Librarian,
Director*

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Rev. Gerard J. Olinger,
C.S.C., J.D.

*Executive Assistant to the
President*

John A. Soisson

*Special Assistant to the
President*

Rev. Gary S. Chamberland,
C.S.C.

Director, Campus Ministry

Lawrence R. Williams II, J.D.

Director, Athletics

Office of the Provost

Thomas G. Greene, Ed.D.

Associate Provost

Col. Terry Kono

Professor, Aerospace Studies

Lt. Col. Lewis N. Doyle

Professor, Military Science

Roberta D. Lindahl, M.B.A.

Registrar

Karen K. Nelson, Ph.D.

*Director, Institutional Re-
search*

John C. Orr, Ph.D.

*Assistant to the Provost for
Honors Program and Scholar-
ship*

Rev. Arthur F. Wheeler,
C.S.C., Ph.D.

*Assistant to the Provost,
Director, Studies Abroad*

Daniel M. McGinty

*Academic Advisor to Student
Athletes*

Office of Financial Affairs

Eric Barger, CPA, M.B.A.

*Associate Vice President and
Controller*

James J. Kuffner, M.B.A.

*Assistant Vice President for
Community Relations*

Paul J. Luty

*Director, Facilities Planning
and Construction*

Rowena Bramlette, CPA,
B.B.A.

Director, Budgets

Thomas Blume, E.F.P.

Director, Physical Plant

Heidi Keller

Director, Student Accounts

Erin Bright

Manager, Bookstore

Office of University

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*Associate Vice President for
Development*

Carmen C. Gaston, J.D.

*Assist. V.P. for Alumni
Relations*

Laurie C. Kelley, M.B.A.

*Assist. V.P. for Marketing and
Communications*

William O. Reed

Director, University Events

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*Associate Vice President for
Student Life*

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Dean, Admissions

Janet K. Turner

Director, Financial Aid

Amy E. Cavanaugh, M.S.

Director, Career Services

Michael J. Pelley

*Director, International Student
Services*

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Director, Food Services

Michael E. Walsh, M.Ed.

Director, Residence Life

Jeromy Koffler, M.A.

Director, Student Activities

Harold Burke-Sivers, M.T.S.

Director, Public Safety

Paul R. Myers, Ph.D.

*Director, University Health
Center*

Laura N. Goble

*Director, Moreau Center for
Service and Leadership*

Brenda C. Greiner, M.A.

*Director, Shepard Freshman
Resource Center*

Natalie Shank

Student Conduct Coordinator

Office of Information Services

Brian Sopko, M.B.A.

Director, Human Resources

Scott Christian, M.A.

*Director, Academic Technology
Services*

Jenny B. Walsh, M.S.

*Director, Web and Administra-
tive Services*

Faculty

As of June 1, 2010

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.

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1991. At Portland, 1991—

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Associate Professor, Business
B.A., University of Oregon, 1990; M.B.A., University of Portland, 1996; Ph.D., Arizona State University, 2003. At Portland, 2003—

Bahram Adrangi, Ph.D.

Professor, Business Administration
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Amelia J. Ahern-Rindell, Ph.D.

Associate Professor, Biology
B.S., University of Illinois, 1979; M.S., Washington State University, 1985; Ph.D., *ibid*, 1988. At Portland, 1997—

Michael W. Akerman, Ph.D.

Associate Professor Emeritus, Mathematics⁴
B.A., Portland State University, 1964; M.A., University of Arizona, 1966; Ph.D., Oregon State University, 1973. At Portland, 1979—

Robert J. Albright, Ph.D.

Tyson Distinguished Professor, Engineering
B.S., Oregon State University, 1963; M.S., *ibid*, 1965; Ph.D., University of Washington, 1971. At Portland, 1970—

David B. Alexander, Ph.D.

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Mary E. Allender, Ph.D.

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Rev. Jeffrey Allison, C.S.C.

Instructor, Theology
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Assistant Professor, Education
B.A., University of Oregon, 1992; M.A., Portland State University, 2000; Ph.D., University of Wisconsin-Madison, 2003. At Portland, 2008—

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Franz Chair in Entrepreneurship³
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B.A. University of Nebraska at Kearney, 1970;
M.A.T., University of Nebraska-Lincoln, 1972;
Ed.D., *ibid*, 1984. At Portland, 1998—

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

University Archivist
B.A., University of Notre Dame, 1962; S.T.B., Pontificia Universitas Gregoriana, 1964; S.T.L., *ibid*, 1966; M.A., The Johns Hopkins University, 1968; Ph.D., University of Strasbourg, 1970. At Portland, 1999—

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1983—

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1989. At Portland, 1990—

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land, 2009—

Raymond R. Bard, Ph.D.

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sity of Vermont, 1977. At Portland, 1986—

Ronda S. Bard, Ph.D.

Lecturer, Chemistry
B.S., Newberry College, 1976; Ph.D., Vanderbilt
University, 1980. At Portland, 2006—

William F. Barnes, Ph.D.

Associate Professor, Business
B.A., University of New Hampshire, 1989;
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land, 2000—

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Health & Science University, 2004. At Portland,
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Gregorian University, 1963; M.A., University of
Portland, 1967; Ph.D., ibid, 1969. At Portland,
1974—

Elena K. Bernard, Ph.D.

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B.S., William Carey College, 1997; M.B.A., Hen-
derson State University, 1998; Ph.D., Louisiana
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Catholic University of America, 1950; S.T.D.,
ibid, 1952. At Portland, 1969—

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ern Oregon State College, 1982; Ph.D., Universi-
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¹Part-time²On leave³Administrative personnel primarily⁴Special faculty status

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Deborah Burton, Ph.D.

Adjunct Associate Professor, Nursing¹
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Michael Cameron, Ph.D.

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B.A., Central Bible College, 1977; Bethany Theological Seminary, 1981; Ph.D., University of Chicago Divinity School, 1996. At Portland, 2002—

Kevin Cantrell, Ph.D.

Associate Professor, Chemistry
B.S., Furman State University, 1992; M.S., Oregon State University, 1998; Ph.D., ibid, 2001. At Portland, 2001—

James B. Carroll, Ph.D.

Associate Professor, Education
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H. Beng Chang, M.S.T.

Instructor, Mathematics
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of California, 1995; M.A., Stanford University,
1997; Ph.D., Duke University, 2006. At Port-
land, 2007—

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B.A., Abilene Christian College, 1961; M.A., *ibid*,
1963; Ph.D., University of Iowa, 1969. At Port-
land, 1969—

Susan D. Decker, Ph.D.

Associate Professor, Nursing
B.A., Miami University, Ohio, 1970; M.S.N., Uni-
versity of Cincinnati, 1973; Ph.D., Portland State
University, 1982. At Portland, 1973—

Nicole DeHoratius, D.B.A.

Assistant Professor, Business Administration
A.B., Harvard University, 1990; M.S., University
of Sussex, 1994; D.B.A., Harvard Business
School, 2002. At Portland, 2007—

David M. De Lyser, D.A.

Assistant Professor, Music
B.A., Minnesota State University, 1990; M.A.,
University of Portland, 2001; D.A., University of
Northern Colorado, 2005. At Portland, 2010—

Sr. Carol J. Dempsey, O.P., Ph.D.

Professor, Theology
B.A., Caldwell College, 1978; M.A., St. Louis Uni-
versity, 1986; Ph.D., Catholic University of Amer-
ica, 1994. At Portland, 1994—

Will H. Deming, Ph.D.

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B.A., College of William and Mary, 1978; Ph.D.,
University of Chicago, 1991. At Portland, 1992—

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Assistant Professor, Engineering
B.S., Washington State University, 1991; M.S.,
ibid, 1993; Ph.D., Purdue University, 2002. At
Portland, 2006—

Andrew Downs, Ph.D.

Assistant Professor, Psychology
B.A., University of Notre Dame, 1994; M.S.,
Washington State University, 1998; Ph.D., *ibid*,
2002. At Portland, 2008—

Lt. Col. Lewis N. Doyle, M.S.

Professor, Military Sciences
B.A., University of Oregon, 1991; M.S., Tui Uni-
versity, 2007. At Portland, 2009—

Roger O. Doyle, D.M.A.

Professor Emeritus, Music⁴
B.M.Ed., University of Wichita, 1962; M.M.Ed.,
Wichita State University, 1967; D.M.A., Univer-
sity of Colorado, 1973. At Portland, 1973—

Bruce H. Drake, Ph.D.

Professor, Business Administration
B.A., Dartmouth College, 1966; M.B.A., Stanford
University, 1968; Ph.D., University of Washing-
ton, 1976. At Portland, 1988—

Robert W. Duff, Ph.D.

