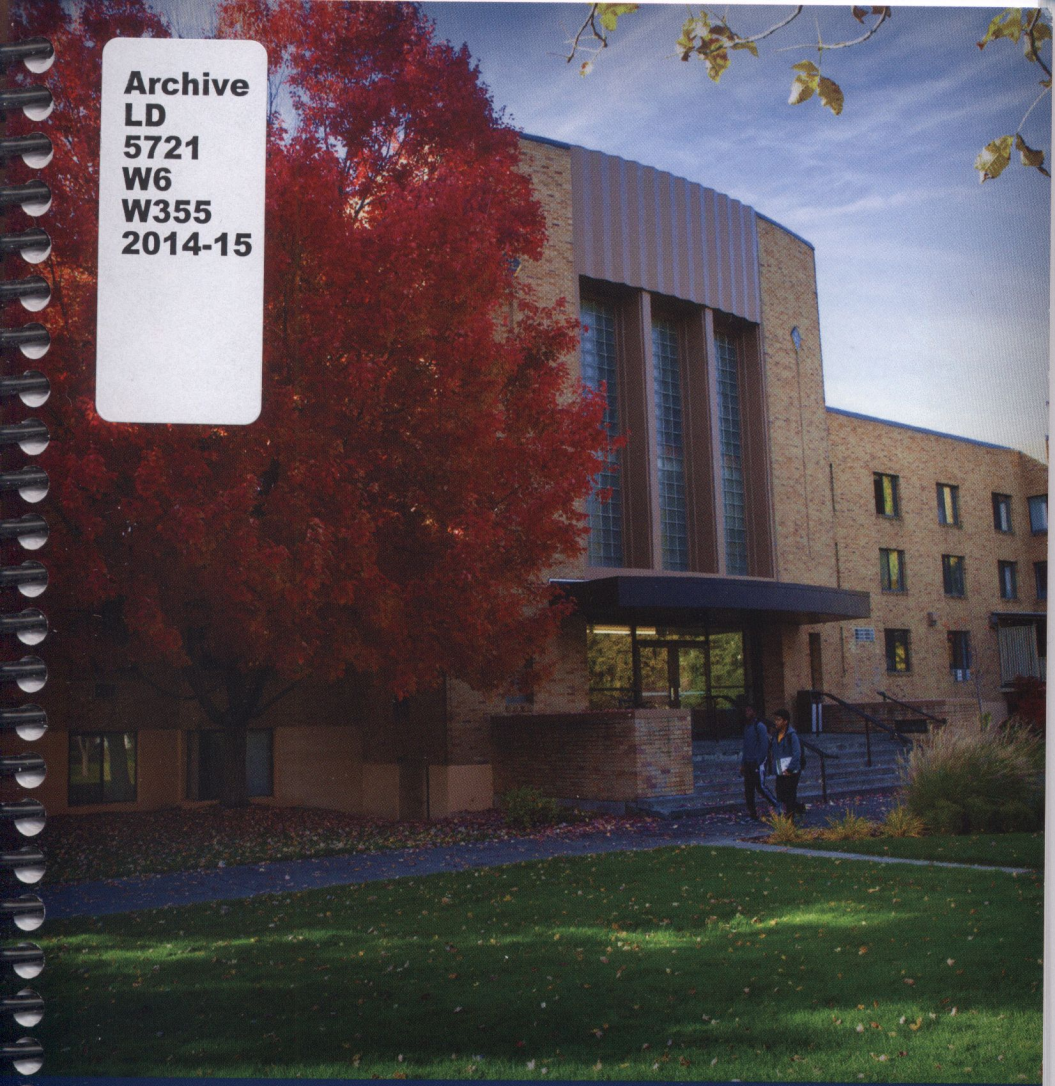
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Walla Walla University

Undergraduate Bulletin

2014–2015

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Undergraduate Bulletin

2014-2015

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Walla Walla University

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ACCREDITATION OF WALLA WALLA UNIVERSITY

accredited by

Northwest Commission on Colleges and Universities

Accrediting Association of Seventh-day Adventist Schools, Colleges and Universities (Adventist Accrediting Association)

programs accredited by

Accreditation Council for Business Schools and Programs (Bachelor of Business Administration degree program, Bachelor of Arts degree Business Administration program.)

Engineering Accreditation Commission of ABET, Inc. (Bachelor of Science in Engineering degree program)

Council on Social Work Education (Bachelor of Social Work and Master of Social Work degree programs)

Accreditation Commission for Education in Nursing. (Bachelor of Science Nursing program)

National Association of Schools of Music

Washington State Board of Education for Teacher Certification

a member of

Accreditation Council for Business Schools and Programs (ACBSP)

American Association of Collegiate Registrars and Admissions Officers

American Association of Higher Education

American Society for Engineering Education

Council on Social Work Education

Independent Colleges of Washington, Inc.

National Association of College and University Business Officers

National Association of Independent Colleges and Universities

National Association of Student Financial Aid Administrators

National League for Nursing

Orbis Cascade Alliance

Washington Friends of Higher Education

approved by

The Attorney General of the United States for non-immigrant students

The Washington State Higher Education Coordinating Board's State Approving Agency (HECB/SAA) for enrollment of persons eligible to receive educational benefits under Title 38 and Title 10 USC.

Washington State for training in Vocational Rehabilitation

Authorization for Washington

Selected academic programs of study at Walla Walla University are approved by the Washington State Higher Education Coordinating Board's State Approving Agency for enrollment of persons eligible to receive educational benefits under Title 38 and Title 10, U.S. Code.

Authorization for Oregon
Walla Walla University is a non-profit corporation authorized by the state of Oregon to offer and confer the academic degrees of Bachelor of Science with a major in Nursing as described herein following a determination that state academic standards will be satisfied under OAR 583-030. Inquiries concerning the standards of school compliance may be directed to the Office of Degree Authorization, 1500 Valley River Drive, Suite 100, Eugene, OR 97401.

Equal Opportunity Commitment
It is the policy of Walla Walla University to provide equal educational opportunity without regard to age, race, color, religion, national origin, sex, marital status, disability or other protected classes as required by local, state, and federal laws that apply to the University. In addition, the University provides equal employment opportunity without regard to age, race, color, national origin, sex, marital status, disability or other protected classes as required by local, state, and federal laws that apply to the University.

Information contained in this publication is hereby certified as true and correct in content and policy as of the date of publication, in compliance with the Veterans Administration DVB Circular 20-76-84 and Public Law 94-502.

WALLA WALLA UNIVERSITY BULLETIN
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MARKETING AND ENROLLMENT SERVICES

Associate Vice President	Trevor Congleton
Application Forms for Admission	509/527-2327
	Fax: 509/527-2397
General Information	Email: info@wallawalla.edu

ACADEMIC RECORDS

Registrar	Carolyn Denney
Academic Information	509/527-2811
Transcripts and Transcript Evaluation	Fax: 509/527-2574
Transfer Student Information	Email: registrar@wallawalla.edu
Veteran Information	509/527-2810

STUDENT FINANCIAL SERVICES

Director	Cassie Ragenovich
Financial Information	509/527-2815
Work Opportunities	Email: stufin@wallawalla.edu
Financial Aid, Loans, and Grants Financial Planning Payment Arrangements	

STUDENT LIFE

Vice President	David Richardson Jr.
Automobile Registration	509/527-2222
Off-Campus Housing	509/527-2151
Student Life	Fax: 509/527-2674

RESIDENCE HALL LIVING

Director of Resident Life and Housing	Kristen Taylor
General Information, Sittner/Meske	509/527-2111
General Information, Foreman/Conard	509/527-2531
General Information, Portland	503/251-6118

PORTLAND CAMPUS

10345 S.E. Market St.
Portland, OR 97216
503/251-6115

ROSARIO BEACH MARINE LABORATORY

15510 Rosario Beach Rd.
Anacortes, WA 98221
360/293-2326

Note: Administrative offices are closed from Friday noon until Monday morning and on legal holidays.

Administrative officers are available on Sundays by appointment.

AREAS OF STUDY

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PREPROFESSIONAL CURRICULA

The University offers courses required for admission to professional or technical schools. Most preprofessional curricula require two units of high school mathematics (algebra and geometry.) All programs should be planned in consultation with and approved by the assigned academic adviser.

Requirements for admission to preprofessional programs vary among different professional schools and are subject to change. Students should request information about current admission requirements from the professional school they plan to attend.

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**Numbers in parentheses indicate the years of study normally required on the WWU campus before entrance into a professional school.*

GRADUATE DEGREES

(See Graduate Bulletin for details)

Master of Arts (MA in Education)
Specializations:
Curriculum and Instruction
Educational Leadership
Literacy Instruction

Master of Arts (MA in Counseling Psychology)

Master of Arts in Teaching (MAT)
Specializations:
Curriculum and Instruction
Educational Leadership
Literacy Instruction
Instruction with Certification (Elementary)
Instruction with Certification (Secondary)

Master of Science (MS in Biology)

Master of Social Work (MSW)

Master of Education (MEd)
Specializations:
Curriculum and Instruction
Educational Leadership
Literacy Instruction

ACADEMIC CALENDAR 2014-2015

Autumn Quarter

September	21-26	S-F	Freshman Experience and Orientation
	28	S	Registration
	29	M	Instruction Begins
October	2	R	Last Day to Register
	10	F	Last Day for Registered Students to Add a Class or Change to/from Audit
November	18	T	Last Day to Withdraw from Classes
	23	S	Thanksgiving Vacation Begins
	30	S	Thanksgiving Vacation Ends (10:00 p.m.)
December	15-17	MTW	Final Exams
January	2	F	Autumn Quarter Degrees Conferred

Winter Quarter

January	5	M	Instruction Begins
	8	R	Last Day to Register
	16	F	Last Day for Registered Students to Add a Class or Change to/from Audit
February	24	T	Last Day to Withdraw from Classes
March	16-18	MTW	Final Exams
	27	F	Winter Quarter Degrees Conferred

Spring Quarter

March	30	M	Instruction Begins
April	2	R	Last Day to Register
	10	F	Last Day for Registered Students to Add a Class or Change to/from Audit
May	19	T	Last Day to Withdraw from Classes
June	8-10	MTW	Final Exams
	14	S	Commencement (8:30 a.m.)

Summer Quarter

June	22	M	Instruction Begins
July	6	M	Independence Day Holiday, no classes
August	14	F	Eight-week Session Ends
	28	F	Ten-week Session Ends
	28	F	Summer Quarter Degrees Conferred

OUR MISSION

Vision

A community of faith and discovery committed to the following core values:

- Excellence in thought
- Generosity in service
- Beauty in expression
- Faith in God

Philosophy

Walla Walla University is founded on Christian teachings and values as understood and appreciated by the Seventh-day Adventist Church. Central to these teachings is the belief that every person is created in the image of God as a being of inestimable value and worth, imbued with powers of intelligence, stewardship, and creativity akin to those of the Creator. Walla Walla University, therefore, seeks in its mission to foster the unique gifts of every individual within this Christian community of faith and discovery. Committed to excellence in thought, the University seeks to impart a broad knowledge of the arts, sciences, and professions by careful instruction and open inquiry at both the undergraduate and graduate levels. Recognizing that God is the source of all truth, goodness, and beauty, the University seeks to convey to students a wisdom that translates academic achievement into responsible citizenship, generous service, a deep respect for the beauty in God's creation, and the promise of re-creation through Jesus Christ.

THE UNIVERSITY CAMPUS

Walla Walla University is located in the city of College Place, in the historic, fertile Walla Walla Valley of southeastern Washington. The Old Oregon Trail, passing west of the campus, leads directly to the nearby Whitman Mission National Historic Site. The scenic Blue Mountains to the east and the Snake and Columbia Rivers to the north and west offer opportunities for recreation and relaxation.

The University was originally established as Walla Walla College on December 7, 1892, in harmony with a resolution unanimously adopted at the General Conference of Seventh-day Adventists held in Battle Creek, Michigan in 1891.

MONTANA CAMPUSES. Walla Walla University has two branch campuses in Montana maintained by the Wilma Hepker School of Social Work and Sociology; one in Missoula and the other in the south side of Billings. These campuses serve the needs of students enrolled in the Master of Social Work program.

PORTLAND CAMPUS. Walla Walla University operates a separate campus in Portland, Oregon maintained by the School of Nursing. The campus is located on the grounds of the Adventist Medical Center and consists of an academic building and a residence hall for students enrolled as nursing majors.

ROSARIO BEACH MARINE LABORATORY. Walla Walla University operates a biological research and academic facility at Rosario Beach, adjoining Deception Pass State Park, Anacortes, Washington. This facility occupies 40 acres of beach and timberland, and includes laboratory buildings, a cafeteria, assembly hall, and cabins for student and staff housing.

OUR HERITAGE

Founding a college is a tremendous undertaking. It can be especially intimidating in the dead of winter, with snow on the ground and quilts for heat. Such was the case in 1892, when Walla Walla College began on a frozen prairie a few miles west of Walla Walla, Washington. One building, five teachers, 101 students of all grades. If you like pioneer stories, we've got one for you. Sally Sutherland, wife of the first president, describes the scene:

> "We began school without locks on the doors, with the kitchen unfinished, and without heat in the building. I kept the tuition (money) under my pillow with my bed in front of the door . . . The first breakfast was cooked on a borrowed stove, with the pipe leading out the kitchen window, and was served to eighty hungry students in a cold dining room...Thus, by the light of kerosene lamps and amid the sound of hammers on the unfinished building, those pioneer students studied, played, laughed and worked through their college days..."

The first few years were a struggle for survival. The college finally granted a full four-year degree in 1909. The next decade saw the founding of the Associated Students of Walla Walla College, and of the Alumni Association, and expansion of the academic program.

At the conclusion of World War II, WWC began a twenty-year period of expansion both academically and physically. Programs such as engineering were started during this period. The biology department added the Rosario Beach Marine Laboratory in 1954. A large scale building program culminated in the 1960s with the addition of several modern buildings, including the new College Church, Kretschmar Hall, Fine Arts Center, and Rigby Hall.

In the 1970s, WWC completed the Winter Education Complex and added a new campus for the School of Nursing in Portland, Oregon. The college remained forward-looking in the early 1980s with a new Alumni Center and plans for a major endowment drive to carry WWC into the 21st century.

The School of Social Work began a masters program (M.S.W.) in the late 1980s, expanding eventually to campuses in Montana–to Missoula in 1996; to Billings in 2001.

A new Administration Building was completed in early 2007. The building houses the major administrative offices as well as the offices of Marketing and Enrollment Services and University Relations. In addition, the new structure serves as the home for three academic departments: English, History and Philosophy, and the School of Theology.

On September 1, 2007, Walla Walla College, following a vote by its constituency and approval by its Board of Trustees, officially became Walla Walla University.

Today, Walla Walla University has locks on the doors, heat in the buildings, a cafeteria and a business office to replace Sally Sutherland's pillow. Some things haven't changed, though. The faculty and students still study, work, play, and pray together. Alumni are loyal to their school and support it generously. And the pioneer dedication to religion and Christian education that has strengthened Walla Walla University for over 100 years is very much alive today.

STUDENT LIFE

Walla Walla University is dedicated to the academic, spiritual, social and physical aspects of a total education. Believing that these dimensions are closely related, the University provides a broad range of activities and opportunities designed to add depth and maturity to a Christ-centered life.

CHRISTIAN COMMITMENT

Walla Walla University welcomes students from all backgrounds and asks them to respect the distinctive Seventh-day Adventist way of life both on and off campus. Adventism, at its best, is characterized by an emphasis on Christian faith and spiritual discipleship; a personal relationship with a gracious, loving, Creator God; moral and intellectual integrity and maturity of character; the sanctity of life; a positive regard for differences of conviction and perspective; healthful living, daily worship and Sabbath rest.

SABBATH OBSERVANCE. The Seventh-day Sabbath is observed at Walla Walla University from sunset Friday to sunset Saturday. Students are expected to treat these sacred hours with reverence.

CHURCH AND SABBATH SCHOOL. Each Sabbath, the Walla Walla University Seventh-day Adventist Church offers formal opportunity for worship and spiritual renewal. The Sabbath School program provides numerous settings campus-wide for formal and informal group Bible study, prayer, music, meditation and discussion.

SPIRITUAL LIFE AND MISSION. At Walla Walla University, there is a network of leaders, programs, and opportunities for the spiritual enrichment of the students, faculty, and staff. Student leadership is encouraged as well as involvement in the various areas of worship, service, music, and much more.

CHAPEL EXPERIENCE. The chapel experience at WWU—known as Comm*Unity*—includes Tuesday chapel and an occasional assembly. Other events included in the "chapel" experience offer weekly opportunities for the entire

campus to gather for worship, academic reflection and discussion, celebrations of school spirit, social outreach, and civic enlightenment. These events are important to the spiritual and social unity of the University family. All undergraduate students are required to participate.

WORSHIPS. Providing programs conducive to academic and spiritual growth is the reason Walla Walla University exists. To preserve this distinctive objective, and to develop a habit of worship, selected attendance at a variety of worship events is required. Morning prayer services, small groups, and evening worships are available every day to give students several opportunities to meet the requirement.

CAMPUS MINISTRIES. Campus Ministries is an organization on campus, led by the Campus Chaplain and student leaders, that promotes religious understanding and activity on and off campus. Typical activities include Friday evening programs, a variety of worship opportunities throughout the week, small groups, prayer meetings, opportunities to socialize in a Christian context, and community service projects.

OFFICE OF STUDENT MISSIONS. Through the Student Missions (SM) Office, a large number of WWU students take advantage of international student mission and North American volunteer opportunities. Participating students spend up to one year away from the WWU campus in volunteer service settings around the world.

CABL (COLLEGIATE ADVOCATES FOR BETTER LIVING). CABL, an outreach of Campus Ministries, emphasizes positive healthy lifestyle choices through a variety of informational, social, inspirational, recreational, and outdoor programs and activities open to all students without charging any dues.

COMMUNITY OUTREACH. Service to others is an integral part of Christian higher education. This organization provides opportunities for community service in the Walla Walla area.

ATHLETIC OUTREACH. The athletic program encourages students to grow in their Christian experience and develop a willingness to share that relationship with others. The opportunity is available for the student-athlete to be an active witness on the WWU campus and the community around us.

VOLUNTEER MINISTRIES. Involvement in ministry on campus, at the campus church, and in the community are an integral aspect of a community that is committed to being generous in service. A wide range of opportunities are provided to serve in these areas, as well as service days throughout the year, Sabbath afternoon outreach events, and travel to churches and academies throughout the Northwest to put on vesper programs and church services.

SERVE CLUB. This organization provides fellowship, worship experiences, and many opportunities to serve on campus, in the community, and throughout the Northwest, and is open to all students. Returning and prospective Student Missionaries are strongly encouraged to join.

SMALL GROUPS. Campus Ministries (Chaplain's Office), encourages spiritual growth in small groups is vital to the religious life of Walla Walla University. Many groups meet weekly on campus for encouragement and spiritual growth.

PRAYER MINISTRIES, Campus Ministries (Chaplain's Office), provides a variety of opportunities for times of singing, praying, and spiritual support, including a daily opportunity, M-F at 7:30 a.m. at Heubach Chapel.

BEYOND WWU NETWORK. *Beyond WWU* is a program that provides a network for graduates of Walla Walla University. Graduating seniors can sign up for this program and WWU will help them become connected to communities and to church families where the graduates are re-locating for jobs or graduate schools.

SOCIAL OPPORTUNITIES

Walla Walla University places an emphasis on providing on-campus social opportunities consistent with its Christian mission.

ASSOCIATED STUDENTS OF WALLA WALLA UNIVERSITY. All WWU faculty and regularly enrolled undergraduate students are members of the ASWWU. ASWWU elected officers are responsible for a wide range of social and religious activity planning, and for representing student needs and concerns to WWU administrators. The ASWWU is also responsible for production of the *Mask* student directory, The *Collegian* weekly student newspaper, and the *Mountain Ash* yearbook. Student editors of these publications are appointed by the ASWWU Media Board. The ASWWU is co-sponsored by the Vice-President for Student Life and the Student Activities Director.

CAMPUS CLUBS. Students of varying interests and social tastes support a variety of campus clubs and interest groups. Most academic departments sponsor organizations designed to foster academic interaction in more informal settings. Other campus clubs include: Aleph Gimel Ain (AGA), residence hall women; Omicron Pi Sigma (OPS), residence hall men; and Village Club.

STUDENT ACTIVITIES. A variety of activities are planned through the Student Activities office to meet the social needs of the students. Concerts, weekend activities, and mid-week stress relief events enable students to socialize outside the classroom.

REGIONAL OPPORTUNITIES. In addition to on-campus social activities, WWU students take advantage of a variety of regional cultural opportunities. These include performances by the Walla Walla Symphony, art exhibits, lectures by leading political and entertainment personalities, and live theatrical productions.

CAMPUS SPORTS AND RECREATION

ATHLETIC PROGRAM. Recognizing that athletics are an integral part of campus life at WWU, the athletic program is designed to provide opportunities for Christian athletes to participate and excel in high-level athletic endeavors. The activities are designed to move beyond traditional intramural sports and encompass the following: Women's sports: basketball, softball, volleyball; Men's sports: basketball, soccer.

INTRAMURALS. A recreational sports program in individual and team sports that encourages campus-wide involvement at all skill levels. More than 60 percent of WWU students participate in at least one intramural activity during the school year.

REGIONAL OPPORTUNITIES. Regional sporting opportunities include wind-surfing on the nearby Columbia and Snake Rivers; hiking, mountain biking, and rock climbing in the Blue Mountains, or skiing/snowboarding at any of several ski resorts.

STUDENT HOUSING

RESIDENCE HALLS. Walla Walla University provides on-campus housing for unmarried students. Students who register for 6 hours or more, under 22 years of age or with less than 136 quarter hours completed, are required to live in a residence hall. Requests for exceptions are processed through the Student Life Office. Others are welcome as space allows. Campus residence hall options include:

Foreman/Conard Hall. This residence hall complex houses approximately 400 women. The Foreman portion is a seven-story high-rise for upper-division women, featuring a fitness center, elevator service and air-conditioned rooms. The Conard portion includes a large worship room, study areas and small parlors. Foreman/Conard provides laundry and kitchen facilities.

Sittner Hall. Accommodating approximately 400 men, this residence hall includes lounges, a recreation room, and health club facilities.

Meske Hall. Meske Hall occupies the front wing of Conard Hall, and accommodates 100 upper-division men. The second floor houses several student service departments: Campus Health and Wellness, Counseling and Testing Center, and Office of Diversity.

Hansen Hall, Portland Campus. Hansen Hall is designated for unmarried students, and is located adjacent to the WWU School of Nursing and the Portland Adventist Medical Center.

APARTMENTS. The University owns and manages 200 unfurnished rental units, consisting of studio, one- and two-bedroom apartments, and houses for both single (who have permission to live outside of residence halls) and married enrolled students. The University Village Life and Apartment Housing Office is located at 26 N. College Avenue, College Place, WA; telephone: (509)527-2109. Information on apartments in the community can also be obtained at the above office.

STUDENT SERVICES

CAMPUS HEALTH AND WELLNESS. Campus Health and Wellness provides medical care, preventive health, and health education services to students, faculty, and staff on Walla Walla University's main campus. In addition, Campus Health and Wellness contracts with health care facilities in Billings and Missoula, MT and Portland, OR to provide health care on those campuses.

Main Campus. An on-campus University clinic with a highly qualified staff provides acute and some chronic care services for students requiring medical attention. Referrals for other chronic or emergency conditions will be made to the local clinics and hospitals; however, the student is responsible for charges incurred. Campus Health and Wellness bills only WWU related insurances; personnel will assist with insurance billing questions when needed.

Portland School of Nursing. The Adventist Health Ventura Park Clinic provides health care for students on the Portland campus. This clinic accepts students with WWU student insurance or most other insurance providers. If a condition warrants, the student may be referred to a specialist. If referred, the student is responsible for making financial arrangements with the provider.

COUNSELING AND TESTING. Counseling and Testing Services (CTS) provides counseling and testing services for WWU students.

Counseling Services. The services provided by CTS are designed to help students deal with the pressures of university life. Students can receive help in dealing with personal problems, learning more about themselves, and in planning their future.

The counselors on staff are qualified to discuss a wide variety of issues, including loneliness, depression, stress, time management, test anxiety, study skills, relationship problems, eating disorders, incest and rape survival, dysfunctional family situations, and marital and premarital counseling. Issues may be worked through on an individual basis or in a group setting, and all counseling is strictly confidential.

Testing Services. Counseling and Testing Services is the official testing center for most standardized tests administered on campus. These tests are given on dates specified in advance by the testing companies, and most require advance registration. Many of these tests require a fee to be paid by the student directly to the testing company. Registration materials are available at the CTS Office. Tests administered at CTS include:

- ACAT (Art majors)
- American College Testing (ACT) Residual Test
- College-Level Examination Program (CLEP)
- Correspondence/Distance Learning Tests
- English Placement Tests and Language Placement Tests
- Fundamentals of Engineering Exam (FE)
- Graduate Record Examination (GRE) (subject tests only)

- Law School Admission Test (LSAT)
- Major Field Test (MFT)
- Miller Analogies Test (MAT)
- PRAXIS and Certified Health Education Specialist (CHES) Test
- WEST-E (Education)

Addiction Support Services. Counseling and Testing Services also provides services for students who are dealing with substance-use problems (alcohol, drugs, tobacco, etc.). University policy prohibits the use of tobacco, alcohol, and other drugs. Recognizing that not all students make choices consistent with this philosophy, CTS provides individualized assessment, testing, counseling, and referral services as well as a prevention program. Counseling and Testing Services works closely with residence hall deans and the Vice President for Student Life and Mission to insure that students receive adequate help and support to remain substance-free.

Services are also provided for students with other addictive behaviors such as: eating, gambling, computer (internet, gaming, etc.), and relationships.

Fees and Scheduling. Most services offered by Counseling and Testing Services are free to students, with the exception of a few tests. Students requesting counseling services are asked to complete a short information form before a session is scheduled. The forms are available at CTS on the main floor of Meske Hall or at the CTS web site. If students have any questions they are free to call CTS at 527-2147 during office hours.

DISABILITY SUPPORT SERVICES. The policy of Walla Walla University is to comply with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act, regarding students and applicants with disabilities. The University is committed to providing access to programs and services to qualified individuals who have a documented disability. To receive assistance, students must submit formal documentation to the Disability Support Services (DSS) Coordinator and request an appointment to determine appropriate accommodations. Since accommodations are not retroactive, it is in the student's best interest to submit documentation as soon as possible. Documentation guidelines are available through the University website (see below) or by calling a request copy.

The staff works with students to arrange needed accommodations based on their documentation and individual needs. Examples of accommodations are: exam accommodations, books and other print material in alternate format, equipment and technology access, classroom relocation, notetakers, accessible housing, and other services.

The DSS office is located in the lower level of Village Hall. For more information contact: Disability Support Services, Walla Walla University, 204 S. College Ave., College Place, WA 99324. Phone: 509-527-2366. Web: www.wallawalla.edu/resources/student-support-services/disability-support-services

INFORMATION SERVICES. Information Services operates computer systems for the use of faculty, staff, and students of WWU. All systems are connected to the internet by a campus-wide wired and wireless computer network. Thus all computer systems are available from any location on campus. To do their classwork, students can use computer labs on campus, desktops in their room or their own laptops connected to the campus wireless network.

A wide variety of software applications are available for the use of faculty, staff, and students. These include popular programs for word processing, spreadsheets, databases, programming languages, graphic design, CAD, communications, and mathematical computation.

ACADEMIC SERVICES

ACADEMIC ADVISEMENT. Academic Advisement is an important part of a student's progress through a chosen program of study at WWU. Academic advisers assist students in their consideration of life goals and in developing an educational plan to meet those goals. Academic advisers provide students with information about career options, academic policy, procedures, resources and programs. Specific attention is given to appropriate placement and satisfactory academic progress. If a student fails to maintain satisfactory academic progress, the academic adviser works with the student to develop a plan to achieve academic success.

All degree seeking undergraduate students are assigned an academic adviser to assist them in making the most of their university experience. Preprofessional students are assigned academic advisers who are familiar with specific professional programs.

CAREER CENTER. The Career Center provides services that assist students with the process of self-assessment to determine a major, investigate potential careers, and develop the skills necessary to secure employment. Assessment tools such as the Myers Briggs Type Indicator and Strong Interest Inventory are used to assess interests and personality at no charge to the student. A Career Values Card Sort is used to identify career values. Students are encouraged to select occupations to explore through job shadow and informational interview experiences. Connections are made through the Career Network database to facilitate the process of exploring careers. The Career Center hosts a Graduate School Fair, a Career and Internship Fair, and other events that give students the opportunity to network with professionals and learn more about potential career paths. The yearly Etiquette Dinner is another opportunity to develop skills and knowledge that will benefit career development. For more information, contact the Career Center at 527-2664.

Placement Services. Each quarter the Career Center coordinates visits from graduate schools and professional programs, providing the opportunity for students to participate in interviews for acceptance to these programs without the necessity of traveling long distances. Students have the opportunity to receive assistance with the job search process by attending workshops presented or hosted by the Career Center. The topics include: resume writing, job search skills, interview techniques, and applying to graduate school.

Cooperative Education. The University provides a cooperative education program that integrates academic learning with a work environment. Students receive academic credit for a pre-arranged work experience. (See listing under specific departments/schools for credit and grading applicable to that major.) Department co-op advisers and students determine an appropriate work site in collaboration with the Cooperative Education Coordinator. The Coordinator then monitors the students' paperwork and progress throughout the quarter. For more information, contact the Career Center at 527-2664.

Service Learning. Many academic courses offer opportunities for students to participate in service work in the community.

KGTS/POSITIVE LIFE RADIO is federally licensed as an educational, community-service station. Positive Life Radio's mission is to be a community of believers promoting positive values through Christian music radio. This is accomplished by: 1. Stirring listeners toward a deeper relationship with Christ, 2. Equipping WWU students to impact their community through broadcast training, 3. Serving the Pacific Northwest through 5 partner stations and 13 translators. Owned by Walla Walla University and operated as an Academic Support department the station serves the Communications and Languages Department and others by training students in broadcasting, management, audio production, sales and development, engineering and research. KGTS/Positive Life Radio is funded primarily by listeners and local businesses with support from WWU.

The Positive Life Radio Network serves other Northwest radio stations with Christian music and programs 24 hours each day. Students receive practical experience in network programming and management.

LIBRARIES. The combined WWU libraries contain over 180,000 items, including books, videos, DVDs, e-books, and journals. Access to thousands of journal articles is provided through full-text databases.

Research starts on the WWU Libraries home page (library.wallawalla.edu). The online catalog, along with over 98 article databases to which the Library subscribes, can be searched here. Links to web pages at the Portland and Montana campuses are also available.

Books and Media. Using the **online catalog**, students can search collections of books, media, e-books, and journals at the Peterson Memorial Library, Curriculum Library, Rosario Beach Marine Laboratory, Montana MSW sites, and the branch Nursing Library in Portland, Oregon.

Summit Borrowing, made available through membership in the Orbis Cascade Alliance, offers direct access to over 28 million books, sound recordings, films, and video tapes held by 36 other academic libraries in Washington, Oregon, and Idaho. College Place and Portland students, faculty and staff may request items directly through the Summit Catalog (summit.orbiscascade.org). Materials may be requested for pickup at the Peterson or Portland libraries and are delivered within three to four days. Presently, the Summit service is not available to the Montana MSW sites.

Articles and Indexes. Online databases selected to support the university's curriculum are available through the WWU Libraries home page, under the Articles tab of the main search box. Example databases include:

- Academic Search Premier
- ProQuest
- CINAHL
- PsychArticles
- SocIndex with Full Text
- Computer and Applied Sciences Complete
- JSTOR Arts and Sciences
- E.G. White Writings online
- SDA Periodical Index

Subscriptions for many of the library's databases are made possible by membership in library consortia such as the Adventist Library Information Cooperative (ALICE) and the Orbis Cascade Alliance.

Peterson Memorial Library. Located on our College Place campus, this main library for the Walla Walla University community houses the majority of the libraries' print collections. A variety of individual and group **study areas** are available, including the library board room which may be reserved for group meetings or study sessions. Microform readers make microfilm material accessible and TV/VCR/DVD units located throughout the library provide viewing points for media. A PC lab with computers, a scanner, and a printer allow students to do research and write papers all at one location.

Curriculum Library. Located in Smith Hall, this library contains professional literature on education, K-12 textbooks, children's literature, magazines, standardized tests, math and science manipulatives, games, and curriculum guides.

Portland School of Nursing Library. This facility serves nursing students and faculty on WWU's Portland, Oregon campus.

Montana Libraries. Small site collections are available in Billings and Missoula to meet the immediate needs of students enrolled in the MSW program at those locations.

Rosario Beach Marine Laboratory. A small collection of books is located at the marine laboratory. It provides basic resources to students enrolled in summer biology classes.

TEACHING LEARNING CENTER. The Teaching Learning Center (TLC) offers drop-in tutoring free of charge and private tutoring for a minimal fee to all students enrolled at Walla Walla University. Tutoring is offered to students taking classes in the areas of business, mathematics, engineering, languages, science, and writing. Tutoring in additional areas is available upon sufficient demand. The writing center helps students with papers assigned for any class, and reading and study skills classes are offered to improve those specific academic skills. Disability support services are available for students with documented disabilities.

VETERANS BENEFITS. Walla Walla University is an approved training institution for veterans eligible for educational benefits. The required course load is twelve hours per quarter in order to maintain eligibility to receive maximum benefits. If you have questions about veterans policies, please contact the Veterans Administration coordinator in the Academic Records Office (509) 527-2491.

STUDENT RIGHTS AND RESPONSIBILITIES

To maintain a proper atmosphere for Christian growth and maturity, and to ensure that the rights of all students are respected, the University expects students to act as responsible citizens, abiding by local, state, and federal laws and to conduct themselves honorably. Although students of all religious persuasions are welcome, the University does expect students to live as members of a Christian community as detailed in the *Student Handbook.*

STUDENT APPEALS. Students have a right to appeal decisions and actions relating to their programs. Academic appeals should be directed to the Associate Vice President for Academic Administration, social appeals to the Vice President for Student Life, and financial appeals to the Director of Student Financial Services. If satisfaction is not obtained, students may consult the Walla Walla University Grievance Policy.

FAMILY EDUCATION RIGHTS AND PRIVACY ACT (FERPA)

In accordance with the Family Educational Rights and Privacy Act (commonly referred to as FERPA, or the "Buckley Amendment,") Walla Walla University has adopted the following policies and procedures to protect the privacy of education records. Students will be notified of their FERPA rights annually by publication in the Bulletin and on the WWU homepage.

Definitions. Walla Walla University uses the following definitions in this policy:

Student: any person who attends or has attended WWU.

Education records: any record maintained by the University which is directly related to a student, with the following exceptions:

Personal records kept by university employees which are in the sole possession of the maker and are not accessible or revealed to any other person except a temporary substitute;

Employment records unless the employment records are contingent on the fact that the employee is a student;

Right of the University to Refuse to Provide Copies. Walla Walla University reserves the right to deny copies of transcripts or other records (not required to be made available under FERPA), if the student has an overdue financial obligation to the University or if there is an unresolved disciplinary or academic dishonesty action against the student.

Disclosure of Education Records. Walla Walla University will disclose information from a student's education records only with the written consent of the student, except:

To school officials who have a legitimate educational interest in the records. A school official is:

a. A person employed by the University in an administrative, supervisory, academic, research, or support staff position
b. A person elected to the Board of Trustees;
c. A person employed by or under contract to the University to perform a special task, such as legal counsel or an auditor.
d. A student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her task.

A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her task. Examples include:

a. Performing a task that is specific in his or her job description or by a contract agreement; or
b. Performing a task related to a student's education; or
c. Providing a service or benefit relating to the student or student's family, such as health care, counseling, job placement, or financial aid.
d. To officials of another school, upon request, in which a student seeks or intends to enroll.
e. To certain officials of the U.S. Department of Education, the Comptroller General, and state and local educational authorities, in connection with certain state or federally supported education programs.
f. In connection with a student's request for or receipt of financial aid, as necessary to determine the eligibility, amount, or conditions of the financial aid, or to enforce the terms and conditions of the aid.
g. If required by a state law requiring disclosure that was adopted before November 19, 1974.
h. To organizations conducting certain studies for or on behalf of the University
i. To accrediting organizations to carry out their functions.
j. To comply with a judicial order or a lawfully issued subpoena.
k. To appropriate parties in a health or safety emergency.
l. To an alleged victim of any crime of violence or sexual harassment offense of the results of any institutional disciplinary proceeding against the alleged perpetrator with respect to that crime or offense.

Record of Requests for Disclosure. Walla Walla University will maintain a record of all requests for and/or disclosure of information from a student's education records. The record will indicate the name of the party making the request, any additional party to whom it may be redisclosed, and the legitimate interest the party had in requesting or obtaining the information. The record may be reviewed by the student.

Directory Information. Walla Walla University designates the following categories of student information as public or "Directory Information." Such information may be disclosed by the institution at its discretion.

1. Name
2. Current enrollment status.
3. Telephone number.
4. Date and place of birth, dates of attendance, class standing, previous institution(s) attended, major field of study, awards, honors (including Dean's List), degree(s) conferred (including dates), and full-time or part-time status.
5. Email addresses.

Currently enrolled students may withhold disclosure of Directory Information. To withhold disclosure, written notification must be received in the Academic Records Office at: Walla Walla University, 204 S College Ave., College Place, WA 99324. Directory Information will then be withheld indefinitely until the Academic Records Office receives in writing a revocation of the request for nondisclosure.

Walla Walla University will honor a request to withhold information listed but cannot assume responsibility to contact the student for subsequent permission to release the requested information. Regardless of the effect upon the student, the institution assumes no liability as a consequence of honoring instructions that directory information be withheld.

Correction of Education Records. If students believe that any information contained in their education records is inaccurate, misleading, or in violation of their privacy rights, they may request in writing that the office which contains those records amend them. Students should identify the part of the record they want changed and specify why they believe it is inaccurate, misleading, or in violation of their privacy rights.

That office will reach a decision and inform students in a reasonable amount of time after receiving the request. If the records custodian refuses to amend the record, students have the right to a hearing. This hearing will be conducted by an appropriate committee appointed by the Academic Vice President of the University. The hearing will be held within a reasonable amount of time after the request for a hearing has been made. The hearing committee will notify the student, reasonably in advance, of the date, place, and time of the hearing.

Students will be afforded a full and fair opportunity to present evidence relevant to the issue raised. Students may be accompanied by one or more other persons. The committee will make its decision in writing based on the evidence presented at the hearing. The decision will include a summary of the evidence presented and the reasons for the decision.

If the hearing committee supports the complaint, the education record will be amended accordingly and students will be so informed. If the hearing committee decides not to amend the education record, students have the right to place in the education record a statement commenting on the challenged information and/or stating the reasons for disagreeing with the decision. This statement will be maintained as part of the education record as long as the contested portion is maintained, and whenever a copy of the education record is sent to any party, the student's statement will be included.

ADMISSION TO THE UNIVERSITY

Walla Walla University welcomes to its school family students who wish to obtain a quality education in a Christian environment (Walla Walla University is affiliated with the Seventh-day Adventist Church). Students, faculty and staff share in the mutual obligation to uphold the Christian philosophy and policies of the University.

It is the policy of Walla Walla University to provide equal educational opportunity without regard to age, race, color, religion, national origin, sex, marital status, disability or other protected classes as required by local, state, and federal laws that apply to the University. In addition, the University provides equal employment opportunity without regard to age, race, color, national origin, sex, marital status, disability or other protected classes as required by local, state, and federal laws that apply to the University.

ADMISSION REQUIREMENTS

(U.S. Citizens, Canadian Citizens and U.S. Permanent Residents)

(International applicants refer to Admission Requirements and Procedures for International Students)

Walla Walla University practices a selective admissions policy. To be considered for admission to the University, students should demonstrate scholastic achievement, good character and financial support.

Prospective students must submit a completed application form accompanied by a non-refundable $40 (U.S.) fee. Copies of the official form are available from the Marketing and Enrollment Services Office or on the web at www.wallawalla.edu. Application should be made BY THE PREFERRED DEADLINE FOR EACH QUARTER. THE PREFERRED DEADLINES ARE: AUTUMN QUARTER, **SEPTEMBER 1;** WINTER QUARTER, **DECEMBER 1;** SPRING QUARTER, **MARCH 1;** SUMMER QUARTER, **JUNE 1.** TO QUALIFY FOR PREREGISTRATION FOR AUTUMN QUARTER, APPLICATION FILES MUST BE COMPLETED BY AUGUST 15.

The following entrance requirements apply to students entering all bachelor and some associate degree programs. Students entering associate degree programs should inquire concerning possible variations in entrance requirements.

FIRST-TIME FRESHMEN. *Students who have not received post-secondary credit from another institution after the summer of their high school graduation.* Minimum requirements for admission include:

1. A minimum grade-point average of 2.5.
2. Transcripts from the island territories of Federated States of Micronesia, American Samoa, Palau, and Puerto Rico must have a grade-point average of 3.30 or higher.
3. Graduation and official transcript from an accredited secondary school or the completion of the GED exam. GED scores must show a score of 450 or higher for each section of the exam and an average score of 500 or higher.
4. Official transcripts from each post-secondary institution attended.
5. Completion of the ACT and/or SAT test if transferring less than 30 quarter hours. These tests are required for academic advisement.
6. Satisfactory personal reference. WWU requires one completed recommendation form from the most recent educational institution attended. The recommendation form needs to be completed by a former teacher, guidance counselor or school administrator. Recommendation forms may be submitted online.
7. Official copies of your TOEFL test scores if English is not your first language. Ask the Testing Service to send these scores directly to the Walla Walla University Marketing and Enrollment Services Office.

Students with United States system secondary school background should present the following semester credits for admission:

	Semester Credits
English	40
History	20
Algebra I	10
Algebra II	10
Geometry	10
Science	10
Laboratory Science	10

Occasionally students are admitted into WWU who have a high school grade-point average below 2.5 and/or who lack one or more of the subjects required for entrance. Any student admitted with a grade-point average below 2.5 is required to enroll in GNRL 100, Principles of Systematic Study, a non-college-credit preparation course.

A student who has "P" grades (pass grade) on their high school transcript needs to be aware of the following policy. In order for a student to meet the Freshman scholarship grade point average criteria they must produce a transcript with a minimum of three years of calculable high school grades from an accredited agency. If a student is unable to produce the required amount, they will default into the ACT/SAT test score scholarship category.

A student accepted with entrance deficiencies must either make up the deficiencies prior to enrollment or enroll in the appropriate remedial course(s) at WWU. The student should consult the Director of Academic Advisement about specific courses for making up these deficiencies. All students must satisfy the entrance requirements in mathematics before enrolling in any college-level mathematics course.

In order to continue enrolling at WWU, students must make up all entrance deficiencies by the end of the third term of enrollment at WWU, or before 45 college-level credits have been earned, including transfer credits, if any.

A student admitted with a grade-point average below 2.5 is on academic probation for the first quarter in attendance as listed under Conditions of Academic Probation. A student on academic probation must earn a grade-point average of at least 2.0 in college-level courses during the first term of enrollment. If this requirement is met, the student may continue enrollment on regular status. If a 2.0 term grade-point average is not achieved during the probationary term, the student is automatically dismissed from the University.

In addition to the requirements for admission, the following semester credits are highly recommended for entrance to the undergraduate curriculum:

	Semester Credits
Foreign Language	20
Social Studies	10
Laboratory Science (additional)	10
*Mathematics	10

*Some departments require 10 semester credits of advanced mathematics, including trigonometry. These departments include Chemistry, Computer Science, School of Engineering, Mathematics, Physics and School of Business.

TRANSFER STUDENTS. *Students who have received post-secondary credit from another institution after the summer of their high school graduation.* Minimum requirements for admission include:

1. A grade-point average of 2.00.
2. Transcripts from the island territories of Federated States of Micronesia, American Samoa, Palau, and Puerto Rico need to have a grade-point average of 3.30 or higher.

3. Graduation and official transcript from an accredited secondary school or the completion of the GED exam. GED scores must show a score of 450 or higher for each section of the exam and an average score of 500 or higher. (Transfer students who have junior or senior status are not required to supply WWU with an official high school transcript.)
4. A student who transfers to Walla Walla University with 30 or more transferable quarter hours will not be required to write the ACT or SAT exam.
5. Official transcripts from all post-secondary institution attended.
6. Satisfactory personal reference. WWU requires one completed recommendation form from the most recent educational institution attended. The recommendation form needs to be completed by a former teacher, guidance counselor or school administrator. **Transfer students who apply to the WWU School of Nursing are required to submit three completed recommendation forms. Students who have been academically dismissed or have been on academic probation and students who have been convicted of a misdemeanor or felony will be required to submit three completed recommendation forms.** Recommendation forms may be submitted online.
7. Official copies of your TOEFL test scores if English is not your first language. Ask the Testing Service to send these scores directly to the Walla Walla University Marketing and Enrollment Services Office.

If you have not previously attended a Seventh-day Adventist college, please see the Religion and Theology section under General Studies requirements.

Accredited Colleges. Applicants who have attended North American accredited institutions of higher education and who have official transcripts showing a minimum grade-point average of 2.00 on all course work taken may be admitted at a level determined by the number of credits transferred.

Non-Accredited Colleges. Students transferring from non-accredited institutions may be required to take validating examinations should they wish credit to be transferred to Walla Walla University.

Community Colleges. A minimum of 96 of the 192 quarter hours required for graduation must be taken at a four year accredited college or university.

Vocational or Technical Credit. A maximum of 15 credits of vocational or technical courses, C- or better, taken at a regionally accredited college or university, may be transferred to Walla Walla University as general electives. Credits do not apply toward a major, minor, or general studies.

Foreign Transcript Evaluation. Transcripts received from foreign institutions will be evaluated on an individual basis. In some instances, the student may be required to request an official evaluation from a foreign credentialing education service. Accepted courses will be issued a pass/fail grade and will not be calculated into the cumulative GPA for graduation.

Senior Transfer Students. Transfer students with senior standing are required to be in residence three consecutive quarters and complete a minimum of 36 quarter hours, including nine quarter hours of upper-division work in the major and three upper-division quarter hours in the minor, and meet all degree requirements. See minimum residency requirements section of this bulletin.

Engineering Transfer Students. Students enrolled in the Engineering affiliation program will be allowed to graduate under any official Walla Walla University bulletin dated not more than three academic years prior to their first year on this campus. Students who withdraw from engineering studies for a continuous period of one year or more will forfeit the right to graduate under bulletins which were current prior to their withdrawal.

Engineering transfer students applying for admission to Walla Walla University must supply a letter of recommendation from one of their engineering professors at their most recent educational institution attended. Recommendation forms may be submitted online.

Nursing Transfer Students. All nursing students refer to the Nursing section of this Bulletin for additional requirements.

Military Credits. Two quarter credits of the general studies physical education requirement will be waived for students eligible for VA benefits. Students who provide an official accredited military transcript listing Basic Training may be awarded a maximum of 6 quarter credits of physical education. The remainder of the transcript will be evaluated as other accredited transcripts. No credit will be awarded for specialty training or vocational programs.

International Baccalaureate (IB) Program. Students who engaged in college-level study in high school through the International Baccalaureate (IB) Program can obtain credit toward a WWU degree on the basis of their performance on the higher level IB exam. Students should submit an official IB transcript to the Academic Records Office for evaluation. All IB evaluations will be in collaboration with the appropriate WWU department. Credits accepted will be on a pass/fail basis.

Appeal of Transfer Credit Evaluation. If a student questions the evaluation of their transfer credits they may appeal to the Registrar. The student may be requested to submit a syllabus of the course(s) in question and/or any documents that may support the appeal. If resolution is not met in consultation with the Registrar, the student may petition Academic Standards Committee for a review of their request.

POSTGRADUATE STUDENTS. *Students who have completed a baccalaureate degree from a regionally accredited institution and are not applying for an advanced degree.* Minimum requirements for admission include:

1. A grade-point average of 2.00.
2. Official transcripts from all post-secondary institutions attended.
3. Satisfactory personal reference. Recommendation forms may be submitted online.

4. Official copies of your TOEFL test scores unless graduation is from a four-year English institution. Request the Testing Service to send these scores directly to the Walla Walla University Marketing and Enrollment Services Office.

RETURNING STUDENTS. *Students who have attended Walla Walla University, but were not enrolled the preceding quarter (excluding summer quarter) are classified as returning students.* Minimum requirements for readmission include:

1. A grade-point average of 2.00 on course work taken at Walla Walla University or a cum grade-point average of 2.00 with at least 36 transferable hours of course work taken at another college if the student has been absent for more than one year from Walla Walla University.
2. An acceptable citizenship record while at Walla Walla University.
3. Official transcripts from each post-secondary institution attended since the last quarter at Walla Walla University with a grade-point average of 2.00.

NONMATRICULATED STUDENTS. *Students who are not seeking or ineligible for regular admission and who are not candidates for a degree or financial aid from Walla Walla University.* Nonmatriculated students may register for credit for any course for which they have sufficient academic background and teacher approval. By completing requirements for regular admission, a nonmatriculated student may become a degree candidate. Application must be made through the Marketing and Enrollment Services Office.

GUEST STUDENTS. *Students who have been in residence at other institutions of higher education and who are not candidates for a degree or financial aid from Walla Walla University.* Guest students must show that they are in good and regular standing at the university or college to which the credits are to be transferred. The application process is initiated through the Office of the Vice President for Academic Administration.

SPECIAL STUDENTS. *Students who are currently enrolled as a senior in secondary school and who have permission from their principal, may register for selected Walla Walla University courses.* Special students are not eligible for financial aid. Application needs to be made through the Office of the Vice-President for Academic Administration.

ADMISSION PROCEDURES

(U.S. and Canadian Citizens and Permanent Residents)

APPLICATION AND APPLICATION FEE. Applications must be completed entirely, to begin the admissions process. Applications may also be submitted on-line at wallawalla.edu. A **non-refundable $40 (U.S.)** application fee is required and should be submitted at the time of application. School of Nursing transfer students are required to complete a general WWU application and a School of Nursing application as part of the admissions process.

OFFICIAL TRANSCRIPTS. Request official transcripts from each institution attended and have them sent directly to the Marketing and Enrollment Services Office of Walla Walla University. *Failure to indicate at the time of application that work has been taken at other institutions invalidates the admission process.* Undergraduate students must have on file with the University either high school transcripts, GED scores or a letter verifying date of graduation/GED scores from administering institution in order to enroll. Students who complete a GED are also required to submit official transcripts of all high school work completed. Transfer students who are entering WWU are not required to supply an official high school transcript if they have junior or senior level status. Students already holding a baccalaureate degree are not required to submit high school transcripts. Should transcripts not be received in the time-frame described under the section Registration Without Official Transcripts, student status and financial aid at Walla Walla University may be affected. International transcripts will be evaluated in conjunction with published guidelines for each country.

Academic records become the property of the University and may be released intra-campus for purposes of academic advisement/evaluation/administration as deemed necessary. Copies or originals of admission documents cannot be released to the applicant. **Transcripts, applications and other credentials submitted for admission will be destroyed after two years if the applicant does not enroll.**

UNIVERSITY ENTRANCE EXAMINATION. ACT (American College Testing Program) and/or SAT test scores are required of entering freshmen and transfer students with fewer than 30 quarter credits (unless they have been out of high school for five or more years). The ACT Test may be taken upon arrival at WWU. Students without these test scores will be provisionally registered (provided other criteria are met) until they have taken the ACT during a regularly scheduled on-campus test date the first quarter in residence. **Please Note:** To ensure academic success, English screening of all applicants is a part of the registration process unless the student has previous satisfactory ACT results.

All Seventh-day Adventist senior academies in the North Pacific Union Conference are non-Saturday testing centers for ACT. Students not enrolled at these high schools are invited to write or telephone the guidance counselor or principal at the academy of their choice to obtain information regarding participation in the ACT non-Saturday testing program.

PERSONAL REFERENCES. Request one individual, who knows your academic qualities well and is not related to you, to complete a reference form on your behalf. A possible reference may come from your academic adviser, guidance counselor, teacher/professor, or school administrator. **The School of Nursing program requires three completed recommendation forms. Students who have been academically dismissed or have been on academic probation and students who have been convicted of a misdemeanor or felony will be required to submit three completed recommendation forms.** A person recommending you may submit an Online Reference at wallawalla.edu/form/enrollment-reference.

Transfer students must be in good and regular standing from the institution most recently attended when transferring to Walla Walla University. A letter of reference is requested from the most recently attended institution. Additional forms are available online at wallawalla.edu/form/enrollment-reference.

TOEFL TEST REQUIREMENT. If English is not their first language, students will demonstrate the ability to pursue studies in the English language by passing the TOEFL (Test of English as a Foreign Language). The following TOEFL scores are required for entry into Walla Walla University:

A score of 79 or higher on the internet-based exam.
A score of 213 or higher on the computer-based exam.
A score of 550 or higher on the written exam

In addition to the English proficiency test, students will be evaluated after arrival at Walla Walla University for appropriate placement in English.

Students who supply TOEFL scores and whose first language is not English who are transferring from an English medium secondary school, are required to take Walla Walla University's English Placement Test, which includes a writing sample. If students do not qualify for College Writing courses, they will be placed in an appropriate reading and/or writing class before entering ENGL 121.

LETTER OF ACCEPTANCE. After the applicants' transcripts and references have been received and approved by the Marketing and Enrollment Office, prompt notification of acceptance is sent. **Applicants should not consider themselves accepted (and should not plan to reside or work on campus) until official notification of acceptance is received.** Applicants may check on the status of their application by calling (509) 527-2327, (800) 541-8900.

ENROLLMENT FEE.

- **If you are enrolling for six or more credit hours, a $200 non-refundable enrollment fee will hold your spot at WWU.** *Payment of this fee allows us to confirm your WWU housing arrangements and allows you to register and be placed in classes*
- **A $100 rebate will be applied to your school bill when you enroll at WWU if your fee is paid according to these deadlines:**
    - Autumn enrollment - received by April 30th preceding the Autumn term.
    - Winter/Spring/Summer enrollment = received two weeks before the first day of classes for the respective quarter.
- **Students who do not pay the enrollment fee by the above deadlines will lose their placement in classes and will not be allowed to enroll until the fee is paid.**

MEDICAL INFORMATION. The Campus Health and Wellness office is directed by a registered nurse practitioner. Students are required to complete an insurance form and a Personal Health Assessment record, inclusive of immunization status. Forms are available from Campus Health and Wellness or on-line at wallawalla.edu.

Immunization documentation required for admission includes: (a) tetanus-diphtheria (DT or Td) booster within the past 9 years; and (b) two measles-mumps-rubella (MMR) vaccines. Also recommended are 4 or more oral polio vaccines (OPV). MMR and Td are available for a fee through Campus Health and Wellness.

ADMISSIONS BY EXAMINATION

An individual without a high school diploma who has not completed secondary school may be admitted to freshman standing on the basis of:

1. *Accredited Home School Agency*
   Applicants may be admitted upon successful completion of high school through an **accredited** home school agency with a cumulative grade point average of 2.5 or higher. WWU must receive an official high school transcript from the accredited home school agency.

2. *GED Scores*
   Average score of 50 on the five sections, with no individual score below 45. All students admitted with GED scores will take placement tests in Mathematics and English to determine appropriate courses.

3. *California High School Proficiency Examination*
   Applicants who are under 18 years of age but have successfully completed the California High School Proficiency Examination may be considered for admission provided that (1) a minimum of two years of high school has been completed; (2) written parental permission has been given; (3) the application letter lists reason, goals and objective for acceleration. A copy of this letter will be sent to the applicant's high school principal and residence dean/counselor for their reactions and recommendations.

ADMISSION REQUIREMENTS AND PROCEDURES FOR INTERNATIONAL STUDENTS

International applicants are welcomed to Walla Walla University when the conditions stated below are met. In many cases, certified copies of certificates issued by the Department of Education or an approved National Government agency or a university examination board will be needed to verify appropriate completion of the secondary level of education. Additional documentation may be required from specific countries. Minimum requirements for admission include:

1. A **completed application form** (including the international section) with a $40 (U.S.) application fee.
2. A **completed financial analysis sheet** with a bank statement from the financial sponsor verifying ability to pay expenses. Note: Official government scholarships need to include an official letter from the government issuing the scholarship.
3. **Letter of recommendation** from one person who knows you well; teachers, employers, pastors, etc. (no family members, please). A person recommending you may submit an **Online Reference** at http://wallawalla.edu/form/enrollment-reference
4. **Certified copies** of your secondary-level certificate, with English translations if necessary. Certificate(s) with passing marks is/are required from a four, five or six-year university preparatory school. Additional requirements include passing scores in government examinations where offered, including English, a natural science, mathematics, and two others from: a second language, science, social studies, literature and religious knowledge. If transferring from a university-level program, please request that an official copy of your academic records (a transcript of marks) be sent in a sealed envelope directly from the university registrar to the Marketing and Enrollment Services Office at Walla Walla University. International transcripts will be evaluated in conjunction with published guidelines for each country.
5. **Official copies of your TOEFL test scores**. Ask the Testing Service to send these scores directly to the Walla Walla University Marketing and Enrollment Services Office.

Prior to acceptance into any program and before an I-20 form is issued to international students, a $7,000 (U.S.) deposit is necessary (except Canadian and specified U.S. Trust Territory students). See International Students (p. 353) in the Financial section of this bulletin.

****SPECIAL NOTE: INTERNATIONAL STUDENTS MUST HAVE IN THEIR POSSESSION AN I -20 VISA FORM ISSUED TO THEM BY WALLA WALLA UNIVERSITY PRIOR TO LEAVING THEIR HOME COUNTRY AND ENTERING THE UNITED STATES TO STUDY AT WALLA WALLA UNIVERSITY.**

ACADEMIC INFORMATION AND POLICIES

ACADEMIC POLICIES

Academic policies developed and announced in the course of the school year have the same application as those published in this bulletin. Students wishing any exception to published policy may petition to the Academic Standards Committee. Forms for this purpose are available at the Academic Records Office and online.

COURSE LOAD

The academic study load at Walla Walla University is computed in quarter hours, one quarter hour normally representing one class meeting per week or three hours of laboratory work per week. Thus, a three-quarter-hour class would meet three times each week. For each quarter hour of credit earned, a student is expected to spend at least two clock hours a week in outside preparation or three hours a week in supervised study or laboratory work.

The normal course load is 16-17 hours per quarter. Sophomores, juniors, and seniors may register for 18 quarter hours if their cumulative WWU grade-point average is 3.00 (B) or better. Undergraduate students on academic probation will carry a reduced course load.

The following minimum study loads will satisfy the parties indicated; however, in order to graduate in four years the student should take 16 hours per quarter.

Financial Aid	12 quarter hours
Immigration Authorities	12 quarter hours
Social Security	12 quarter hours
Veterans	12 quarter hours

REGISTRATION

The academic year is divided into four academic quarters, Autumn, Winter, Spring and Summer. Full-year online registration is available to all continuing students who have obtained Junior or Senior status. Continuing Freshmen and Sophomores may register online quarter by quarter. Registration dates will be announced. Registration is official only after all procedures required by the University have been completed and all fees have been paid. Students who do not receive financial clearance by the deadline will have their registration cancelled and will have to re-register on a space-available basis.

Faculty advisers are available to assist students with registration and in planning academic programs. Adviser approval is required for class registration. Adviser signatures are required on Change of Registration forms for undergraduate students. In the event of temporary unavailability of the assigned adviser, the student should first consult the department chair/school dean. If the chair/dean is not available, the forms may be signed by the Director of Academic Advisement. It is the student's responsibility to inform the assigned adviser of the action.

Students are not permitted to attend courses for which they have not registered. Students will not be permitted to register for two classes which meet concurrently.

REGISTRATION WITHOUT OFFICIAL TRANSCRIPTS. Walla Walla University recognizes that in some instances a student may not be able to provide an official transcript immediately prior to enrolling at the University. At the University's discretion, some students may be allowed to enroll prior to admission on the basis of work shown on unofficial or incomplete transcripts. Students who have enrolled directly from high school in this fashion will have a maximum of three consecutive quarters to have their official transcripts received by the Marketing and Enrollment Services Office. No further enrollment will be allowed

until the transcripts are on file. Transfer students allowed to enroll on this basis must have their official complete transcript(s) on file by the end of their first quarter in order to continue enrollment.

UNIVERSITY EXPERIENCE. All freshmen are expected to attend the JumpStart Program, (University Experience class) which takes place the week prior to the beginning of Autumn quarter classes. The JumpStart Program focuses on topics and activities that will help students make a successful transition to university academically, socially and spiritually. JumpStart includes regular orientation information, financial clearance, course placement, academic advisement and finalization of the registration process. Students who successfully complete the JumpStart Program receive one elective credit. A fee is assessed for this program; see the Academic Fee Section of the *Financial Bulletin*.

MENTOR PROGRAM. All freshmen are required to participate in the Freshman Success Program. The program focuses on assisting students in a successful transition to college life through individualized mentoring. Mentors are trained to give academic, spiritual, and social support that will: assist students in setting and achieving academic careers and goals; aid students in developing time management skills; encourage students to live balanced lives that include academics, and spiritual and physical development; support students in reaching and maintaining satisfactory grade point averages; strongly encourage students to connect with faculty, staff, and other students, and participate in organizations sponsored by the University; identify students who are having academic or personal difficulties early in an academic quarter; direct students in effectively using campus resources; and encourage students when they encounter personal challenges. A fee is assessed for this program; see the Academic Fee Section of the Financial Bulletin.

LATE REGISTRATION. Students citing unusual circumstances may register after the designated registration periods; however, they will be charged a late registration fee, and may expect a reduction in course load. Students may register between the 5th and 10th days of the quarter only with permission of the instructors involved.

CHANGES IN REGISTRATION. Changes in registration may be made during the first four days of instruction without charge. Course changes **after** that require advance permission from the instructor and from the student's academic adviser; there is also a fee for each course added or dropped. **Courses may not be added after the tenth day of any quarter.**

WITHDRAWALS. Students withdrawing from all classes must submit an official University Withdrawal Form to the Academic Records Office. Students withdrawing from individual courses must submit a Change of Registration voucher to the Academic Records Office signed by the instructor involved and the student's adviser. The final date for dropping a course is listed in the academic calendar.

An instructor or department chair/school dean may drop a student from a course during the 100% refund period if the student has not satisfied the prerequisites for the course and the student is informed.

CONCURRENT REGISTRATION. Concurrent registration at another accredited college/university may occasionally be advisable because of course unavailability or schedule conflicts. Students who are considering this option should consult their adviser and the registrar to ensure that their total course load is reasonable, that the transfer course will not interfere with their Walla Walla University class schedule, and that the course will satisfy the intended requirement. Transfer course approval requests are available at http://wallawalla.edu/resources/forms. It is the student's responsibility to have a transcript sent to Walla Walla University as soon as the course has been completed. Seniors should not enroll for courses at other colleges without prior approval from Academic Standards Committee (see Residency Requirements in this bulletin).

Students in good and regular standing may request to concurrently enroll in a Whitman College class through a reciprocal program in which tuition is paid at Walla Walla University while the student registers at Whitman College. Some restrictions apply; the program is intended for students who wish to take a course that is not available at Walla Walla University. The application process should be initiated through the office of the Associate Vice President for Academic Administration at least three weeks before the beginning of the term in which concurrent enrollment is desired.

ADMISSION TO UPPER-DIVISION STATUS. A student may register for upper-division courses **provided that he/she has completed 45 quarter hours of university course work; the general studies mathematics requirement; ENGL 121 and 122 or HONR 141 and 142; and has completed or is concurrently enrolled in either ENGL 223, HONR 243, or ENGR 222.**

SENIOR REGISTRATION FOR GRADUATE COURSES. Seniors who wish to take graduate (500-level) courses must submit a petition, a copy of a degree audit or a copy of their approved senior outline, and a current transcript to the Graduate Standards Committee for evaluation. Approval to register is based upon the student's background for the course in question and a minimum of 2.75 cumulative GPA. Academic Standards Committee must approve the petition to have the course apply to the undergraduate program. Courses so taken will be marked on the transcript as applying to the undergraduate degree. Seniors wishing to take credit to be applied toward a future graduate program should consult the Graduate Bulletin.

AUDIT. Students may audit classes provided they (1) register in the usual manner; (2) receive prior approval of the **instructor** , because certain classes and labs may not be audited; (3) pay any special fees, as appropriate; and (4) pay one-half tuition. Students auditing courses are not required to do class assignments or take tests. They receive no grades and no academic credit. **The deadline for changing to or from audit status is the tenth day of the quarter. Students may not take challenge or waiver examinations for courses they have audited and**

may not add the class for credit after the 10th day of the quarter. Students with a Walla Walla University cumulative grade-point average of at least 3.00 and a course load of at least 13-16 hours (excluding audit courses) pay a special fee if their total credits exceed 16 hours. See the Academic Fee section of the *Financial Bulletin*.

OTHER ACADEMIC POLICIES

CHANGE OF MAJOR/MINOR AND ADVISER. Students who wish to declare or change a major/minor are required to complete a "Change of Major/Adviser" form in the Academic Advisement Office. If the declaration of major requires the selection of a new adviser, the student is required to consult with the Director of Academic Advisement for a new adviser assignment. Students are assigned a secondary adviser for the chosen minor, and the student is expected to consult with the adviser to insure appropriate course selection. Students who are pursuing secondary education certification must consult with the certification officer in the School of Education and Psychology.

CLASS ATTENDANCE. Students are responsible for punctual and regular attendance at all classes for which they are registered. Missing instruction for any reason may jeopardize the course grade.

FINAL EXAMINATIONS. All students are expected to take final examinations as scheduled. Requests for exceptions are to be submitted to the Associate Vice President for Academic Administration three weeks prior to the close of the quarter. A fee is assessed for each out-of-schedule examination; see the Academic Fee section of the *Financial Bulletin*.

TRANSCRIPTS. Official transcripts are issued from the Academic Records Office. Transcript requests must be in writing using a transcript request form or personal letter. Forms are available in the Academic Records Office or online at http://www.wallawalla.edu/academics/forms/records/transcript.pdf. Letters must include the student's ID number or Social Security number, birth date, dates *of attendance*, signature and return address. Requests for faxed transcripts must include the following statement, "I realize my privacy may not be maintained." Faxed transcripts are not official transcripts. Transfer credit is not recorded after a student has ceased attendance at the University.

CLASSIFICATION OF STUDENTS

FRESHMEN. Students who have met the University's entrance requirements and have completed less than 45 quarter hours are classified as freshmen.

SOPHOMORES. Students who have completed a minimum of 45 quarter hours with a grade-point average of at least 2.00 are classified as sophomores.

JUNIORS. Students who have completed a minimum of 90 quarter hours with a grade-point average of at least 2.00 are classified as juniors.

SENIORS. Students who have completed a minimum of 136 quarter hours with a grade-point average of at least 2.00 are classified as seniors. Seniors who can complete all degree requirements during the current school year are eligible for class membership.

POSTGRADUATE STUDENTS. Students who have completed a baccalaureate degree and are registered for work which does not ordinarily apply toward an advanced degree are classified as postgraduates.

GRADUATE STUDENTS. Students who have been accepted into one of the graduate programs are classified as graduate students.

NONMATRICULATED STUDENTS. Individuals ineligible for regular admission or who do not intend to matriculate in an academic program at Walla Walla University are considered nonmatriculated. (See Admission to the University: Nonmatriculated Admission)

SPECIAL STUDENTS. Students who are currently enrolled as students in secondary school and who have permission from their principal to take certain college-level courses are classified as special students.

ACADEMIC INTEGRITY POLICY

An integral part of the mission of Walla Walla University is to prepare its students to be responsible individuals with Christian values. The University expects all members of its community to have integrity, including a steadfast adherence to honesty. Faculty have a responsibility to foster integrity by example and instruction. Students have a responsibility to learn, respect, and practice integrity.

All acts of dishonesty are unacceptable, including cheating, plagiarism, forgery, misrepresentation, falsification, prohibited collaboration, and prohibited use of files. Departments or schools may have specific criteria for behavior and skills suitable to their disciplines which will be communicated to students, typically in course syllabi.

Any violation of the academic integrity policy will result in disciplinary action. Teachers and administrators will follow approved guidelines which are available upon request in the office of the Associate Vice President for Academic Administration or online at: http://www.wallawalla.edu/academics/academic-administration/academic-policies/academic-integrity-policy

GRADING SYSTEM

The grade-point average is computed by totaling the grade points of all courses taken at Walla Walla University and dividing by the total quarter hours for which grades are received. **Only the best grade of a repeated course will be calculated in the grade-point average.** Default grades of Incompletes are included in the grade point average calculation. The AU, IP, NC, S, W and X are disregarded in computing the grade-point average.

A report of grades is available on the WWU web-site for students (and parents of dependent students) at the end of each quarter. Classes taken for 0 credit may only be graded S/NC.

The following grades are used:

A	4.0	C+	2.3	D	1.0
A-	3.7	C	2.0	D-	0.7
B+	3.3	C-	1.7	F	0.0
B	3.0	D+	1.3	S/NC	0.0
B-	2.7				

In place of grades, the following symbols are used:

I **Incomplete**

In the case of incomplete work due to justifiable cause, the instructor may assign a grade of Incomplete, allowing the student an extension of time to complete the course requirements. The Incomplete is not a permanent grade. The instructor for the course also submits a default grade for the course that the student will be assigned if no further work is done in the allotted time, taking into account all the course requirements. The default grade appears beside the I; e.g. IF, ID, etc.

Submission of all required work is due to the teacher three weeks before the close of the following term (excluding summer session for undergraduates). Graduating seniors must complete all outstanding incompletes six weeks prior to graduation.

I* **Standing Incomplete**

Final grade for coursework not completed within appropriate timeframe.

IP **In Progress**

IP grading for certain undergraduate approved courses, particularly courses that extend beyond regular grading periods. Courses to receive IP grading will be approved by Curriculum Committee. Graduating seniors must complete all outstanding in-progress credits six weeks prior to graduation.

IP* Standing In Progress

Final grade for coursework not completed within appropriate timeframe.

S/NC **Satisfactory/No Credit**

Indicates that credit earned was satisfactory (C or better) or that the credit was not earned because performance did not meet the minimum standards for a satisfactory grade. **Some professional schools calculate the NC mark as an F grade when computing the grade-point average.**

W **Official Withdrawal**

Courses dropped during the first two weeks of the term will not appear on the student's record. Courses dropped thereafter will appear on the permanent record with a W.

X **Unofficial Withdrawal**

Indicates that the student discontinued class attendance prior to the fifth week, mid-term, but failed to withdraw officially.

AU **Audit**

GRADE ERRORS AND CORRECTIONS. Grades will be processed and posted to the Web for viewing at the close of each quarter. Upon viewing grades via the secured web site, the student should carefully check the accuracy of the courses recorded, quarter hours, and grades. Grades may be changed only if an error has been made in calculating or recording the grade. Students will have until the last day to drop classes during the next regular quarter to report any discrepancies to the Academic Records Office.

ACADEMIC PROBATION

The probation policy and conditions are intended to enhance the probability of academic success. Students should be aware that many types of financial aid are dependent on academic success or adequate academic progress. Students may become ineligible for financial aid for either poor academic performance (GPA) or for lack of academic progress (not successfully completing enough credits). Student Financial Services may be consulted for detailed information.

CALCULATION OF GRADE POINT AVERAGE (GPA) FOR PROBATION. For academic probation consideration, the GPA includes all Walla Walla University courses as well as the default grade of all Walla Walla University courses with a grade of Incomplete. Grades in remedial courses (courses numbered 001-100) or transfer courses do not count in the probation GPA calculation.

ACADEMIC WARNING. A student whose Walla Walla University cumulative and previous term GPAs are 2.0 or higher, but whose current term GPA is below 2.0, receives a warning letter from the Associate Vice-President for Academic Administration. A copy of the letter is also sent to the student's academic adviser.

ACADEMIC PROBATION AND DISMISSAL. Students must show satisfactory academic performance by maintaining a term and cumulative GPA of 2.0 or above. At the end of each term, students' academic performance is reviewed. Students are automatically placed on academic probation if their performance places them in one of the two categories described in the following paragraphs. Probationary status is communicated to them in writing by the Associate Vice-Present for Academic Administration. A copy of the letter is also provided to each student's academic adviser. After the fourth day of the term, a student's probation

status does not change for that term even if a subsequent grade change is submitted or an Incomplete is finished.

Students on academic probation have one term in which to demonstrate satisfactory academic achievement. During that term, they must comply with the conditions listed in the following section, "Conditions of Academic Probation." At the end of the term, each student's performance will again be reviewed.