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B.A., Idaho State University, 1960; M.Ed., Uni-
versity of Idaho, 1964; M.B.A., University of
Portland, 1976; Ph.D., University of Oregon,
1968. At Portland, 1989—

Ardys Dunn, Ph.D.

Associate Professor Emerita, Nursing⁴
B.S.N., University of Illinois at Chicago, 1969;
M.S., University of Oregon, 1974; M.N., Oregon
Health Sciences University, 1983; Ph.D., Uni-
versity of Oregon, 1984. At Portland, 1985—

Renee Eaton, M.B.A.

Instructor, Business Administration
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of Pittsburgh, 1988. At Portland, 2003—

Todd Easton, Ph.D.

Associate Professor, Business Administration
B.A., University of California, Santa Cruz, 1975;
M.A., University of California, Berkeley, 1980;
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Maria Elva Echenique, M.A.

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2002—

Karen E. Eifler, Ph.D.

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1997. At Portland, 1998—

Mark A. Eifler, Ph.D.

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Brian J. Els, Ph.D.

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Caery Ann Evangelist, Ph.D.

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Thompson M. Faller, Ph.D.

Professor, Philosophy
B.A., St. Mary's, 1962; M.A., Xavier University, Ohio, 1964; Ph.D., University of Salzburg, Austria, 1969. At Portland, 1964—

Terence G. Favero, Ph.D.

Professor, Biology
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Howard D. Feldman, Ph.D.

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Josef Feldner, Ph.D.

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Ph.D., University of Innsbruck, 1990. At Portland, 1996—

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Courtney V. Fletcher, Ph.D.

Assistant Professor, Communication Studies
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Bradley R. Franco, Ph.D.

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Lauretta Conklin Frederking, Ph.D.

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Edward J. Freed, D.B.A.

Professor, Business Administration
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Joseph Gallegos, Ph.D.

Professor, Social Work
B.S., Portland State University, 1972; M.S.W., *ibid.*, 1973; Ph.D., University of Denver, 1978. At Portland, 1988—

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Lecturer, Theology
B.A., Friends University, 1975; M.A., Kansas State University, 1978; M.Div., Columbia Theological Seminary, 1994; Ph.D., University of California, 1994. At Portland, 2008—

Jeffrey A. Gauthier, Ph.D.

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Associate Professor Emeritus, Engineering⁴
B.S.M.E., Technology University, Brno, Czecho-
slovakia, 1952; M.S.M.E., Technical University
Prague, Czechoslovakia, 1964. At Portland, 1965—

Bryan D. Rookey, Ph.D.

Assistant Professor, Sociology
B.A., Eastern Washington University, 2000; M.A.,
University of Montana, 2003; Ph.D., Washing-
ton State University, 2009. At Portland, 2009—

Mary Beth Rosenstiel, D.N.P.

Instructor, Nursing³
B.S.N., University of Portland, 2002; M.S., *ibid*,
2004; D.N.P., Rush University, 2007. At Port-
land, 2004—

Rev. Stephen C. Rowan, Ph.D.

Professor, English³
B.A., Fairfield University, 1966; S.T.B., St.
Mary's Seminary & University, 1968; M.A., the
University of British Columbia, 1975; Ph.D.,
ibid, 1985. At Portland, 2007—

W. Stephen Royce, Ph.D.

Associate Professor Emeritus, Psychology⁴
A.B., Stanford University, 1971; M.S., University
of Oregon, 1974; Ph.D., *ibid*, 1976. At Portland,
1977—

Rev. H. Richard Rutherford, C.S.C., Drs. Theol.

Professor, Theology
B.A., University of Notre Dame, 1961; S.T.L.,
Gregorian University, 1965; Drs. Theol.,
Catholic University of Nijmegen, Netherlands,
1970. At Portland, 1976—

Sr. Joan Saalfeld, S.N.J.M., Ph.D.

Associate Professor Emerita, English⁴
B.A., Marylhurst College, 1964; M.A., Portland
State University, 1971; Ph.D., University of
Denver, 1976. At Portland, 1977—

Rachel G. Salas, Ph.D.

Assistant Professor, Education
B.A., Loyola Marymount University, 1981;
M.A., Catholic University of America, 1992;
Ph.D., University of Texas, 2000. At Portland,
2010—

Stephanie A. Salomone, Ph.D.

Assistant Professor, Mathematics
B.A., University of Michigan, 1997; M.A., Boston
College, 1999; Ph.D., UCLA, 2005. At Portland
2005—

Alejandro Santana, Ph.D.

Associate Professor, Philosophy
B.A., California State University, Fresno, 1990;
B.A., *ibid*, 1992; M.A., University of California,
Irvine, 2001. Ph.D., *ibid*. At Portland, 2003—

Anne M. Pitsch Santiago, Ph.D.

Visiting Assistant Professor, Political Science
B.S., Viterbo College, 1988; M.A., University of
Nebraska-Lincoln, 1991; Ph.D., University of
Maryland, 2000. At Portland, 2008—

Deborah Susan Schenbarger, Ph.D.

Assistant Professor, Engineering
B.S., University of the Pacific, 1989; M.S., Stan-
ford University, 1995; Ph.D., University of Cali-
fornia at Davis, 2006. At Portland, 2008—

¹Part-time²On leave³Administrative personnel primarily⁴Special faculty status

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Assistant Professor Emerita, Education⁴
B.A., San Francisco State University, 1956; M.A.,
University of Toledo, 1976; Ph.D., *ibid*, 1989. At
Portland, 1980—

John W. Schouten, Ph.D.

Associate Professor, Business Administration
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At Portland, 1991—

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Adjunct Instructor, Mathematics
Ph.D., University of Salzburg, 1998
At Portland, (Salzburg), 1997—

Arthur A. Schulte, Jr., Ph.D., L.L.D.

Pamplin Professor Emeritus, Business Adminis-
tration⁴
Ph.B., Comm., University of Notre Dame, 1952;
M.B.A., University of Denver, 1959; Ph.D., Uni-
versity of Oregon, 1964; LL.D. (*honoris causa*),
University of Portland, 1990. At Portland, 1958—

James W. Seal, Ph.D.

Associate Professor, Business Administration
B.S., University of Southern Mississippi, 1969;
M.S., *ibid*, 1970; Ph.D., University of Illinois,
1977. At Portland, 1977—

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1997. At Portland, 1997—

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Associate Professor, Communication Studies
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ty of Minnesota, 1973; Ph.D., University of Min-
nesota, 1993. At Portland, 1987—

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A.B., University of Notre Dame, 1958; S.T.B.,
Gregorian University, 1960; S.T.L., *ibid*, 1962;
M.A., University of Notre Dame, 1965; Ph.D.,
University of North Carolina at Chapel Hill,
1969. At Portland, 1963-64; 1969-74; 1982—

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Assistant Professor, Nursing
B.S.N., Oregon Health & Sciences University,
2002. M.S.N., *ibid*, 2004. Ph.D., *ibid*, 2008. At
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B.S.N., University of Portland, 1989; M.N., Ore-
gon Health Sciences University, 1994. At Port-
land, 2008—

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Lecturer, Communication Studies
B.S., Oklahoma Christian College, 1987; M.A.,
Pepperdine University, 1988; Ph.D., Purdue
University, 1995. At Portland, 2009—

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B.S.N., University of California, Chico, 1970; M.S.,
University of Colorado, 1973. At Portland, 1989—

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B.A., Sacramento State College, 1967; Ph.D.,
Washington State University, 1974. At Portland,
1970—

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Senior Librarian, Clark Memorial Library
B.S., University of Michigan, 1988; M.L.S., Syra-
cuse University, 1996. At Portland, 2001—

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B.A., St. Edward's University, 1963; M.A., Indi-
ana University, 1967; M.S., *ibid*, 1969; M.A.,
University of Notre Dame, 1979; Ph.D., *ibid*,
1985. At Portland, 1988—

Harold M. Stauffer, Ed.D.

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B.S., State Teachers College, 1937; M.A., Univer-
sity of Nebraska, 1951; Ed.D., Teachers College,
Columbia University, 1956. At Portland, 1962—

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B.A., University of Texas at Austin, 1975; M.A.,
University of Chicago, 1981; Ph.D., *ibid*, 1983.
At Portland, 1997—

Suzie Stragnell, M.S.

Instructor, Nursing
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Health Sciences University, 2005. At Portland,
2006—

Craig A. Swinyard, Ph.D.

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land, 2008—

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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—

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Visiting Assistant Professor, History
B.S., University of Oregon, 1990; M.A., *ibid*,
1992; Ph.D., University of Washington, 1996. At
Portland, 2009—

¹Part-time²On leave³Administrative personnel primarily⁴Special faculty status

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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.