A student is automatically placed on probation when:

1. The student's cumulative grade point average for courses taken at Walla Walla University, including default grades for Incompletes, is below 2.00.

   The student is placed on probationary status for the ensuing term, at the end of which the student must earn a term GPA of at least 2.3 (C+ average). A student who meets this requirement may continue on academic probation for the following term. When the cumulative GPA reaches 2.0, the student returns to regular status. If neither a 2.3 term GPA nor a 2.0 cumulative GPA is achieved during the probationary term, the student is automatically dismissed from the University. The Associate Vice-President for Academic Administration notifies the student of the dismissal and process of potential appeal.

2. The student's term GPA at Walla Walla University, including default grades for Incompletes, is below 2.0 for two consecutive terms, even though the cumulative GPA is above 2.0.

   The student is placed on probationary status for the ensuing term, at the end of which the student must earn a term GPA of at least 2.0. A student who meets this requirement returns to regular status. If a 2.0 term GPA is not achieved during the probationary term, the student is automatically dismissed from the University. The Associate Vice-President for Academic Administration notifies the student of the dismissal and process of potential appeal.

   A student dismissed for academic reasons may, following at least six months' absence from the University, apply for readmission by contacting the Associate Vice-President for Academic Administration. Convincing evidence will be required to demonstrate the student's commitment and potential for academic success.

CONDITIONS OF ACADEMIC PROBATION. Academic probation entails the following conditions to assist a student in improving academic performance:

1. The student must meet in person with the Associate Vice-President for Academic Administration within the first three days of the term.
2. Enrollment is limited to 13 quarter credits. Students are advised to repeat courses with a grade less than C. Students with Incompletes should consider further reducing their academic load.
3. A biweekly conference with the academic adviser is expected.

4. The student may be required to participate in a special mentoring program at the discretion of the Associate Vice-President for Academic Administration. A fee for this service will be charged to the student's account.

5. Courses outside the University, such as correspondence or online courses, are not permitted.

6. Participation in the University Athletics Program or Adventist Colleges Abroad is not permitted.

7. Extracurricular activities which necessitate class absences are not permitted.

8. The student is not permitted to hold office in any student organization or serve as a student missionary or taskforce worker.

Note: A student receiving financial aid must also meet satisfactory progress standards adopted by Student Financial Services. See the Financial Policies section of the *Financial Bulletin* for details.

ACHIEVEMENT RECOGNITION

DEAN'S LIST. The Associate Vice President for Academic Administration maintains a list of undergraduate students who have earned a minimum of 15 hours per quarter (excluding S credits, IP, and incompletes) and have achieved a grade-point average of 3.50 or better. Students who have earned a G.P.A. above 3.75 appear on the Dean's List of Distinguished Students.

GRADUATION WITH HONORS. Candidates for the baccalaureate degree with the appropriate G.P.A. both overall and for credits earned at Walla Walla University will be awarded the degree with the following honors distinction:

3.50 - 3.74	*cum laude* (with distinction)
3.75 - 3.89	*magna cum laude* (with great distinction)
3.90 - 4.00	*summa cum laude* (with highest distinction)

CREDIT BY EXAMINATION

Walla Walla University recognizes that students who have independently achieved college-level proficiency on the basis of work experience and study may receive credit for what they already know by challenging, validating, or waiving comparable classes offered by the University. (Certain university classes may not be challenged.)

APPLICATION FORMS. A current student wishing to obtain credit by examination must apply. Permission from the chair of the department in which the course is offered and permission of the course instructor are required. Application forms for challenge, validation, and/or waiver examinations may be obtained from the Academic Records Office. A student must have approval for an exam prior to taking an exam. Fees for these examinations are listed under the heading Special Fees in the Academic Fee section of the *Financial Bulletin*.

RESTRICTIONS. The following restrictions apply to all credit earned by examination.

1. A student must have an approved examination application on file in the Academic Records Office before credit by examination can be recorded on the permanent record.
2. A student must be currently enrolled before credit by examination can be recorded on the permanent record.
3. Credit by examination may be earned only if a student has not already earned credit in a similar course, or taken advanced courses.
4. A maximum of 24 quarter hours by examination may be counted toward a baccalaureate degree and a maximum of 12 quarter hours may be counted toward an associate degree excluding validation examinations.
5. Grades are issued as on normal test scores, and all grades are recorded on the permanent record of the student.
6. Examinations may not be repeated.
7. Repeat course work and F grades are not open to credit by examination.
8. Students may not take challenge or waiver examinations on courses they have audited.
9. Examinations must be taken prior to the last 3 weeks of any quarter.
10. CLEP examinations must be taken prior to the student's completion of a total of 45 quarter hours of university credit.

CHALLENGE EXAMINATIONS. A challenge examination is a university-prepared or a standardized examination which, if successfully completed, will yield regular university credit. The student must take the examination before enrolling for further study in the field of the examination. The challenge examination may not be repeated and must be taken prior to the final quarter of residence. Labs may be challenged by permission of school/department.

ADVANCED PLACEMENT EXAMINATION (CEEB). Regular university credit may be established by successful completion of an Advanced Placement (AP) examination. These tests are graded on a scale of 1 to 5.

Biology 141, 142, 143 General Biology
Students obtaining a 3 or higher on the Advancement Placement Biology examination will be awarded 12 quarter hours for BIOL 141, BIOL 142, BIOL 143. AP credit for Biology may not be accepted by some professional programs.

Chemistry 141, 142, 143 General Chemistry
Students receiving a score of 3 or greater on the AP Chemistry examination will be granted credit for 12 quarter hours of CHEM 141, CHEM 142, CHEM 143. Credit does not cover Introductory Chemistry and may not be accepted by some preprofessional programs. Credit will meet the General Studies laboratory science requirement.

Computer Science 141 Introduction to Programming and 142 Data Structures, Algorithms, and Objects
Students obtaining a 3 or higher on part A of the Advanced Placement Examination will be awarded 4 quarter hours for CPTR 141. Students obtaining a 3 or higher on parts A and B will be awarded 8 quarter hours for CPTR 141 and CPTR 142.

English 121, 122 College Writing I, II
Students obtaining a 3 on the Advanced Placement Language and Composition examination will be awarded 3 quarter hours as a substitute for ENGL 121. Those obtaining a 4 or 5 will be awarded 6 quarter hours as a substitute for ENGL 121 and ENGL 122. All students must take ENGL 223 or ENGL 323. Advanced placement credit may not be applied to HONR 141 or HONR 142.

English 121, College Writing, and 204 Introduction to Literature
Students obtaining a 3 on the Advanced Placement Literature and Composition examination will be awarded 4 quarter hours as a substitute for ENGL 204. Those obtaining a 4 or 5 will be awarded 7 quarter hours as a substitute for ENGL 204 and ENGL 121. All students must take ENGL 122 and ENGL 223 or ENGL 323. Advanced placement credit may not be applied to HONR 141 or HONR 142.

History 221, 222 History of the United States
Students obtaining a 4 or 5 on the Advanced Placement Examination will receive 8 quarter hours, which will fulfill two quarters of the History requirement.

Language 101, 102, 103 (Introduction and elementary level)
Students obtaining a 3 on the Advanced Placement Language examination will be awarded 4 credit hours (101). Students obtaining a 4 on the examination will be awarded 8 credit hours (101, 102). Students obtaining a 5 on the examination will be awarded 12 credit hours (101, 102, 103).

Mathematics 181 Analytic Geometry and Calculus I
Students obtaining a score 3 or 4 on the AB test will receive 4 quarter hours for MATH 181.

Mathematics 181, 281 Analytic Geometry and Calculus I, II
Students obtaining a score of 5 on the AB test or a score of 3 or 4 on the BC test will receive 8 quarter hours for MATH 181 and MATH 281.

Mathematics 181, 281, 282 Analytic Geometry and Calculus I, II, III
Students obtaining a score of 5 on the BC test will receive 12 quarter hours for MATH 181, MATH 281, and MATH 282

COLLEGE-LEVEL EXAMINATION PROGRAM (CLEP). Walla Walla University grants credit for selected undergraduate college courses. For dates and specific information candidates should consult Counseling and Testing Services (Meske Hall, phone #527-2147) who administers these computer-based tests by appointment. These tests may not be repeated and must be taken prior to the student's completion of a total of 45 quarter hours of university credit.

A number of subject-matter examinations are offered by CLEP. Students obtaining the scales scores established by the following departments will receive credit toward that basic requirement. Students wishing credit in courses other than those listed below should consult the appropriate department chair.

Accounting 201 Principles of Accounting
Students who obtain a scaled score of 50 on the Financial Accounting test will receive 4 quarter hours for ACCT 201.

Biology 141, 142, 143 General Biology
Students obtaining a scaled score of 54 in the Biology examination will receive 12 quarter hours, which will fulfill the basic science requirement. CLEP credit does not count toward a biology major and is not accepted by most professional schools (dentistry, medicine, etc.)

English 121 College Writing
Students who achieve a score of 50 on the English Composition With Essay Examination will receive credit for ENGL 121. All students must take ENGL 122, or HONR 142, followed by ENGL 223 or ENGL 323 or HONR 243.

History 221, 222 History of the United States
Students who earn a scaled score of 50 in either or both of the American History subject-matter examinations will receive 4 or 8 quarter hours toward fulfillment of the basic history requirement. The CLEP subject-matter test covering early colonization to 1877 may substitute for HIST 221; that covering 1865 to the present may substitute for HIST 222.

Mathematics 117 Accelerated Precalculus
Students obtaining a scaled score of 55 in the Precalculus Test will receive 5 quarter hours, which will fulfill the basic general-studies mathematics requirement.

Mathematics 121 Precalculus Mathematics I
Students obtaining a scaled score of 55 in the College Algebra test will receive 4 quarter hours, which will fulfill the basic mathematics requirement.

Mathematics 181 Analytic Geometry and Calculus I
Students obtaining a scaled score of 55 in the Calculus Test will receive 4 quarter hours for MATH 181.

Modern Language 101, 102, 103 (Introduction and elementary level)
German and Spanish examinations: Students obtaining a scaled score of 40-44 will receive 4 quarter hours in level 101. Students obtaining a scaled score of 45-49 will receive 8 quarter hours in levels 101 and 102. Students obtaining a scaled score of 50 and above will receive 12 quarter hours in levels 101, 102 and 103.

Psychology 130 General Psychology
Students who earn a scaled score of 50 on the Introductory Psychology exam will receive 4 quarter hours for PSYC 130.

Psychology 215 Child and Adolescent Development
Students who earn a score of 50 on the Human Growth and Development exam will receive 4 quarter hours for PSYC 215.

French Examinations
Students obtaining a scaled score of 44-48 will receive 4 quarter hours in level 101. Students obtaining a scaled score of 49-53 will receive 8 quarter hours in levels 101 and 102. Students obtaining a scaled score of 54 and above will receive 12 quarter hours in levels 101, 102 and 103.

Sociology 204 General Sociology
Students obtaining a scaled score of 50 in the General Sociology examination will receive 4 quarter hours, which will fulfill the basic social studies requirements.

VALIDATION EXAMINATIONS. Students who have transcripts from non-accredited colleges and/or transcripts showing nontransferable college courses may request to take validation examinations in courses which are comparable to those offered by Walla Walla University. Upon successful completion of the examination(s), the student will be given credit as specified.

COURSE WAIVER EXAMINATIONS. A student may meet an academic requirement, within specified limits, by passing a waiver examination at least equal in scope and difficulty to a final examination in a course. Successful completion of the examination waives the curricular requirement, but does not result in credit earned. Thus, it does not reduce the total number of quarter hours required for a degree, but will increase the available number of elective hours. The waiver examination is administered by the department in which the course is offered and may not be repeated. Waiver examinations must be taken prior to the final quarter of residence.

TRANSFER CREDIT BY EXAMINATION. Credit earned by examination at other colleges or universities may be transferred provided such credit meets the guidelines used by Walla Walla University for credit by examination.

REPEAT COURSES

Students may repeat a course in which credit has been granted and grades have been received; however, academic credit may be earned only once. Regardless of the number of times a course is repeated, only the best grade will be computed in the grade-point average, though all grades will remain on the permanent record. This repeat work must be taken in a regularly offered class. Challenge examinations and independent or directed study arrangements are not allowed for repeat course work. Repeat course work for which an F has been received must be completed in residence unless permission to do otherwise is granted by the Academic Standards Committee.

EXTENSION COURSE WORK

Extension courses are offered by Walla Walla University on a limited basis. These off-campus courses provide opportunity for academic enrichment, acceleration, and continuing education.

The University accepts extension course credit from other institutions provided the institution offering the courses accepts similar credits toward a degree on its own campus.

ADVENTIST COLLEGES ABROAD

Walla Walla University, together with 13 other Seventh-day Adventist colleges in North America, founded an organization in 1967 for the purpose of providing opportunities for qualified students to study abroad while completing the requirements of their programs. The ACA program allows students to immerse themselves in the culture and life of the host country and to become conversant in the language. Presently, students may take a full year at:

Brazil Adventist University, Sao Paulo, Brazil	(Portuguese)
Friedensau Adventist University, Sachsen-Anhalt, Germany	(German)
Saleve Adventist University, Collonges-sous-Saleve, France	(French)
Seminar Schloss Bogenhofen, Braunau, Austria	(German)
Istituto Avventista Villa Aurora, Florence, Italy	(Italian)
Colegio Adventista de Sagunto, Sagunto, Spain	(Spanish)
Universidad Adventista del Plata, Entre Rios, Argentina	(Spanish)
Middle East University, Beirut, Lebanon	(Arabic)

Prerequisites for admission to a year of study abroad through ACA are:

1. Admission as a regular student of Walla Walla University.
2. Competence in the language (minimum: one year of college language or two years of secondary study).
3. A grade-point average of 2.50 in the language and an overall grade-point average of 2.00.
4. Completion of ENGL 121, 122 and a general studies math course.
5. A good citizenship record.
6. Application to the Academic Records Office on the special ACA application form.
7. Ability to meet the financial requirements.

Students planning to study under this program must submit a completed ACA application with a $100 processing fee by July 15, as there are usually more applications than spaces available. Information and applications may be obtained from the Academic Records Office or online at www.aca-noborders.org.

All applications and payments for tuition, room, and board are to be made through Walla Walla University. Any deviation from this schedule by students of Walla Walla University must be arranged in advance with the Office of Student Financial Services.

Students cannot plan on financial credit for work while residing in foreign countries. The student financial aid officer has information on grants and loans available to students for overseas study.

Academic credit may be granted for these studies so that a student may be able to complete a full college year abroad. Prospective students must have successfully completed one year of college French, German or Spanish or the equivalent as

applicable, except for Italian. It is recommended that students desiring to participate do so during their sophomore year. **Applicants must consult with their major professors, the Communications and Languages Department and the ACA Coordinator prior to enrollment. The Registrar, the chair of the applicant's major department, and the Academic Standards Committee will determine how the credits are applied.**

ACADEMIC PROGRAMS AND GRADUATION REQUIREMENTS

UNDERGRADUATE DEGREES OFFERED

Walla Walla University offers courses of study leading to the following undergraduate degrees:

Associate of Science (A.S.)
Bachelor of Arts (B.A.)
Bachelor of Business Administration (B.B.A.)
Bachelor of Music (B.Mus.)
Bachelor of Science (B.S.)
Bachelor of Science in Engineering (B.S.E.)
Bachelor of Social Work (B.S.W.)

Walla Walla University is a comprehensive institution of higher education offering not only traditional liberal arts and professional programs, but also preprofessional and special two-year associate degree curricula for students who may wish to pursue a terminal program of a vocational nature. For a listing of undergraduate areas of study offered see Areas of Study section as listed in this bulletin. For a listing of graduate areas of study offered see the Graduate Bulletin.

GRADUATE DEGREES

Walla Walla University offers courses of study leading to the following graduate degrees:

Master of Arts (M.A.)
Master of Education (M.Ed.)
Master of Arts in Teaching (M.A.T.)
Master of Science (M.S.)
Master of Social Work (M.S.W.)

Students desiring information concerning graduate degree requirements (standards of admission, degree candidacy, curricula, etc.) should consult the Graduate Bulletin, which is available from the Marketing and Enrollment Services Office and online.

TEACHER EDUCATION PROGRAM

The Walla Walla University School of Education and Psychology is authorized by the Washington State Board of Education to recommend the residency teachers' credential. Students who plan to enter the teaching profession with a denominational or state teaching credential should become thoroughly acquainted with the certification requirements listed in the Education and Psychology section of this bulletin.

BACCALAUREATE DEGREES

The Bachelor of Arts degree consists of four years of course work that places the student's major field of study in the context of a liberal arts education. To encourage a wide range of studies, the degree requires a greater concentration of general studies courses than do other degrees and a minor in an area distinct from the major, while it allows a greater number of electives. In the tradition of the liberal arts, **all Bachelor of Arts degree majors require foreign language study.**

The Bachelor of Business Administration degree consists of a four-year program with concentrations available in accounting, entrepreneurship and small business management, finance, international business, management, and marketing. For specific requirements, see the School of Business section of this bulletin.

The Bachelor of Music degree consists of four years of course work primarily in the major field of study with modified requirements in general studies. The degree is offered with a choice of two majors, Performance or Music Education. For the modified general studies program and other specific requirements, see the Music section of this bulletin.

The Bachelor of Science degree consists of four years of course work that places the student's major field of study in the context of a liberal arts education. The degree permits somewhat greater concentration in the field of study and requires fewer general studies courses than does the Bachelor of Arts degree. No foreign language study is required. No minor is required with the exception of Elementary Education.

The Bachelor of Science in Engineering degree is a four-year program accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org, requiring 200 quarter hours of course work. It is designed to prepare students for entry into the profession of engineering and for lifelong learning including programs of advanced study in civil, computer, electrical and mechanical engineering or associated fields. For the modified general studies program and other specific requirements, see the Engineering section of this bulletin.

The Bachelor of Social Work degree is a four-year program approved by the Council on Social Work Education, the accrediting body for all social work education programs. It prepares students for entry level positions in a variety of social service agencies. For specific requirements, see the Social Work and Sociology section of this bulletin.

BACCALAUREATE DEGREE REQUIREMENTS

Although general studies are stressed during the first two years of study, students should plan to include certain elementary and intermediate courses in the desired major during the freshman and sophomore years in order to successfully complete the major.

A student who is undecided as to a major field of study may, during the freshman year, explore several fields of knowledge without loss of credit if he/she plans his/her choices with an academic adviser. It is best for a major to be chosen no later than the end of the sophomore year. The selection of a minor (for Bachelor of Arts degree candidates) and appropriate electives must be made in consultation with and approved by the assigned academic adviser.

Candidates are expected to be fully informed concerning degree requirements and are responsible for their fulfillment. Students shall have the option of meeting degree requirements as published in the bulletin at the time of initial registration or any bulletin published while in regular attendance. Those missing regular attendance for one full school year (except for Christian Service Volunteers) must meet the requirements of the current bulletin upon resuming attendance. Candidates for degree completion must submit a signed Application for Degree (Senior Outline) and a signed Graduation Contract to the Academic Records Office three quarters prior to the expected degree completion date. **Students who have submitted a formal application for a degree (Senior Outline) to the Academic Records Office and do not graduate will be allowed only one year after the last date of enrollment to complete all degree requirements under the bulletin specified on the approved Senior outline; otherwise the current bulletin requirements must be met.**

Undergraduate students who marched, or were approved to march in the June Commencement, but have not completed degree requirements, must register for GNRL 401. A fee will be charged each quarter, except summer, for up to two years after the proposed graduation date or until all requirements are met and the degree is posted. See *Financial Bulletin*.

Degrees are conferred and diplomas issued each quarter. All course work must be completed, transcripts received, comprehensives taken and acceptable grades received before the degree will be awarded.

Degree conferral dates for the 2014-2015 school year are:

Autumn	December 26, 2014
Winter	March 27, 2015
Spring	June 14, 2015
Summer	August 28, 2015

Commencement Exercises
Commencement exercises are held once a year in June. Students who have completed their requirements Summer, Autumn , Winter, or Spring quarter may participate in the following June commencement exercises. Those anticipating the completion of an approved degree program during the upcoming summer must complete a Petition to Participate in Commencement with Uncompleted Courses to participate in the current June graduation exercises.

By Thursday prior to the June graduation date, prospective summer degree candidates must have satisfied the following:

1. An approved degree application (Senior Outline) on file in the Academic Records office showing a completion date for summer.
2. Approved by Academic Records to Participate in Commencement with Uncompleted Courses.
3. Financial clearance for the completion of summer course work.
4. Registered for all remaining WWU coursework.
5. All transfer transcripts on file in the Academic Records office.
6. A minimum cumulative GPA of 2.00 for university work.
7. No more than twelve (12) credits to complete after spring quarter, including summer courses and outstanding Is and IPs.
8. Remaining credits must meet residency requirements.

Any exceptions to the above requirements must be approved by Academic Standards Committee.

Graduations in Absentia:
Degree candidates are expected to participate in the yearly graduation ceremonies. A senior wishing not to participate should apply to the President's Office to graduate in absentia.

Residency Requirements:

1. A minimum of 25% of the credits in each major and minor must be Walla Walla University credits.
2. A minimum of 9 upper-division credits in the major and 3 upper-division credits in the minor must be Walla Walla University credits.
3. At least 40 of the last 45 credits before degree completion must be Walla Walla University credits.

General Requirements:

1. **Credits required.** Successful completion of a minimum of 192 quarter hours (200 quarter hours, Bachelor of Science in Engineering), including 60 quarter hours in courses numbered 300 or above, and a cumulative grade-point average of 2.00 or above in the major, minor, and overall.

2. **Major.** The completion of a major field of departmental specialization (minimum of 45 quarter hours and a cumulative grade-point average of 2.00). A grade lower than C- will not apply toward a major except in engineering (see Engineering section of this bulletin). At least 21 quarter hours in the major must be numbered 300 or above. **Unless otherwise specified all electives applied to the major must be courses offered by the major department. A course may fulfill requirements for several majors or minors, but credit will apply to only one unless otherwise stated. A cognate course may satisfy the cognate requirements of a major while simultaneously being counted toward the credit requirement of another major, minor, or concentration.**

3. **Double Majors.** Students taking double majors must meet all the degree requirements for each major, including the general studies programs. **Majors must be completed within the degrees under which they are described in this bulletin. (BA majors can serve as second majors only under a BA degree, BS majors can serve as second majors only under a BS degree; the BBA, BMus, BSE, and BSW degrees cannot have second majors.**

4. **Minor.** Bachelor of Arts degrees require the completion of a minor of at least 27 quarter hours and a minimum cumulative grade-point average of 2.00, or completion of an Associate of Science degree, provided it is in an area distinct from the major. Three quarter hours must be courses numbered 300 or above. A grade lower than C- will not apply toward a minor. **A course may satisfy content requirements for several majors or minors but credit will apply to only one. Unless otherwise specified all electives applied to the minor must be courses offered by the minor department. A cognate course may satisfy the cognate requirements of a major while simultaneously being counted toward the credit requirement of another major, minor, or concentration.**

5. **General Studies Requirements.** The completion of the general studies requirements as specified for the type of degree sought detailed in the following section (84 quarter hours for the Bachelor of Arts and 72 quarter hours for the Bachelor of Science degree).

6. **Candidacy for Degree.** Degree candidates must file a formal application (Senior outline) for a degree, showing the proposed schedule of courses for the senior year, with the Registrar not later than one week after the beginning of the first quarter of the senior year. Appropriate forms may be obtained from the Academic Records Office. Students are not considered candidates for degrees or eligible for senior class membership until officially notified by the Registrar that their senior outlines have been approved.

7. **Senior Class.** Candidates for degrees must be members of the senior class. The fee is fixed by the class and approved by the President of the University.

8. **Comprehensive Examinations.** A comprehensive examination is required for each major before a degree may be conferred. For some majors, the Major Field Test (MFT) is used, and for others, the Graduate Record General and/or Subject Exam is used as the comprehensive. Elementary Education majors are required to pass the Washington Educator Skills Test-Endorsement for Elementary Education: Content Knowledge (WEST-E Elementary). There are also some departments/schools who provide a comprehensive exam and/or project. The bulletin details those requirements under the appropriate department.

   The General Graduate Record Exam (GRE) is now available only by computer, usually at Sylvan Technology centers in metropolitan areas. Information regarding registration for the General GRE is available at the center.

   Students whose majors require the Subject GRE must pick up registration materials in the test center. These materials must be mailed at least nine weeks prior to the test date. Please note that there are only three times that the subject exams are administered and the dates are fixed by the test company and cannot be changed. Non-Sabbath testing is of course available on campus but strict instructions must be followed.

9. **Transcripts and Correspondence Work.** Seniors must have all transfer transcripts on file in the Academic Records Office by the 10th day of Spring quarter to be eligible to participate in June commencement exercises.

10. **Second Baccalaureate Degree.** Two baccalaureate degrees with majors from different disciplines may be conferred concurrently or sequentially if the candidate has met all the requirements, completed a total of 237 quarter hours, and has spent a minimum of three quarters (36 quarter hours) in residence. See requirements 2 and 3 regarding majors.

11. **Applied Music Credit Applicable Toward Baccalaureate Degree.** Not more than 9 quarter hours in applied music (including 3 quarter hours of Ensemble) may be earned toward a baccalaureate degree without an equal number of quarter hours in music courses with prefixes MUCT, MUED, or MUHL. Additional hours in applied music may include ensemble hours without restrictions.

ASSOCIATE DEGREE REQUIREMENTS

The two-year associate degree programs are intended to provide accredited technological and occupational preparation for students desiring to graduate with marketable skills while experiencing the full benefits of a residential Christian college.

Candidates are expected to be fully informed concerning degree requirements and are responsible for their fulfillment. Students shall have the option of meeting degree requirements as published in the bulletin at the time of initial registration or any bulletin published while in regular attendance. Those missing regular attendance for one full school year (except for Student Missionaries and Task Force workers) must meet the requirements of the current bulletin upon resuming attendance.

GRADUATION REQUIREMENTS FOR THE ASSOCIATE DEGREE

All candidates for the associate degree must complete the following residence and general requirements:

Residency Requirements:
A minimum of 24 quarter hours. The last two quarters must be completed in residence, including a minimum of 9 quarter hours earned in the concentration.

General Requirements:

1. A minimum of 96 quarter hours must be completed.
2. A cumulative grade-point average of 2.00 (C) is required. A grade lower than C- will not apply toward the concentration.
3. The associate degree concentration as outlined under the respective departments of instruction of this bulletin must be completed.
4. The general studies requirements as outlined below must be completed. For a listing of the courses which may apply to the requirements, see Specific Courses for General Studies section of this Bulletin.
5. A course may fulfill requirements for one or more concentrations but credit will apply to only one concentration.
6. Students must have all transcripts for correspondence and transfer credit on file in the Academic Records Office two weeks prior to graduation. **All correspondence work must be completed prior to the beginning of the last quarter in residence.**
7. Degree candidates must file a formal application (Senior Outline) for a degree showing the proposed schedule of courses for the senior year with the Registrar not later than one week after the beginning of the first quarter of the senior year. Appropriate forms may be obtained from the Academic Records Office. Students are not considered candidates for degrees and are not eligible for senior class membership until officially notified by the Registrar that their senior outlines have been approved.

STUDENT RESPONSIBILITY FOR MEETING DEGREE REQUIREMENTS

While your adviser may assist you in planning a program, degree candidates are expected to be fully informed concerning degree requirements and are responsible for their fulfillment. The following checklist will help you in meeting graduation requirements at WWU. You may use this page to check the requirements off as you meet them. Please see the Academic Programs and Graduation Requirements section and the departmental sections of the university bulletin for further explanations of these requirements.

Checklist for Meeting Degree Requirements

___ **General studies requirements:**
See General Studies section of bulletin for specifics.
84 hours for B.A. degrees
72 hours for B.B.A., B.S., or B.S.W. degrees
B.Mus. and B.S.E. degrees (see degree requirements)
32 hours for A.S. degrees

___ **Total hours required:**
192 quarter hours for bachelor's degrees (exception: 200 for the B.S.E. degree)
96 credits must be from four-year colleges or universities
96 quarter hours for associate degrees
237 quarter hours for second degree (or for two degrees)

___ **Upper-division credits:**
60 quarter hours required for bachelor's degrees including:
a minimum of 21 quarter hours in the major
a minimum of 3 quarter hours in the minor

___ **Transfer credits:**
Transcripts for all off-campus credits need to be on file in the Records Office. Before taking courses off-campus it is advisable to check with your academic adviser and the Records Office to be sure the credits satisfy requirements needed.

___ **Residency requirements:**
At least 40 of last 45 credits must be on campus.
25% of major credits (including 9 upper-division) must be on campus
25% of minor credits (including 3 upper-division) must be on campus

___ **Foreign language requirement:**
The B.A. degree requires 8-12 credits of one foreign language.

___ **Minimum acceptable grade in major or minor:**
No grade lower than a C- (1.70) is acceptable in a major or minor.
Exceptions:
Nursing and Education major minimum = C (2.00)
Engineering (see B.S.E. section of the bulletin)

___ **GPA requirements:**
Major or minor GPA: minimum of 2.00 in each major/minor.
Cumulative GPA: minimum of 2.00.
Exceptions: Education majors, 2.75; Nursing majors, 2.50.

___ **Comprehensive exams:**
A comprehensive exam is required for most majors. See departmental adviser or the counseling center for specific requirement.

___ **Application for Degree (Senior Outline):**
File form with the Records Office three quarters before graduation. Form must be approved by the Records Office before you are eligible to graduate.

GENERAL STUDIES MISSION

The purpose of the Walla Walla University general studies program is to provide a balanced education that supports the institution's core themes: *excellence in thought, generosity in service, beauty in expression, and faith in God*. The general studies curriculum is broad in scope, covering major intellectual or aesthetic ideas or methods in various disciplines. In addition to providing breadth of knowledge and the development of skills for greater depth of study, the general studies program seeks to prepare students for "responsible citizenship, generous service, a deep respect for the beauty in God's creation, and the promise of re-creation through Jesus Christ." (WWU mission)

The general studies program objectives, shown below by core theme, have been designed to support and enhance the overall academic curriculum. Each general studies course offers unique learning opportunities and contributes to the fulfillment of at least two general studies objectives:

EXCELLENCE IN THOUGHT

- Students will apply the methods of science to investigate and analyze the natural world.
- Students will demonstrate an understanding of individuals and societies from a social science perspective
- Students will develop the skills for reflection, analysis, criticism, and synthesis.
- Students will demonstrate the knowledge of the historical foundations of the modern world.
- Students will interpret problems symbolically and draw meaningful conclusions from their solutions.
- Students will solve problems using appropriate mathematical methods and express their solutions clearly.
- Students will learn to responsibly obtain, evaluate, and use information.

GENEROSITY IN SERVICE

- Students will demonstrate knowledge of social stratification and diversity.
- Students will develop an understanding of and responsibility toward environmental stewardship.

BEAUTY IN EXPRESSION

- Students will learn to formulate, organize, and communicate ideas effectively and responsibly.
- Students will apply their knowledge of literature and the arts through critical and creative work.
- Students will acquire the knowledge and skills needed to participate in physical activity throughout their lifespan.

FAITH IN GOD

- Students will demonstrate knowledge of the Holy Scriptures.
- Students will demonstrate knowledge of Christian doctrines from a Seventh-day Adventist perspective.

Outline of General Studies Requirements:

Bachelor of Arts Degree	84 quarter hours (including foreign language)
Bachelor of Business Administration Degree	72 quarter hours
Bachelor of Music Degree	*
Bachelor of Science Degree	72 quarter hours
Bachelor of Science in Engineering Degree	*
Bachelor of Social Work Degree	72 quarter hours
Associate of Science Degree	32 quarter hours

**These degrees have modified general studies requirements. Please refer to the respective departments of instruction in this bulletin.*

For the Honors General Studies Program, see the Honors General Studies section of this bulletin.

GENERAL STUDIES - SPECIFIC REQUIRED COURSES

The range of hours for each area below indicates the minimum number of hours that must be chosen from that area and the maximum number of hours from that area that may count toward the total requirement. Some areas are subdivided, with ranges from each subdivision indicating the minimum that must be taken from that subdivision and the maximum that may count toward that area requirement. Credits earned beyond the listed maximum may be counted as general electives.

Engineering majors should consult the engineering section for general studies requirements.

ENVIRONMENTAL STUDIES (2-8)

Environmental studies courses will introduce the student to environmental principles and help the student understand different responses to environmental problems and different forms of stewardship.

Students need to complete at least one of the following environmental studies courses to fulfill the general studies requirements. Courses should be selected in consultation with advisers since some courses may meet other general studies requirements.

Select one of the following:

BIOL 106	Contemporary Biology
BIOL 143	General Biology
BIOL 305	General Ecology
ENGL 317	Pacific Northwest Writers

ENGR 310	Sustainable Energy Systems	
ENGR 343	Environmental Engineering Systems	
ENVI 151	Environmental Principles	
ENVI 385	Environmental Stewardship	
NRSG 441	*Community Health Nursing	
PHYS 201, 202	Conceptual Physics	
	and	
PHYS 204, 205	Conceptual Physics Laboratory	
PHYS 212, 213	General Physics	
	and	
PHYS 215, 216	General Physics Laboratory	
RELT 348	Christian Ethics	
RELT 352	The Christian and the Environment	
SOCI/SOWK 234	Current Social Problems	

*Credits do not apply towards total general studies hours.

HEALTH AND PHYSICAL EDUCATION (2-6)

Courses should introduce the student to health principles and, by stressing both theory and activity, emphasize the pursuit of healthful living. (No more than 4 quarter hours from any one area will count toward the requirement.)

Activity Courses: 2-4

PEAC 107-195	Activity Courses

Theory Courses in Health: 0-4

HLTH 110	Wellness for Living	3
HLTH 208	Drugs and Society	3
HLTH 220	Human Nutrition	4

HISTORY AND SOCIAL SCIENCE (12-20)

Courses in history and social science should help the student understand the forces that have shaped the individual in his culture and society.

History courses should interpret the sweep of cultures, instilling an appreciation for the development of civilization and an awareness of the unique place of the Christian church in time.

Social science courses should contribute to the student's understanding of the ideas, logic, and methods of the scientific study of human relations.

History: 8-12

HIST 120, 121, 122	History of Western Civilization	4, 4, 4
HIST 221, 222	History of the United States	4, 4
HIST 242	Modern East Asian History	4
HIST 254	History of Christianity	4
HIST 275, 276	History of England	4, 4
HIST 283	Spain and Latin America	4

HIST 305	The Ancient Near East	4
HIST 306	Classical Greece and Rome	4
HIST 354	American History and Visual Culture	4
HIST 357	The African American Experience	4

Social Science: 4-12*
(Must include at least one of the following: ANTH 225, PSYC 130, PSYC 344, or SOCI 204)

ANTH 225	Cultural Anthropology	4
COMM 145	Media and Culture	4
ECON 204	Fundamentals of Economics	4
ECON 211	Principles of Macroeconomics	4
ECON 212	Principles of Microeconomics	4
EDUC 211	Introduction to and Foundations of Education	3
ENVI 385	**Environmental Stewardship	4
GBUS 361	Business Law I	4
LANG 406	Language and Culture	4
PLSC 224	American Government	4
PSYC 130	General Psychology	4
PSYC 140	Introduction to Psychology: Social Foundations	4
PSYC 141	Introduction to Psychology: Biological Foundations	4
PSYC 344	Social Psychology	4
PSYC 455	History and Systems of Psychology	4
SOCI 204	General Sociology	4
SOCI 225	Marriage and Family Life (or PSYC 225)	2
SOCI/SOWK 234	Current Social Problems	4
SOCI 236	Privilege and Oppression	4
SOCI 420	Immigration and Identity	4
SOWK 260	Human Behavior and The Social Environment I	3
SOWK 261	Human Behavior and The Social Environment II	3
TECH 321	Technology and Society	4

* If more than one course is selected from list, courses chosen must be from two or more subject areas.

**Only two hours will apply toward the social science requirement; the other two hours will apply to natural science.

HUMANITIES (12-16)

Courses in the fine arts, literature, and philosophy should introduce the student to human aesthetic and intellectual aspirations and achievements. Fine arts and literature courses should concentrate upon ideas and styles in their cultural context rather than upon the development of skills. Philosophy courses should in their manner and subject matter clearly make for an understanding of and appreciation for philosophy as a distinct mode of inquiry.