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 B.A., Rockhurst College, 1991; M.A., Marquette University, 1995; Ph.D., Pennsylvania State University, 2005. At Portland, 2005—

Eugenijus Urnezis, Ph.D.

Assistant Professor, Chemistry
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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.

Assistant Professor, Engineering
 B.A., Gustavus Adolphus College, 1999; M.S., University of Washington, 2001; Ph.D., *ibid*, 2005. At Portland, 2005—

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Steven R. Vegdahl, Ph.D.

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Linda Veltri, Ph.D.

Assistant Professor, Nursing
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 B.S., South Dakota State University, 1970; M.N., University of California, Los Angeles, 1972. At Portland, 1978—

Diane Vines, Ph.D.

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 B.S., Portland State University, 1973; M.S., *ibid*, 1975; Ed.D., *ibid* and University of Oregon, 1983. At Portland, 2004—

Patricia J. Wall, Ed.D.

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 B.S., Oregon State University, Ed.M., *ibid*, 1981; Ed.D., *ibid* 1986. At Portland, 2003—

Hildgund Walterskirchen, M.A.

Adjunct Instructor, Music¹
 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, D.N.S.

Professor, Nursing³
 B.A., Augustana College, 1972; M.A., University of Iowa, 1976; D.N.S., Indiana University, 1990. At Portland, 2005—

Matthew D. Warshawsky, Ph.D.

Assistant 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, Education³
 B.A., University of Iowa, 1990; M.A., *ibid*, 1994; Ph.D., *ibid*, 2000. At Portland, 2010—

Jacqueline F. Webb, M.S.N.

Instructor, Nursing
 B.S.N., University of New Hampshire, 1982; M.S.N., University of New Hampshire, 1988. At Portland, 2009—

Bruce N. Weitzel, Ph.D.

Assistant 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, Physics⁴
 B.S., Georgetown University, 1959; M.S., Yale University, 1960; Ph.D., *ibid*, 1965. At Portland, 1969—

¹Part-time²On leave³Administrative personnel primarily⁴Special faculty status

Rev. Arthur F. Wheeler, C.S.C., Ph.D.,Associate Professor, History³B.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 Arts¹B.A., Portland State University, 1976; M.A., *ibid*, 1978. At Portland, 1983—**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—

Teri Moser Woo, Ph.D.

Associate Professor, School of Nursing

B.S.N., Oregon Health Sciences University, 1984; M.S., *ibid*, 1993; Ph.D., University of Colorado, 2008. At Portland, 2004—**Warren J. L. Wood, Ph.D.**

Assistant Professor, Chemistry

B.S., Willamette University, 2000; Ph.D., University of California, 2005. At Portland, 2007—

Aaron Wootton, Ph.D.

Associate Professor, Mathematics

BSc., University of Southampton, England, 1998; Ph.D., University of Arizona, 2004. At Portland 2005—

Anita Lee Malen Wynne, Ph.D.Professor Emerita, Nursing⁴

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.Professor, Engineering³B.S.E.E., Kabul University 1972; M.S.E.E., Purdue University, 1976; Ph.D., *ibid*, 1978. At Portland, 1996—**Gerhard Zecha, Ph.D.**Adjunct Professor, Philosophy¹

Ph.D., University of Salzburg, 1968. At Portland, (Salzburg), 1968-75, 1976—

Loretta E. Zimmerman, Ph.D.Professor Emerita, History⁴B.A., Newcomb College, 1957; M.A., Tulane University, 1961; Ph.D., *ibid*, 1964. At Portland, 1967—¹Part-time²On leave³Administrative personnel primarily⁴Special faculty status

Degrees Conferred

August 7, 2009

GRADUATE SCHOOL

Master of Fine Arts

Colin Arthur Maxwell Murray
Program: Drama

Master of Education

MaryJo Rose Aerts
Shirley Biala Balmeo
Aaron Gabriel Byer
Kerrie A. M. Candaso
Josephine Marie Cruz
Judy Haesoo Kim-Meneen
Kathielynn Muna Laniyo
Dana Louis Larson
Aimee Rae Rosario Lizama
Marci Margaret McAndrews
Marina Agnes Camacho Pangilinan
Jonell Panaligan Patron
Kristin Whalen Pomada
Liezl Washington Reoganis
Roger Washington Reoganis, Jr.
Kyle Thornhill Roach
Debra Medler Whitt

Master of Arts in Teaching

Gregory Bevans
Luke Andrew Harkness
Katherine Ann Healy
Kristin Leigh Hiefield
Steven Richard Lowry

Master of Science

Marla Suzanne Burrow
Program: Nursing
Michael John Pelley
Program: Management Communication

Master of Business Administration

Khalid Zafer Alkalali
Annabelle Carlos
Carma Ann Caughlan
David Lowell Collis
Kathryn Marie Dickey
Abigail Ann Doane
Henry James Doane
Molly Jane Edmunds
Adriana Franco
Steven Lee Konczak
Suzanne T. Lam
Volker Adam Lang
Melissa Sue Newhouse
John Jacob Rogacki
James Robert Schlegel
Jared Alan Smith
Lindsay Jane Steele

Elena Alexandroura Sylvester
Reginald Julius Tachie
Ross S. Takakawa
Kevin Martin Thornton
Amy Rebecca Tobkin
John H. Toppel
Brook Marie Wyntergreen
Timothy George Wigington
Kerrie Anne Wilson

COLLEGE OF ARTS AND SCIENCES

Bachelor of Arts

Mitchell Wade Biegler
Major: History
Brittney Marie Callahan
Major: Social Work
Mary Patricia Dinsmore
Major: Political Science
Victoria L. Empey
Major: Political Science
Lisa M Gibbens
Major: Spanish
Matthew Paul Holmes
Major: Political Science
Lainey Cathryn Howard
Major: Political Science
Second Major: Spanish
Minor: History
Emily Ann Jacoby
Major: Communication
Rebecca Lynn Jones
Major: French Studies
Joel Matthew Kincaid
Major: General Studies
Annemarie Louise Poginy
Major: English
First Minor: Spanish
Second Minor: Political Science
Kathryn Anne Randles
Major: Political Science
Second Major: German Studies
Gretchen Joy Riehm*
Major: Psychology
Minor: Sociology
Katelyn Laura Rowe
Major: Psychology
Matthew Paul Santos
Major: Psychology
Walter Luis Thompson Hernández
Major: General Studies
Jessica Kathleen Wilson
Major: English

Bachelor of Science

Carole Yolande Breaux
Major: Life Science

Nicholas Allan Calais
Major: Life Science
Lisa M Gibbens
Major: Life Science
Lih Louise Kuhlman
Major: Physics
Alissa Marie Mellin
Major: Biology
Christina Carol Menke
Major: Life Science
Alexander Marshall Moore
Major: Organizational Communication
Second Major: Spanish
Karli Jean Nelson*
Major: Biology
Megan Leigh Nelson
Major: Life Science
Minor: English
Kathryn Anne Willison
Major: Life Science

SCHOOL OF NURSING

Bachelor of Science in Nursing

Allison Edna Anderson
Randy Arellano-Mondragón
Kevin Christopher Brandini*
Katherine Marie Brown†
Matthew D Bryant*
Minor: Biology
Hannah Jean Buitron
Kristi Ann Castellano‡
Sasha Lanae Cherachanko
Minor: Spanish
Elizabeth Ann Christiansen
Kristin Noell Clark*
Cameron Elizabeth Cotton
Tyler Brett Cox
Michelle Marie Coy
Frances G. Dalbey
Kristina Marie Day
Aimee Dianne Dodge
Minor: Biology
Heidi Nicole Duncan
Stephanie Marie Dykeman
Lisa Lynn Eckhart*
Becky Lynn Ellison*
Jennifer Michelle Elrod
Maren Christine Gailey†
Ashley Ann Gibbins
Anne Marie Gilbert
Jennifer Ann Grassman
Danielle Pearl Griggs
Courtney Lynn Gulosh*
Nicolas Lee Hall
Ashlee Nicole Hamon
Alexandra Jean Hanna
Kristin Elizabeth Harmant
Jennie Her
Allen Wayne Hilton
Justin G. Hone

Kristina Diane Johnson
Katie Elizabeth Kennel
Dane E Koznek
Kristi Marie Kubin§
Connie Jane Leslie
Ryan Anthony Lien
Stephanie Michelle Long
Jennifer Marie Lorenzen
Megan Lea Lowry
K. Luby
Mark E Lundquist
Callie Leah MacLeod
Wendy Sue McNair
Joseph George Meeko V
Mary Anne Merkley
Michael Raymond Michalski
Rose Marie Millert
Sara K Miller
Sara Diane Monsrud*
Amanda Danielle Myers
First Minor: Music
Second Minor: Psychology
Kirstin Marie O'Harrow*
Meghan Brianna O'Loughlin
Mayen Edem Obotette
Katie Elizabeth Parsons
Christine Marie Pedroza
Minor: Spanish
Ariel Ann Elise Petitmermet
Trisha Marie Pickles-Gross†
Samantha Christine Pitts
Dara L. Polk
Martha Louise Recht
Heather R Reeves†
Charlie Elise Reinholdt
Alena V Romanyuk
Janet Effiong Sam
Katelyn Helen Schaub
Second Major: Spanish
Daniel Stuart Sherman
Margaret Elizabeth Sherwood
Denise Renee Siems*
M. Caitlin Skaggs*
John Oliver Smeltzer
Chelsea Marie Spaniol†
Eileen Patricia Sterling
Maria Lour Sweat
Susan Kay Taylor
Michele Anne Cabusao Torres
Nana Toyokura
Kathryn Gay Trujillo
Gabriella Christiana Tudorache
Anna Elizabeth Vernon
Katrina Warnick Voutilainen
Han Ngoc Vu
Erika Jean Vye
Bridgette Lyn Walsh
Angela L. Watters
Amelia Victoria Wieber*
Andrea Susan Wilson
Lorin Cecelia Wolfram

Courtney Ann Wong
 Minor: Sociology
 Jill Kimiko Yamaguma
 Kathleen Anne Yeager
 Laura Michael Zegar†

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

Bachelor of Business Administration

Christopher Alan Brox
 Major: Accounting
 Second Major: Finance
 Kelly Jeane Dillon
 Major: Marketing and Management
 Anna Catherine Gullickson
 Major: Accounting
 Minor: Spanish
 Joseph Paul Herrle, Jr.
 Major: Accounting
 Blake Dwyer Riley Holman
 Major: Finance
 Albert Kosasih
 Major: Marketing and Management
 Gregory Alfred Larrenaga
 Major: Economics
 Uyen Bao Le
 Major: Marketing and Management
 Anthony James Manduca
 Major: Marketing and Management
 Madeline Jane Miller
 Major: Global Business
 Minor: Mathematics
 Joseph Robert Moran
 Major: Finance
 Isaac Nugraha Munandar
 Major: Accounting
 Chase Bradley Powell
 Major: Finance
 Samantha Neno Suprpto
 Major: Global Business
 Alexander Michael Tardif
 Major: Accounting

SCHOOL OF ENGINEERING

**Bachelor of Science
 in Mechanical Engineering**

Daniel M. Jensen

Bachelor of Science in Civil Engineering

Katherine Suzanne Carlos
 Major: Civil Engineering:Civil Track
 Chris G Davis
 Major: Civil Engineering:Civil Track

SCHOOL OF EDUCATION

Bachelor of Arts in Education

Cara Jane Delozier
 Minor: English
 Robert Nathan Katsuichi Shklov
 Minor: English

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GRADUATE SCHOOL

Master of Arts

Jennifer Marie McBratney
 Program:Music
 Jessica Ruth Reed
 Program:Music
 Jessica Ann Wright
 Program:Music
 Master of Fine Arts
 Daniel Paul Ruiz
 Program:Drama

Master of Education

Phan Tu Huynh Aguilar
 Rigta Tomboc Aguilar
 Laurie Ann Ranches Alig
 Jennifer Ann Allen
 Kari Lyn Archer
 Gilbert Anthony Feja Arciga
 Annie San Agustin Arevalo
 Patti Dawn Berry
 Kimberly Brenda Boisvert
 Deborah Anne Brandell
 Carol Margaret Cronin Calma
 Bonnie Colleen Clapp
 Lourdes Mae Meno
 Stephanie Quintal Cruz
 Jordan Lee Fenton
 Betsy Joy Gibson
 Mark Henry Goos
 Lisa J. Borja Gulac
 Candelaria Bautista Hernandez
 Jeffery Scott Huculak
 Jonathan Clifford Kakish
 Lyndi C Karbonik
 Jocelyn Louise Lamothe
 Doris Marie Leboldus-Campbell
 Christine Joy Diras Losbanes-Fama
 Krista Joan MacGregor
 MaryAnne Francis McGill
 Maria Eleni Michailides
 Luigina Migaldi
 Anna Elisa Olivieri Medeiros
 Laura Ann Pallister
 Shaye Michael Patras
 Nancy Maureen Petersen
 Cheryl Grace Muniz Platon
 Kathrine Eileen Reed
 Vernalyn Rivera Guerrero
 Michele Dawn Ruff
 Patricia Ann Sachse-Brown
 Maria Schaade
 Brenda May Schmermund
 Daisy Lynn Singenes
 Robert Daniel Stepaniuk
 Cherish Gal Tan
 Catherine Jane Taylor
 Kristine E. van der Hoeven
 Jeanette Louise Haffner Vandale

Stephen Michael Wright

Master of Business Administration

Fadi Khalil Adlouni

Oluwakemi Yetunde Allimi

Tulay Ban

Joseph Essa Barhoum

Angela M. Beane

Dany Salim Chaaya

Eleanor Elizabeth Dir

Eric Simon Flamm

Anne Colette Griswold

Piyush Kumar Gupta

Ashley Piilani Kehoe

Penny Jo Maydak

Michael Jeffrey Munger

Eleanor Haug Rasmussen

Goldy Singh Sarkaria

Shanna Marie Sparks

Suzanne Rose Fasse Swanson

Jennifer Sieh Vander Arend

Hui Yu

COLLEGE OF ARTS AND SCIENCES

Bachelor of Arts

Morgan Ashton Berry

Major: History

Stephanie Michelle Bugas

Major: Psychology

Marcus Andre Carter II

Major: General Studies (BA)

Kelsey Laine Davis

Major: Theology

Minor: Education

Michelle Elizabeth Enyeart

Major: Sociology

Kelly Susan Forbes

Major: Communication

Michael James Thomas Grill

Major: English

Ava Dahnae Hansen-Dyer

Major: Social Work

Jane Therese Ihrke*

Major: Communication

Christopher G Johnson

Major: Political Science

Jeremy Robert Johnson

Major: Political Science

Maureen Elizabeth Lathrop

Major: Political Science

Minor: Envir Ethics & Policy

Winfield Brice Martin

Major: English

Erin Kiku Okumoto†

Major: Psychology

Minor: Music

Kaycie Nicole Rueter*

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Stacy Singh

Major: Spanish

Minor: French

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Aneesa Talal Al-Soodani

Major: Biology

Aaron Ceil Baum

Major: General Studies

Minor: HPE: Sport Exercise & Fitness

Dino Carlo Bozzone

Major: Organizational Communication

Andrew Joy Chrostek

Major: Organizational Communication

Nadine Susanna Crosby

Major: Biology

Chelsea Anne-Marie Dibala

Major: Organizational Communication

Malia Hakualohalani Harrison

Major: Life Science

Minor: Fine Arts

Kyle David Hill

Major: Environmental Science

Matthew Forbes Lange

Major: Organizational Communication

Matthew William David Laszlo

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Meghan Marie Letters

Major: Organizational Communication

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Major: Life Science

Minor: Psychology

Joseph Vincent Pagano

Major: Biology

Minor: Chemistry

Christoph Manfred Reinert

Major: Biology

Minor: Chemistry

Nicole Michelle Sato

Major: Life Science

Minor: Fine Arts

Stacy Marie Sprauer

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Minor: Chemistry

Jacqueline H. Vo

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Andrew Lawrence Wang

Major: Biology

Minor: Chemistry

SCHOOL OF NURSING

Bachelor of Science in Nursing

Charla Ford

Grete Anne Lenz

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Christine Ann Parker

Kindel Grace Wang

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Minor: Fine Arts

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SCHOOL OF BUSINESS ADMINISTRATION

Bachelor of Business Administration

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 Major: Finance
 Michael Christopher Gavin
 Major: Marketing and Management
 Nicole Marie Hunt
 Major: Finance
 Kevork Isikbay
 Major: Finance
 Alizabeth Rose Roth
 Major: Global Business
 Minor: Spanish
 Britni Elisabeth Sandberg
 Major: Accounting
 Edwin Michael Scheepers*
 Major: Finance
 Katie Rose Smith
 Major: Marketing and Management
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SCHOOL OF ENGINEERING

Bachelor of Science in Civil Engineering

Peter Hoang
 Major: Civil Engineering: Civil Track
 Jordan Lyle Schager
 Major: Civil Engineering: Civil Track
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Bachelor of Science in Computer Science