Fine Arts: 0-8

ART 251	Introduction to Art	4
ART 312	Aesthetics and Photography	4
ART 324	History of World Art	3
ART 325	History of World Art	3
ART 326	History of World Art	3
MUHL 124	Introduction to Music	4
MUHL 134	World Music	4
DRMA/ENGL 363	History of Theatre	4

Literature: 0-8

ENGL 204	Introduction to Literature	4
*ENGL 210, 211, 212	Survey of British and American Literature	4, 4, 4
ENGL 214	Themes in Literature	4
ENGL 357	The African American Experience	4
ENGL 313	Image and Text	4
ENGL 317	Pacific Northwest Writers	4
ENGL 358	Classical Literature	4
ENGL 359	World Literature	4
ENGL 360	Shakespeare at Ashland	2
ENGL 368	Contemporary Literature	4
ENGL 454	Literature of the Bible	4
FILM 215	Introduction to Film Literature	4
FILM 312	Development of Film Literature	4
FILM 318	Film Studies:	4; 8
FILM 319	The American West in Document and Film	4
FREN 407	Survey of French and Francophone Literature	4
FREN 408	Contemporary French and Francophone Literature	4
SPAN 407	Survey of Spanish Literature	4
SPAN 408	Contemporary Latino Literature	4

*Registration requires permission of instructor.

Philosophy: 0-8

EDUC 410	Philosophy of Education	3
PHIL 204	Essentials of Critical Reasoning	4
PHIL 205	Introduction to Philosophy	4
PHIL 305	Moral Philosophy	4
PHIL/HIST 316	History of Philosophy I: Ancient	4
PHIL/HIST 317	History of Philosophy II: Medieval-Early Modern	4
PHIL 407	Philosophy of Science	4

PHIL 410	Philosophy of Education	3
PHIL 412	Philosophy of Religion	4
SPCH 341	Argumentation	4

LANGUAGE ARTS (13-21)

Courses should introduce the student to the concepts and skills of the language arts by emphasizing the practice of effective written and oral communication. Courses in foreign language should emphasize the acquisition of such communicative skills as speaking, reading, and writing a foreign language while introducing students to a foreign culture and its thought.

College Writing: 9

ENGL 121	College Writing I	3
ENGL 122	College Writing II	3
ENGL 223	Research Writing	3
ENGL 323	Writing for Engineers	3

Speech and Writing: 0-12

The first course in the speech and writing area must be selected from speech courses.

ENGL 184	Grammar and Style	3
JOUR 245	Media Writing	4
JOUR 341	Feature Writing	4
SPCH 101	Fundamentals of Speech Communication	4
SPCH 207	Small Group Communication	3
SPCH 407	Advanced Small Group Communication	3
SPCH 443	Persuasive Speaking	4
WRIT 324	Creative Nonfiction Writing	3
WRIT 334	Poetry Writing	3
WRIT 335	Narrative Writing	3
WRIT 336	Drama Writing	3

Foreign Language: 0-12

12 credits of elementary (1 quarter of introduction and 2 quarters of elementary) or 8 credits of intermediate (2 quarters each).

All B.A. students are required to complete a foreign language sequence of:

- 12 quarter hours
- or 8 quarter hours at the intermediate level

FREN 101, 102, 103	Elementary French	4, 4, 4
FREN 201, 202	Intermediate French	4, 4
GREK 231, 232, 233	Greek I	3, 3, 3
GREK 331, 332	Greek II	3, 3
GRMN 101, 102, 103	Elementary German	4, 4, 4

HEBR 331, 332, 333	Hebrew I, II, III	4, 4, 4
LATN 211, 212, 213	Latin I	4, 4, 4
LATN 311, 312, 313	Latin II	4, 4, 4
SPAN 101, 102, 103	Elementary Spanish	4, 4, 4
SPAN 201, 202	Intermediate Spanish	4, 4

MATHEMATICS AND NATURAL SCIENCE (12-16)

Courses in mathematics should emphasize mathematical thought and practice and the relationship of mathematics to other disciplines. Courses in science should emphasize methods of measurement and discovery and should help the student to understand through theory and practice how hypotheses are developed, tested, and applied. (A minimum of 8 quarter hours must be taken from one course sequence in a laboratory science area.)

Transfer Students:
All students are required to complete a two-course sequence of a laboratory science except transfer students from accredited institutions who have completed:

- Two different laboratory sciences before entering WWU.
- One laboratory science that is not offered at WWU. In this case, the completion of any additional laboratory science will fulfill the requirement.

Mathematics: 4-8

MATH 105	Finite Mathematics	4
MATH 112, 113	Mathematics for Elementary Teachers	3, 3
MATH 117	Accelerated Precalculus	5
MATH 121, 122	Precalculus Mathematics I, II	4, 4
MATH 123	Survey of Calculus	4
MATH 181, 281	Analytic Geometry and Calculus I, II	4, 4
MATH 206	Applied Statistics	4
MATH 282, 283	Analytic Geometry and Calculus III, IV	4, 4

Natural Science: 8-12*

ASTR 141, 142, 143	General Astronomy	3, 3, 3
ASTR 144, 145, 146	General Astronomy Lab	1, 1, 1
BIOL 141, 142, 143	General Biology	4, 4, 4
BIOL 105, 106	Contemporary Biology	4, 4
BIOL 121, 122, 123	Anatomy and Physiology	4, 4, 4
CHEM 101, 102	Introductory Chemistry	4, 4
CHEM 141, 142, 143	General Chemistry	3, 3, 3
CHEM 144, 145, 146	General Chemistry Laboratory	1, 1, 1
ENGR 310	Sustainable Energy Systems	2
ENVI 151	Environmental Principles	4
**ENVI 385	Environmental Stewardship	4
PHYS 201, 202	Conceptual Physics	3, 3
PHYS 204, 205	Conceptual Physics Laboratory	1, 1

PHYS 211, 212, 213	General Physics	3, 3, 3
PHYS 214, 215, 216	General Physics Laboratory	1, 1, 1
PHYS 251, 252, 253	Principles of Physics	3, 3, 3
PHYS 254, 255, 256	Principles of Physics Laboratory	1, 1, 1

*Eight hours must be taken from one course sequence

**Only two hours will apply toward the natural science requirement; the other two hours will apply to social science.

RELIGION AND THEOLOGY (16-20)

Courses in religion and theology should emphasize the understanding and application of Biblical knowledge, foster continued spiritual growth, and help the student develop a personal religious philosophy and prepare for active witnessing.

A minimum of one lower-division course (courses numbered from 100 to 299) must be completed before registering for any upper-division courses (courses numbered 300 and above).

A minimum of six credits must be upper-division.

A minimum of six credits must be from biblical studies (courses with the RELB prefix).

Students, except for engineering and nursing majors, who are seeking a baccalaureate degree must complete one of the following courses:

RELT 110	Introduction to Seventh-day Adventist Belief and Practice	4
RELT 202	Christian Beliefs	4
RELT 417	Inspiration and Revelation	3
RELH 457	History of Adventism	3

Requirements for students transferring credit from non-Seventh-day Adventist, regionally accredited institutions:

Students transferring 45-89 credits from non-Seventh-day Adventist, regionally accredited colleges/universities must complete 12 credits of religion/theology at a regionally accredited SDA college/university. A minimum of 3 credits must be in biblical studies (RELB), a minimum of 3 credits must be upper-division, and one of the following courses must be completed: RELT 110, RELT 202, RELT 417, or RELH 457.

Students transferring 90-135 credits from non-Seventh-day Adventist, regionally accredited colleges/universities must complete 10 credits of religion/theology at a regionally accredited SDA college/university. A minimum of 3 credits must be from biblical studies (RELB), a minimum of 3 credits must be upper-division, and one of the following courses must be completed: RELT 110, RELT 202, RELT 417, or RELH 457.

Students transferring more than 135 credits from non-Seventh-day Adventist, regionally accredited colleges/universities must complete 8 credits of religion/theology at a regionally accredited SDA college/university. A minimum of 3 credits must be from biblical studies (RELB), a minimum of 3 credits must be upper-division, and one of the following courses must be completed: RELT 110, RELT 202, RELT 417, or RELH 457.

Biblical Studies: 6-20

RELB 104	The Ministry of Jesus	4
RELB 105	The Sermon on the Mount	2
RELB 106	The Parables of Jesus	2
RELB 111	Messages of the Old Testament	4
RELB 231	Exploring the New Testament	4
RELB 301	Old Testament History	3
RELB 302	Pentateuch	4
RELB 303	Old Testament Psalms, Stories, and Wisdom	3
RELB 304	Hebrew Prophets	4
RELB 312	Daniel and Jeremiah	4
RELB 333	Biblical Perspectives on Healing	4
RELB 406	The Bible and Its Translations	2
RELB 413	Revelation	3 - 4
RELB 437	Jesus and The Gospels	4
RELB 439	Luke-Acts	4
RELB 441	Scribes, Manuscripts, and the New Testament	2
RELB 454	Literature of the Bible	4
RELB 462	Paul and The Gospel	4
RELB 467	Conflict and Hope in the Later New Testament Letters	4
RELB 474	Study Tour: The Holy Lands and Its Peoples	4

Religion or Theology: 0-14

RELH 205	Biblical Archaeology	4
RELH 303	World Religions	4
RELH 455	Early Church History	3
RELH 457	History of Adventism	3
RELM 233	Introduction to Cross-Cultural Ministry	3
RELT 110	Introduction to Seventh-day Adventist Belief and Practice	4
RELT 201	The Christian Way of Salvation	4
RELT 202	Christian Beliefs	4
RELT 326	Spirituality and Discipleship	4
RELT 340	Spiritual Care and Nursing	3 - 4
RELT 342	Issues of God and Faith	3
RELT 348	Christian Ethics	3 - 4
RELT 352	The Christian and the Environment	2

RELT 412	Philosophy of Religion	4
RELT 417	Inspiration and Revelation	3
RELT 465	Contemporary Issues in Adventist Thought	4

General Studies Requirements for Students Who Have Earned a Previous Baccalaureate Degree at an Accredited College or University:

1. If the student has a degree from WWU:
   a. The student must meet all general studies bulletin requirements for a second degree.
   b. The student must complete an additional 45 credits to reach a minimum total of 237 credits (245 credits if one of the degrees is engineering).
   c. A minor is not required.
2. If the student has a degree from an accredited institution other than WWU, the student must meet the general studies requirements as listed below.
   a. One physical education activity course (1 credit minimum).
   b. One general studies history course (4 credits minimum).
   c. One of the required general studies social science courses (4 credits minimum).
   d. Two general studies humanities courses (8 credits minimum).
   e. Students from a university/college with non-English instruction must successfully complete an English competency exam administered by the English department or have taken courses equivalent to the College Writing sequence, regardless of the courses on their transcript.
   f. One general studies mathematics course (4 credits minimum).
   g. Two general studies lab science courses (8 credits minimum).
   h. Bulletin requirements for general studies religion credits for transfer students.

GENERAL STUDIES REQUIREMENTS FOR THE ASSOCIATE DEGREE

Select a minimum of 32 quarter hours from the following areas:

	Hours Min/Max in specific subject areas	Hours Min/Max in general areas
Health and Physical Education		0-2
History and Social Science		0-8
History		
Social Science	0-8	
Humanities	0-8	0-8
Fine Arts		
Literature	0-4	
Philosophy	0-4	
Language Arts	0-4	9-13
ENGL 121, 122, 223		
Speech and Writing	9	
Foreign Language	0-4	
Mathematics and Natural Science	0-4	0-8
Mathematics	0-8	
Natural Science	0-8	6-8
Religion and Theology		
Biblical Studies	4-8	
Electives in Religion or Theology	0-4	
		32
	Total Required	

HONORS GENERAL STUDIES PROGRAM

The Honors General Studies Program offers a group of interdisciplinary courses stressing independent research, writing, and discussion.

This program is a separate track of general studies and not a major or a minor in itself. Honors core courses have a flavor distinctly different from the regular general studies courses because they use primary source material more extensively than textbooks to enhance the development of independent thinking. Honors core courses follow an interdisciplinary approach that stresses the unity of knowledge. The classes are more personalized and typically smaller than other general studies classes. Some courses are team taught.

Students in the Honors Program are awarded an annual scholarship dependent on successful completion of specific courses and a minimum GPA. See the Honors Program Director for specific details and scholarship amounts. At graduation, students who complete the Honors Program requirements with at least a 3.25 cumulative GPA and a 3.0 GPA in honors core courses and honors core cognates, will be designated as "Honors General Studies Graduates."

Admission Requirements. The Honors Admissions Committee considers high school G.P.A., standardized test scores, an essay submitted by the student as part of the application, and on occasion, personal interviews with applicants and recommendations from teachers. It is advantageous for applicants to have completed Advanced Placement or International Baccalaureate course work and other enriched offerings in high school. Students already enrolled in the University may apply to the program or petition the Honors Program director to enroll in a specific Honors course.

Program Requirements. Students whose grades fall below a cumulative G.P.A. of 3.0 or an Honors core/cognate G.P.A. of 2.75 for two consecutive quarters will be dropped from the program. Honors students must complete the honors core courses and a selection of other general studies courses as listed below.

HONORS GENERAL STUDIES REQUIREMENTS

For B.A.: Honors core, honors core cognates, a foreign language (12 credits of elementary or 8 credits of intermediate), and additional honors electives to total 80 hours.

For B.B.A., B.S., and B.S.W.: Honors core, honors core cognates, and additional honors electives to total 68 hours.

For B.S.E., B.Mus. (Music Education): Honors core, honors core cognates.

For B.Mus. (Performance): Honors core, honors core cognates, FREN 101, FREN 102, FREN 103, or GRMN 101, GRMN 102, GRMN 103.

Core Requirements:

HONR 131, 132, 133	Western Thought	12
HONR 141, 142	Honors Writing I, II	6
HONR 243	Honors Research Writing	3
HONR 281	The Bible and Its Environments	4
HONR 310, 311	Science and the Arts	8
HONR 348	Topics in World Religious Thought	4
HONR 349	Religion in a Social Context	4
HONR 496, 497, 498	Honors Seminar: Faith and Learning	3

HONR 141 and HONR 142: All Honors students are required to take HONR 141, 142. Honors students who have achieved a 3 on the AP Language and Composition Exam will be awarded 3 hours of elective credit (ENGL 121). Honors students who have achieved a 4 or 5 on the AP Language and Composition Exam will be awarded 6 hours of elective credit (ENGL 121, ENGL 122). Honors students who have achieved a 4 or 5 on the AP Literature and Composition Exam will be awarded 3 hours of elective credit (ENGL 121). Honors students who have obtained credit for the equivalent of ENGL 121 and/or ENGL 122 will be awarded 3-6 hours of elective credit. Honors students who have obtained credit for the equivalent ENGL 223 may, by submitting an acceptable portfolio of work from their course, waive the requirement of HONR 243, Honors Research Writing.

Honors Core Cognates:

PEAC	Physical Education Activity Courses	2
MATH 123	Survey of Calculus	4
	or	
MATH 181	Analytic Geometry and Calculus I (strongly recommended)	4

Select one of the following sequences, 8 credits:

BIOL 141, 142	General Biology
CHEM 141, 142	General Chemistry
CHEM 144, 145	General Chemistry Laboratory
PHYS 211, 212	General Physics
PHYS 214, 215	General Physics Laboratory
PHYS 251, 252	Principles of Physics
PHYS 254, 255	Principles of Physics Laboratory

Honors Electives for B.A., B.B.A., B.S., and B.S.W. Degrees:

Choose additional courses from the following list. Courses that are part of the student's major or minor do not apply to this category.
Study Tours/archaeology field work/Oxford program/Council of Christian Colleges and Universities Program must be approved by the Honors Program director before enrollment.

ART 312	Aesthetics and Photography	4
ART 324, 325, 326	History of World Art	3-9
COMM 357	Media Law	4
ENGL 313	Image and Text	4
ENGL 358	Classical Literature	4
ENGL 359	World Literature	4
ENGL 454	Literature of the Bible	4
ENGL/DRMA 363	History of Theatre	4
ENVI 385	Environmental Stewardship	4
HIST 305	The Ancient Near East	4
HIST 306	Classical Greece and Rome	4
HIST 354	American History and Visual Culture	4
HIST 357	The African American Experience	4
HIST 460	Science and The Enlightenment	4
HMNT 496, 497	Seminar	1-3
HONR 394	Honors Directed Reading	1-3
PHIL 204	Essentials of Critical Reasoning	4
PHIL 305	Moral Philosophy	4
PHIL 407	Philosophy of Science	4
PHIL 412	Philosophy of Religion	4
PSYC /SOCI 437	Death and Dying	3
RELM 233	Introduction to Cross-Cultural Ministry	3

RELT 342	Issues of God and Faith	3
RELT 348	Christian Ethics	4
RELT 417	Inspiration and Revelation	3
SOCI 236	Privilege and Oppression	4
SOCI 420	Immigration and Identity	4
TECH 321	Technology and Society	4
WRIT 324	Creative Nonfiction Writing	3

See page 228 for a list of course descriptions. *Look for the following prefix to find Honors courses: HONR.*

COURSE NUMBERING

The course numbering sequence is designed to reflect in varying degrees a progression in course content, level of approach, and breadth of coverage. The course description further delineates specific course content progression. This information provided by the course number, prefix, and description should serve as a general guide to students in selecting courses compatible with their background and ability.

In general, the following guidelines have been used in course numbering:

The first numeral indicates academic level of the course:

001-100 Remedial and Experiential courses (credits do not apply toward graduation, but do apply to financial aid minimums.)
101-199 Courses normally taken during the freshman year
200-299 Courses normally taken during the sophomore year
300-399 Courses normally taken during the junior year
400-499 Courses normally taken during the senior year

Courses in which the third numeral is 1, 2, or 3, must be taken in sequence. In sequences the earlier courses are prerequisites to the later courses and must be successfully completed prior to enrolling in a subsequent course.

The credit indicated in connection with a course is the "quarter hour," and one quarter hour represents one recitation period per week for one quarter or three clock hours of laboratory work.

The University will make every effort consistently to offer all courses at appropriate intervals. It does reserve the right, however, to alter the sequences or drop courses if unforeseen circumstances in class enrollments or teacher staffing so dictate. *The Class Schedule* should be consulted for personal planning of course loads and schedules.

The University reserves the right to withdraw temporarily any course which does not have an adequate enrollment. A course may not be offered for fewer than six students except for seniors or graduate students.

Some courses specify that they are offered odd or even years only. A school year (Autumn to Summer) is designated "odd" or "even" by the beginning year of Autumn Quarter.

UNIFORM COURSE NUMBERS

By general agreement certain course numbers are reserved for classes that are of such a general nature as to be found in many departments. The prefix assigned to the number designates the discipline. The following are courses that carry uniform numbers throughout this bulletin:

001-100 REMEDIAL COURSES (1-4)
Courses for students needing to improve basic skills in preparation for university-level work. Credit will not apply toward graduation, but will apply to financial aid minimums and for deferment of educational loans.

100 EXPERIENTIAL PROGRAM (6; 18)
Program with qualified supervision and structured experience including Christian Service Volunteer, Task Force and Cooperative Education. Credit will not apply toward graduation or class level requirements, but will apply for deferment of educational loans. Graded S or NC.

198, 398 TRANSFER CREDITS
Numbering used for the articulation of lower and upper division transfer courses that do not have a WWU equivalent, but can be used to meet general studies requirements. These numbers will be used only within the Academic Records Office.

199, 399 TRANSFER CREDITS
Numbering used for the articulation of lower and upper division transfer courses that do not have a WWU equivalent, but can be used as electives in the major or minor. These numbers will be used only within the Academic Records Office.

200; 400 TOPICS (1-5; 10)
Courses in specialized or experimental areas on either the lower division or advanced level. These courses are conducted through regular class activities and are approved by the Curriculum Committee as a one-time offering. See the Class Schedule for all approved topics courses.

259; 459 SUPPLEMENTAL STUDIES (1-3; 3)
Previous course work supplemented when portions of a course required in the student's program have been omitted. Ordinarily supplementation will occur only with transfer students or within a program that has undergone a major curriculum change. A study proposal is to be outlined in consultation with the instructor of the course being supplemented and approved by the department and the Academic Standards Committee. May not be substituted for existing courses.

274; 474 WORKSHOPS/STUDY TOURS (1-4)
Short-term, concentrated experiences which require a minimum of out-of-class assignments and are usually conducted in large blocks of time. See the class schedule for all approved workshop/study tour courses.

280; 370; 490 DIRECTED FIELD WORK/PRACTICUM/ EXPERIENCE (2-16)

392 GENERAL SECONDARY METHODS COURSE (See Education) (2)

394 DIRECTED READING (1-3)
Independent reading for students who wish to broaden their knowledge in a particular discipline.

395; 396 DEPARTMENTAL METHODS COURSES (3)

469 ADVANCED STUDY (1-3; 3)
Advanced directed study by which students may enhance the major or minor in breadth or depth in topics not covered by the department curriculum. The study proposal must be approved by the department faculty and the Academic Standards Committee and should indicate the methods of evaluation. May not be substituted for existing courses in the major or minor.

478 APPLIED RESEARCH (1-3; 4)
Student will work with a departmental adviser on research activities such as literature search, preliminary experiments, data collection, data transcription, or data analysis. Graded S/NC.

479 DIRECTED RESEARCH/PROJECT (1-3; 6)
Individual research, and/or laboratory work, or technical project in the major. (Some departments may allow this course on the minor.) A project proposal is required to define the scope of the work and the method of reporting. Requires permission of the department faculty with a copy of the proposal sent to the Registrar in the Academic Records office. See individual departments for specific course description.

494 COOPERATIVE EDUCATION (0-12; 12)
Practical experience in the major in an off-campus setting. Departmental approval required. See individual departments for specific course description.

495 COLLOQUIUM (0)
Series of lectures, programs, discussions or other activities designed to explore specific issues in a given field of study. For each quarter that a student fails to complete the colloquium requirement as stated for the major, there will be a fee to be paid before an alternative colloquium will be approved. Graded S or NC.

496; 497; 498 SEMINAR (1-4)

ART

Tom Emmerson, Chair; Joel Libby.

The aim of the department is to cultivate an awareness, appreciation, and understanding of the various forms of visual experience. Through instruction and practice, the students may develop their creative abilities for practical use by following a concentration in fine art or commercial art. Commercial art is designed to develop skills in working with the printed word and visual communication; fine art will prepare the student as a professional artist or art teacher or will provide preprofessional training in allied fields.

ART MAJOR (BACHELOR OF ARTS)

A student majoring in art must complete the major core requirements, one concentration and the required cognates for that concentration, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. As a senior comprehensive, all art majors are required to hold a senior show in the Clyde and Mary Harris Art Gallery; the show is to be completed with the approval and coordination of the art faculty. All senior art majors are also to prepare a slide portfolio of their art work as part of the senior comprehensive. The slides should consist of 20 images in either traditional transparency format or any digital format such as cross-platform CD-ROM is acceptable. All senior art majors are also required to complete an assigned 5-page paper and take an art major field test (ACAT).

Core Requirements:

ART 161, 162, 163	Design	9
ART 184,185, 186	Introduction to Drawing I, II, III	6
ART 324, 325, 326	History of World Art	9

Select 12 credits from the following options: 12

ART 194, 195, 196	Introduction to Painting I, II, III
ART 264, 265, 266	Introduction to Sculpture I, II, III
ART 284, 285, 286	Introduction to Pottery I, II, III
ART 294, 295, 296	Introduction to Printmaking I, II, III

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FINE ART CONCENTRATION

Required Courses:

ART 344, 345, 346	Advanced Design	9

Electives chosen from courses listed below (limited to 5 areas): 14
Six hours must be upper-division

ART 194, 195, 196	Introduction to Painting I, II, III
ART 201	Calligraphy
ART 264, 265, 266	Introduction to Sculpture I, II, III
ART 284, 285, 286	Introduction to Pottery I, II, III

ART 294, 295, 296	Introduction to Printmaking I, II, III	
ART 307, 308, 309	Drawing IV, V, VI	
ART 317, 318, 319	Printmaking IV,V, VI	
ART 334, 335, 336	Painting IV, V, VI	
ART 364, 365, 366	Sculpture IV, V, VI	
ART 374, 375, 376	Pottery and Ceramic Sculpture IV, V, VI	
		23

Cognates: Fine Art

ENGL 358	Classical Literature	4
HIST 120, 121	History of Western Civilization	8
RELH 303	World Religions	
	or	4
ENGL 313	Image and Text	
SOCI 236	Privilege and Oppression	
	or	4
PHIL 205	Introduction to Philosophy	

COMMERCIAL ART CONCENTRATION

Required Courses:

ART 244, 245, 246	Commercial Art	6
ART 344, 345, 346	Advanced Design	9

Select 8 credits from the following options:
Four hours must be upper-division.

ART 194, 195, 196	Introduction to Painting I
ART 201	Calligraphy
ART 294, 295, 296	Introduction to Printmaking I, II, III
ART 307, 308	Drawing IV, V
ART 317, 318	Printmaking IV, V
ART 334, 335, 336	Painting IV, V, VI

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Cognates: Commercial Art

GRPH 255	Graphic Design and Layout	4
HIST 120, 121	History of Western Civilization	8
PHTO 156	Principles of Photography	3
PHTO 256	Intermediate Digital Photography	3

ART MINOR

A student minoring in art must complete 33 quarter hours:

ART 161, 162, 163	Design	9
ART 184, 185, 186	Introduction to Drawing I, II, III	6
ART 324, 325, 326	History of World Art	9
	Electives	9
		33

Approval of art adviser required.

See page 228 for a list of course descriptions. *Look for courses with the following prefix for the Art Department: ART.*

BIOLOGICAL SCIENCES

David Lindsey, Chair; David Cowles, Bob Cushman, Joe Galusha, Scott Ligman, Janice McKenzie, Jim Nestler, Kirt Onthank, Joan Redd.

The objectives of the department are to develop an understanding of the principles of biology that will better acquaint students with the world in which they live; to create an atmosphere conducive to individual investigation; to prepare department majors for graduate and professional education, teaching, and certain careers in the biological sciences.

The department offers a Bachelor of Science degree with a major in biology, and jointly with the departments of chemistry, engineering, and physics, a Bachelor of Science degree with majors in biochemistry, bioengineering, and biophysics respectively. A minor in biology is also available. Students have exceptional opportunities for study in the biological sciences during the summer at the Rosario Beach Marine Laboratory, adjoining Deception Pass State Park, Anacortes, Washington. For further information visit the Rosario website at rosario.wallawalla.edu.

For a description of the graduate program leading to the Master of Science degree in biology, see the Graduate Bulletin.

BIOLOGY MAJOR (BACHELOR OF SCIENCE)

A student majoring in biology must complete 62 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. One summer term (10 credits) at the WWU Rosario Beach Marine Laboratory is required during which at least one upper-division, marine-oriented course must be taken. Senior students are required to take the Major Field Test (MFT) examination in biology.

Major Requirements:

BIOL 141, 142, 143	General Biology	12
BIOL 211	Introduction to Biological Research I	2
BIOL 250	Biostatistics	4
BIOL 296	Current Topics in Biology	1
BIOL 305	General Ecology	4
BIOL 381	Cell Biology I: Structure and Bioenergetics	4
BIOL 382	Cell Biology II: Genetics and Molecular Biology	4
BIOL 483	Philosophy of Origins and Speciation	3
BIOL 495	Colloquium (6 quarters required)	0
BIOL 496	Senior Seminar	2
	*Electives	26
		62

Ten upper-division credits are required to be taken at the WWU Rosario Beach Marine Laboratory during one summer term.

*Electives must include at least one course from each of the following five categories. A course may be used to fulfill more than one category.

Animal Biology:

BIOL 403	Ornithology
BIOL 405	Natural History of Vertebrates
BIOL 417	Behavior of Marine Organisms
BIOL 420	Sociobiology
BIOL 450	Paleobiology
BIOL 462	Ichthyology
BIOL 464	Animal Physiology
BIOL 468	Comparative Physiology
BIOL 475	Marine Invertebrates

Environmental Biology:

BIOL 360	Plant Biology
BIOL 403	Ornithology
BIOL 405	Natural History of Vertebrates
BIOL 410	Limnology
BIOL 417	Behavior of Marine Organisms
BIOL 420	Sociobiology
BIOL 426	Systematic Botany
BIOL 450	Paleobiology
BIOL 458	Marine Biology
BIOL 460	Marine Ecology
BIOL 462	Icthyology
BIOL 463	Marine Phycology
BIOL 475	Marine Invertebrates

Functional Biology:

BIOL 383	Cell Biology III: Genomics and Regulation
BIOL 430	Molecular Biology Techniques
BIOL 435	Developmental Biology
BIOL 440	Human Anatomy
BIOL 445	Advanced Microbiology
BIOL 449	Vertebrate Histology
BIOL 464	Animal Physiology
BIOL 466	Immunology
BIOL 468	Comparative Physiology

Marine Biology

BIOL 417	Behavior of Marine Organisms
BIOL 458	Marine Biology
BIOL 460	Marine Ecology
BIOL 462	Ichthyology
BIOL 463	Marine Phycology
BIOL 468	Comparative Physiology
BIOL 475	Marine Invertebrates

Plant Biology

BIOL 360	Plant Biology
BIOL 426	Systematic Botany
BIOL 463	Marine Phycology

Cognates:

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Chemistry Laboratory	2
MATH 117	Accelerated Precalculus	
	or	5-8
MATH 121, 122	Precalculus Mathematics I, II	
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Laboratory	3

(MATH 181, Analytic Geometry and Calculus I, strongly recommended.)

BIOCHEMISTRY MAJOR (BACHELOR OF SCIENCE)

The biochemistry major is a joint program offered by the Department of Biological Sciences and the Department of Chemistry. See the Interdisciplinary Programs section (p. 155) of this bulletin.

BIOENGINEERING MAJOR (BACHELOR OF SCIENCE)

The bioengineering major is a joint program offered by the Department of Biological Sciences and the School of Engineering. See the Interdisciplinary Programs section (p. 157) of this bulletin.

BIOPHYSICS MAJOR (BACHELOR OF SCIENCE)

The biophysics major is a joint program offered by the Department of Biological Sciences and the Department of Physics. See the Interdisciplinary Programs section (p. 159) of this bulletin.

ENVIRONMENTAL SCIENCE MAJOR (BACHELOR OF SCIENCE)

The environmental science major is a joint program in Natural Resources Conservation and Management offered through the collaboration of the following departments/schools: Biological Sciences, Chemistry, Engineering, English, History, Humanities, and Religion. See the Interdisciplinary Programs section (p. 160) of this bulletin.

BIOLOGY MINOR

A student minoring in biology must complete a minimum of 27 quarter hours.

Required Courses:

BIOL 141, 142, 143	General Biology	12
	*Biology Electives (at least 8 credits must be upper division)	15
		27

*Approval of biology adviser required.

See page 228 for a list of course descriptions. *Look for courses with the following prefix for the Biology Department: BIOL.*

SCHOOL OF BUSINESS

Josefer Montes, Dean; Johanna Attoh, Conna Bond, Andrew Dressler, Mihail Motzev, Bruce Toews, Steve VanOrden.

Within the context of Walla Walla University's mission, the School of Business provides a high-quality business education that prepares graduates for successful careers and advanced studies. The learning environment fosters teamwork, leadership skills, ethical conduct, character development, and a spirit of service consistent with Christian values.

Bachelor degrees in the School of Business are fully accredited by the Accreditation Council for Business Schools and Programs (ACBSP), a leading accreditation association for business schools with a focus on teaching excellence.

Degrees Offered

Bachelor of Business Administration (BBA), a professional degree designed for students planning to enter the job market or graduate programs. Concentrations include accounting, entrepreneurship and small business management, finance, international business, management, and marketing. No minor is required.

Bachelor of Arts (BA), with a major in Business Administration, is available to students who wish a broader liberal arts preparation than that provided by the BBA. A minor from outside the School of Business and foreign language study are required.

Bachelor of Science (BS) in Business Administration provides more flexibility than is provided by a BBA degree. This degree serves students who plan to enter graduate school, medical school, dental school, law school, etc. No minor is required.

Bachelor of Science (BS) in Automotive Management, jointly offered by the School of Business and the Technology Department, combines automotive technology and business to prepare students for managing automotive businesses. No minor is required.

Bachelor of Science (BS) in Aviation Management, jointly offered by the School of Business and the Technology Department, combines aviation technology and business to prepare students for managing aviation businesses. No minor is required.

Bachelor of Science (BS) in Information Systems, jointly offered by the School of Business and the Computer Science Department, combines computer technology and business to prepare students for positions as programmers, systems analysts, and network administrators. No minor is required.

Associate of Science (AS) provides students an opportunity to gain the basic knowledge and skills required for initial job placement.

Minors are available in business, economics, and marketing.

A maximum of 12 credit hours applied to one business major, minor, or concentration may also be applied to a second business major, minor, or concentration.

Students planning on graduate study should check the specific graduate school admission requirements. Graduate programs may have admission requirements in addition to a WWU baccalaureate degree in business.

Candidacy Requirements for all Baccalaureate Degrees in Business

To be admitted into candidacy for all baccalaureate business degrees (not including interdisciplinary business degrees), students must successfully complete pre-candidacy courses and a satisfactory candidacy portfolio.

Pre-Candidacy Courses:

ACCT 201	Principles of Accounting	4
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
MATH 123	Survey of Calculus	
	or	4
MATH 181	Analytic Geometry and Calculus I	
SPCH 101	Fundamentals of Speech Communication	4
CIS 140	Computer Business Applications	4
GBUS 161	Business Basics*	2
GBUS 263	Business Statistics	4

Candidacy Portfolio:

1. Complete an Application for Candidacy.
2. Write an essay addressing (a) Why did you come to WWU? (b) Why have you chosen a business major? (c) What are your future goals in terms of careers and accomplishments?
3. Submit a current resume.

Privileges of Candidacy

After satisfactory completion of pre-candidacy courses and portfolios, candidates are eligible to:

- Enroll in the following upper division courses: GBUS 463 and MGMT 489.
- Apply for scholarships and awards granted by the School of Business.
- Be recommended for entry into Delta Mu Delta, an international honor society in business administration.
- Run for office in any clubs sponsored by the School of Business.

BACHELOR OF BUSINESS ADMINISTRATION (BBA)

A student seeking the BBA degree must complete 68 quarter hours of core requirements and a 36-quarter hour concentration in one area of business. In addition, students must complete the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Major Field Test in Business.

Bachelor of Business Administration Core and Cognate Requirements:

Core Requirements:

Lower Division Courses:

ACCT 201, 202, 203	Principles of Accounting	10
CIS 140	Computer Business Applications	4
ECON 211	Principles of Macroeconomics	4
ECON 212	Principles of Microeconomics	4
GBUS 161	Business Basics	2
GBUS 263	Business Statistics	4

Upper Division Courses:

CIS 301	Management Information Systems	4
FINA 351	Managerial Finance	4
GBUS 361, 362	Business Law I, II	8
GBUS 366	Operations Management and Production	4
GBUS 370	Business Communication	4
GBUS 463	Business Ethics	4
GBUS 495	Colloquium (12 quarters required)*	0
MGMT 371	Principles of Management	4
MGMT 489	Strategic Management	4
MKTG 381	Principles of Marketing	4
		68

*Twelve quarters required or number of quarters in residence as a declared business major at WWU, whichever is less.

Cognates:

Choose one of the following MATH courses (4-5 credits):

MATH 117	Accelerated Precalculus	5
MATH 121	Precalculus	4
MATH 123	Survey of Calculus	4
MATH 181	Analytic Geometry and Calculus 1	4
PSYC 130	General Psychology	4
SPCH 101	Fundamentals of Speech Communication	4

ACCOUNTING CONCENTRATION (BBA)

Required Courses:

ACCT 321, 322, 323	Intermediate Accounting	11
ACCT 331	Managerial Cost Accounting	4
ACCT 335	Personal Income Tax	4
ACCT 430	Auditing	5
ACCT 494	Cooperative Education/Internship*	0-4

Select 12 credits from the following:

ACCT 341	Accounting Information Systems	4
ACCT 350	Not-for-Profit and Government Accounting	4
ACCT 421	Advanced Accounting	4
ACCT 435	Business Taxation	4
		36-40

*Or any of the following: FINA 494, GBUS 494, MGMT 494, and MKTG 494.