Takeshi Horie
 Minor: Mathematics
 Jonathon Tai-Hing Loo

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GRADUATE SCHOOL

Master of Arts

Paul Stanley Cramer
 Program: Pastoral Ministry
 Thomas Spencer Hayward
 Program: Pastoral Ministry
 Kule Francis Kojo
 Program: Education (MA)
 Paul (Nghia) Hung Pham
 Program: Pastoral Ministry

Masters of Fine Arts

Jennifer C. Hunter
 Program: Drama

Master of Education

Francisca Alvarez
 Kevin Michael Baumbach
 Kimberlee Ann Birch
 Maria Teodosio Duque
 Mary Mayfarth Hall
 Caroline Anne Missal

Jenna Kaye Nelson
 Darlene Patricia Sheridan
 Mark Tsakistos
 Susanne Toni Zehsazian

Master of Arts in Teaching

Allison Ann Able
 Katy Rebecca Abraham
 Erica Christine Anderson
 Megan Elizabeth Banman
 Lisa Ann Barnett
 Jill Renee Beyder
 Joshua John Biedel
 Dawn Marie Bolgioni
 Andrew Lawrence Bonica
 Julie Anne Borsetti
 Sarah Elizabeth Brann
 David Cardenal
 Alicia Young Chon
 Carrie Ann Claeys
 Kimberley Adele Crowther
 Jessica Ann Dahmen
 Gregory John Davis
 Caitlin Keely Dinsmore
 Rachael Dawn Easley
 Mary Zita Felix
 Megan Lindsay Finley
 Jessica Man Shan Fong
 Brian Patrick Galvin
 Troy Edward Hall
 Tonie Jolene Hanson
 Marjorie Hogan
 Sarah Jean Joslin
 John Emmet Kavanagh
 Stephanie Dawn Kern
 Julia Renee Klaus
 Tracy Lindsay Klosterman
 Justin William Kramer
 Barton Allen Lamb
 Christine Chieko Lane
 Jason Argyle Larson
 Alex Christian Lathrop
 Madeline Susanne Lowes
 Megan Christina McCracken
 Jocelyn Renee Nelson
 Sarah Jane O'Malley
 Kathleen Marie Parker
 Gaila Dianne Penn
 Ginger Rose Phillips
 Scott Adam Plinski
 Caitlin Audrey Ponzetti
 Mary Alsup Rehmann
 Stephanie Frances Rogers
 Mackinsey Christine Scheller
 Kendall Shepherd
 Tessa Joan Stevens
 Darrin E. Swaim
 Mary Celeste Sweigert
 Paige Rineer Thomas
 Katrina Lynn Wright

Master of Science

Louise Christine Dwyer

Program: Management Communication

Laura Suzanne Payne

Program: Management Communication

Martina Scheer

Program: Management Communication

Master of Business Administration

Fahad Al-Marzouq

Husain Mohammed Alshaiji

Hung-Chieh Chen

Christine May Chronert

Kathryn Carmen Cottrell

Carrie Ann Donnellan

Stephen Lee Ellis

Andrea Elaine Fidel

Peter Sam Gillette

Jessica Mary Graham

Rachel Ryan Leiber

Colleen Emily McCormack

Nicholas Lee McWilliams

Rey B. Mene

Vonruedee Musicabud

Michael John Obermire

Andrea Diane Pallavicini

Cathleen Marie Robart

Akarat Saelim

Alejandro Jose Salazar

Rachel Katherine Wold

Master of Engineering

Madhumangal Javanthieswaran

May 2, 2010

COLLEGE OF ARTS AND SCIENCES**Bachelor of Arts**

Joel Alexander Ackley

Major: Psychology

Minor: Sociology

Lydia Gail Albjerg

Major: French Studies

Minor: Biology

Jessica Rose Alford

Major: Political Science

Amalia Marguerite Allers§

Major: Environmental Ethics & Policy

Minor: History

Maren Renata Andres

Major: Social Work

Rebecca Louise Armitage

Major: Political Science

Zubin Bagai

Major: Philosophy

Elizabeth Anna Banicki

Major: Political Science

Kurt Barker

Major: History

Emily Simone Barrett§

Major: English

Minor: Political Science

Stephanie Noelle Bayne†

Major: Drama

Minor: Psychology

Sarah Danielle Bek

Major: English

Minor: Business Administration

Nicole Marie Blatner

Major: History

Elliot Lopata Boswell

Major: English

Agatha Kathleen Brzezinski§

Major: Spanish

Riley James Bushue†

Major: History

Minor: Spanish

Justin Joseph Campbell

Major: Political Science

Minor: Social Justice

Tiffany Jeanne Candelaria§

Major: Communication

Anne Maureen Carey

Major: Spanish

Minor: Sociology

Sarah Anne Carroll§

Major: Psychology

Suzzane Frances Cawthra

Major: Social Work

Minor: Philosophy

Christopher Eugene Clem

Major: Sociology

Trenton David Conyers

Major: History

Lauren M. Courtney

Major: Communication

Minor: English

Ashley Nicole Covell

Major: English

Minor: Communication

Brian Michael Curry

Major: Psychology

Minor: Business Administration

Kaitlyn Irene Dirksen§

Major: Philosophy

Amiliah Marei Doherty

Major: Psychology

Laiken Danielle Dollente

Major: Communication

Minor: Sociology

Sara Ashley Doran§

Major: Philosophy

Minor: Political Science

Emily Jane Douglas

Major: Drama

Rebecca Marie Downs

Major: Drama

Logan Scott Emory

Major: General Studies (BA)

Kristina Kimberlee Fessler

Major: Social Work

Minor: Catholic Studies

Benjamin Edward Fitch	Deanna Leigh Kishel
Major: Political Science	Major: French Studies
Kelsey Helen Fleharty	Minor: Mathematics
Major: English	Jesse Richard Klein
Andrew J. Fredette	Major: History
Major: Sociology	Minor: Philosophy
Violet Michelle Funk	Catherine Rose Kreutzer§
Major: Sociology	Major: Spanish
Minor: Spanish	Valenka Valenzuela Langlois
JaCinta E. Galeai	Major: Social Work
Major: Sociology	Jessica Laura Lea
Minor: Music	Major: Sociology
Jamison Anne Gardner	Minor: Spanish
Major: Psychology	Ryan James LeClaire§
Minor: Spanish	Major: Music
Mallory Rae Glover	Minor: Biology
Major: Social Work	Denise Michelle Ledgerwood§
Justin John Gomez	Major: History
Major: Political Science	Stephanie Marie Lies
Minor: Business Administration	Major: Sociology
Allison Lynn Goodfellow‡	Rebekah Ann Mark
Major: English	Major: Sociology
Christopher J. Graves	Laura Ann Masterson†
Major: English	Major: Social Work
Jane Margaret Gress	Andrew Michael Matarrese
Major: Drama	Major: History
Kelly Jeanne Gualcot	Kathleen D McCulloch
Major: Social Work	Major: Political Science
Kailani Angeline Gumataotao	Tassajarra Marie McCurdy
Major: Philosophy	Major: Communication
Minor: English	Minor: History
Nathan Alexander Haskell†	Kelly Jean Medenwald§
Major: English	Major: Psychology
Jonathan Ivan Hiser§	Lauren Elizabeth Mehrtens§
Major: Philosophy	Major: Political Science
Minor: Psychology	Minor: Social Justice
Anhlinh Thi Hoang†	Corinne Christine Miller
Major: Philosophy	Major: Sociology
Minor: Chemistry	Tyler Joseph Moss†
Mary Katherine Holdener	Major: English
Major: English	Minor: History
Minor: Fine Arts	Ethan Patrick Niedermeyer
Sergio Alvarez Islas	Major: Environmental Ethics & Policy
Major: German Studies	Clint Robert Niehus
Carl Frederick Jeppesen	Major: History
Major: Music	Kirsten Leigh Norris
Rachel Beth Jones	Major: Social Work
Major: Theology	Maria Teresa Oliva
Jordan Daniel Joy	Major: English
Major: Political Science	Minor: Catholic Studies
Minor: Entrepreneurship	Michelle R. Oliver
Jennifer Claire Keating	Major: Social Work
Major: Psychology	Abigail Sue Olson§
Kimberly A. Keating	Major: English
Major: Psychology	Minor: French
Minor: Communication	Devin Andrew Olson
Erin Michelle Kelley	Major: Drama
Major: English	Caitlin Maureen O'Malley§
Minor: Fine Arts	Major: History
Katelen Michelle Kellogg	Minor: Education
Major: Social Work	Benjamin Robert Ormond

Major: Philosophy
 Isaac Thomas Otto
 Major: Political Science
 Ashley Marie Paczolt
 Major: Psychology
 Benjamin Coleman Panther
 Major: Sociology
 Minor: Chemistry
 Chelsey Lynn Parvinen
 Major: Sociology
 Dillon Gunderson Paul
 Major: Political Science
 Minor: Economics
 Jennifer Lee Piper
 Major: Psychology
 Minor: Fine Arts
 Joesph R Price
 Major: Sociology
 Ariel Briana Puls†
 Major: Drama
 Caterina Purves
 Major: English
 Minor: Philosophy
 Cecilia Lily Raabe
 Major: Drama
 Isaac Daniel Rains§
 Major: Music
 Kelsey Anne Rea‡
 Major: Social Work
 Alyssa Marie Reget
 Major: English
 Minor: History
 Patrick Kevin Rexroat
 Major: Drama
 Nils Carl Ringo
 Major: Spanish
 Minor: Theology
 Kristin Kasa Rosvold
 Major: Social Work
 Minor: French
 Brigid Kathleen Seely
 Major: Spanish
 Wendy Lee Seiber
 Major: Sociology
 Minor: History
 Paul Jacob Senz‡
 Major: Music
 Bradley A. Shampine
 Major: Philosophy
 Emily Kathleen Sittion‡
 Major: Communication
 Kenneth Bates Smith
 Major: History
 Minor: Philosophy
 Laura Kathleen Smith
 Major: English
 Minor: Spanish
 Magan Rhea Smith
 Major: Psychology
 Anna Victoria Sokolov
 Major: History

Minor: Philosophy
 Seonaid Aileen Squires
 Major: Psychology
 Minor: Political Science
 Jared Raymond Stefani
 Major: Political Science
 Minor: Philosophy
 Briana Christine Stein
 Major: English
 Minor: Catholic Studies
 Jocelyn Ann Sterling†
 Major: Communication
 Minor: Theology
 Stephanie Nicole Stevens
 Major: Spanish
 Madison Louise Stroup‡
 Major: Psychology
 Megan Anne Sweeney
 Major: Psychology
 Minor: Fine Arts
 Tyler Houston Tate
 Major: Mathematics
 Andrew MacLean Taylor
 Major: Political Science
 Kristen Sarah Thurman
 Major: Psychology
 Minor: Sociology
 Tiger Lee Torelle
 Major: Political Science
 Minor: Philosophy
 Robert Seneca Fuentes Torres
 Major: Political Science
 Sarah Lynn Troychak
 Major: English
 Minor: Philosophy
 Kalin Charles Vigil
 Major: Sociology
 Oscar Ortega Villicana
 Major: Psychology
 Minor: Biology
 Zachary Marcus Virden
 Major: Drama
 Sarah Marie Wagner
 Major: Theology
 Edward Ryan Wakefield
 Major: Sociology
 Minor: Political Science
 Jared Lee Walker
 Major: Political Science
 Molly Anne Walsh
 Major: History
 Minor: Business Administration
 Michelle Filler Waters§
 Major: Spanish
 Minor: Education
 Sara Ann Wendler
 Major: Psychology
 Minor: German
 Sarah Elizabeth Wetter§
 Major: History
 Bradford Thomas Williamson

Major: Political Science
 Minor: Social Justice
 Jeffrey Anton Williamson
 Major: Sociology
 Minor: Spanish
 Joni Hsin Wong
 Major: Social Work
 Erin Wright-Coleman
 Major: Psychology
 Minor: Spanish
 Andrew Carl Wuest
 Major: Environmental Ethics & Policy
 Katherine Amandine Young§
 Major: English
 Shannon Michelle Young§
 Major: Psychology
 Alyssa Nicole Zemanek†
 Major: Psychology

Bachelor of Science

Samuel Stephen Bailey
 Major: Biology
 Minor: Chemistry
 Katherine Marie Beaubien§
 Major: Organizational Communication
 Minor: Catholic Studies
 Lara Kay Bennett
 Major: Organizational Communication
 Sarah Elizabeth Bernert§
 Major: Biology
 Minor: Fine Arts
 Jessica Margaret Berning
 Major: Biology
 Amanda Nicole Bolint
 Major: Organizational Communication
 Carolyn Michelle Catherine Borsch
 Major: Biology
 Minor: Spanish
 Robert Wayne Bruce
 Major: Chemistry: Biochemistry
 Agatha Kathleen Brzezinski§
 Major: Chemistry: Biochemistry
 Minor: Biology
 Fiona Kathryn Campbell
 Major: Environmental Science
 Minor: Fine Arts
 Katherine E Canavan§
 Major: Organizational Communication
 Minor: French
 Cort Caleb Carpenter
 Major: Organizational Communication
 Matthew E Chang§
 Major: Chemistry: Biochemistry
 Minor: Biology
 Calvin Pui Cheng
 Major: Biology
 Minor: Chemistry
 Paul McDonnell Cooley
 Major: Chemistry: Biochemistry
 Minor: Biology
 Lucio Dalla Gasperina

Major: Organizational Communication
 Brandon Caoagas Dannog
 Major: Mathematics
 Bennett Quan Minh Do
 Major: Life Science
 Minor: Business Administration
 Natalie Christine Dube
 Major: Organizational Communication
 Jared Daniel Dunahay
 Major: Biology
 Minor: Chemistry
 Leslie Eddy†
 Major: Biology
 Erica Clare Edmond
 Major: Organizational Communication
 Elyse Caroline Egerman
 Major: Organizational Communication
 Minor: Entrepreneurship
 Alexander Charles Ell
 Major: Life Science
 Elizabeth Margaret Elliott
 Major: Organizational Communication
 Minor: Theology
 Kristin Michelle Epps
 Major: Biology
 Mark Galen Epstein
 Major: Chemistry: ACS
 Elizabeth Reith Fraser
 Major: Biology
 Minor: Chemistry
 Sarah Jo Frei†
 Major: Mathematics
 Alyssa Lei Fuchsberger
 Major: Organizational Communication
 Minor: Business Administration
 Jaclyn Marie Gallagher
 Major: Organizational Communication
 Christa Renee Haluck
 Major: Organizational Communication
 Minor: Education
 Christine Clara Hanson
 Major: Organizational Communication
 Kyle John Haskin
 Major: Organizational Communication
 Sarah Elizabeth Hill
 Major: Life Science
 Christopher Ryan Housen
 Major: Biology
 Minor: Business Administration
 Andrew Thomas Hunt
 Major: Organizational Communication
 Lawaaine Zauditu Innis
 Major: Chemistry: Biochemistry
 Kyle Reinan Irwin
 Major: Biology
 Minor: Chemistry
 Adrienne Marcella Jarvis
 Major: Organizational Communication
 Trevor Carl Jennings
 Major: Physics
 Kaylyn Elizabeth Jones

Major: Organizational Communication
 Jerome Allen-McAllister Kemp
 Major: Organizational Communication
 Catherine Rose Kreutzer§
 Major: Biology
 Andrea Nicole Lambert†
 Major: Biology
 Minor: Chemistry
 Scott Steven Layne
 Major: Biology
 Morgan Catherine Linson Haines
 Major: Environmental Science
 Morgan JoAnn Lutgens
 Major: Life Science
 Minor: HPE: Sport Exercise & Fitness
 Terence Figueras Macatangay
 Major: Organizational Communication
 Kehaunani Marissa Malama
 Major: Biology
 Vincent Manning
 Major: Biology
 Minor: Chemistry
 Caitlin Bonnie Mauer
 Major: Biology
 Minor: Philosophy
 Caitlyn Nicole McCartney
 Major: Life Science
 Brett William McNichols
 Major: Chemistry: Biochemistry
 Minor: Biology
 Olivia Maria Murillo
 Major: Biology
 Minor: History
 Ally C. Nauert
 Major: Environmental Science
 Angelica Marie Neidiger
 Major: Organizational Communication
 Elizabeth Anne Newby
 Major: Chemistry: Biochemistry
 Thai Nguyen
 Major: Organizational Communication
 Minor: Political Science
 Taylor James Nicks
 Major: Biology
 Caitlin Nusbaum
 Major: Life Science
 Patricia Jeanne O'Brien†
 Major: Biology
 David John O'Connor
 Major: Organizational Communication
 Minor: Entrepreneurship
 Julianne Marie Opra
 Major: Organizational Communication
 Minor: Business Administration
 Joseph William Parks§
 Major: Chemistry: Biochemistry
 Joshua Wayne Parks‡
 Major: Chemistry: Biochemistry
 Sarah Caitlin Pascal
 Major: Life Science
 Lisa Lynnae Pearson