Certified Public Accountant Examination

In most states, 225 quarter (150 semester) hours are required to write the CPA Examination. The effect of this requirement is to add 33 quarter hours above the Walla Walla University degree of 192 quarter hours. The specific education requirements to write the CPA Examination differ from state to state, so careful planning is needed to ensure that the requirements are fully met. You may generally satisfy the 225-hour requirement by completing a BBA degree with an accounting concentration and one of the following:

- Various courses such as accounting, finance, writing, etc.
- A second BBA concentration
- Graduate study in accountancy, taxation, computer information systems, business administration, etc.

ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT CONCENTRATION (BBA)

Required Courses:

ACCT 321	Intermediate Accounting	3
ACCT 335	Personal Income Tax	4
ACCT 341	Accounting Information Systems	4
GBUS 494	Cooperative Education/Internship*	0-4
MGMT 275	Entrepreneurship and Small Business Management	4
MGMT 373	Organizational Behavior	4
MGMT 376	Human Resource Management	4
MKTG 385	Sales Management	4
	**Business Electives (4 must be upper division)	5-9
		36

*Or any of the following: ACCT 494, FINA 494, MGMT 494, and MKTG 494.

**Electives outside the School of Business must be approved by a School of Business adviser and may be chosen from business, communications, art, psychology, and graphics courses.

FINANCE CONCENTRATION (BBA)

Required Courses:

ACCT 321, 322	Intermediate Accounting	7
FINA 441	Financial Markets and Institutions	4
FINA 451	Investments	4
FINA 488	International Trade and Finance	4
FINA 494	Cooperative Education/Internship*	0-4
ACCT	Upper-division Electives	4
	Business Electives	1-5

Select 8 credits from the following:

FINA 365	Risk and Insurance	4
FINA 367	Real Estate Principles	4
FINA 460	Methods of Forecasting	4
		36

*Or any of the following: ACCT 494, GBUS 494, MGMT 494, and MKTG 494.

INTERNATIONAL BUSINESS CONCENTRATION (BBA)

(One quarter of continuous post-secondary study or work in a country other than the U.S. or Canada is required.)

Required Courses:

FINA 488	International Trade and Finance	4
GBUS 494	Cooperative Education/Internship*	0-4
MGMT 488	Global Management and Marketing	4
	Foreign Language	8-12
	**Electives	12-20
		36

Foreign Language: 12 credits of elementary or 8 credits of intermediate. Credits must be from the same language.

*Or any of the following: ACCT 494, FINA 494, MGMT 494, and MKTG 494.

**Electives must be approved by the School of Business adviser and may be chosen from RELH 303, RELM 233, SOCI 204; any non-U.S. geography, political science, or history; business, and modern language. At least four (4) credits must be business and at least four (4) credits must be other than business.

MANAGEMENT CONCENTRATION (BBA)

Required Courses:

MGMT 373	Organizational Behavior	4
MGMT 376	Human Resources Management	4
MGMT 380	Principles of Project Management	4
MGMT 476	Motivation and Leadership	4
MGMT 488	Global Management and Marketing	4
MGMT 494	Cooperative Education/Internship*	0-4
	Business Electives (12 must be upper division)	12-16
		36

*Or any of the following: ACCT 494, FINA 494, GBUS 494, and MKTG 494.

MARKETING CONCENTRATION (BBA)

Required Courses:

MKTG 383	Principles of Advertising	4
MKTG 384	Consumer Behavior	4
MKTG 385	Sales Management	4
MKTG 451	Market Research Methods	4
MKTG 481	Public Relations	4
MKTG 487	Marketing Management	4
MKTG 488	Global Management and Marketing	4
MKTG 494	Cooperative Education/Internship*	0-4
	**Electives	4-8
		36

*Or any of the following: ACCT 494, FINA 494, GBUS 494, and MGMT 494.

**Electives must be approved by the School of Business adviser and may be chosen from business, communications, art, psychology, and graphic art courses.

BUSINESS ADMINISTRATION MAJOR (BACHELOR OF SCIENCE)

A student majoring in business administration must complete 76 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Major Field Test in Business.

CORE REQUIREMENTS:

Lower Division Courses:

ACCT 201, 202, 203	Principles of Accounting	10
CIS 140	Computer Business Applications	4
ECON 211	Principles of Macroeconomics	4
ECON 212	Principles of Microeconomics	4
GBUS 161	Business Basics	2
GBUS 263	Business Statistics	4

Upper Division Courses:

FINA 351	Managerial Finance	4
GBUS 361	Business Law I	4
GBUS 362	Business Law II	4
GBUS 366	Operations Management and Production	4
GBUS 370	Business Communication	4
GBUS 463	Business Ethics	4
GBUS 494	Cooperative Education/Internship*	0-4
GBUS 495	Colloquium (12 quarters required)**	0
MGMT 371	Principles of Management	4
MGMT 489	Strategic Management	4
MKTG 381	Principles of Marketing	4
	Business Electives (4 must be upper division)	8-12
		76

*Or any of the following: ACCT 494, FINA 494, MGMT 494, and MKTG 494.
**Twelve quarters required or number of quarters in residence as a declared business major at WWU, whichever is less.

Cognates:

Choose one of the following MATH courses (4-5 credits):

MATH 117	Accelerated Precalculus	5
MATH 121	Precalculus	4
MATH 123	Survey of Calculus	4
MATH 181	Analytic Geometry and Calculus 1	4
PSYC 130	General Psychology	4
SPCH 101	Fundamentals of Speech Communication	4

BUSINESS ADMINISTRATION MAJOR (BACHELOR OF ARTS)

A student majoring in business administration must complete 62 quarter hours in the major, the required cognates, a minor from outside the School of Business, the general studies program, which includes a foreign language, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Major Field Test in Business.

CORE REQUIREMENTS:

Lower Division Courses:

ACCT 201, 202, 203	Principles of Accounting	10
CIS 140	Computer Business Applications	4
ECON 211	Principles of Macroeconomics	4
ECON 212	Principles of Microeconomics	4
GBUS 161	Business Basics	2
GBUS 263	Business Statistics	4

Upper Division Courses:

FINA 351	Managerial Finance	4
GBUS 361	Business Law I	4
GBUS 370	Business Communication	4
GBUS 463	Business Ethics	4
GBUS 494	Cooperative Education/Internship*	0-4
GBUS 495	Colloquium (12 quarters required)**	0
MGMT 371	Principles of Management	4
MGMT 489	Strategic Management	4
MKTG 381	Principles of Marketing	4
	Business Electives (4 must be upper division)	2-6
		62

*Or any of the following: ACCT 494, FINA 494, MGMT 494, and MKTG 494.
**Twelve quarters required or number of quarters in residence as a declared business major at WWU, whichever is less.

Cognates:

Choose one of the following MATH courses (4-5 credits):

MATH 117	Accelerated Precalculus	5
MATH 121	Precalculus	4
MATH 123	Survey of Calculus	4
MATH 181	Analytic Geometry and Calculus 1	4
PSYC 130	General Psychology	4
SPCH 101	Fundamentals of Speech Communication	4

AUTOMOTIVE MANAGEMENT MAJOR (BACHELOR OF SCIENCE)

The automotive management major is a joint program offered by the School of Business and the Department of Technology. See the Interdisciplinary Programs section (p. 152) of this bulletin.

AVIATION MANAGEMENT MAJOR (BACHELOR OF SCIENCE)

The aviation management major is a joint program offered by the School of Business and the Department of Technology. See the Interdisciplinary Programs section (p. 153) of this bulletin.

INFORMATION SYSTEMS MAJOR (BACHELOR OF SCIENCE)

The information systems major is a joint program offered by the School of Business and the Computer Science Department. See the Interdisciplinary Programs section (p. 168) of this bulletin.

BUSINESS (ASSOCIATE OF SCIENCE)

A student specializing in business must complete 46 quarter hours in business, the required cognates, the general studies program, and all associate degree requirements as outlined in this bulletin.

Core:

ACCT 201, 202, 203	Principles of Accounting	10
CIS 140	Computer Business Applications	4
ECON 211	Principles of Macroeconomics	4
FINA 101	Personal Finance	2
GBUS 161	Business Basics	2
GBUS 361	Business Law I	4
GBUS 495	Colloquium (6 quarters required)*	0
	Business Electives	20
		46

*Six quarters required or number of quarters in residence as a declared business degree candidate at WWU, whichever is less.

Cognates:

Choose one of the following MATH courses (4-5 credits):

MATH 105	Finite Mathematics	4
MATH 117	Accelerated Precalculus	5
MATH 121	Precalculus Mathematics I	4

BUSINESS MINOR

Required Courses:

ACCT 201, 202, 203	Principles of Accounting	10
ECON 211	Principles of Macroeconomics	4
ECON 212	Principles of Microeconomics	4
GBUS 161	Business Basics	2
	Business Electives (8 must be upper division)	10
		30

ECONOMICS MINOR

Required Courses:

ECON 211	Principles of Macroeconomics	4
ECON 212	Principles of Microeconomics	4
ECON 441	Financial Markets and Institutions	4
ECON 488	International Trade and Finance	4
FINA 451	Investments	4
GBUS 161	Business Basics	2
	Business Electives (4 must be upper division)	8
		30

MARKETING MINOR

Required Courses:

GBUS 161	Business Basics	2
MKTG 381	Principles of Marketing	4
MKTG 383	Principles of Advertising	4
MKTG 384	Consumer Behavior	4
MKTG 487	Marketing Management	4
MKTG	Electives	4
	*Electives (6 must be business)	8

*Electives may be chosen from business, communications, art, psychology and graphic art courses.

See page 228 for a list of course descriptions. *Look for courses with the following prefixes for the School of Business: ACCT, CIS, ECON, FINA, GBUS, MGMT, and MKTG.*

CHEMISTRY

Steven Lee, Chair; Kyle Craig, Richard Daley, J. Anthony Smith.

The department seeks to introduce students to a basic science in a Christian environment and to acquaint majors with the principal chemical disciplines: analytical, biochemistry, inorganic, organic, and physical. Majors are encouraged to conduct original investigation as preparation for graduate and professional education and for careers in teaching and the chemical sciences. The department offers programs leading to the Bachelor of Arts and Bachelor of Science degrees.

CHEMISTRY MAJOR (BACHELOR OF ARTS)

A student majoring in chemistry must complete 54 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. A minor must be chosen for the Bachelor of Arts degree. Senior students are required to take the Major Field Test (MFT) examination in chemistry. Transfer credit accepted towards the chemistry major must be from major's courses at the institution originating the credit.

Required Courses:

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 301	Chemical Equilibrium and Analysis	3
CHEM 302	Analytical Instrumental Methods I	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325	Introduction to Organic Laboratory	1
CHEM 336	Microscale Organic Laboratory	2
CHEM 350, 352, 353	Physical Chemistry	9
CHEM 405	Integrated Chemistry Laboratory	5
CHEM 479	Directed Research/Project	
	or	2
CHEM 494	Cooperative Education	
CHEM 496, 497, 498	Chemistry Seminar	3
	*Electives	3
		54

*Electives must be chosen in consultation with and approved by the academic adviser assigned by the department.

Cognates:

MATH 181, 281	Analytic Geometry and Calculus I, II	8
MATH 206	Applied Statistics	
	or	4
MATH 315	Probability and Statistics	
PHYS 211, 212, 213	General Physics	
PHYS 214, 215, 216	General Physics Laboratory	
	or	12
PHYS 251, 252, 253	Principles of Physics	
PHYS 254, 255, 256	Principles of Physics Laboratory	

CHEMISTRY MAJOR (BACHELOR OF SCIENCE)

A student majoring in chemistry must complete 67 quarter hours in the major, the required cognates, and the general studies program for the baccalaureate degree as outlined in this bulletin. No minor is required for the Bachelor of Science degree. Senior students are required to take the Major Field Test (MFT) examination in chemistry. Transfer credit accepted towards the chemistry major must be from major's courses at the institution originating the credit.

Required Courses:

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 301	Chemical Equilibrium and Analysis	3
CHEM 302	Analytical Instrumental Methods I	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325	Introduction to Organic Laboratory	1
CHEM 336	Microscale Organic Laboratory	4
CHEM 350, 352, 353	Physical Chemistry	9
CHEM 405	Integrated Chemistry Laboratory	6
CHEM 479	Directed Research/Project	
	or	3
CHEM 494	Cooperative Education	
CHEM 496, 497, 498	Chemistry Seminar	3
	*Electives	12
		67

*Electives must be chosen in consultation with and approved by the academic adviser assigned by the department.

Cognates:

MATH 181, 281-283	Analytic Geometry and Calculus I-IV	16
MATH 206	Applied Statistics	
	or	4
MATH 315	Probability and Statistics	
PHYS 211, 212, 213	General Physics	
PHYS 214, 215, 216	General Physics Laboratory	
	or	12
PHYS 251, 252, 253	Principles of Physics	
PHYS 254, 255, 256	Principles of Physics Laboratory	

BIOCHEMISTRY MAJOR (BACHELOR OF SCIENCE)

The biochemistry major is a joint program offered by the Department of Biological Sciences and the Department of Chemistry. See the Interdisciplinary Programs section (p. 155) of this bulletin.

CHEMISTRY MINOR

A student minoring in chemistry must complete 28 quarter hours; 3 must be upper division. Transfer credit accepted towards the chemistry minor must be from major's courses at the institution originating the credit.

The following courses are required:

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Chemistry Laboratory	2
	*Electives	3
		28

*Approval of department chair required.

See page 228 for a list of course descriptions. *Look for courses with the following prefix for the Chemistry Department: CHEM.*

COMMUNICATIONS AND LANGUAGES

David Bullock, Chair; Alma Alfaro, David Crawford, Jean-Paul Grimaud, Jerrold Hartman, Nancy Semotiuk, Deborah Silva.

The department's programs foster student growth by stimulating critical thinking and creative expression, enhancing language and cultural sensitivity, and connecting educational, career, and life goals. Students are prepared to enter careers that use their talents to understand, speak, read and write effectively as articulate Christian communicators.

Communication study focuses on message creation, production and dissemination—on sharing ideas that enhance community, create change, or serve audiences. Language study prepares students to engage in the language, literature, and life of other cultures. International communication combines communication and language study to embrace expanding global opportunities in politics, business, technology and environmental issues.

In the area of communications, the department offers Bachelor of Arts degrees in communication and international communication and minors in drama, film and television production, journalism, public relations, and speech. Languages offers Bachelor of Arts degrees in French and Spanish and minors in Arabic, French, German, Italian, Portuguese, and Spanish.

COMMUNICATIONS

The Bachelor of Arts degree in Communication integrates a strong core of communication study with areas of specialization, a minor in an area of the student's choosing, and foreign language study to provide a breadth of experience in communication and related disciplines. Concentrations are available in Film/TV and Journalism/Public Relations, preparing graduates for positions in news and feature editorial, photojournalism, radio, television, and video production, internet publishing as well as public relations and fund-raising. The Bachelor of Arts graduate will possess the potential for advancement to media managerial positions and will be prepared for further graduate study.

The Bachelor of Arts degree in International Communication integrates a strong core of communication study with a French or Spanish specialization, a minor in an area of the student's choosing, language study abroad, and an international internship to provide a solid foundation of experience in international communication and related disciplines. Graduates of this program would be prepared for careers as communication specialists in international and intercultural organizations such as global business, governments, non-governmental organizations (NGOs), charitable or religious organizations, foundations, and media outlets.

COMMUNICATION MAJOR (BACHELOR OF ARTS)

A student majoring in communication must complete the major core requirements and one concentration for a total of 68 hours (plus concentration cognates), the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to complete a senior project.

Communication Major (B.A.) Core Requirements:

COMM 145	Media and Culture	4
COMM 235	Introduction to Filmmaking	4
COMM 357	Media Law	4
COMM 475	Communication Theory	2
COMM 487	Senior Project	1
COMM 494	Cooperative Education/Practicum in Communication (minimum 120 hours)	0
COMM 495	Communications Colloquium (four required)	0
COMM 496, 497	Seminar in Communication	2, 1
JOUR 148	Creativity and Communication	3
JOUR 245	Media Writing	4
JOUR 349	Social Media Journalism	3
SPCH 101	Fundamentals of Speech Communication	4
		32

Cognates

GRPH 235	Digital Imaging I	4
GRPH 255	Graphic Design and Layout	4
PHTO 156	Principles of Photography	3
	or	
PHTO 255	Film Photography	3

FILM AND TELEVISION CONCENTRATION (COMMUNICATION)

Required Courses:

COMM 201	Preproduction	1
COMM 301	Audio Production	4
COMM 302	Live Video Production and Streaming	3
COMM 303	Production and Cinematography	3
COMM 304	Video Editing and Compositing	4
COMM 412	Documentary Film	4
DRMA 364	Directing I	3
DRMA 365	Directing II	3
JOUR 201	Screen Writing	3
	Electives	8
		36

Electives must be selected from the following:

COMM 245	Directed Media Production	1-2
COMM 411	Web Video Activism	4
COMM 445	Directed Media Production	1-4
COMM 494	Cooperative Education/Practicum in Comm	1-4
DRMA 242	Acting	4

JOUR 257	Introduction to Photojournalism	3
JOUR 451	Digital Publishing	4
MKTG 381	Principles of Marketing	4
PREL 333	Strategies for Fundraising	4
PREL 481	Public Relations	4
SPCH 207	Small Group Communication	3

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

JOURNALISM AND PUBLIC RELATIONS CONCENTRATION (COMMUNICATION)

Required Courses:

JOUR 246	Reporting Methods	4
JOUR 247	Copy Editing	3
JOUR 257	Introduction to Photojournalism	3
JOUR 341	Feature Writing	4
JOUR 451	Digital Publishing	4
PREL 333	Strategies for Fundraising (or MKTG 333)	4
PREL 481	Public Relations (or MKTG 481)	4
	Electives	10
		36

Electives must be selected from the following:

COMM 412	Documentary Film	4
JOUR 201	Screen Writing	3
JOUR 345	Specialized Writing:	3
PREL 350	Writing for Public Relations	3
SPCH 443	Persuasive Speaking	4

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

INTERNATIONAL COMMUNICATION MAJOR (BACHELOR OF ARTS)

A student majoring in International Communication must complete the major core requirements and one emphasis for a total of 67 hours (plus concentration cognates), the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Core Requirements:

COMM 110	Seminar: International Communication	1
COMM 145	Media and Culture	4
COMM 325	Multicultural Communication	3
COMM 357	Media Law	4

COMMUNICATIONS AND LANGUAGES

COMM 475	Communication Theory	2
COMM 487	Senior Project	1
COMM 494	+Cooperative Education/Practicum in Communication	0
COMM 495	Communications Colloquium (four required)	0
COMM 496	Seminar in Communication	2
COMM 497	Seminar in Communication	1
JOUR 245	Media Writing	4
LANG 406	Language and Culture	4
PREL 481	Public Relations	4
SPCH 310	Interpersonal and Nonverbal Communication	3
SPCH 453	Rhetoric of Western Thought	4
	*Electives	10
		47

+ This is an international internship to be completed in a country where the language of emphasis is spoken. Additional coursework required if completed in the United States.

*Electives may be chosen from:

COMM 235	Introduction to Filmmaking	4
DRMA 242	Acting	4
JOUR 257	Introduction to Photojournalism	3
JOUR 345	Specialized Writing: Advertising	3
JOUR 345	Specialized Writing: Opinion Writing	3
PREL 333	Strategies for Fundraising	4
PREL 350	Writing for Public Relations	3
SPCH 407	Advanced Small Group Communication	3
SOCI 420	Immigration and Identity	4
ENGL 485	Linguistics	3

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. Writing courses should be from the journalism section unless otherwise designated.

Cognates:

ANTH 225	Cultural Anthropology	4
	or	
SOCI 236	Privilege and Oppression	4
HIST 121, 122	History of Western Civilization	8
	or	
HONR 131, 132, 133	Western Thought	12
	(HONR 131, HONR 132, HONR 133 will fulfill the history requirement, but only 8 credits will apply to history. The other 4 credits are counted as literature.	

	To exercise this option the student must complete all 12 credits.)	
RELH 303	World Religions	4
MKTG 488	**Global Management and Marketing	4
		20

**Prerequisites are MGMT 371 and MKTG 381.

EMPHASIS:

20 credit hours beyond the second quarter of the intermediate level language; 1 quarter (minimum) must be taken overseas.

Francophone Emphasis:

	Electives taken overseas	16

Select 4 credits from the following courses:

FREN 394	French Directed Reading	4	
FREN 405	French Stylistics and Rhetoric	4	
FREN 407	Survey of French and Francophone Literature	4	
FREN 408	Contemporary French and Francophone Literature	4	
			20

Hispanic Emphasis:

	Electives taken overseas	16

Select 4 credits from the following courses:

SPAN 394	Spanish Directed Reading	4	
SPAN 405	Spanish Stylistics and Rhetoric	4	
SPAN 407	Survey of Spanish Literature	4	
SPAN 408	Contemporary Latino Literature	4	
			20

PRE-SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY

Students completing the following core curriculum and the AS general studies requirements will be awarded an AS degree in Pre-Speech-Language Pathology and Audiology. This degree will prepare the student for admission to Speech-Language Pathology and Audiology at Loma Linda University and may also apply to other professional programs. A cumulative grade point average of 3.0 is required before entering B.S. professional training.

Required Courses:

ANTH 225	Cultural Anthropology	
	or	4
SOCI 236	Privilege and Oppression	
BIOL 121*	Anatomy and Physiology	
	or	4
BIOL 141*	General Biology	

COMMUNICATIONS AND LANGUAGES

ENGL 121, 122	College Writing	3, 3
ENGL 223	Research Writing	3
HLTH 110	Wellness for Living (3)	
or		3 or 4
HLTH 220	Human Nutrition (4)	
MATH 206	Applied Statistics	4
PEAC	Any PEAC activity courses	1, 1
PSYC 130	General Psychology	4
PSYC 215	Child and Adolescent Development	4
REL	Religion General Studies Courses	8
	(At least 4 must be RELB)	
SPCH 101	Fundamentals of Speech Communication	4
SPPA 107	Voice and Articulation	4
SPPA 210	Survey of Speech-Language Pathology and Audiology	3
	One physical science course: Select from Physics or Chemistry	4
	Degree Electives (SPCH 310 Interpersonal and Nonverbal Communication, recommended)	10-11
	General Studies Electives Select from at least 3 of the following content areas:	28
	• Foreign Language (recommended)	
	• Fine Arts	
	• History	
	• Literature	
	• Philosophy	
		96

Note: Course grades below C are not accepted by most professional programs. Please consult with your academic adviser concerning any course with a grade below C.

*A full year sequence is advised to be a more competitive applicant to a 4 year program.

DRAMA MINOR

A student minoring in drama must complete 30 quarter hours.

Required Courses:

DRMA 242	Acting	4
DRMA 252	Performance	2
DRMA 253	Technical Production	2
DRMA 363	History of Theatre	4

DRMA 364	Directing I	3
DRMA 365	Directing II	3
DRMA 442	Advanced Acting:	4
	**Electives (4 hours must be upper division)	8
		30

**A minimum of 2 hours required for DRMA 252 and DRMA 253. Additional hours may apply as electives.

Electives must be chosen from the following:

COMM 302	Live Video Production and Streaming	3
DRMA 211	Oral Interpretation	4
DRMA 394	Directed Drama Reading	1-2; 3
DRMA 445	Directed Drama Writing	1 - 3
DRMA 452	Advanced Performance	0-2; 4
ENGL 358	Classical Literature	4
ENGL 360	Shakespeare at Ashland	2
ENGL 445	Shakespeare	3
FILM 215	Introduction to Film Literature	4
JOUR 201	Screen Writing	3
SPCH 107	Voice and Articulation	4
WRIT 336	Drama Writing	3

Approval of drama adviser required.

FILM AND TELEVISION PRODUCTION MINOR

A student minoring in film and television production must complete 30 quarter hours.

Required Courses:

COMM 235	Introduction to Filmmaking	4
JOUR 201	Screen Writing	3
COMM 201	Preproduction	1
COMM 303	Production and Cinematography	3
COMM 304	Video Editing and Compositing	4
DRMA 364	Directing I	3
DRMA 365	Directing II	3
	*Electives	9
		30

*Electives must be chosen from COMM, DRMA, JOUR, PREL, SPCH, or FILM.

Approval of Film and Television Production adviser required.

JOURNALISM MINOR

A student minoring in journalism must complete 27 quarter hours.

Required Courses:

COMM 145	Media and Culture	4
JOUR 245	Media Writing	4
JOUR 246	Reporting Methods	4
	Electives (9 must be upper division; minimum of one additional writing course)	15
		27

Approval of journalism adviser required

PUBLIC RELATIONS MINOR

A student minoring in public relations must complete 30 quarter hours.

Required Courses:

JOUR 245	Media Writing	4
JOUR 345	Specialized Writing:	3
JOUR 451	Digital Publishing	4
PREL 333	Strategies for Fundraising (or MKTG 333)	4
PREL 350	Writing for Public Relations	3
PREL 481	Public Relations (or MKTG 481)	4
	Electives (must be chosen from COMM, DRMA, JOUR, PREL, SPCH)	8
		30

Approval of Public Relations adviser required.

SPEECH COMMUNICATION MINOR

A student minoring in speech communication must complete 30 quarter hours:

Required Courses:

SPCH 101	Fundamentals of Speech Communication	4
SPCH 207	Small Group Communication	3
	or	
SPCH 407	Advanced Small Group Communication	3
SPCH 310	Interpersonal and Nonverbal Communication	3
SPCH 341	Argumentation	4
	or	
SPCH 443	Persuasive Speaking	4
	*Electives (must be chosen from COMM, DRMA, JOUR, PREL, SPCH, 9 must be upper division)	16
		30

Approval of speech communication adviser required.

LANGUAGES

Walla Walla University is a member of the Adventist Colleges Abroad (ACA) consortium. Foreign language majors are required to spend one year (three quarters) in a study abroad program, typically the sophomore or junior year. Language minors are required to spend a minimum of one quarter of study abroad at the intermediate level. Academic credit will be granted for these studies so that a student may be able to complete a full college year abroad. Prospective ACA students must have completed one year of college French, German, or Spanish or the equivalent with a grade-point average of 3.00. Applicants should consult with their major professors, the Department of Communications and Languages, and the Registrar prior to enrollment.

A student planning to teach should confer with their assigned academic adviser and with the School of Education and Psychology in regard to certification and teaching credentials.

The ability to communicate in a foreign language and the acquaintance with a foreign culture should be part of the background of educated persons, particularly those with a sense of world mission.

FRENCH OR SPANISH MAJOR (BACHELOR OF ARTS)

A student majoring in French or Spanish must complete 41 quarter hours beyond the second quarter of the intermediate level in the major, the required cognates, the general studies requirements, and all baccalaureate degree requirements as outlined in this bulletin.

Students participating in the Adventist Colleges Abroad program and majoring in a foreign language must complete a minimum of twelve hours of upper-division courses in the program at Walla Walla University after their year abroad. All majors are required to pass the departmental comprehensive examination.

FRENCH STUDIES MAJOR (BACHELOR OF ARTS)

Required Courses:

FREN 405	French Stylistics and Rhetoric	4
LANG 406	Language and Culture	4

Four credits must be taken from the following courses:

FREN 394	French Directed Reading	4	
FREN 407	Survey of French and Francophone Literature	4	
FREN 408	Contemporary French and Francophone Literature	4	
FREN 496	Seminar in French	4	
	*Electives (21 must be upper-division)		29
			41

*Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

Cognates:

ENGL 485	Linguistics	
	or	3
LANG 395	Methods of Teaching Languages	
ANTH 225	Cultural Anthropology	4
SPCH 453	Rhetoric of Western Thought	4

SPANISH STUDIES MAJOR (BACHELOR OF ARTS)

Required Courses:

LANG 406	Language and Culture	4
SPAN 405	Spanish Stylistics and Rhetoric	4

Four credits must be taken from the following courses:

SPAN 394	Spanish Directed Reading	4	
SPAN 407	Survey of Spanish Literature	4	
SPAN 408	Contemporary Latino Literature	4	
SPAN 496	Seminar in Spanish	4	
	*Electives (21 must be upper-division)		29
			41

*Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

Cognates:

ENGL 485	Linguistics	
	or	3
LANG 395	Methods of Teaching Languages	
SPCH 453	Rhetoric of Western Thought	4
SOCI 236	Privilege and Oppression	
	or	4
ANTH 225	Cultural Anthropology	

FRENCH, GERMAN, OR SPANISH MINOR

A student minoring in French, German, or Spanish must complete 28 quarter hours beyond FREN 103; GRMN 103; or SPAN 103; 8 quarter hours must be upper-division. Approval of the academic adviser required.

After one year of language at the University level or two years at the high school level, language minors are required to spend a minimum of one quarter of study abroad at an Adventist College Abroad affiliate school. Summer quarters do not qualify. ACA courses are counted toward residency.

ITALIAN, PORTUGUESE, OR ARABIC MINORS

Minors in Italian, Portuguese, and Arabic are offered through Adventist Colleges Abroad affiliate programs. Students must complete 28 quarter hours beyond the 100 level; 8 quarter hours must be upper-division. Approval of the academic adviser required.

Note: Without prior language experience, students should plan to spend an entire school year in residence at the ACA school to develop proficiency in the chosen language. All course work for a minor in these languages must be completed while in residence at the ACA school. See the ACA adviser for more information.

See page 228 for a list of course descriptions. *Look for courses with the following prefixes for the Communications and Languages Department: COMM, DRMA, JOUR, PREL, SPCH, SPPA, FREN, GRMN, LATN, SPAN, and LANG.*

COMPUTER SCIENCE

Jonathan Duncan, Chair; Larry Aamodt.

Computer science is the study of the representation, storage, and manipulation of information. The Department of Computer Science prepares its students for both graduate study and careers in computer science, system analysis and design, software engineering, and networking.

The department offers programs leading to the Bachelor of Arts, Bachelor of Science and Associate of Science degrees. The department cooperates with the School of Engineering in offering a computer engineering concentration in the Bachelor of Science in Engineering Degree. The School of Business and The Department of Computer Science jointly offer a major in information systems (B.S.).

The Bachelor of Science degree will prepare students for careers or graduate study in computer science. The Bachelor of Arts degree will prepare students for careers in fields applying computer information and technology. The Bachelor of Science in Engineering with a concentration in computer engineering will prepare students for careers or graduate study in both computer science and computer engineering.

COMPUTER SCIENCE MAJOR (BACHELOR OF ARTS)

A student majoring in computer science must complete 47 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the MFT exam in computer science. Students planning to go to graduate school in computer science should also take the Graduate Record Examination, general and subject (Computer Science) sections.

Required Courses:

CPTR 141	Introduction to Programming	4
CPTR 142, 143	Data Structures, Algorithms, and Objects	4, 4
CPTR 215	Assembly Language Programming	3
CPTR 316	Programming Languages	4
CPTR 345	Theory of Computation	4
CPTR 352	Operating System Design	4
CPTR 454	Design and Analysis of Algorithms	4
	*Electives (8 must be upper-division)	16
		47

*Electives must be chosen in consultation with and approved by the academic adviser and will typically have one of the following prefixes: CIS, CPTR, ENGR, or MATH.

Cognates:

ENGR 354	Digital Logic	3
MATH 123	Survey of Calculus	
	or	4
MATH 181	Analytic Geometry and Calculus I	
MATH 250	Discrete Mathematics	4
MATH 289	Linear Algebra and its Applications	3
MATH 206	Applied Statistics	
	or	4
MATH 315	Probability and Statistics	

COMPUTER SCIENCE MAJOR (BACHELOR OF SCIENCE)

A student majoring in computer science must complete the major core requirements, major cognate requirements, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. In addition, students must choose to complete one of three options. Senior students are required to take the Major Field Test. Students planning to go to graduate school in Computer Science should also take the Graduate Record Examination, general and subject (Computer Science) sections.

Core Requirements:

CPTR 141	Introduction to Programming	4
CPTR 142, 143	Data Structures, Algorithms, and Objects	4, 4
CPTR 215	Assembly Language Programming	3
CPTR 316	Programming Languages	4
CPTR 345	Theory of Computation	4
CPTR 352	Operating System Design	4
CPTR 454	Design and Analysis of Algorithms	4
CPTR 496, 497, 498	Seminar	3
		34

Cognates:

ENGR 354	Digital Logic	3
MATH 181, 281, 282	Analytic Geometry and Calculus I, II,III	12
MATH 206	Applied Statistics	
	or	4
MATH 315	Probability and Statistics	
MATH 250	Discrete Mathematics	4
MATH 289	Linear Algebra and its Applications	3

EMBEDDED SYSTEMS CONCENTRATION

The Embedded Systems Concentration serves students who want a career that is focused on developing computer-based devices.

Required Courses:

CPTR 350	Computer Architecture	4
CPTR 435	Software Engineering	4
ENGR 228	Circuit Analysis	4
ENGR 355	Embedded System Design	3
ENGR 433	Digital Design	4
	*Electives (8 must be CPTR)	9
		28

SOFTWARE SYSTEMS CONCENTRATION

The Software Systems Concentration serves students who want a career as software developers and who want to become expert at developing large scale software, working in teams, and producing products that meet customer needs.

Required Courses:

CPTR 235	Web Application Development	4
CPTR 301	Java and Object-Oriented System Design	4
CPTR 415	Introduction to Database Systems	4
CPTR 435	Software Engineering	4
	*Electives (4 must be upper-division CPTR)	12
		28

PREPARATION FOR GRADUATE STUDY CONCENTRATION

The Preparation for Graduate Study Concentration serves students who want to prepare to enter professional training in a graduate program.

Required Courses:

CPTR 350	Computer Architecture	4
CPTR 425	Introduction to Networking and Computer I/O	4
CPTR 445	Introduction to Artificial Intelligence	4
	*Electives (4 must be upper-division CPTR)	16
		28

*Electives must be chosen in consultation with and approved by the academic adviser and will typically have one of the following prefixes: CIS, CPTR, ENGR, or MATH.

COMPUTER ENGINEERING (BACHELOR OF SCIENCE IN ENGINEERING)

See the computer engineering concentration (p. 133) in the School of Engineering section of this bulletin.

INFORMATION SYSTEMS MAJOR (BACHELOR OF SCIENCE)

The information systems major is a joint program offered by the School of Business and the Computer Science Department. See the Interdisciplinary Programs section (p. 168) of this bulletin.

COMPUTER PROGRAMMING (ASSOCIATE OF SCIENCE)

A student specializing in computer programming must complete the area requirements, the required cognates, the general studies program, and all associate degree requirements as outlined in this bulletin.

Area Requirements:

CPTR 141	Introduction to Programming	4
CPTR 142, 143	Data Structures, Algorithms, and Objects	4, 4
CPTR 215	Assembly Language Programming	3
CPTR 235	Web Application Development	4
CPTR 301	Java and Object-Oriented System Design	4
	*Electives	30
		53

*Electives must be chosen in consultation with and approved by the academic adviser and will typically have one of the following prefixes: CIS, CPTR, ENGR, or MATH.

Cognates:

MATH 123	Survey of Calculus	4
	or	
MATH 181	Analytic Geometry and Calculus I	4
MATH 206	Applied Statistics	4
MATH 250	Discrete Mathematics	4
MATH 289	Linear Algebra and its Applications	3

COMPUTER SCIENCE MINOR

A student minoring in computer science must complete 30 quarter hours chosen in consultation with and approved by the academic adviser from the following prefixes: CIS, CPTR, ENGR, MATH. Four credits must be upper division.

See page 228 for a list of course descriptions. *Look for courses with the following prefix for the Computer Science Department: CPTR and INFO.*

SCHOOL OF EDUCATION AND PSYCHOLOGY

Denise Dunzweiler, Dean; Austin Archer, Linda Ivy, Julian Melgosa, Debbie Muthersbaugh, Tamara Randolph, Lee Stough.

The School of Education and Psychology offers programs leading to a Bachelor of Science degree with majors in elementary education, psychology, and forensic psychology. The school also offers a Bachelor of Arts degree with a major in psychology. Minors are available in education and psychology, and preparation is provided for state and denominational certification in both elementary and secondary education. With careful planning, a bachelor's degree and the first teaching certificate may be earned in four years of study.

For a description of programs leading to a master's degree in Education or Counseling Psychology, see the Graduate Bulletin.

Mission: The School of Education and Psychology at Walla Walla University supports the mission of the University and assists students as they acquire knowledge and expertise in their fields of study within the context of Christian faith. To this end our faculty and students are committed to:

- quality in scholarship and research;
- the development of social, moral, and spiritual values;
- the integration of learning, faith, and service.

Teacher Preparation Programs: WWU offers a Bachelor of Science degree in Elementary Education. Teacher certification is also available to those who wish to teach in various content areas at the secondary school level. Additional information can be found at http://www.wallawalla.edu/3037

The Teacher Certification Program is made up of a relatively small number of students, thus allowing more interaction with faculty and staff.

Admission Requirements:

- Junior class standing or a score of at least 23 on the ACT or a score of at least 1040 on the SAT.
- Minimum GPA of at least 2.75 in all course work that applies to certification requirements.
- Passing score in all required sections of the WEST-B.
- Formal application, law enforcement background check, and moral character clearance.
- No grade less than C

For a complete description of the teacher preparation program, see http://www.wallawalla.edu/2968

Accreditation:

- Northwest Association of Schools and Colleges
- Accrediting Association of Seventh-day Adventist Schools, Colleges, and Universities
- All of the University's teacher preparation programs are approved by the Washington State Board of Education.

CONTEXTUAL INFORMATION

Best Practices:

- Blend of theory and practice. Teacher certification candidates spend between 93 and 231 clock hours observing and assisting in K-12 classrooms prior to student teaching.
- Methods-of-teaching courses are aligned with national Common Core State Standards and WA Sate Standards.
- Portfolios are used formatively and summatively to portray excellence of educational practices in the K-12 setting.

Notable Features and Accomplishments in 2013-2014:

- Nine teacher certification candidates were awarded the Eleanor Schofield Memorial Teachers' Scholarship.
- Two elementary education major received the Doreen Paulson-Evans Memorial Scholarship.
- One elementary education major received the Appreciation of Elementary Education.
- One elementary education major received the Dan and Mary Morrison Necker English Scholarship.
- One elementary education major received the David James Liu Memorial Foundation Scholarship.
- One elementary education major received the Outstanding Senior Award.
- One secondary certification student received the Richard and Dena Hammill Scholarship.

Program Statistics

Total number of students in our teacher preparation program, all specializations in academic year 2013-2014	63
Number of students in supervised student teaching in academic year 2013-2014	38
Number of faculty members who supervised student teachers:	
Full-time faculty in professional education	3
Part-time faculty in professional education, not otherwise employed by the institution	17
Total faculty student teaching supervisors	20
Student teacher/faculty ratio	1.9:1
The student/faculty ratio, based upon faculty FTE was:	12.6:1
Minimum total number of hours required for student teaching	450

ELEMENTARY EDUCATION MAJOR (BACHELOR OF SCIENCE)

To be considered for admission into the Teacher Certification Program (TCP), students must have junior standing or have earned at least a score of 23 on the American College Test (ACT) or have earned a score on the Scholastic Aptitude Test (SAT) of at least 931 if they graduated from high school prior to 1996 or a score of at least 1040 if they graduated in or after 1996. The state of Washington may change minimum scores between bulletin printings. Students may verify minimum acceptable scores with the certification officer of the School of Education and Psychology.

To be admitted into the Teacher Certification Program, students must demonstrate satisfactory scholarship, professionalism, and personal fitness for teaching. These terms are defined and explained in the Minimum Competencies document distributed in EDUC 211 Introduction to and Foundations of Education. The document is also available upon request from the certification officer of the School of Education and Psychology.

Students applying for admission to the Teacher Certification Program are required by state law to earn a passing score on the Washington Educator Skills Test-Basic (WEST-B) and/or submit official documentation of current Washington State passing scores on the ACT/SATs, or a combination thereof, prior to admission into the program. Test dates and locations are available from the School of Education and Psychology.

A student majoring in elementary education must satisfactorily complete the required pre-candidacy courses, certification program courses, endorsement courses, cognates, the general studies program, and baccalaureate degree requirements as listed in this bulletin. Thirty credit hours in an approved content area must also be satisfactorily completed.

A minimum grade point average of not less than 2.75 is required in all pre-candidacy, certification, endorsement, and cognate courses that apply to these requirements. Any course graded lower than a C cannot apply. A total of two repeats are permitted in any course or any combination of courses in the Pre-Candidacy courses and the Teacher Certification Program combined. Senior students seeking certification are required to take and pass the Washington Educator Skills Test-Endorsement (WEST-E) in elementary education prior to their student teaching. Teacher Candidates are required to pass the current Washington State assessment instrument in order to obtain WA State certification. In addition, students desiring to pursue graduate studies in education are encouraged to take the Graduate Record Examination (general).

Practicum experiences in elementary education require a formal application, law enforcement background check, and moral character clearance. Contact the School of Education and Psychology for details.

Student teaching requires formal application to the School of Education and Psychology. Student teaching applications, available from the certification officer, are due by the end of Autumn quarter prior to the year in which the student plans to enroll for the experience. The candidate must spend a minimum of 450 hours in supervised field experience over the course of their student teaching.

Phase 1: Pre-Candidacy Program

Pre-candidacy courses must be completed with a minimum grade-point average of 2.75 before a student may proceed to the Teacher Certification Program. Students may apply for admission to the Teacher Certification Program during the last quarter of pre-candidacy courses. A minimum of a B- average in the College Writing/Research Writing sequence is required.

Pre-Candidacy Courses:

EDUC 211	Introduction to and Foundations of Education	3
PSYC 215	Child and Adolescent Development	4
PSYC 220	Educational Psychology	3

Washington Educator Skills Test-Basic (WEST-B):

Students must pass all sections of WEST-B and/or submit official documentation of current Washington State passing scores on the ACT/SATs, or a combination thereof, before acceptance into Phase 2.

Pre-Candidacy Cognates:

ENGL 121, 122	College Writing I (B- average required)	6
MATH 112, 113	Mathematics for Elementary Teachers	6

Phase 2: Teacher Certification Program

Formal acceptance into the Teacher Certification Program is required before registering for the courses listed below. To be admitted into the Teacher Certification Program, students must demonstrate satisfactory scholarship, professionalism, and personal fitness for teaching. These terms are defined and explained in the Minimum Competencies document distributed in EDUC 211 Introduction to and Foundations of Education. The document is also available upon request from the certification officer of the School of Education and Psychology.

Teacher Certification Courses:

EDUC 315	Classroom Technology Tools	2
EDUC 350	Language Development in Young Children	3
EDUC 360	Elementary Curriculum and Instruction: Reading and Language Arts I	3
EDUC 361	Elementary Curriculum and Instruction: Reading and Language Arts II	3
EDUC 373	Elementary Curriculum and Instruction: Mathematics	4
EDUC 382	Elementary Curriculum and Instruction: Social Studies	3
EDUC 383	Elementary Curriculum and Instruction: Science and Health	3

EDUC 390	Measurement and Evaluation in Education	4
EDUC 405	Classroom Organization and Management	3
EDUC 410	Philosophy of Education	3
EDUC 421	Principles of Teaching and Learning in Inclusive Classrooms	3
EDUC 425	Legal, and Ethical Aspects of Education	2
EDUC 444	Teaching Cultural Diverse Students	2
EDUC 472	Introduction to Student Teaching Field Experience	1
EDUC 476	Elementary Student Teaching Part I	2
EDUC 480	Elementary Student Teaching Part II	12
EDUC 493	Student Teaching Assessments	3
EDUC 495	Colloquium: Child Abuse	0

Washington Educator Skills Test-Endorsement (WEST-E) and any other WA Washington State Instrument:

Passing both sections of the WEST-e in elementary education is a prerequisite for EDUC480 Student Teaching Part II. If, after attempting more than once, a candidate has not passed the WEST-E, he/she may petition the School of Education and Psychology to proceed into EDUC 480. If the petition is granted, the candidate will sign a statement of understanding that if he/she does not pass the WEST-E but completes all other requirements, the B.S. Elementary Education degree will be granted without Washington state teacher certification. Students must pass the WEST-E and any other required Washington State assessment instrument in elementary education to receive Washington state teacher certification.

Elementary Education Endorsement Requirements:

ART 395	Methods of Teaching Art	2
ENGL 223	Research Writing	3
ENGL 374	Literature for Children	3
GEOG 252	Physical Geography	4
HLTH 110	Wellness for Living	3
HIST 221	History of the United States	4
	or	
HIST 222	History of the United States	4
MUED 394	Music in the Elementary School	3
PETH 473	Teaching Elementary Health and Physical Education	3
SPCH 101	Fundamentals of Speech Communication	4
ASTR, CHEM, PHYS	Physical Science Coursework	4/8
BIOL	Life Science Coursework	4/8

Note: Pre-candidacy cognates and Teacher Certification Program courses also partially fulfill the requirements of this section.

MINOR IN AN APPROVED CONTENT AREA:

Elementary education majors must complete the requirements for an approved minor or approved non-minor area. If the chosen minor does not have 30 quarter hours, additional courses must be taken to reach at least 30 quarter hours in the area of the minor. Alternatively, they must complete a minimum of 30 quarter hours in one of the three non-minor content areas listed below.

Approved Minor Content Areas

Art
Biology
Chemistry
English/Language Arts
French
German
Health/Fitness
History
Mathematics
Middle Level Mathematics
Music
Physics
Spanish

Approved Non-Minor Content Areas

Humanities
Science
Social Studies

Humanities (completion of 31 credits)

Select from the following courses in consultation with your adviser.

Select 8 credits from the following courses:

ENGL 210, 211, 212	Survey of British and American Literature	4, 4, 4
ENGL 214	Themes in Literature	4
ENGL 358	Classical Literature	
	or	4
ENGL 359	World Literature	

Select 3 credits from the following courses:

WRIT 324	Creative Nonfiction Writing	3
WRIT 334	Poetry Writing	3
WRIT 336	Drama Writing	3

Select 8 credits from the following ENGL/WRIT courses:

ENGL 234	Literary Analysis	4
ENGL 357	The African American Experience	
	or	
ENGL 358	Classical Literature	4
	or	
ENGL 359	World Literature	
ENGL 374	Literature for Children	3
ENGL 375	Literature for Young Adults	3
ENGL 384	Advanced English Grammars	3
FILM 416	Teaching With Film Literature	4
WRIT 389	Writing Theory	3

Select 12 credits from the following courses:

HIST 121, 122	History of Western Civilization	4, 4
PLSC 224	American Government	4
ECON 204	Fundamentals of Economics	4
HIST 359	The American Economy	4
HIST 446	History of the Pacific Northwest	4

Science (Completion of 32 credits)

Select 8-12 credits from each of the following sciences in consultation with your adviser.

Biology

BIOL 105, 106	Contemporary Biology	4, 4
	or	
BIOL 141, 142, 143	General Biology	4, 4, 4

Chemistry

CHEM 101, 102	Introductory Chemistry	4, 4
	or	
CHEM 141, 142, 143	General Chemistry	3, 3, 3
CHEM 144, 145, 146	General Chemistry Laboratory	1, 1, 1

Physics

PHYS 201, 202	Conceptual Physics	3, 3
PHYS 204, 205	Conceptual Physics Laboratory	1, 1
	or	
PHYS 211, 212, 213	General Physics	3, 3, 3
PHYS 214, 215, 216	General Physics Laboratory	1, 1, 1
	or	
ASTR 141, 142, 143	General Astronomy	3, 3, 3
ASTR 144, 145, 146	General Astronomy Lab	1, 1, 1

Social Studies (Completion of 32 credits)

Select from the following courses in consultation with your adviser.

History - minimum of 16 credits (sequence not required):

HIST 120, 121, 122	History of Western Civilization	4, 4, 4
	or	
HONR 131, 132, 133	Western Thought	4, 4, 4
HIST 446	History of the Pacific Northwest	4
HIST	Upper Division Electives	8

Social Studies Electives - minimum of 16 credits (4 upper division credits required):

ANTH 225	Cultural Anthropology	4
ECON 204	Fundamentals of Economics	4
HIST 359	The American Economy	4
PLSC 224	American Government	4
SOCI 204	General Sociology	4
SOCI 345	Sociology of Communities	4

Additional Requirements for Denominational Certification

EDUC 381	Elementary Curriculum and Instruction: Religion	2
EDUC 497	Colloquium: Small Schools	0

16 Religion credits are required for certification and must include:

RELB	(Selected from courses with RELB prefix)	6-8
RELH 457	History of Adventism	3
RELT 202	Christian Beliefs	4
RELT 417	Inspiration and Revelation	3

18 Religion credits are required for Jr. Academy Endorsement.

Religious studies (Bible) is not an approved Washington state endorsement. However, a religion major or minor, plus a methods course in religion, remains essential for those desiring a denominational endorsement in Bible.

PREPARATION FOR SECONDARY EDUCATION

To be considered for admission into the Teacher Certification Program (TCP), students must have junior standing *or* have earned at least a score of 23 on the American College Test (ACT) *or* have earned a score on the Scholastic Aptitude Test (SAT) of at least 931 if they graduated from high school prior to 1996 or a score of at least 1040 if they graduated in or after 1996. The state of Washington may change minimum scores between bulletin printings. Students may verify minimum acceptable scores with the certification officer of the School of Education and Psychology.

Students applying for admission to the Teacher Certification Program are required by state law to earn a passing score on the Washington Educator Skills Test-Basic (WEST-B) and/or submit official documentation of current Washington State passing scores on the ACT/SATs, or a combination thereof, prior to admission into the program. Test dates and locations are available from the School of Education and Psychology.

To be admitted into the Teacher Certification Program, students must demonstrate satisfactory scholarship, professionalism, and personal fitness for teaching. These terms are defined and explained in the Minimum Competencies document distributed in EDUC 211 Introduction to and Foundations of Education. The document is also available upon request from the certification officer of the School of Education and Psychology.

The secondary certification program requires completion of an approved endorsement (major), passing scores on the Washington Educator Skills Test-Endorsement (WEST-E) and any other Washington State required assessment instrument in the endorsement area, and professional courses as specified. To be recommended for certification, candidates must maintain a grade-point average of not less than 2.75 in professional education/psychology course work and in each endorsement area. No grade lower than C will apply. A total of two repeats are permitted in any course or any combination of courses in Pre-Candidacy courses and the Teacher Certification Program combined.

Practicum experiences in secondary education require a formal application, law enforcement background check, and moral character clearance. Contact the School of Education and Psychology for details.

Student teaching requires formal application to the School of Education and Psychology. Student teaching applications, available from the certification officer, are due by the end of Autumn quarter prior to the year in which the student plans to enroll for the experience. The candidate must spend a minimum of 450 hours in supervised field experience over the course of their student teaching experience.

SECONDARY TEACHING CERTIFICATION REQUIREMENTS:

Pre-Candidacy courses must be completed with a minimum grade-point average of 2.75 before a student may proceed to the Teacher Certification Program. Students may apply for admission to the Teacher Certification Program during the last quarter of Pre-Candidacy courses. A minimum of a B- average in the College Writing/Research Writing sequence is required.

Phase 1: Pre-Candidacy Program

Pre-Candidacy Courses:

EDUC 211	Introduction to and Foundations of Education	3
PSYC 215	Child and Adolescent Development	4
PSYC 220	Educational Psychology	3

Washington Educator Skills Test-Basic (WEST-B):

Students must pass all sections of WEST-B and/or submit official documentation of current Washington State passing scores on the ACT/SATs, or a combination thereof, before acceptance into Phase 2.

Pre-Candidacy Cognates:

ENGL 121, 122	College Writing I, II (B- average required)	6
MATH 105	Finite Mathematics (or more advanced math course)	4

Phase 2: Teacher Certification Program

Teacher Certification Courses:

EDUC 315	Classroom Technology Tools	2
EDUC 365	Instructional Methodology	3
EDUC 367	Instructional Methodology Practicum	1
EDUC 390	Measurement and Evaluation in Education	4

EDUC 410	Philosophy of Education (or PHIL 410)	3
EDUC 421	Principles of Teaching and Learning in Inclusive Classrooms	3
EDUC 425	Legal, and Ethical Aspects of Education	2
EDUC 444	Teaching Cultural Diverse Students	2
EDUC 472	Introduction to Student Teaching Field Experience	1
EDUC 475	Teaching Reading Skills in The Content Areas	3
EDUC 477	Secondary Student Teaching Part I	2
EDUC 481	Secondary Student Teaching Part II	12
EDUC 493	Student Teaching Assessments	3
EDUC 495	Colloquium: Child Abuse	0
#### 395	Methods course, major or minor academic field	3
		54

Washington Educator Skills Test-Endorsement (WEST-E):

Passing all sections of WEST-E in area of endorsement is a prerequisite for EDUC 481 Secondary Student Teaching Part II.

Teacher Certification Program Cognates:

ENGL 223	Research Writing	3
SPCH 101	Fundamentals of Speech Communication	4

Approved Primary Endorsements:

Endorsement requirements frequently exceed graduation requirements. For example, endorsements typically require a methods class appropriate for secondary teaching (grades 5-12). Additional endorsements in Social Studies and Science are available for students who already have, or are completing, an endorsable major. See the secondary education adviser in the School of Education and Psychology for a current certification checksheet.

Primary Endorsement Majors

Art
Biology
Chemistry
English
French
Health/Fitness
History
Mathematics
Music Education
Physics
Spanish

Additional Requirements for Denominational Certification

Religious studies (Bible) is not an approved Washington state endorsement. However, a religion minor, plus a methods course in religion, remains essential for those desiring a denominational endorsement in Bible.

One course chosen from the following:

HLTH 110	Wellness for Living	3
HLTH 205	Survey of Health	2

16 Religion credits are required for certification and must include:

RELB	(Selected from courses with RELB prefix)	6-8
RELH 457	History of Adventism	3
RELT 202	Christian Beliefs	4
RELT 417	Inspiration and Revelation	3

18 Religion credits and a secondary religion methods course are required for the Jr. Academy Endorsement.

Notes on Washington State Certification

The school attempts to provide current information on certification requirements in this bulletin. Because of frequent changes in state requirements, however, the candidate must consult with the School of Education and Psychology certification officer periodically for updated information that might affect certification status.

Meeting graduation requirements as specified in this bulletin does not guarantee state certification. An application process, including fingerprint clearance and a Dean's Affidavit regarding the candidate's fitness, and passing of the current Washington State assessment instrument is required.

Course credits more than ten years old that are used to meet initial certification standards will be reviewed by the academic department granting the credit to determine acceptability.

EDUCATION MINOR

A student minoring in education must complete 30 quarter hours. Students who wish to enroll in EDUC or PSYC courses that list acceptance to the Teacher Certification Program as a prerequisite should apply for special acceptance with the secretary of the School of Education and Psychology. Recommended only for students seeking secondary certification.

Required Courses:

EDUC 211	Introduction to and Foundations of Education	3
EDUC 410	Philosophy of Education (or PHIL 410)	3
EDUC 421	Principles of Teaching and Learning in Inclusive Classrooms	3
PSYC 215	Child and Adolescent Development	4
PSYC 220	Educational Psychology	3
	*Electives	14
		30

*Electives must be chosen from EDUC courses.

PSYCHOLOGY MAJOR (BACHELOR OF ARTS)

The psychology curriculum is sufficiently flexible to meet the needs of students preparing for a wide range of careers in the behavioral sciences or in related professions that involve working with people. Primary emphasis is placed on the applied dynamics of human behavior and relationships rather than on animal or laboratory psychology.

The major requirements and cognate courses are intended to provide a scientific base on which a balanced program of electives may be built in accordance with the individual needs and interests of each student.

Although specific requirements for admission to graduate programs in most universities will be met by the general major, the student should realize that graduate work may be impeded or prolonged in certain areas of psychology if special preparation is not obtained at the undergraduate level. For this reason, students who plan to continue academic work in psychology beyond the bachelor's degree are urged to consult with their advisers very early in their university careers.

A student majoring in psychology must complete 54 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Major Field Test in psychology.

Required Courses:

PSYC 120	Introduction to The Psychology Major	0
PSYC 140	Introduction to Psychology: Social Foundations	4
PSYC 141	Introduction to Psychology: Biological Foundations	4
PSYC 215	Child and Adolescent Development	4
PSYC 216	Adult Development and Aging	3
PSYC 344	Social Psychology	4
PSYC 366	Theories of Personality	4
PSYC 390	Cognitive Psychology	4
PSYC 455	History and Systems of Psychology	4
PSYC 466	Biological Psychology	4
PSYC 471	Research Methods I: Design and Statistics	2
PSYC 472	Research Methods II: Project Development	2
PSYC 473	Research Methods III: Research Project	2
PSYC 492	Abnormal Psychology	4
PSYC 495	Colloquium: Orientation to Career and Graduate School	0
	*Electives (must be upper-division)	9
		54

*Electives must be chosen in consultation with the student's adviser.

Cognates:

BIOL 121, 122, 123	Anatomy and Physiology	
	or	12
BIOL 141, 142, 143	General Biology	
MATH 206	Applied Statistics	4
PHIL 204	Essentials of Critical Reasoning	
	or	4
PHIL 205	Introduction to Philosophy	

Advanced courses may be substituted.

PSYCHOLOGY MAJOR (BACHELOR OF SCIENCE)

This major is recommended for students who plan to pursue graduate studies in psychology. A student majoring in psychology must complete 63 quarter hours in the major, consisting of the core requirements and at least six quarter hours of approved electives. In addition, the student must complete the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Major Field Test (MFT) in psychology.

Although specific requirements for admission to graduate programs in most universities will be met by this major, the student should realize that graduate work may be impeded or prolonged in certain areas of psychology if special preparation is not obtained at the undergraduate level. For this reason, students who plan to continue academic work in psychology beyond the bachelor's degree are urged to consult with their advisers very early in their university careers.

Required Courses:

PSYC 120	Introduction to The Psychology Major	0
PSYC 140	Introduction to Psychology: Social Foundations	4
PSYC 141	Introduction to Psychology: Biological Foundations	4
PSYC 215	Child and Adolescent Development	4
PSYC 216	Adult Development and Aging	3
PSYC 344	Social Psychology	4
PSYC 366	Theories of Personality	4
PSYC 390	Cognitive Psychology	4
PSYC 455	History and Systems of Psychology	4
PSYC 464	Introduction to Counseling	4
PSYC 466	Biological Psychology	4
PSYC 471	Research Methods I: Design and Statistics	2
PSYC 472	Research Methods II: Project Development	2
PSYC 473	Research Methods III: Research Project	2
PSYC 492	Abnormal Psychology	4

PSYC 493	Psychology Practicum	3
PSYC 495	Colloquium: Orientation to Career and Graduate School	0
PSYC 498	Senior Project in Psychology	
	or	2
PSYC 499	Senior Thesis in Psychology	
	*Electives (must be upper-division)	9
		63

*Electives must be chosen in consultation with the student's adviser.

Cognates:

BIOL 121, 122, 123	Anatomy and Physiology	12
BIOL 141, 142, 143	General Biology	12
MATH 206	Applied Statistics	4
PHIL 204	Essentials of Critical Reasoning	
	or	4
PHIL 205	Introduction to Philosophy	

Advanced courses may be substituted.

FORENSIC PSYCHOLOGY MAJOR (BACHELOR OF SCIENCE)

A student majoring in forensic psychology must complete 64 quarter hours in the major. In addition, the student must complete the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Major Field Test (MFT) in psychology.

Required Courses:

ANTH 225	Cultural Anthropology	4
CORR 285	Introduction to Criminal Justice	4
CORR 385	Criminology	4
CORR 387	Juvenile Delinquency	3
PSYC 120	Introduction to The Psychology Major	0
PSYC 140	Introduction to Psychology: Social Foundations	4
PSYC 141	Introduction to Psychology: Biological Foundations	4
PSYC 215	Child and Adolescent Development	4
PSYC 216	Adult Development and Aging	3
PSYC 247	Introduction to Forensic Psychology	4
PSYC 344	Social Psychology	4
PSYC 366	Theories of Personality	4
PSYC 447	Advanced Forensic Psychology	4
PSYC 430	Psychological Testing	3

PSYC 471	Research Methods I: Design and Statistics	2
PSYC 472	Research Methods II: Project Development	2
PSYC 473	Research Methods III: Research Project	2
PSYC 492	Abnormal Psychology	4
PSYC 495	Colloquium: Orientation to Career and Graduate School	0
PSYC 498	Senior Project in Psychology	2
SOWK 234	Current Social Problems	4
		64

Cognates:

BIOL 105, 106	Contemporary Biology	
	or	8
BIOL 121, 122	Anatomy and Physiology	
CHEM 101, 102	Introductory Chemistry	8
MATH 206	Applied Statistics	4
PHIL 204	Essentials of Critical Reasoning	4

PSYCHOLOGY MINOR

A student minoring in psychology must complete 30 quarter hours:

Required Courses:

PSYC 130	General Psychology	4
PSYC 215	Child and Adolescent Development	4
PSYC 344	Social Psychology	4
PSYC 455	History and Systems of Psychology	4
	*Electives (3 must be upper division)	14
		30

*Approval of psychology adviser required.

See page 228 for a list of course descriptions. *Look for courses with the following prefixes for the School of Education and Psychology: EDUC and PSYC.*

SCHOOL OF ENGINEERING

Melodie Selby, Dean; Larry Aamodt, Bryce Cole, Rob Frohne, Douglas Logan, Qin Ma, Curtis Nelson, Delvin Peterson, Don Riley, Brian Roth, Samuel Sih, Louie Yaw.

The engineering profession applies the principles of mathematics, science, economics, ethics, and social sciences to use the materials and forces of nature for the benefit of mankind. Faculty of the Edward F. Cross School of Engineering, in the context of the mission of the University and with broad campus support, strive to provide all students with

- A broad-based, high-quality engineering education that will prepare them to enter, succeed, and grow in the practice of engineering in industry, private practice, and government.
- A sound preparation and motivation for life-long learning, including programs of advanced study in engineering or associated fields.
- An environment that promotes the development of character, teamwork, leadership, and ethical conduct as a foundation for productive service to society, both professionally and personally; and
- An atmosphere that encourages students to develop a spirit of service to community consistent with Christian and humanitarian principles.

Degrees Offered. The Edward F. Cross School of Engineering offers curricula leading to two distinct degrees. The Bachelor of Science in Engineering (B.S.E.) degree is designed to prepare students to enter professional engineering practice and to provide undergraduate instruction that will serve as a strong foundation for graduate studies. The curriculum includes elective concentrations in civil, computer, electrical, and mechanical engineering. The B.S.E. program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

The Bachelor of Science (B.S.) degree with a major in bioengineering is intended primarily for students planning to pursue advanced studies in bioengineering, medicine, dentistry, public health, or physiology. It is not designed for students desiring to enter directly into the practice of professional engineering following their undergraduate study.

Admission Requirements. Requirements for admission to the School of Engineering are 40 semester credits of English, 10 semester credits of laboratory science, 30 semester credits of mathematics (beyond general mathematics), and 20 semester credits of history. The mathematics background should include algebra, geometry, and trigonometry. A fourth year of mathematics, a second year of laboratory science, and an introductory computer programming course are strongly recommended. Prospective engineering students are encouraged to prepare themselves broadly by taking as many additional courses as possible in high school mathematics, English, science, social studies, and humanities. Studies in foreign languages and the practical arts are also valuable.

Students with entrance deficiencies may be admitted. However, such deficiencies must be removed before the beginning of the sophomore year. Students who present a transcript of previous successful studies at another approved college or university may be admitted with advanced standing.

Admission to engineering studies is normally made only in September. However, students may be admitted in January or March provided that an acceptable program can be scheduled.

Affiliation Program. North American Seventh-day Adventist colleges and universities are affiliated with Walla Walla University under a program that allows students to complete the first one or two years of engineering instruction at any participating institution and then complete degree requirements at Walla Walla University. Each affiliated campus has an engineering coordinator appointed to provide the necessary guidance to insure a smooth transition from the affiliated campus to Walla Walla University. Details of this program can be obtained from the Dean of the School of Engineering.

ENGINEERING
(BACHELOR OF SCIENCE IN ENGINEERING)

The professional engineering curriculum emphasizes those subject areas that are common to the broad field of engineering while allowing for the development of professional competence within one of four specific engineering disciplines. The curriculum is also designed to provide for the attainment of cultural and intellectual maturity, the encouragement of personal growth and the development of moral, ethical, and social responsibility. The development of broad technical competence within engineering is achieved through a group of mathematics, science, and engineering core courses that emphasize fundamental knowledge, techniques, and processes. Specific professional competence is assured by the completion of a coherent group of courses chosen from civil, computer, electrical, or mechanical engineering. Intellectual, cultural, and moral development is encouraged through the selection of General Studies courses within the curriculum.

Flexibility in this program is provided by elective course selection and limited substitutions, individually chosen in consultation with an adviser and approved by the School of Engineering to form an integral professional engineering program. Students wishing to follow careers in other specialized fields, such as architectural engineering, highway engineering, environmental engineering, aerospace engineering, electronics engineering, nuclear engineering, or other areas will be prepared to do so through subsequent professional experience or graduate study.

Satisfactory progress depends upon maintaining a 2.00 minimum grade point average. Students who fail to make satisfactory progress may be advised to register with a reduced course load or to consider other educational alternatives.

A student who retains more than 8 hours of grades less than C- on their current scholastic record will automatically have their performance reviewed by the School of Engineering. The school may require that some of the courses be repeated, or it

may establish alternative requirements. All courses with D- and F grades must be repeated to apply toward graduation.

Students enrolled in the professional curriculum must complete a total of 200 quarter hours, including the engineering general studies requirements, the engineering core requirements, the engineering mathematics and science requirements, and one engineering concentration. Upper-division engineering courses must be taken in residence unless approved by the School of Engineering. Senior students are required to participate in the Senior Engineering Tour and the Fundamentals of Engineering Exam.

A student pursuing two concentrations within the BSE degree will be required to complete all the requirements of both concentrations and have a minimum of 224 credit hours in order to graduate. Each concentration must have a minimum of 24 credit hours that are applied only to that concentration.

Because of the unique nature of the professional curriculum of the engineering degree, Chemistry, Mathematics and Physics courses taken to meet any requirements for a BSE degree are considered cognates and therefore can be simultaneously counted toward major or minor requirements in other areas.

ENGINEERING GENERAL STUDIES REQUIREMENTS (44 credits)

The general studies content within the engineering curriculum is similar to the standard General Studies requirements for the baccalaureate degree at Walla Walla University. However, there are important differences that must be observed. Forty-four credits must be distributed as follows:

Environmental Studies: (2-4 credits)

Environmental studies courses will introduce the student to environmental principles and help the student understand different responses to environmental problems and different forms of stewardship. In selecting general studies and elective credits, students must complete at least one of the following environmental studies courses. Courses should be selected in consultation with advisers since some courses may meet other general studies requirements.

BIOL 106	Contemporary Biology	4
BIOL 305	General Ecology	4
ENGL 317	Pacific Northwest Writers	4
ENGR 310	Sustainable Energy Systems	2
ENVI 151	Environmental Principles	4
ENVI 385	Environmental Stewardship	4
SOCI/ SOWK 234	Current Social Problems	4

LANGUAGE ARTS (11-14)

Writing: (8-11 credits)

ENGL 121	College Writing I	3
ENGL 122	College Writing II	3
ENGL 323	Writing for Engineers	3

(HONR 243 Honors Research Writing may be substituted for ENGL 323 Writing for Engineers by prearrangement with the Dean of Engineering. A student must satisfactorily complete a research paper on a topic selected by prearrangement with the Dean of Engineering and the Honors Writing instructor.)

Speech: (3-4 credits)

SPCH 101	Fundamentals of Speech Communication	4
SPCH 207	Small Group Communication	3

PHYSICAL EDUCATION (2-3)

The physical education requirements can be met by choosing 100-level activity courses (PEAC 107-195) (p. 314).

RELIGION (16-18)

Six credits must be upper-division. Six credits must be RELB courses. See Religion General Studies (p. 66) section of this bulletin.

Humanities and Social Sciences (10-15)

One course, 3-4 credits, must be upper-division

HUMANITIES (4-11)

Art:

ART 251	Introduction to Art	4
ART 312	Aesthetics and Photography	4
ART 324, 325, 326	History of World Art	3, 3, 3

Communications:

DRMA 363	History of Theatre	4

Literature:

ENGL 204	Introduction to Literature	4
ENGL 210, 211, 212	Survey of British and American Literature	4, 4, 4
ENGL 214	Themes in Literature	4
ENGL 317	Pacific Northwest Writers	4
ENGL 344	Medieval Literature	4
ENGL 345	Renaissance Literature	4
ENGL 346	Restoration and Enlightenment	4
ENGL 355	Victorian Literature	4
ENGL 356	Twentieth-Century British Literature	4
ENGL 357	The African American Experience	4

ENGL 358	Classical Literature	4
ENGL 359	World Literature	4
ENGL 364	Nineteenth-Century American Literature	4
ENGL 366	Twentieth-Century American Literature	4
ENGL 445	Shakespeare	3
ENGL 454	Literature of the Bible	4
FILM 215	Introduction to Film Literature	4
FILM 312	Development of Film Literature	4
SPAN 407	Survey of Spanish Literature	4
SPAN 408	Contemporary Latino Literature	4

Music:

MUHL 124	Introduction to Music	4
MUHL 134	World Music	4

Philosophy:

PHIL 204	Essentials of Critical Reasoning	4
PHIL 205	Introduction to Philosophy	4
PHIL 305	Moral Philosophy	4
PHIL 318	History of Philosophy III: 18th Century to the Present	4
PHIL 316	History of Philosophy I: Ancient	4
PHIL 317	History of Philosophy II: Medieval-Early Modern	4
PHIL 407	Philosophy of Science	4
PHIL 412	Philosophy of Religion	4

SOCIAL SCIENCES (4-11)

Behavioral Science:

ANTH 225	Cultural Anthropology	4
PSYC 130	General Psychology	4
PSYC 344	Social Psychology	4
PSYC 366	Theories of Personality	4
PSYC 425	Psychology of Religion	3
PSYC 455	History and Systems of Psychology	4
SOCI 204	General Sociology	4
SOCI 234	Current Social Problems	4
SOCI 236	Privilege and Oppression	4
SOCI 327	Sociology Seminar	3
SOCI 345	Sociology of Communities	4
SOWK 224	Human Development and The Family	4

SCHOOL OF ENGINEERING

Business and Economics:		
ECON 204	Fundamentals of Economics	4
ECON 211	Principles of Macroeconomics	4
ECON 212	Principles of Microeconomics	4
MGMT 371	Principles of Management	4
Communications:		
COMM 145	Media and Culture	4
Environmental Studies:		
ENVI 151	Environmental Principles	4
ENVI 385	Environmental Stewardship	4
History and Political Science:		
HIST 120-122	History of Western Civilization	4, 4, 4
HIST 221, 222	History of the United States	4
HIST 242	Modern East Asian History	4
HIST 275, 276	History of England	4
HIST 283	Spain and Latin America	4
HIST 335	History of World War II	4
HIST 354	American History and Visual Culture	4
HIST 435	History of Modern Germany	4
HIST 443	Colonial and Revolutionary America	4
HIST 445	The Civil War and Reconstruction	4
HIST 446	History of the Pacific Northwest	4
HIST 448	The Emergence of Modern America	4
HIST 456	Medieval and Early Modern Christianity	4
HIST 468	Interwar Europe, 1919-1945	4
PLSC 224	American Government	4
Approved Electives (0-4)		
ACCT 201	Principles of Accounting	4
EDUC 211	Introduction to and Foundations of Education	3
ENGR 310	Sustainable Energy Systems	2
WRIT 324	Creative Nonfiction Writing	3
FREN 101, 102	Elementary French	4, 4
GBUS 361	Business Law I	4
GRMN 101, 102	Elementary German	4, 4
GRMN 102	Elementary German	4
HLTH 110	Wellness for Living	3
HLTH 208	Drugs and Society	3
HLTH 220	Human Nutrition	4
SOCI 225	Marriage and Family Life	2
SPAN 101, 102	Elementary Spanish	4, 4
SPCH 101	Fundamentals of Speech Communication	4
SPCH 207	Small Group Communication	3
SPCH 407	Advanced Small Group Communication	3

ENGINEERING CORE REQUIREMENTS (47-64 credits)

The engineering core consists of a group of studies that emphasize the enduring fundamentals common to the many branches of engineering and the applied sciences. These studies help ensure that the student will enjoy a truly professional career and be prepared to move into new or developing technical areas with confidence. Limited flexibility is provided within the core. However, this flexibility is affected by specific course requirements within each engineering concentration. Students are therefore cautioned to consult with their advisers before selecting these courses.

All students are required to present 47 to 64 credits of core courses depending upon the engineering concentration selected. In addition, the indicated minimum requirements must be satisfied within each individual section of the core.

In the following listings the symbols CE, CpE, EE, and ME indicate the core organization for the civil, computer, electrical, and mechanical engineering concentrations respectively. The letter (e) indicates that the marked course is a possible elective, the letter (r) indicates that the marked course is required for that concentration.