Major: Biology
 Minor: Music
 Jason Robert Pennell
 Major: Biology
 Minor: Spanish
 Caroline Emily Pierce†
 Major: Chemistry: ACS
 Minor: Environmental Science
 Marisa Grace Pond
 Major: Environmental Science
 Minor: Sociology
 Daniel Joseph Prael
 Major: Biology
 Minor: Chemistry
 Brianne Marie Preza Haynes
 Major: Organizational Communication
 Minor: Fine Arts
 Aaron Peace Ragsdale†
 Major: Mathematics
 Minor: Physics
 Mackenzie Elizabeth Reminger-Carpenter
 Major: Biology
 Minor: Entrepreneurship
 Kristina Marie Renda
 Major: Organizational Communication
 Raynelle Theresa Retallack
 Major: Biology
 Sarah Maria Ringold
 Major: Biology
 Samantha Eligado Riofta
 Major: Biology
 Minor: Chemistry
 Derek William Roemer
 Major: Environmental Science
 Gregory Michael Rouse
 Major: Biology
 Minor: Chemistry
 Alison Michelle Sadowski
 Major: Organizational Communication
 Christopher Michael Ruben Schierman
 Major: Organizational Communication
 Alyssa Rachelle Schmidt-Carr
 Major: Life Science
 Minor: Sociology
 Megan E Sette
 Major: Life Science
 Minor: HPE: Sport Exercise & Fitness
 Annalise Kathryn Shields
 Major: Life Science
 Minor: HPE: Sport Exercise & Fitness
 Derek Thomas Simmons
 Major: Biology
 Minor: Chemistry
 Jennifer Marie Skiba
 Major: Life Science
 Minor: Psychology
 Emily Anne Sorenson
 Major: Biology
 Minor: Social Justice
 Tiffany Lee Spaulding
 Major: Biology

Minor: Psychology
 Gina Elizabeth Stack
 Major: Organizational Communication
 Minor: Political Science
 Stephanie Nicole Stevens
 Major: Life Science
 Julia Friesen Strang
 Major: Biology
 Minor: Psychology
 Cheryl Lynne Sun§
 Major: Biology
 Minor: Sociology
 Hannah Taft†
 Major: Biology
 Minor: Spanish
 Joseph Ely Tanner
 Major: Biology
 Minor: Spanish
 Molly Michaela Thivierge
 Major: Organizational Communication
 Nghia Minh Truong
 Major: Biology
 Minor: Chemistry
 Aja-Amber Mahealani Ueshiro
 Major: Life Science
 Minor: Communication
 Andrew Lee Williamst
 Major: Biology
 Minor: Chemistry
 Cerisse Jenee Wilson
 Major: Organizational Communication
 Allison Imerab Wong§
 Major: Biology
 Minor: Chemistry
 Katherine Margaret Wright
 Major: Chemistry: ACS
 Minor: Mathematics

SCHOOL OF NURSING

Bachelor of Science in Nursing

Susan Ann Murphy
 Sifrash Alemayehu Ademe
 Minor: Biology
 Joslin Kristine Alexander
 Imad Michel Aoun
 Stephanie JoLynn Axtman‡
 Courtney Ann Bartha
 Nancy Russell Bates
 Maryanne Helen Berger
 Teresa Marion Beyer
 Minor: Spanish
 Katrina Elise Bjønness-Jacobsen
 Sarah Rachel Bos
 Maureen Lynn Broadbent§
 Erika Whitney Burnett†
 Brandy Nicole Carney§
 Kathryn Michelle Carrieres
 Brenna Eileen Caughlin
 Catherine Falkner Chamberlain
 Stephanie Chou

Minor: Spanish
 Ashley Brianne Chow§
 Marissa Nicole Clark
 Colleen Megan Clifford
 Lisa Michelle Coate
 Whitney Lorraine Connort
 Minor: Biology
 Elizabeth Lauren Davis
 Nichole Terese Kalena DeRego
 Chelsea Anne DeRienzo
 Bethany Deborah Douglas§
 Alise Elizabeth Dutra
 John Robert Endresen
 Mikayla Sebell Farnum
 Katherine Renee Fenske
 Larissa Kailey Ferbert
 Danielle Maria Fletcher
 Arend Pieter Folkens
 Lauren Ira Fortino†
 Kimberly Annette Foster
 AnnaChristie Nichole Gantenbein
 Lindsey Marie George
 Minor: Spanish
 Rita Anne Gillam‡
 Alexandra Jo Glaspey
 Ari Ronel Goldschmidt
 Haylee Renee Goode
 Jennifer Christine Goolkasian
 Minor: Biology
 Tenzin Dolkar Gorab
 Tristan Fraser Gorski
 Taylor W Graff
 Isabel Eason Graham
 Marie Cole Greenawald
 Sarah Suzanne Gunderson
 Daniel Matthew Hainley
 Sarah Emily Hilderbrand
 Paige Marie Hofbauer
 Nichole Marie Holguin
 Linda Marie Holland
 Ashley Nicole Holman
 Barbara Elizabeth Holmes
 Matthew Lee Hughson†
 Kelsey Rose Hupp
 Minor: Biology
 Nancy Marisol Ibarra
 Rosalie Leianuhe Ailani Inouye§
 Jill Kiyomi Izutsu
 VaSheeta Christina James
 Adrienne Rene Jeans
 Mimi Elizabeth Johnson
 Minor: Theology
 Lindsey Jean Jones†
 Molly Rae Kahn‡
 Emily Catharine Karp
 Sarah JoAnn Kavanagh†
 Ruth Sophie Kirse
 Kelsey Leigh Knight§
 Ryan Robert Knight
 Danni Lynn Kuske
 Doreen Lata Lal

Daniel R Lima§
 Michelle Ann Litscher
 Shelby Erin Locke
 Rachel Elisabeth Lopez†
 Amber M. Lowenstein
 Sarah Ann Lytle
 Angela H. Madamombe-McCoy
 Ian Malkasian§
 Helena Michaela Mast
 Nina Kim McClymont
 Kelsey Anne Miles
 Laura Ann Miller§
 Keli Nicole Moorman
 Brigid Annemarie Moriarty
 Rhianna Colette Naylor
 Bethany Rebekah Neuhoft
 Tram Thi Phuong Nguyen
 Vina Nguyen
 Minor: Biology
 Xuan-Thu Ngoc Nguyen
 Kelsey Alyse Niehuser
 Caroline Elizabeth O'Dell
 Kathleen Theresa Olivo
 Cara Ayson Padilla-Nalagan
 Minor: Biology
 Nora Rose Panitz§
 Marie Elise Peroutka
 Minor: Spanish
 Natalie Grace Phillips
 Liza Jane Poehlmann
 Sheila Ann Fiesta Ramos
 Sara Elizabeth Reynolds
 John Michael Richeson
 Alex Susan Ryan
 Jason McCoy Sangster§
 Sarah Elizabeth Schaffer§
 Brigid Kathleen Seely
 Jamie Michelle Sharp†
 Brittany Starr Sidoff
 Bronwyn Snow§
 Lovea Hana Stewart
 Ashley Korin Swift
 Karen Marie Thomas
 Margaret Elizabeth Thompson
 Aimee Michelle Tilson
 Megan Sonja Towne
 Rachael Nadine Trumbo
 Adele Elizabeth Webber
 Katherine Leigh Weinmeister
 Leah Kathleen Winter
 Jenna Louise Mei Ling Wong
 Tia' Marie Wymore
 Misty Nicole Yadon
 Carrie Ka'aukai Young

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

Bachelor of Business Administration

Kenneth Masao Ankrom
 Major: Marketing and Management

Samantha Lynn Bakurjian
 Major: Marketing and Management
 Kelsea Tamara Barto
 Major: Global Business
 Justine LueAnne Biglow
 Major: Marketing and Management
 Minor: Communication
 Angela Kim Burghard
 Major: Marketing and Management
 Kara A. Caparoso§
 Major: Accounting
 Minor: Spanish
 Brian Robert Carter
 Major: Finance
 Minor: Entrepreneurship
 Jesse Kie Kie Yong Soo Choi
 Major: Finance
 Ashleigh Rochelle Clement§
 Major: Global Business
 Megan Ashley Colvin§
 Major: Accounting
 Sarah Marie Cota§
 Major: Finance
 Minor: Mathematics
 Jennifer Lauren DeNardis-Anderson
 Major: Operations Technology Mgmt
 Minor: Spanish
 Justin Kyle Alazas Durano
 Major: Marketing and Management
 James Ryan Early
 Major: Finance
 Erica Ann Ellingsen
 Major: Global Business
 Minor: Spanish
 Amy Elizabeth Evans
 Major: Marketing and Management
 Minor: English
 Elizabeth Marian Evans
 Major: Marketing and Management
 Minor: Music
 Ashley Marie Ferguson
 Major: Marketing and Management
 Thomas Matthew Flynn
 Major: Operations Technology Mgmt
 Joseph Michael Forgione
 Major: Finance
 Madeline Twelves Giltner
 Major: Marketing and Management
 Clara Jane Luginbuhl Gleason†
 Major: Accounting
 Gregorie Suzanne Gressett
 Major: Finance
 Andrew Kent Hansen†
 Major: Marketing and Management
 Kristin Marie Hart
 Major: Finance
 Minor: Economics
 Trevor Charles Harvey
 Major: Accounting
 Taishi Ito
 Major: Marketing and Management