Functional Techniques		**Credits**	**CE**	**CpE**	**EE**	**ME**
CPTR 141	Introduction to Programming	4	r	r	r	r
CPTR 142	Data Structures, Algorithms and Objects	4	-	r	r	-
ENGR 121-123	Introduction to Engineering	6	r	r	r	r
ENGR 326	Engineering Economy	3	r	r	r	r
ENGR 495	Colloquium (3 qtrs. required)	0	r	r	r	r
ENGR 396, 496, 497, 498	Junior and Senior Seminar	3	r	r	r	r
	Minimum Requirements		16	20	20	16

Electrical Fundamentals		Credits	CE	CpE	EE	ME
ENGR 228	Circuit Analysis	4	r	r	r	r
ENGR 325	Instrumentation	3	e	-	-	r
ENGR 351	Linear Network Analysis	4	e	r	r	r
ENGR 431	Electromechanical Energy Conversion	4	e	-	r	r
	Minimum Requirements		7	8	12	15

Engineering Mechanics		Credits	CE	CpE	EE	ME
ENGR 221-223	Engineering Mechanics	9	r	r	r	r
ENGR 321	Mechanics of Materials	4	r	-	-	r
	Minimum Requirements		13	9	9	13

Materials Science		Credits	CE	CpE	EE	ME
ENGR 312	Physical Electronics	3	-	r	r	-
ENGR 315	Physical Electronics Laboratory	1	-	r	r	-
ENGR 322	Engineering Materials	4	-	-	-	r
ENGR 323	Civil Engineering Materials	3	r	-	-	-
	Minimum Requirements		3	4	4	4

Transport Phenomena		Credits	CE	CpE	EE	ME
CHEM 352	Physical Chemistry	3	e	-	-	-
CHEM 405	Integrated Chemistry Lab	1	E	-	-	-
ENGR 331	Fluid Mechanics	4	r	e	e	r
ENGR 332	Thermodynamics	4	e	e	r	r
ENGR 465	Heat Transfer	4	e	e	e	r
ENGR 468	Engineering Finite Element Methods	4	-	e	e	r
	Minimum Requirements		8	8	8	16
	Minimum Core Requirements		47	49	53	64

ENGINEERING MATH AND SCIENCE REQUIREMENTS

Mathematics (27-31 credits)		Credits	CE	CpE	EE	ME
MATH 181, 281, 282, 283	Analytic Geometry and Calculus I,II,III,IV	16	r	r	r	r
MATH 250	Discrete Mathematics	4	-	r	-	-
MATH 289	Linear Algebra and Its Application	3	r	r	r	r
MATH 312	Ordinary Differential Equations	4	r	r	r	r
MATH 315	Probability and Statistics	4	r	r	r	r
	Minimum Math Requirements		27	31	27	27

Science (24 credits)		Credits	CE	CpE	EE	ME
CHEM 141-143	General Chemistry	9	r	r	r	r
CHEM 144-146	General Chemistry Laboratory	3	r	r	r	r
PHYS 251-253	Principles of Physics	9	r	r	r	r
PHYS 254-256	Principles of Physics Laboratory	3	r	r	r	r
	Minimum Science Requirements		24	24	24	24

Mathematics/Science Elective (4 credits)		Credits	CE	CpE	EE	ME
BIOL, CHEM, MATH, PHYS	Mathematics or Science Elective	4	r	-	r	r

Electives, approved by the School of Engineering, must be chosen in consultation with the academic adviser.

CIVIL ENGINEERING CONCENTRATION (53-54 credits)

Required Courses:

ENGR 341	Geology and Soil Mechanics	4
ENGR 342	Hydrology	3
ENGR 343	Environmental Engineering Systems	4
ENGR 344	Civil Engineering Analysis	4
ENGR 345	Contracts and Specifications	2
ENGR 346	Surveying	4
ENGR 347	Structural Analysis I	3
ENGR 348	Structural Analysis II	3
ENGR 364	Fluid Mechanics Laboratory	1
ENGR 441	Steel Structural Design	3
ENGR 442	Reinforced Concrete Structural Design	4
ENGR 445	Collection and Distribution System Design	4
ENGR 446	Treatment Plant Design	4
ENGR 449	Transportation Engineering	4
	Technical Electives*	6-7
		53-54

*A minimum of 2 courses must be chosen from civil engineering electives. The other may be chosen from approved BIOL, CHEM, CPTR, ENGR, MATH or PHYS courses.

Electives, approved by the School of Engineering, must be chosen in consultation with the academic adviser.

COMPUTER ENGINEERING CONCENTRATION (52 credits)

Required Courses:

CPTR 143	Data Structures, Algorithms, and Objects	4
CPTR 215	Assembly Language Programming	3
CPTR 316	Programming Languages	3
CPTR 350	Computer Architecture	4
CPTR 352	Operating System Design	4
CPTR 425	Introduction to Networking and Computer I/O	4
CPTR 435	Software Engineering	4
ENGR 354	Digital Logic	3
ENGR 355	Embedded System Design	3
ENGR 356	Engineering Electronics	4
ENGR 433	Digital Design	4
ENGR, CPTR	EE and CS Electives	12
		52

Electives, approved by the School of Engineering, must be chosen in consultation with the academic adviser.

ELECTRICAL ENGINEERING CONCENTRATION (48 credits)

Required Courses:

CPTR 215	Assembly Language Programming	3
ENGR 352	Feedback and Control Systems	4
ENGR 354	Digital Logic	3
ENGR 355	Embedded System Design	3
ENGR 356	Engineering Electronics	4
ENGR 357	Engineering Electronics	4
ENGR 433	Digital Design	4
ENGR 451	Electromagnetic Fields	4
ENGR 455	Signals and Systems	4
ENGR	EE Electives	11
CPTR, ENGR, MATH, PHYS	Technical Electives	4
		48

Electives, approved by the School of Engineering, must be chosen in consultation with the academic adviser.

MECHANICAL ENGINEERING CONCENTRATION (37 credits)

Required Courses:

ENGR 324	Materials and Processes in Manufacturing	2
ENGR 333	Thermodynamics and Thermal Systems	4
ENGR 352	Feedback and Control Systems	4
ENGR 364	Fluid Mechanics Laboratory	1
ENGR 365	Machine Element Design Laboratory	1
ENGR 366	Vibrations	3
ENGR 461	Kinematics	4
ENGR 462	Machine Design	4
ENGR	ME Electives	8
CPTR, ENGR, MATH	Technical Electives	6
		37

Electives, approved by the School of Engineering, must be chosen in consultation with the academic adviser.

GLOBAL HUMANITARIAN ENGINEERING EMPHASIS (21 CREDITS)

This emphasis prepares a student for engineering in a global context. This emphasis is open to students pursuing a BSE (any concentration) or a Bio-engineering degree. Students will complete a course of study and an international field work experience. After successful completion of this emphasis, the words *Global Humanitarian Engineering Emphasis* will appear in the student's transcript and diploma. The Global Humanitarian Engineering coordinator can provide application details.

Required Courses:

21 credit hours required, selected as shown from the courses below.

Culture and Business (7-8)		
ANTH 225	Cultural Anthropology	4
COMM 325	Multicultural Language	3
LANG 406	Language and Culture	4
MGMT 380	Principles of Project Management	4
SOCI 236	Privilege and Oppression	4
SOCI 420	Immigration and Identity	4
SOWK 234	Current Social Problems	4
TECH 321	Technology and Society	4
Engineering (6)		
ENGR 293	GHE Pre-Seminar	1
ENGR 390	Engineering in a Global Context	4
ENGR 393	International Experience	0
ENGR 493	GHE Post-Seminar	1
Ethics (4)		
ENVI 385	Environmental Stewardship	4
PHIL 305	Moral Philosophy	4
PHIL 496	Seminar	4
Religion (3-4)		
RELH 303	World Religions	4
RELM 233	Introduction to Cross-Cultural Ministry	3

(Two quarters of seminar are required, one prior to the international experience and one after. Topics classes or other appropriate classes may be substituted for classes in the culture and business, ethics, or religion requirements if approved by the Global Humanitarian Engineering Committee.)

BIOENGINEERING (BACHELOR OF SCIENCE)

The bioengineering major is a joint program offered by the Department of Biological Sciences and the School of Engineering. See the Interdisciplinary Programs section (p. 157) of this bulletin.

See page 228 for a list of course descriptions. *Look for courses with the following prefix for the School of Engineering: ENGR.*

ENGLISH

Kellie Bond, Chair; Terrie Aamodt, Beverly Beem, Karen Clausen-Brown, Ronald Jolliffe, Daniel Lamberton, Sylvia Nosworthy, LuAnn Venden.

In its general studies courses, the department aims to enhance the student's ability to use language, the vehicle of society. The writing courses give instruction in clear, effective writing. The literature courses address significant and enduring issues that lead to a broad understanding of human experience.

The major in English provides a foundation for careers in communications, community service, education, government, and journalism. The major is also a strong preparation for law, business, and medicine. Such professions place a high value on the ability to read intelligently, to write clearly, and to understand human experience. The student can choose electives in the major to provide an emphasis in writing or literature as desired.

The minor in English is a valuable way for students in any major to polish their writing skills or to enrich themselves through literature. It is especially useful to students who plan a career in teaching.

The minor in film studies provides an opportunity for students to develop cultural understanding, prepare to teach with film in secondary classrooms, and/or gain a foundation for film study in a graduate program.

ENGLISH MAJOR (BACHELOR OF ARTS)

A student majoring in English must complete 58 hours of ENGL, FILM, and WRIT courses, English cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. To be considered for candidacy as an English major, a student must satisfactorily complete the required pre-candidacy courses with a minimum grade of B- in each course (ENGL 121, ENGL 122, ENGL 223 or HONR 141, HONR 142, HONR 243; ENGL 210, ENGL 211, ENGL 212; ENGL 234) and demonstrate competency in grammar with a grade of B- or higher in ENGL 184 or a minimum score of 75% on the grammar placement test, which serves as a challenge exam. No course may be repeated more than once in either the pre-candidacy or candidacy phases.

English majors will maintain an overall GPA of 2.75 in their major courses. Senior students are required to take the Major Field Test (MFT): Literature in English. Students planning to attend graduate school are advised to take the Graduate Record Examination, general and subject (English) sections.

Core Requirements:

ENGL 210, 211, 212	Survey of British and American Literature	12
ENGL 234	Literary Analysis	4
British literature before 1820 selected from the following courses: (7-8)		
ENGL 344	Medieval Literature	4
ENGL 345	Renaissance Literature	4
ENGL 346	Restoration and Enlightenment	4
ENGL 445	Shakespeare	3
Nineteenth-century British or American literature selected from the following courses: (4)		
ENGL 354	Romantic British Literature	4
ENGL 355	Victorian Literature	4
ENGL 364	Nineteenth-Century American Literature	4
Film selected from the following courses: (4)		
FILM 312	Development of Film Literature	4
FILM 318	Film Studies:	4
FILM 319	The American West in Document and Film	4
ENGL 384	Advanced English Grammars (also fulfilled with 12 hours of Latin or 9 hours of Greek)	3
ENGL 470	Literary and Critical Theory	4
ENGL 484	History of the English Language	
	or	
ENGL 485	Linguistics	3
ENGL 495	English Colloquium (12 quarters) (1 each quarter while in residence.)	0
		41-42

STANDARD ENGLISH MAJOR

Required Courses:

WRIT 324-337	Writing	3
ENGL 496, 497	Seminar	3
	*Electives	10-11
		16-17

*Electives must be chosen from ENGL and WRIT.

ENGLISH MAJOR WITH WRITING CONCENTRATION

During the winter quarter of the junior year, students who wish to take the writing concentration must apply for admission by submitting a portfolio of their work to the chair of the English department. The portfolio should contain independent writing as well as selected work previously done for academic credit. Portfolio guidelines can be obtained in the English office. Eligibility for the concentration will be determined by a panel of faculty readers.

Portfolio and Oral Presentation: As the culminating experience in the writing concentration, students will take the writing seminar, in which they are guided in the preparation of their senior portfolio, a collection of fiction, poetry, and/or essays. A bound copy of the senior portfolio remains with the English department. Students will give a public reading during the last quarter.

Take two of the following writing theory courses:		6
WRIT 333	Poetics	
WRIT 337	Stylistics	
WRIT 389	Writing Theory	
Take three of the following creative writing courses:		9
WRIT 324	Creative Nonfiction Writing	
WRIT 334	Poetry Writing	
WRIT 335	Narrative Writing	
WRIT 336	Drama Writing	
WRIT 424-436	Directed Writing	2-3
WRIT 498, 499	Writing Seminar	3
		20-21

English Cognates and Certification Requirements

Cognates:

HIST 275, 276	History of England	8
	or	
HONR 131, 132, 133	Western Thought	12

Teacher Certification:

Students wishing teacher certification must take the following courses and fulfill certification requirements as listed by the School of Education and Psychology.

ENGL 358	Classical Literature	
	or	4
ENGL 359	World Literature	
ENGL 374	Literature for Children	
	or	3
ENGL 375	Literature for Young Adults	
ENGL 384	Advanced English Grammars	3
ENGL 395	Methods of Teaching Secondary English	3
FILM 416	Teaching With Film Literature	4
WRIT 389	Writing Theory	3

ENGLISH MINOR

Minors wishing language arts certification, see the Education Certification Officer at the School of Education.

Required Courses:

ENGL 210, 211, 212	Survey of British and American Literature	12
ENGL 234	Literary Analysis	4
ENGL 344-356, 364-366	British or American Literature	4
WRIT 324-337	Writing	3
	*Electives (3 must be upper-division; 3 may be ENGL 374 or 375)	7
		30

*Electives shall be chosen in consultation with the English adviser.

FILM STUDIES MINOR

A student minoring in film studies must complete 30 quarter hours:

Required Courses:

ENGL 234	Literary Analysis	4
FILM 215	Introduction to Film Literature	
	or	4
FILM 416	Teaching with Film Literature	
FILM 312	Development of Film Literature	4
FILM 318	Film Studies:	
	or	8
FILM 319	The American West in Document and Film	
FILM 415	Directed Film Study	2
WRIT 335	Narrative Writing	3
	*Electives	5
		30

*Electives shall be chosen in consultation with the film adviser from the following:

ENGL 204	Introduction to Literature	4
ENGL 313	Image and Text	4
ENGL 360	Shakespeare at Ashland	2
DRMA/ENGL 363	History of Theatre	4
ENGL 394	Directed Reading	1 - 2; 3*
FILM 438	Directed Writing About Film	1 - 2; 3*

*No more than 3 hours, combined, of Directed Reading: Film Topics and Directed Writing about Film will count toward the minor.

To fulfill the B.A. requirement of "a minor in an area distinct from the major," English majors who take a film studies minor must also complete another minor.

See page 228 for a list of course descriptions. *Look for courses with the following prefixes for the English department: ENGL, FILM, and WRIT.*

HEALTH AND PHYSICAL EDUCATION

Marvin Denney, Chair; Curtis Kuhlman, Gerry Larson, Shirley Wilson-Anderson, Rodd Strobel.

Walla Walla University is one of the church's pioneers in the field of health and physical education. In 1949, this department was the first to graduate a physical education major from an Adventist institution. Since then its graduates have made significant contributions as teachers, researchers, youth leaders, health educators, physicians, dentists and other health professionals.

The department offers majors in Health Promotion, Health Science and Physical Education. These programs seek to develop the leadership and professional skills which will enable graduates to promote a healthy Christian lifestyle for others.

The majors in Health Promotion and Health Science will help prepare students to meet the increasing demands for health professionals trained in promoting wellness. The major in Health Promotion is designed for students desiring to pursue graduate work and careers in the areas of health education, community health, school health, health promotion, employee wellness, and other areas of public health. The major in Health Science provides a program for students wishing to pursue graduate studies and careers in research, medicine, dentistry, environmental health, nutrition, and other disciplines in the health sciences.

The programs in physical education help prepare professionals who will promote activities that stimulate habits of regular exercise and develop skills and interests for participation throughout life. The curriculum includes two concentrations: Preparation for Teaching and Fitness Management.

The Associate of Science majors offered in the Health and Physical Education Department include Pre-Dental Hygiene, Pre-Nutrition and Dietetics, and Pre-Physical Therapy. Each of these majors reflects the admission requirements for Loma Linda University. Requirements for admission to professional programs vary among schools and are subject to change. Students should request information about current admission requirements for the professional school they plan to attend. All programs should be planned in consultation with and approved by the academic adviser. Completion of the Associate of Science degree does not assure acceptance into the professional school of your choice.

HEALTH SCIENCE MAJOR (BACHELOR OF SCIENCE)

A student majoring in health science must complete 54 quarter hours of interdisciplinary courses as listed below, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Core Requirements:

HLTH 110	Wellness for Living	3
HLTH 205	Survey of Health	2
HLTH 208	Drugs and Society	3
HLTH 220	Human Nutrition	4

HLTH 315	Etiology of Selected Diseases	3
HLTH 370	Health Psychology	3
HLTH 427	Fitness Evaluation Techniques	3
HLTH 472	Stress Management	3
HLTH 496	Seminar	1
PETH 426	Physiology of Exercise	4
Select 12-16 hours from the following courses: (4 hours must be upper division)		12-16
BIOL 121, 122, 123	Anatomy and Physiology	4
BIOL 222	Microbiology	5
BIOL 305	General Ecology	4
BIOL 381	Cell Biology I: Structure and Bioenergetics	4
BIOL 382	Cell Biology II: Genetics and Molecular Biology	4
BIOL 420	Sociobiology	3
BIOL 449	Vertebrate Histology	4
BIOL 464	Animal Physiology	4
BIOL 466	Immunology	4
CHEM 431, 432	Foundations of Biochemistry	8
ENVI 385	Environmental Stewardship	4
	Electives (one class must be upper-division)	9-13
		54

Cognates

BIOL 141, 142, 143	General Biology	12
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
PSYC 130	General Psychology	4
PHYS 211, 212, 213	General Physics	9
	and	
PHYS 214, 215, 216	General Physics Laboratory	3
	or	
CHEM 321, 322, 323	Organic Chemistry	11
	and	
CHEM 325, 326	Introduction to Organic Chemistry Laboratory	2

Select one of the following: (4)

BIOL 250	Biostatistics	4
MATH 206	Applied Statistics	4
GBUS 263	Business Statistics	4

Select one of the following: (4-8)

MATH 117	Accelerated Precalculus	5
MATH 121+122	Precalculus Mathematics I, II	8
MATH 181	Analytic Geometry and Calculus I	4

HEALTH PROMOTION MAJOR (BACHELOR OF SCIENCE)

A student majoring in health promotion must complete 69 quarter hours of interdisciplinary courses as listed below, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Core Requirements:

HLTH 110	Wellness for Living	3
HLTH 205	Survey of Health	2
HLTH 208	Drugs and Society	3
HLTH 217	First Aid	2
HLTH 220	Human Nutrition	4
HLTH 308	Community Health	3
HLTH 315	Etiology of Selected Diseases	3
HLTH 331	Consumer Health	3
HLTH 350	Internship Placement Orientation	
HLTH 370	Health Psychology (or PSYC 370)	3
HLTH 372	Health Promotion Planning and Evaluation	3
HLTH 427	Fitness Evaluation Techniques	3
HLTH 437	Community Nutrition	3
HLTH 471	Human Sexuality	3
HLTH 472	Stress Management	3
HLTH 475	Programs in Health Promotion	3
HLTH 481	Internship in Health Science	12
HLTH 496	Seminar	1
PETH 426	Physiology of Exercise	4
	*Electives	8
		69

*See electives for Health Science and Health Promotion Majors

Cognates:

BIOL 141, 142, 143	General Biology	
	or	12
BIOL 121, 122, 123	Anatomy and Physiology	
GBUS 370	Business Communication	4
MATH 206	Applied Statistics	4
MKTG 381	Principles of Marketing	
	or	4
MKTG 383	Principles of Advertising	
PSYC 130	General Psychology	4
SOCI 204	General Sociology	4
SPCH 101	Fundamentals of Speech Communication	4

Electives for Health Science and Health Promotion Majors

Electives must be chosen from the following courses or any HLTH course. Four hours must be upper division. Approval of health adviser required.

ANTH 225	Cultural Anthropology	4
ENVI 385	Environmental Stewardship	4
FINA 351	Managerial Finance	4
FINA 451	Investments	4
HLTH 328	Basic Therapy	2
MGMT 275	Entrepreneurship and Small Business Management	4
PEAC 122	Strength Training	
	or	1
PEAC 123	Circuit Weight Training	
PEAC 128	Jogging	1
PEAC 133	Aerobic Rhythm	1
PETH 225	Prevention of Injuries	2
PETH 324	Adapted Physical Education and Recreation	3
PETH 325	Kinesiology	4
PSYC 215	Child and Adolescent Development	4
PSYC 220	Educational Psychology	3
PSYC 344	Social Psychology	4
PSYC 464	Introduction to Counseling	4
SOCI 435	Social Gerontology	3
SOCI 437	Death and Dying	3
SOWK 224	Human Development and The Family	4
SOWK 477	Introduction to Alcoholism and Addiction Treatment	3

PHYSICAL EDUCATION MAJOR (BACHELOR OF SCIENCE)

A student majoring in physical education must complete the major core requirements, one concentration, the required cognates for that concentration, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Students pursuing the concentration in preparation for teaching must also complete the secondary certification requirements as listed in the School of Education section of this bulletin.

Core Requirements:

PETH 214	Introduction to Physical Education and Recreation	2
PETH 225	Prevention of Injuries	2
PETH 324	Adapted Physical Education and Recreation	3
PETH 325	Kinesiology	4
PETH 425	Motor Learning	4
PETH 426	Physiology of Exercise	4
PETH 484	Administration of Health, Physical Education, and Recreation	3
PETH 493	History and Philosophy of Physical Education	3
PETH 496	Seminar	1
		26

PREPARATION FOR TEACHING CONCENTRATION

Required Courses:

HLTH 110	Wellness for Living	3
HLTH 208	Drugs and Society	3
HLTH 217	First Aid	2
PSYC 370	Health Psychology (or HLTH 370)	3
PEAC 120-190	*Physical Activity Courses	4
PETH 150	Coaching Sports Activities:	2
PETH 151	Coaching Sports Activities:	2
PETH 152	Coaching Sports Activities:	2
PETH 250	Coaching Sports Activities:	2
PETH 251	Coaching Sports Activities:	2
PETH 252	Coaching Sports Activities:	2
PETH 261	Officiating of Sports Activities	2
PETH 262	Officiating of Sports Activities	2
PETH 278	Programming Intramural and Recreational Activities	2
PETH 360	Advanced Principles of Coaching	2
PETH 366	Coaching Practicum	1
PETH 395	Teaching Secondary Health and Physical Education	3
PETH 473	Teaching Elementary Health and Physical Education	3
		42

*Select 4 activities classes. One from each of the following areas: Strength; Racquet Sports; Aquatics and Aerobics

Cognates:

BIOL 121, 122	Anatomy and Physiology	8
MATH 206	Applied Statistics	4

FITNESS MANAGEMENT CONCENTRATION

Required Courses:

HLTH 370	Health Psychology (or PSYC 370)	3
PEAC 107-177	*Physical Activity Courses	3
PEAC 123	Circuit Weight Training	1
PEAC 128	Jogging	1
PEAC 133	Aerobic Rhythm	1
PEAC 151	Racquetball	1
PETH 205	Water Safety Instructor's Course	2
PETH 252	Coaching Sports Activities:	2
PETH 278	Programming Intramural and Recreational Activities	2
PETH 350	Internship Placement Orientation	0
PETH 427	Fitness Evaluation Techniques	3
PETH 490	Internship in Fitness Management	12
	**Electives	3
		34

*Physical Activity Courses: Physical activity courses must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

**Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

Cognates:

ACCT 201, 202	Principles of Accounting	7
BIOL 121, 122	Anatomy and Physiology	8
CIS 140	Computer Business Applications	4
CPTR 110	Principles of Computing	2
HLTH 110	Wellness for Living	3
HLTH 220	Human Nutrition	4
MGMT 275	Entrepreneurship and Small Business Management	4
MKTG 383	Principles of Advertising	4

PRE-DENTAL HYGIENE (ASSOCIATE OF SCIENCE)

Students completing the following core curriculum and the AS general studies requirements as listed in this bulletin will be awarded an AS degree in Pre-Dental Hygiene. This degree will prepare the student for admission to the Bachelor of Science degree program in Dental Hygiene at Loma Linda University and may also apply to other dental hygiene programs. A cumulative grade point average of 3.00 or more is required before entering BS professional training.

Core Requirements:

Natural Science (29 hours)

BIOL 121, 122, 123	Anatomy and Physiology	12
BIOL 222	Microbiology	5
CHEM 101, 102	Introductory Chemistry	8
	College Mathematics Course (100 level or above)	4

Communication Skills (13 hours)

ENGL 121	College Writing I	3
ENGL 122	College Writing II	3
ENGL 223	Research Writing	3
SPCH 101	Fundamentals of Speech Communication	4

Humanities (16 hours)

	Courses selected from the following (Must be in a minimum of three areas): history, fine arts (theory), literature, philosophy, foreign language.	16

Social Sciences (12 hours)

PSYC 130	General Psychology	4
SOCI 204	General Sociology	4
ANTH 225	Cultural Anthropology	4

Physical Education		
PEAC 107-190	Physical Activity Courses	2
HLTH 110	Wellness for Living	
	or	3-4
HLTH 220	Human Nutrition	
Religion		8
	Electives	12-13
		96

PRE-NUTRITION AND DIETETICS (ASSOCIATE OF SCIENCE)

Students completing the following core curriculum and the AS general studies requirements will be awarded an AS degree in Pre-Nutrition and Dietetics. This degree will prepare the student for admission to Nutrition and Dietetics at Loma Linda University and may also apply to other professional programs. A cumulative grade point average of 3.0 or more is required before entering BS professional training.

Core Requirements:

ANTH 225	Cultural Anthropology	
	or	4
SOCI 236	Privilege and Oppression	
BIOL 121, 122, 123	Anatomy and Physiology	12
BIOL 222	Microbiology	5
CHEM 141, 142	General Chemistry	
	and	
CHEM 144, 145	General Chemistry Laboratory	8
	or	
CHEM 101, 102	Introductory Chemistry	
ENGL 121, 122	College Writing I	6
ENGL 223	Research Writing	3
HLTH 110	Wellness for Living	3
HLTH 205	Survey of Health	2
HLTH 208	Drugs and Society	3
HLTH 220	Human Nutrition	4
HLTH 437	Community Nutrition	
	or	3
HLTH 308	Community Health	
PEAC	Physical Education Activity Courses	2
PSYC 130	General Psychology	4
SOCI 204	General Sociology	4
SPCH 101	Fundamentals of Speech	4
	Communication	
	Electives	8-11

General Studies Requirements

Humanities (Must be from 3 areas, may include foreign language)	12
Mathematics (MATH 105 or higher recommended)	
Religion (4 credits per year)	8
	98-106

PRE-PHYSICAL THERAPY (ASSOCIATE OF SCIENCE)

Students completing the following core curriculum and the AS general studies requirements as listed in this bulletin will be awarded an AS degree in Pre-Physical Therapy. This degree will prepare the student for admission to the Doctor of Physical Therapy degree program at Andrews or Loma Linda Universities and may also apply to other professional programs.

Core Requirements:

BIOL 121, 122, 123	Anatomy and Physiology	12
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Laboratory	3
HLTH 110	Wellness for Living	
	or	3-4
HLTH 220	Human Nutrition	
MATH 206	Applied Statistics	4
NRSG 234	Medical Terminology	2
PETH 325	Kinesiology	
	or	4
PETH 426	Physiology of Exercise	
PSYC 130	General Psychology	4
PSYC 215	Child and Adolescent Development	4

Select 4 credits from the following: (4)

ANTH 225	Cultural Anthropology	4
PLSC 224	American Government	4
PSYC 370	Health Psychology	3
SOCI 204	General Sociology	4
		61-62

Cognates:

ENGL 121, 122	College Writing I	6
ENGL 223	Research Writing	3
PEAC	Physical Education Activity Courses	2
REL	Religion General Studies Courses	12
SPCH 101	Fundamentals of Speech Communication	4

	Humanities (Select from at least three subject areas: fine arts, foreign language, literature, philosophy, or history. One course must be upper division.)	12
	Total	39
	Electives to bring the total to	138

A documented minimum of 80 hours of volunteer or employee work experience with a physical therapist is required before acceptance.

18 quarter hours of upper division credit is required for application.

ATHLETIC COACHING MINOR

A student minoring in athletic coaching must complete 30 quarter hours.

Required Courses:

HLTH 217	First Aid	2
	Select three of the following coaching sports activities: PETH 150, 151, 152, 250, 251, 252	
PETH 225	Prevention of Injuries	2
PETH 325	Kinesiology	4
PETH 360	Advanced Principles of Coaching	2
PETH 366	Coaching Practicum	1
PETH 425	Motor Learning	4
PETH 493	History and Philosophy of Physical Education	3
	*Electives	6
		30

*Electives must be chosen from PEAC and PETH courses and approved by the Physical Education adviser.

HEALTH MINOR

A student minoring in health must complete 30 quarter hours.

Required Courses:

HLTH 110	Wellness for Living	3
HLTH 205	Survey of Health	2
HLTH 208	Drugs and Society	3
HLTH 220	Human Nutrition	4
HLTH 315	Etiology of Selected Diseases	3
HLTH 370	Health Psychology	3
	*Electives (3 must be upper division)	12
		30

*Electives may be selected from non-HLTH courses in the major requirements or electives listed for the Health Science major with no more than six hours being selected from any one discipline. Electives may also be selected from any other HLTH courses.
Approval of health adviser required.

PHYSICAL EDUCATION MINOR

A student minoring in physical education must complete 30 quarter hours:

Required Courses:

HLTH 110	Wellness for Living	3
HLTH 208	Drugs and Society	3
PETH 214	Introduction to Physical Education and Recreation	2
PETH 225	Prevention of Injuries	2
PETH 261	Officiating of Sports Activities	2
PETH 278	Programming Intramural and Recreational Activities	2
PETH 324	Adapted Physical Education and Recreation	3
PETH 325	Kinesiology	4
PETH 395	Teaching Secondary Health and Physical Education	3
PETH 473	Teaching Elementary Health and Physical Education	3
PETH 484	Administration of Health, Physical Education, and Recreation	3
		30

See page 228 for a list of course descriptions. *Look for courses with the following prefixes for the Health and Physical Education Department: HLTH, PEAC, and PETH.*

HISTORY AND PHILOSOPHY

Gregory Dodds, Chair; Terrie Aamodt, Montgomery Buell, Linda Emmerson, Terrell Gottschall.

The department offers a major in history as well as minors in history and philosophy. In fulfilling the mission of the University, the purpose of the work in history is fourfold: to promote a better understanding of the past and an appreciation of the present; to formulate a constructive philosophy of history; to train in skills of research and evaluation; to prepare students for teaching, graduate and professional schools, and government service. In keeping with this goal, the members of the department support the principle of personal professional development, particularly participation in research and civic responsibilities, as a means of enhancing both teaching and the historical profession.

The philosophy program encourages students to evaluate their personal philosophies within a Christian context. Course requirements provide a framework for students to develop critical thinking skills, to study major figures and schools in the history of philosophy, to draw connections between philosophy and other disciplines, and to analyze moral, spiritual, metaphysical, epistemological, and logical questions and issues. The minor in philosophy will enhance student preparation for graduate programs in the humanities and theology, and for professional programs in education, law, medicine, or government.

HISTORY MAJOR (BACHELOR OF ARTS)

A student majoring in history must complete 58 quarter hours in the major, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Students must complete and present a senior history thesis.

Core Requirements:

HIST 121, 122	History of Western Civilization (HONR 131, 132, 133 will fulfill the Western Civilization requirement, but only 8 credits will apply to history. The other 4 credits are counted as literature.)	8
HIST 221, 222	History of the United States	8
HIST 306	Classical Greece and Rome	4
HIST 495	Colloquium (Six quarters required; or number of quarters in residence at WWU, whichever is fewer)	0
	*Electives	28
		48

*Twenty credits must be upper-division, including eight in European history and eight in American history.

Research Requirements:

HIST 391	The Craft of History	2
HIST 392	Historiography	3
HIST 496, 497, 498	Seminar	2, 2, 1
		10

Cognate:

PHIL 204	Essentials of Critical Reasoning	4

HISTORY MINOR

A student minoring in history must complete 28 quarter hours:

Select from the following:

HIST 120, 121, 122	History of Western Civilization (HONR 131, HONR 132, HONR 133 will fulfill the Western Civilization requirement, but only 8 credits will apply to history.)	8
HIST 221, 222	History of the United States	8
	*Electives (8 must be upper division)	12
		28

*Approval of history adviser required.

PHILOSOPHY MINOR

A student minoring in philosophy must complete 28 credit hours:

PHIL 204	Essentials of Critical Reasoning	4
PHIL 205	Introduction to Philosophy	4
	*Electives (12 must be upper division)	20
		28

*Approval of history adviser required.

HISTORY MAJOR TEACHER CERTIFICATION

Students wishing Washington State teacher certification in history must fulfill certification requirements listed by the School of Education and Psychology, complete a history major, and take the following courses:

HIST 446 History of the Pacific Northwest, HIST 395 Methods of Teaching Social Studies, GEOG 252 Physical Geography, and PLSC 224 American Government.

Please refer to the certification check sheet available from the School of Education and Psychology for additional information.

Please refer to the certification check sheet available from the School of Education and Psychology for additional information.

See page 228 for a list of course descriptions. *Look for courses with the following prefixes for the History and Philosophy Department: HIST, PHIL, and PLSC.*

INTERDISCIPLINARY PROGRAMS

AUTOMOTIVE MANAGEMENT

Josefer Montes (Business), Rob Holm (Technology), Academic Advisers.
The automotive management major is offered cooperatively by the School of Business and the Department of Technology.

AUTOMOTIVE MANAGEMENT MAJOR (BACHELOR OF SCIENCE)

A student majoring in Automotive Management must complete a minimum of 118 hours in the major, which consists of the core courses and the technical requirements. In addition, the student must complete the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Students are required to pass the A1-A8 exams prior to graduations as their exit exam.

Technology Core Requirements:

AUTO 134	Internal Combustion Engine Theory	2
AUTO 135	Internal Combustion Engine Laboratory	2
AUTO 145	Manual Drive Trains and Axles	2
AUTO 146	Manual Drive Trains and Axles Laboratory	2
AUTO 156	Electrical Systems	2
AUTO 157	Electrical Systems Laboratory	2
AUTO 280	Practicum (automotive)	2
AUTO 314	Engine Performance	2
AUTO 315	Engine Performance Laboratory	2
AUTO 335	Suspension and Steering Systems	2
AUTO 336	Suspension and Steering Systems Laboratory	2
AUTO 337	Brake Systems and Traction Control	2
AUTO 338	Brake Systems and Traction Control Laboratory	2
AUTO 355	Climate Control Systems	2
AUTO 356	Climate Control Systems Laboratory	2
AUTO 357	Automatic Transmissions and Transaxles	2
AUTO 358	Automatic Transmissions and Transaxles Laboratory	2
AUTO 365	Diesel Engines	3
AUTO 414	Advanced Engine Performance	3
AUTO 434	High Performance Engine Tuning	3
AUTO 466	Body Electronics and Computer Systems	3
AUTO 473	Alternative Fuels	3
AUTO 480	Advanced Practicum (automotive)	2
AUTO 495	Colloquium*	0
TECH 204	Fundamentals of Electronics	4
TECH 321	Technology and Society	4
TECH 499	Senior Project	1
	**Electives	4
		63

*Open only to students of junior standing or higher. Automotive degree candidates must satisfactorily complete two quarters, at least one of which must be during the senior year.

**Electives must be chosen from TECH, GRPH, PHTO, DRFT and/or AVIA in consultation with adviser.

Business Core Requirements:

ACCT 201, 203	Principles of Accounting	7
CIS 140	Computer Business Applications	4
ECON 211	Principles of Macroeconomics	4
ECON 212	Principles of Microeconomics	4
FINA 351	Managerial Finance	4
GBUS 263	Business Statistics	4
GBUS 361	Business Law I	4
GBUS 366	Operations Management and Production	4
GBUS 370	Business Communication	4
MGMT 371	Principles of Management	4
MGMT 374	Human Resources Management I	4
MGMT 489	Strategic Management	4
MKTG 381	Principles of Marketing	4
		55
	Total Automotive and Business Core Requirements:	118

Cognates:

MATH 121	Precalculus Mathematics I	4
PHYS 201, 202	Conceptual Physics	6
PHYS 204, 205	Conceptual Physics Laboratory	2
SPCH 101	Fundamentals of Speech Communication	4

AVIATION MANAGEMENT

Josefer Montes (Business), Loury Duffy and Anthony Remboldt (Technology), Academic Advisers.