Jennifer Ruth Jefferies§
 Major: Global Business
 Minor: German
 Karlee Drionna Johnson
 Major: Finance
 Richard Charles Kaimie†
 Major: Finance
 Minor: Political Science
 Yana V. Kostromitina§
 Major: Accounting
 Khalid Rafic Kreidie
 Major: Finance
 Matthew Silas Krick
 Major: Operations Technology Mgmt
 Mackenzie Elizabeth Larson
 Major: Marketing and Management
 Patrick William Madigan
 Major: Finance
 Martha McLeod§
 Major: Economics
 Kelly Marie Mitchell
 Major: Marketing and Management
 Kevin Donald Monette
 Major: Marketing and Management
 Bradley Kirk Morse
 Major: Marketing and Management
 Kevin Allen Mowrey
 Major: Operations Technology Mgmt
 Sarah Nicole Neikirk‡
 Major: Marketing and Management
 Minor: Economics
 Mackenzie Ryan Oroke
 Major: Finance
 Kurtis Michael Partain
 Major: Finance
 Amanda Elizabeth Patterson
 Major: Economics
 Austin Jesse Pearce
 Major: Accounting
 Jessica Kathryn Peters
 Major: Marketing and Management
 Mallory Jean Phelan§
 Major: Global Business
 Minor: Spanish
 Jordan Albert Phippen
 Major: Operations Technology Mgmt
 Paige Sydney Rachor§
 Major: Accounting
 Minor: Economics
 Nikolas Thomas Raivio
 Major: Marketing and Management
 Adam Paul Ramirez
 Major: Accounting
 Minor: Economics
 Michele Choi Rasmussen
 Major: Marketing and Management
 McKenzie Rose Roberts
 Major: Accounting
 Thomas Harada Robertson
 Major: Finance
 Ashley Kay Rochholz

Major: Global Business
 Julia Davis Roth
 Major: Marketing and Management
 Jillian Marie Rueft
 Major: Accounting
 Vincent Eugene Schlappi
 Major: Operations Technology Mgmt
 Evan William Schleining
 Major: Marketing and Management
 Christopher Robin Seus
 Major: Global Business
 Clayton Estes Shaw
 Major: Accounting
 Shelley Kristine Sievers
 Major: Finance
 Nicholas William Charles Slepnikoff
 Major: Marketing and Management
 Minor: English
 Robin J. Smeulders
 Major: Marketing and Management
 Drew Chesney Smith
 Major: Accounting
 Minor: Spanish
 Patrick Joseph Sullivan
 Major: Finance
 Brett Chapman Swanson
 Major: Accounting
 Stacy Lee Urban
 Major: Operations Technology Mgmt
 Minor: French
 Katelin Marie Villamil
 Major: Marketing and Management
 Andrea O Villicana
 Major: Marketing and Management
 Steven James Waters†
 Major: Accounting
 Kathryn Courtney Weeks‡
 Major: Accounting
 Katherine L Weltner
 Major: Global Business
 Ryan Alan Willis
 Major: Accounting
 Filip Zivkovic
 Major: Global Business

SCHOOL OF ENGINEERING

Bachelor of Science in Mechanical Engineering

Nicholas Jay Bankus§
 Matthew Anthony Buxton
 Brian Christopher Casey
 Brice Andrew Frey
 Kevin Gutman
 Minor: Business Administration
 Peter Anthony Herbert†
 Minor: Mathematics
 Cory-Alan Satoru Hinochi-Ishimine
 Craig Allen Horton
 Jordan John Daniel Hutchison
 Lane Michael Johnson

Taryn Chie Kishimoto
 T. Scott Larkoski
 Brian J Lee
 Kevin Allen Lockwood†
 Minor: Biology
 Joseph S. Lofft§
 Minor: Business Administration
 Brian David Markham
 Jason Daniel Maulin
 Timothy James Mechling
 Robert Gordon Miller
 Stephanie Michelle Niezgoda§
 Bryan Jeffrey Pedersen
 Mikhail Nikolay Polyakov†
 Timothy M. Scheumann§
 Minor: Business Administration
 Anders Einar Severeid
 Scott Kazumi Shimada
 Benjamin Paul Smith§
 Vasant Swarup Vuppuluri
 Minor: Business Administration
 Pamela Rose Wellner
 Minor: Music
 Ryan Thomas Young

Bachelor of Science in Electrical Engineering

Daniel Jacob Allenby
 Major: Electrical Track
 Zubin Bagai
 Major: Electrical Track
 Minor: Computer Science
 Andy Quan Buit
 Major: Electrical Track
 Kevin Michael Eldrige
 Major: Electrical Track
 Patrick Michael Hunt
 Major: Electrical Track
 Minor: History
 Kevlyn Deirdre Mathews
 Major: Electrical Track
 Kyle Steven Chet Woodard
 Major: Electrical Track
 Jon Christian Worley
 Major: Electrical Track
 Minor: Mathematics
 Kyle Frances Yakubisin
 Major: Electrical Track
 Ross Kenji Yamaguchi
 Major: Electrical Track

Bachelor of Science in Civil Engineering

Ryan Joseph Circello
 Major: Civil Track
 Minor: Business Administration
 Colton G Coughlin
 Major: Civil Track
 Marty J Flansburg
 Major: Civil Track
 Jessica Kathleen Hamilton†
 Major: Civil Track

Jacilyn Mary Hayden
 Major: Civil Track
 Megan Jillian Karner
 Major: Civil Track
 Timothy Kirk Knighton
 Major: Civil Track
 Jordan Isaac Vincent Linxwiler
 Major: Civil Track
 Kaleb M'Cheyne Madsen
 Major: Environmental Track
 Aleksey S. Pavlov
 Major: Civil Track
 Kyle Tatsuo Shinyama
 Major: Civil Track
 Eliot Hascall Sluyter
 Major: Environmental Track
 David Voss Thompson
 Major: Civil Track
 Lars Wilton Wyatt
 Major: Civil Track
 Minor: Mathematics
 Kelly Nicole Youngberg§
 Major: Civil Track

Bachelor of Science in Engineering Management

Andrew Michael Edick
 Tyler James Stanaway

Bachelor of Science in Computer Science

Arturo E. Bimrose
 Minor: Business Administration
 Christopher John Cullen†
 Minor: Mathematics
 Jeffrey A Keagbine
 Timothy Robert Meyer
 Ryan Kili'ohu Pila
 Minor: Mathematics
 Steven Richard Rogers
 Minor: Mathematics

SCHOOL OF EDUCATION

Bachelor of Arts in Education

Victoria Jean Baird§
 Leigh Taylor Berg
 Minor: Psychology
 Sarah Beth Beuving
 Aliceson Grossen Brandt§
 Erika Lynn Breton†
 Maria Gabrielle Clemens
 Sarah Elizabeth Colter
 Amylyn Dollowitch
 Amy Lynne Essman†
 Kathryn Elizabeth Greisen
 Minor: Fine Arts
 Melissa Anne Grothe
 Dorothy Ann Hebert
 Allyson Nicole Hindal
 Sophia Rosallini Jackson§
 Jennifer Johanna Joesten
 Minor: French

Sarah Najeebah Khatib
David John Kloucek
Angela Sue Martin de Bustamante
Haylee Lauren Frances Melzer
Katherine Nicole Miller
Ruth Elizabeth Moore§
Susan Ann Owen
Christina Mary Radmacher
Jalah Marie Reid
Brigette Anne Schoenheit
Christina Ann Shelton
Allison Mae Shepherd
Megan Ann Smith
Brian Christopher Spencer
Moana Maria Tavares
Karissa K. Warner
Sean Jisaku Weidert
Pearl Williamson

**Bachelor of Science
in Secondary Education**

Sarah Marie Amiotte†
David Tietjen Brodie
Zachary August Clute-Reinig
Minor: Spanish
Pablo Gabriel Dipascuale
Rebecca Jo Doyle
Alycia Marie Ferris
James Raymond Mahoney§
Minor: Sociology
Katherine Marie McEachen‡
Minor: Spanish
Aaron Christopher Stein
Katherine Elaine Tompkins
Minor: Mathematics
Morgan Gallaher Williams
Minor: History

Bachelor of Music Education

Colin James Rupp

§*Summa Cum Laude*

†*Magna Cum Laude*

#*Honors Program*

‡*Maxima Cum Laude*

**Cum Laude*

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