The aviation management major is offered cooperatively by the School of Business and the Department of Technology.

AVIATION MANAGEMENT MAJOR (BACHELOR OF SCIENCE)

A student majoring in Aviation Management must complete a minimum of 129 quarter hours in the major consisting of the core courses and the technical requirements. In addition, the student must complete the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Technology Core Requirements:

AVIA 124	Introduction to Aviation	3
AVIA 141	Private Pilot Lectures	5
AVIA 142	Private Pilot Flight Training	3

AVIA 143	Advanced Private Flight Training	3
AVIA 152	Cross-Country Flight	2
AVIA 234	Meteorology	2
AVIA 256	Principles of Aircraft Maintenance	4
AVIA 261	Instrument Pilot Lectures	4
AVIA 262	Instrument Flight Training	3
AVIA 263	Advanced Instrument Flight Training	3
AVIA 270	Multi-Crew Flight Operations	2
AVIA 325	Flight Performance	2
AVIA 334	Commercial Pilot Lectures	4
AVIA 335	Commercial Flight Training	3
AVIA 336	Advanced Commercial Flight Training	3
AVIA 337	Mission/Humanitarian Flight Training	2
AVIA 340	Multi-Engine Flight Training	3
AVIA 355	Aviation Safety	2
AVIA 356	Flight Instructor Training I	3
AVIA 455	Crew Resource Management	2
AVIA 496	Senior Seminar	2
TECH 204	Fundamentals of Electronics	4
TECH 380	Space Planning and Design	3
TECH 499	Senior Project	1

Choose 7 credits from the following:

AVIA 280	Practicum	1- 6	
AVIA 358	Flight Instructor Training II	3	
AVIA 458	Instrument Instructor Flight Training	3	
AVIA 460	Multi-Engine Instructor Flight Training	2	
AVIA 480	Advanced Practicum	1–6	
			75

Business Core Requirements:

ACCT 201, 202, 203	Principles of Accounting	10
CIS 140	Computer Business Applications	4
ECON 211	Principles of Macroeconomics	4
ECON 212	Principles of Microeconomics	4
FINA 351	Managerial Finance	4
GBUS 263	Business Statistics	4
GBUS 361	Business Law I	4
GBUS 370	Business Communication	4
GBUS 463	Business Ethics	4
MGMT 371	Principles of Management	4
MGMT 489	Strategic Management	4
MKTG 381	Principles of Marketing	4
		54
	Total Technology and Business Core Requirements:	129

Cognates:

MATH 121	Precalculus Mathematics I	4
PHYS 201, 202	Conceptual Physics	6
PHYS 204, 205	Conceptual Physics Laboratory	2
SPCH 101	Fundamentals of Speech Communication	4

BIOCHEMISTRY

Kyle Craig (Chemistry), David Lindsey (Biology), Academic Advisers.

The biochemistry major is offered cooperatively by the departments of biology and chemistry.

BIOCHEMISTRY MAJOR (BACHELOR OF SCIENCE)

A student majoring in biochemistry must complete a minimum of 92 quarter credit hours of biology and chemistry courses, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Credits applied towards the biochemistry major will not apply towards a biology or chemistry major or minor. Senior students are required to take the Graduate Records Examination subject examination in Biochemistry, Cell and Molecular Biology (this is a single examination). Transfer credit accepted towards the biochemistry major must be from major's courses at the institution originating the credit.

Major Requirements:

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 301	Chemical Equilibrium and Analysis	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Chemistry Laboratory	2
CHEM 352	Physical Chemistry	3
CHEM 350	Physical Chemistry	
	or	3
CHEM 353	Physical Chemistry	
CHEM 405	Integrated Chemistry Lab	4
CHEM 431, 432, 433	Foundations of Biochemistry	11
CHEM 496, 497, 498	Chemistry Seminar	3
BIOL 141, 142, 143	General Biology	12
BIOL 381	Cell Biology I: Structure and Bioenergetics	4
BIOL 382	Cell Biology II: Genetics and Molecular Biology	4
BIOL 383	Cell Biology III: Genomics and Regulation	4
BIOL 430	Molecular Biology Techniques	
	or	4
BIOL 445	Advanced Microbiology	
BIOL 211	Introduction to Biological Research I	2

BIOL 416	Research in Biology	
	or	2
CHEM 479	Directed Research/Project	
	Electives (selected from the following list)	8
		92

Electives:

CHEM 302	Analytical Instrumental Methods I	3
CHEM 353	Physical Chemistry	
	or	3
CHEM 350	Physical Chemistry	
CHEM 427	Organic Structure and Mechanisms	3
CHEM 429	Organic Structural Problems	3
CHEM 442	Inorganic Chemistry	3
CHEM 461	Analytical Instrumental Methods II	3
BIOL 430	Molecular Biology Techniques	
	or	4
BIOL 445	Advanced Microbiology	
BIOL 435	Developmental Biology	4
BIOL 464	Animal Physiology	4
BIOL 466	Immunology	4
BIOL 470	Biophysics	4
BIOL 416	Research in Biology	
	or	1-4
CHEM 479	Directed Research/Project	

CHEM 302, 350, 353, 427, 442, and 461: These CHEM courses have a corequisite of CHEM 405. As a result, up to two additional quarters of CHEM 405 may be applied as elective credit.

Cognates:

BIOL 250	Biostatistics	
	or	4
MATH 206	Applied Statistics	
MATH 181, 281	Analytic Geometry and Calculus I, II	8
PHYS 211, 212, 213	General Physics	
	and	
PHYS 214, 215, 216	General Physics Laboratory	
	or	12
PHYS 251, 252, 253	Principles of Physics	
	and	
PHYS 254, 255, 256	Principles of Physics Laboratory	

BIOENGINEERING

Larry Aamodt, Director; Douglas Logan, Joan Redd.

Students majoring in bioengineering will take courses designed to insure a broad preparation in engineering and biological fundamentals, mathematics, and the physical sciences. Majors will concentrate their studies in an area consistent with their career goals. Electives will be chosen by each student in conference with an assigned adviser from among the members of the bioengineering committee. Each student must receive approval of his/her program from the committee at the beginning of the junior and senior years. Since the bioengineering curriculum is designed to provide a foundation for graduate studies, students whose grade-point averages fall below 3.00 will be encouraged to reconsider their career objectives.

Requirements for bioengineering include a minimum of 73 quarter hours in the major with at least 60 quarter hours specifically in engineering or biology, plus the required cognates, and the general studies program for the baccalaureate degree as outlined in this bulletin. ENGL 323 Writing for Engineers, which is normally taken concurrently with third-year engineering courses, is required in place of ENGL 223 Research Writing (the third quarter of the college-writing sequence). A course in speech communication is highly recommended. All majors must take the Graduate Record Examination general section.

BIOENGINEERING MAJOR (BACHELOR OF SCIENCE)

Core Requirements (40-43):

BIOL 141, 142, 143	General Biology	12
CPTR 141	Introduction to Programming	4
ENGR 221, 222, 223	Engineering Mechanics	9
ENGR 228	Circuit Analysis	4
BIOL 381	Cell Biology I: Structure and Bioenergetics	4
BIOL 495	*Colloquium (2-4 Quarters)	0
ENGR 495	*Colloquium (2-4 Quarters)	0
ENGR 396, 496-498	Junior, Senior Seminar	3
	or	
BIOL 211	Introduction to Biological Research I	
	and	
BIOL 296	Current Topics in Biology	
	and	
BIOL 316	Introduction to Biological Research II	6
	and either	
BIOL 416	Research in Biology	
	or	
ENGR 497, 498	Senior Seminar	

*2-4 quarters each. Six quarters of Colloquium are required.

Core Elective (Choose one of the following courses) (4):

CPTR 142	Data Structures, Algorithms, and Objects	4
ENGR 321	Mechanics of Materials	4
ENGR 351	Linear Network Analysis	4
ENGR 331	Fluid Mechanics	4

Bioengineering Electives (8-13):

BIOL 382	Cell Biology II: Genetics and Molecular Biology	4
BIOL 464	Animal Physiology	4
BIOL 470	Biophysics	4
CHEM 350	Physical Chemistry	
CHEM 405	Integrated Chemistry Laboratory	
	or	4
PHYS 310, 314	Modern Physics I and Laboratory	
CHEM 352	Physical Chemistry and Laboratory	
	or	4
PHYS 313	Thermodynamics	
CHEM 431	Foundations of Biochemistry	4
CPTR 215	Assembly Language Programming	3
ENGR 321	Mechanics of Materials	4
ENGR 322	Engineering Materials	4
ENGR 325	Instrumentation	3
ENGR 331, 364	Fluid Mechanics and Laboratory	5
ENGR 332	Thermodynamics	4
ENGR 351	Linear Network Analysis	4
ENGR 354	Digital Logic	3
ENGR 465	Heat Transfer	4
PHYS 312, 315	Physical Electronics and Laboratory	4

Electives (17 must be upper-division) (17-25):

BIOL	Selected Courses	8-17
ENGR	Selected Courses	8-17
	Technical Electives	0-9
	Selected courses from MATH, PHYS, CHEM, CPTR, ENVI	
		73

Electives must be approved by the Bioengineering Committee after consideration of the total student program.

Cognates:

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 321, 322	*Organic Chemistry	8
CHEM 325	Introduction to Organic Chemistry Laboratory	1
MATH 181, 281-283	Analytic Geometry and Calculus I-IV	16
MATH 312	Ordinary Differential Equations	4

MATH 315	Probability and Statistics	4
PHYS 251, 252, 253	Principles of Physics	9
PHYS 254, 255, 256	Principles of Physics Laboratory	3

*While the first two quarters are required as cognates for the major, a complete, year-long sequence may be necessary to fulfill course prerequisites or requirements for advanced studies.

BIOPHYSICS

Roy Campbell (Physics), David Lindsey (Biology), Academic Advisers.

The biophysics major is offered cooperatively by the departments of biology and physics. For entrance, 30 semester periods of secondary mathematics chosen from algebra, plane and solid geometry, and trigonometry are required.

BIOPHYSICS MAJOR (BACHELOR OF SCIENCE)

A student majoring in biophysics must complete a minimum of 68 quarter hours of biology and physics courses, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Major Field Tests in Biology or Physics. A summer term at the Rosario Beach Marine Laboratory is highly recommended.

Required Courses:

BIOL 141, 142, 143	General Biology	12
BIOL 211	Introduction to Biological Research I	2
BIOL 381	Cell Biology I: Structure and Bioenergetics	4
BIOL 382	Cell Biology II: Genetics and Molecular Biology	4
BIOL 430	Molecular Biology Techniques	
	or	4
BIOL 445	Advanced Microbiology	
BIOL 495	Colloquium*	0
BIOL	Upper Division Electives in Biology	4
PHYS 251, 252, 253	Principles of Physics	9
PHYS 254, 255, 256	Principles of Physics Laboratory	3
PHYS 310, 311	Modern Physics I, II	6
PHYS 313	Thermodynamics	4
PHYS 314, 316	Modern Physics Laboratory I, II	2
PHYS 331	Introduction to Nanotechnology	3
PHYS 332	Introduction to Nanotechnology Laboratory	1
PHYS 414	Experimental Physics I	1
PHYS 417	Physics Seminar	2
PHYS 470	Biophysics	4
PHYS	Upper Division Electives in Physics	3
		68

*Required each quarter of juniors and seniors while in residence.

Cognates:

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Chemistry Laboratory	2
CHEM 431, 432	Foundations of Biochemistry	8
CPTR 141	Introduction to Programming	4
MATH 181, 281-283	Analytic Geometry and Calculus I-IV	16
MATH 312	Ordinary Differential Equations	4
MATH 315	Probability and Statistics	
	or	4
BIOL 250	Biostatistics	
		61

NATURAL RESOURCES CONSERVATION AND MANAGEMENT

Melodie Selby, Director; David Cowles, Ron Jolliffe (English), Dan Lamberton (Humanities), Steven Lee (Chemistry), Fred Liebrand (Physics), David Lindsey (Biology), Janet Ockerman (Sociology), Dave Thomas (Religion).

The interdisciplinary Natural Resources Conservation and Management program seeks to develop an appreciation of the physical world and human impact upon it. Graduates will demonstrate understanding and techniques of caring for components of our biosphere in the context of the societies in which we live and actively contribute to a more sustainable, livable world through research and planning. The Environmental Science major provides direct access to career opportunities in the private or public sector or gives the basis for further education. Although a second major, graduate school or professional school may be appropriate, the major and minor prepare students for careers in air, water and land resource management, environmental economics, law or journalism, public policy, environmental science, or other sciences.

Students planning to seek employment following graduation are urged to accept a co-op or internship experience. Those planning to attend graduate school prior to seeking employment are encouraged to accept such an experience. All majors must take the Graduate Record Examination general section.

ENVIRONMENTAL SCIENCE MAJOR (BACHELOR OF SCIENCE)

A student majoring in environmental science must complete 57 quarter credits in the core, 52 credits in the cognates and 35 to 42 approved credits in an elective emphasis and emphasis cognates, the general studies program and all baccalaureate degree requirements outlined in this bulletin. Course listings are available for pre-approved elective emphases in:

- The Air Environment
- Biology/Ecology
- Chemistry
- Human Environmental Science
- Light and Radiation
- The Water Environment
- Wildlife/Ecology

Alternative elective emphasis proposals should be worked out with an assigned adviser and receive approval of the Natural Resources Committee.

Core Requirements:

BIOL 141, 142, 143	General Biology	12
BIOL 106	Contemporary Biology	
	or	
BIOL 305	General Ecology	4
BIOL 211	Introduction to Biological Research I	2
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
ENVI 151	Environmental Principles	4
ENVI 385	Environmental Stewardship	4
ENVI 386	Environmental Management	4
ENVI 479	Environmental Research/Project	2, 2
ENVI 495	Colloquium (6 quarters required)	0
ENVI 497, 498	Environmental Seminar	1, 2
ECON 212	Principles of Microeconomics	4
PLSC 224	American Government	4
		57

Elective Emphasis and Emphasis Cognates: (35-42)
(See program director for details for elective emphases.)

Cognates:

ART 251	Introduction to Art	
	or	
ENGL 313	Image and Text	4
BIOL 250	*Biostatistics	4
CPTR 141	Introduction to Programming	4
MATH 181, 281	**Analytic Geometry and Calculus I, II	
	or	
MATH 123	**+Survey of Calculus	8
	and	
PHIL 204	**Essentials of Critical Reasoning	
HIST 121, 122	History of Western Civilization	
	or	8
HONR 131, 132, 133	Western Thought	
PHYS 211, 212, 213	***General Physics	9
PHYS 214, 215, 216	***General Physics Laboratory	3
SPCH 101	Fundamentals of Speech Communication	4

Choose one of the following courses: (4)

SOCI 204	General Sociology
PSYC 130	General Psychology
PSYC 344	Social Psychology

Choose one of the following courses: (4)

ENGL 317	Pacific Northwest Writers
RELT 348	Christian Ethics

52

*MATH 315, Probability and Statistics is alternatively required in some elective emphases.

**Highly recommended. Some elective emphases require a greater mathematical background including MATH 181 and MATH 281. A complete sequence of calculus (MATH 181,281, 282, 283) is valuable for all.

***Principles of Physics is required in some elective emphases.

+ In some instances committee approval may be given for alternative electives.

ENVIRONMENTAL STUDIES MAJOR (BACHELOR OF ARTS)

A student majoring in environmental studies must complete 48 quarter credits in the core, 24 approved credits in a concentration, 28 credits in the cognates, a minor, the general studies program, and all baccalaureate degree requirements outlined in this bulletin. Course listings are available for pre-approved concentrations in:

- Business and Industry
- Human Thought and Culture
- Communication

Alternative concentration proposals should be worked out with an assigned adviser and receive approval of the Natural Resources Committee.

Core Requirements:

ENGL 317	Pacific Northwest Writers	
	or	4
HIST 446	History of the Pacific Northwest	
ENVI 151	Environmental Principles	4
ENVI 385	Environmental Stewardship	4
ENVI 386	Environmental Management	4
ENVI 479	Environmental Research/Project	2, 2
ENVI 495	Colloquium (3 total)	0
ENVI 497, 498	Environmental Seminar	1, 2
BIOL 141, 142, 143	General Biology	12
BIOL 305	General Ecology	4
ENGL 394	Directed Reading: Nature Writing	2

PHIL 204	Essentials of Critical Reasoning	4
PLSC 224	American Government	4
		49

Cognates:

ECON 211	Principles of Macroeconomics	4
WRIT/JOUR	An approved advanced writing course	4
RELT 348	Christian Ethics	4

Select 12 science credits from the following (note prerequisites): (12)

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Laboratory	3

Select one of the following: (4)

BIOL 250	Biostatistics	4
MATH 206	Applied Statistics	4
		28

BUSINESS AND INDUSTRY CONCENTRATION

Required Courses:

ECON 212	Principles of Microeconomics	4
MGMT 371	Principles of Management	4
MKTG 384	Consumer Behavior	4

Select 12 credits from the following: (12)

ACCT 201	Principles of Accounting and	4
FINA 351	Managerial Finance	
ENGR 123	Introduction to System Design and Engineering	2
ENGR 326	Engineering Economy	3
GBUS 370	Business Communication	4
GRPH 124	Introduction to Graphics	4
MKTG 381	Principles of Marketing	4
MKTG 481	Public Relations	4
TECH 321	Technology and Society	4
		24

HUMAN THOUGHT AND CULTURE CONCENTRATION

Required Courses:

ENGL 346	Restoration and Enlightenment	4
HIST 460	Science and The Enlightenment	4
PHIL 496	Seminar	4

Select 12 credits from the following: (12)

ENGL 317	Pacific Northwest Writers	
	or	4
HIST 446	History of the Pacific Northwest	
ENGL 358	Classical Literature	4
ENGL 359	World Literature	4
ENGL 394	Directed Reading	1
FILM 416	Teaching With Film Literature	4
HIST 354	American History and Visual Culture	4
HIST 359	The American Economy	4
HIST 448	The Emergence of Modern America	4
PHIL 305	Moral Philosophy	4
		24

COMMUNICATION CONCENTRATION

Required Courses:

COMM 145	Media and Culture	4
COMM 357	Media Law	4
JOUR 245	Media Writing	4

Select 12 credits from the following: (12)

COMM 235	Introduction to Filmmaking	4
ENGL 234	Literary Analysis	4
JOUR 257	Introduction to Photojournalism (note prerequisite)	3
JOUR 341	Feature Writing	4
JOUR 345	Specialized Writing:	3
JOUR 348	Creativity and Communication	3
JOUR 412	Script Writing	3
PREL 350	Writing for Public Relations	3
WRIT 324	Creative Nonfiction Writing	3
WRIT 335	Narrative Writing	3
WRIT 336	Drama Writing	3
WRIT 337	Stylistics	3
WRIT 424	Directed Creative Nonfiction Writing	1-2
		24

ENVIRONMENTAL STUDIES MINOR

A student minoring in environmental studies must complete 30 quarter credits:

Required Courses:

BIOL 106	*Contemporary Biology	4
ECON 212	Principles of Microeconomics	4
ENVI 151	Environmental Principles	4
ENVI 385	Environmental Stewardship	4

ENVI 386	Environmental Management	4
ENVI 495	Colloquium (two quarters required)	0, 0
ENVI 496, 497	Environmental Seminar	1, 1
PLSC 224	American Government	4
	Electives (approved from BIOL, CHEM, ENGR, MATH or PHYS)	4
		30

*Prerequisite for BIOL 106 is BIOL 141 or BIOL 105. BIOL 105 and BIOL 106 or BIOL 141 and BIOL 106 will satisfy the Natural Science laboratory requirement for General Studies.

See page 228 for a list of course descriptions. *Look for courses with the following prefix for Environmental Studies: ENVI.*

HUMANITIES

Dan Lamberton, Director; Thomas Emmerson (Art), David Crawford (Drama), Kellie Bond (English), Gregory Dodds (History), Alma Alfaro (Communications and Languages), Karin Thompson (Music), Linda Emmerson (Philosophy), Dave Thomas (Theology).

The humanities major is an interdisciplinary program designed for those who want to study the themes and values of the humanities-in history, the visual arts, music, philosophy, religion, and literature-and who wish to tailor their major to meet their interests. It provides a choice of content areas for those interested in teaching. The humanities major also is excellent for preprofessional students, especially those planning to study business, medicine, or law. All humanities majors are required to take the GRE (general section). The first test is paid for by the Humanities Program.

HUMANITIES MAJOR (BACHELOR OF ARTS)

A student majoring in humanities must complete the major core requirements, one concentration which must be chosen in consultation with the humanities adviser and the chair of the specific area, the general studies program including the general studies requirements below, and all baccalaureate degree requirements as outlined in this bulletin. Any course taken to satisfy core and/or concentration requirements cannot also be counted as satisfying general studies requirements, except as noted. ***Honors students, however, will satisfy the requirements of the Honors Program.***

Core Requirements:

ART 251	Introduction to Art	
	or	3-4
ART 324	History of World Art	
BIOL 141, 142, 143	General Biology	12
ENGL 212	Survey of British and American Literature	4
ENGL 234	Literary Analysis	4

HIST 120, 121, 122	History of Western Civilization	
	or	8-12
HONR 131, 132, 133	Western Thought	
PHIL 205	Introduction to Philosophy	4
SOCI 236	Privilege and Oppression	
	or	4
HIST 382	Historical Biography	
RELH 303	World Religions	
	or	4
PHIL 412	Philosophy of Religion	
MUHL 134	World Music	4
ENGL, FREN, SPAN	Upper-division Literature	4
WRIT 333	Poetics	
	or	3
WRIT 337	Stylistics	
PSYC	Upper-division Psychology	
	or	4
SOCI	Upper-division Sociology	
ENGL 359	World Literature	
	or	4
ENGL 358	Classical Literature	
HIST 458	American Intellectual History	4
HMNT 496, 497	Seminar	3

Select one of the following: (3-4)

BIOL 305	General Ecology	4
BIOL 483	Philosophy of Origins and Speciation	3
ENVI 385	Environmental Stewardship	4
HONR 310	Science and the Arts	4
HONR 311	Science & the Arts	4
PHIL 407	Philosophy of Science	4
		72-74

ENGLISH CONCENTRATION (HUMANITIES)

Required Courses:

ENGL 358	Classical Literature	4
WRIT 324-336	Upper-division writing	3
ENGL	Upper-division literature	11
ENGL 470	Literary and Critical Theory	4
		22

HISTORY CONCENTRATION (HUMANITIES)

(Twelve quarter hours must be upper-division)

Required Courses:

HIST 221, 222	History of the United States	8
HIST 392	Historiography	3

Choose two of the following courses:

HIST 306	Classical Greece and Rome	4
HIST 460	Science and The Enlightenment	4
HIST 466	Age of Revolutions (1789-1849)	4
		23

LANGUAGES CONCENTRATION (HUMANITIES)

(Requires one full academic year in a study abroad program. Must be approved by Communications and Languages Department.)

French Studies

FREN 405	French Stylistics and Rhetoric	4
FREN 407	Survey of French and Francophone Literature	4
FREN 408	Contemporary French and Francophone Literature	4
FREN 496	Seminar in French	4
LANG 406	Language and Culture	4
		20

Spanish Studies

LANG 406	Language and Culture	4
SPAN 405	Spanish Stylistics and Rhetoric	4
SPAN 407	Survey of Spanish Literature	4
SPAN 408	Contemporary Latino Literature	4
SPAN 496	Seminar in Spanish	4
		20

PHILOSOPHY CONCENTRATION (HUMANITIES)

Required Courses:

PHIL 204	Essentials of Critical Reasoning	4
PHIL 316	History of Philosophy I: Ancient	4
PHIL 317	History of Philosophy II: Medieval-Early Modern	4
PHIL 318	History of Philosophy III: 18th Century to the Present	4
PHIL 496	Seminar	4
		20

RELIGIOUS STUDIES CONCENTRATION (HUMANITIES)

Humanities majors taking the Religious Studies Concentration must take RELH 303, World Religions, in the core requirements. Choose one class from each of the following categories plus additional classes to obtain a total of 20 credits for the concentration.

Textual Studies:		
RELB 421	Interpreting the Bible	4
RELB 454	Literature of the Bible	4
RELH 469	Advanced Studies	
RELT 469	Advanced Studies	
History:		
HIST 456	Medieval and Early Modern Christianity	4
RELH 205	Biblical Archaeology	4
RELH 455	Early Church History	3
Philosophy:		
PHIL 412	Philosophy of Religion	4
PHIL 305	Moral Philosophy	4
RELT 342	Issues of God and Faith	3
RELT 348	Christian Ethics	4
Sociology/Psychology:		
HONR 349	Religion in a Social Context	4
RELH/PSYC 425	Psychology of Religion	3
SOCI 449	Sociology of Religion	2
		20

See page 228 for a list of course descriptions. *Look for courses with the following prefix for the Humanities: HMNT.*

INFORMATION SYSTEMS

Jonathan Duncan (Computer Science), Josefer Montes (Business), Academic Advisers.

The information systems major is offered cooperatively by the School of Business and the Computer Science Department.

INFORMATION SYSTEMS MAJOR (BACHELOR OF SCIENCE)

The information systems major serves those students who want a career that focuses on the integrating information technology solutions and business processes to meet the information needs of businesses and other enterprises, enabling them to achieve their objectives in an effective, efficient way. The program prepares graduates for a variety of IS careers in business, government, and non-profit organizations.

A student majoring in information systems must complete the core requirements and cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the MFT exams in both Business and Computer Science.

Computer Science Core Requirements:

CPTR 141	Introduction to Programming	4
CPTR 142	Data Structures, Algorithms, and Objects I	4
CPTR 143	Data Structures, Algorithms, and Objects II	4
CPTR 301	Java and Object-Oriented System Design	4
CPTR 415	Introduction to Database Systems	4
CPTR 425	Introduction to Networking and Computer I/O	4
CPTR 435	Software Engineering	4
	*Electives	4
		32

Business Core Requirements:

ACCT 201	Principles of Accounting	4
ACCT 341	Accounting Information Systems	4
CIS 140	Computer Business Applications	4
CIS 235	Web Application Development	4
CIS 301	Management Information Systems	4
GBUS 263	Business Statistics	4
GBUS 366	Operations Management and Production	4
GBUS 370	Business Communication	4
GBUS 463	Business Ethics	4
GBUS 494	Cooperative Education/Internship	0-4
MGMT 371	Principles of Management	4
MGMT 380	Principles of Project Management	4
	**Electives	0-4
		48
GBUS 495 or ENGR 495	***Coloquium	0
	Total Credit Hours:	80

*Computer Science electives must be chosen from courses with prefix CPTR.
**Business electives may be chosen from courses with prefixes ACCT, CIS, ECON, FINA, GBUS, MGMT, or MKTG.
***Three quarters required or number of quarters in residence as a declared information systems major at WWU, whichever is less.

Cognates:

MATH 181	Analytic Geometry and Calculus I*	4
MATH 250	Discrete Mathematics	4
SPCH 101	Fundamentals of Speech Communication	4
TECH 321	Technology and Society	4

*Prerequisites Required

MATHEMATICS

Jonathan Duncan, Chair; John Foster, Ross Magi, Timothy Tiffin, Benjamin Van Dyke.

The Department of Mathematics offers programs leading to the Bachelor of Arts and Bachelor of Science degrees. It is highly recommended that mathematics majors have four years of high school mathematics.

MATHEMATICS MAJOR (BACHELOR OF ARTS)

A student majoring in mathematics must complete 46 quarter hours in the major. In addition, the student must complete the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Major Field Test (MFT) in mathematics.

Major Requirements:

MATH 181, 281-283	Analytic Geometry and Calculus I-IV	16
MATH 289	Linear Algebra and its Applications	3
MATH 312	Ordinary Differential Equations	4
MATH 451, 452	Advanced Calculus	7
MATH 461	Abstract Algebra	4
MATH 496, 497	Seminar	2
	*Electives (must include either MATH 453 or MATH 462; 9 must be upper division)	10
		46

*Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. Credit will not be given toward the major for mathematics courses with numbers below 181. **Students seeking a teaching endorsement should consult with the certification officer in the School of Education and Psychology.**

Cognate:

CPTR 141	Introduction to Programming	4

MATHEMATICS MAJOR (BACHELOR OF SCIENCE)

A student majoring in mathematics must complete 57 quarter hours in the major, consisting of the core requirements and one of four options. In addition, the student must complete the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. A student contemplating graduate work is encouraged to take a foreign language sequence. Senior students are required to take the Major Field Test (MFT) in mathematics.

Core Requirements:

MATH 181, 281-283	Analytic Geometry and Calculus I-IV	16
MATH 289	Linear Algebra and its Applications	3
MATH 312	Ordinary Differential Equations	4
MATH 496, 497	Seminar	2
		25

Cognates:
(For all concentrations except Actuarial Studies)

CPTR 141	Introduction to Programming	4
PHYS 251, 252, 253	Principles of Physics	9
PHYS 254, 255, 256	Principles of Physics Laboratory	3

Select one of the following sequences:

BIOL 141, 142, 143	General Biology	12
	or	
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
	or	
CPTR 142, 143	Data Structures, Algorithms, and Objects	8
	and	
CPTR	One Additional CPTR Course	3-4

CONCENTRATION: ACTUARIAL STUDIES

This option prepares the student to take the first actuarial examination. Students preparing for the second examination should consult with their advisers.

Required Courses:

MATH 315	Probability and Statistics	4
MATH 316	Regression and Time Series Analysis	4
MATH 341	Numerical Analysis	4
MATH 451, 452	Advanced Calculus	7
MATH	*Electives	13
		32

Actuarial Studies Cognates:

CPTR 141	Introduction to Programming	4
ACCT 201, 202	Principles of Accounting	7
ECON 211	Principles of Macroeconomics	4
ECON 212	Principles of Microeconomics	4
FINA 351	Managerial Finance	4
FINA 365	Risk and Insurance	4
FINA 441	Financial Markets and Institutions	4

CONCENTRATION: APPLIED MATHEMATICS

Required Courses:

MATH 315	Probability and Statistics	4
MATH 341	Numerical Analysis	4
MATH 316	Regression and Time Series Analysis	
	or	4
MATH 413	Partial Differential Equations	
MATH	*Electives	12-13

Select two of the following courses: 7-8

MATH 451, 452	Advanced Calculus	
MATH 461, 462	Abstract Algebra	
		32

CONCENTRATION: PREPARATION FOR GRADUATE STUDY IN MATHEMATICS

Required Courses:

MATH 451, 452, 453	Advanced Calculus	10
MATH 461, 462, 463	Abstract Algebra	12
MATH	*Electives	10
		32

CONCENTRATION: PREPARATION FOR SECONDARY TEACHING IN MATHEMATICS

Required Courses:

MATH 250	Discrete Mathematics	4
MATH 315	Probability and Statistics	4
MATH 321	Geometry	4
MATH 360	Introduction to the History of Mathematics	4
MATH 451, 452	Advanced Calculus	7
MATH 461	Abstract Algebra	4
MATH	*Electives	5
		32

*Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. Credit will not be given for mathematics courses with numbers below 181. **Students seeking a teaching endorsement should consult with the certification officer in the School of Education and Psychology.**

MATHEMATICS MINOR

A student minoring in mathematics must complete 28 quarter hours:

Required Courses:

*Electives (6 must be upper division)	28

Credit will not be given toward the minor for MATH 206, MEDU 395 or for mathematics courses numbered below 181.

*Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

Because of the unique nature of the professional curriculum of the engineering degree, any mathematics course taken to meet any requirement for the BSE degree is considered a cognate and therefore can be simultaneously counted toward the credit requirements for a mathematics minor.

MINOR IN MATHEMATICS FOR MIDDLE SCHOOL TEACHERS

Required Courses:

MATH 112, 113	Mathematics for Elementary Teachers	6
MATH 181, 281, 282	Analytic Geometry and Calculus I, II, III	12
MATH 206	Applied Statistics	4
MATH 250	Discrete Mathematics	4
MATH 289	Linear Algebra and its Applications	3
MATH 321	Geometry	4
MATH 360	Introduction to the History of Mathematics*	4
		37

*MATH 360 has a prerequisite of MATH 283 or permission of instructor.

See page 228 for a list of course descriptions. *Look for courses with the following prefixes for the Mathematics Department: MATH, MDEV, and MEDU.*

MUSIC

Karin Thompson, Chair; Brandon Beck, Leonard Richter, Lyn Ritz, Kraig Scott.

Instruction and experiences in music are provided to prepare students for careers in music, guide in the development of performance skills, heighten aesthetic sensitivity, and enhance the cultural setting of both campus and community.

The department offers the Bachelor of Arts and Bachelor of Music degrees. In each the main purpose is to develop in the student a conceptual understanding of historical and theoretical perspectives in music and their interrelationships as they affect listening, composing, and performing.

The Bachelor of Music degree is a professional program with a choice of two majors: Music Education or Music Performance. The Bachelor of Arts is a liberal arts degree. Formal acceptance as a music major or minor is accomplished by passing a performance audition before the music faculty and completing Theory I and Ear Training 1.

Requirements for minimum piano proficiency must be completed before students can be advanced to upper-division performance standing in their major applied area. Students whose major performance emphasis is in a keyboard instrument are exempt from this requirement. Standing as a music major or minor is a prerequisite for enrollment in upper-division music courses.

All students pursuing music degree programs will participate in a primary departmental music organization (ensemble) during each quarter in residence. Music minors must participate in a primary music organization during each quarter that they take lessons from departmental faculty. All students will enroll for either credit or zero credit. University Singers (MUPF 215) serves as the primary ensemble for students whose performance area is voice; Wind Symphony (MUPF 255) for brass, wind, and percussion students; Symphony Orchestra (MUPF 266) for string students. Students whose performance area is in a keyboard instrument will participate in the primary ensemble of their choice. Keyboard majors may substitute up to three quarters of Piano Ensemble (MUPF 285) toward the fulfillment of this requirement.

The department lists a number of requirements for its majors which must be met without credit. These include concert and recital attendance, and performance classes. Detailed information regarding these and other requirements is included in the *Handbook for Students and Teachers*, available at the music office and online at music.wallawalla.edu.

Transfer students majoring in music must take a minimum of six quarter hours in applied music at Walla Walla University. All majors must continue study in their primary applied area until completion of the Senior Recital.

Senior students are required to take the Music MFT (as a departmental exit exam), and an exit survey.

MUSIC EDUCATION (BACHELOR OF MUSIC)

A student majoring in music education must complete a total of 192 quarter hours, including all baccalaureate degree requirements as outlined in this bulletin, the major core requirements and one emphasis, as well as the bachelor of music general studies requirements and certification requirements as outlined below. This curriculum provides for K-12 state teaching certification. Students who are considering graduate study are strongly encouraged to take the general GRE.

Bachelor of Music General Studies Requirements:

ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
HIST 120, 121, 122	History of Western Civilization	8
	Environmental Studies	2-8
HLTH	*Health	2
PEAC	Physical Education Activity Courses	2
	Social Science Elective (as required by general studies)	4
	Mathematics and Natural Science (as required by general studies)	12
RELB, RELH, RELT	*Religion and Theology	18
		55

*Denominational certification requires specific classes. See Education and Psychology section of this bulletin.

Music Education Degree Core Requirements:

MUCT 121, 122, 123	Theory I	9
MUCT 131, 132, 133	Ear Training I	3
MUCT 124	Music Notation Lab	1
MUCT 221, 222, 223	Theory II	9
MUCT 231, 232, 233	Ear Training II	3
MUCT 424	Form and Analysis	3
MUCT 425	Orchestration	3
MUCT 426	Counterpoint	3
MUHL 134	World Music	4
MUHL 321, 322, 323	History of Music	12
MUPF 361	Basic Conducting	2
MUPF	Organizations	10
MUPF 487	Senior Recital: Music Major	0
		62

MUSIC EDUCATION TEACHER CERTIFICATION

Students wishing teacher certification must take the following courses and fulfill certification requirements as listed by the School of Education and Psychology.

Required Courses:

MUED 395	Elementary School Music Methods and Materials	3
MUED 396	Secondary Music Methods	3

MUSIC EDUCATION EMPHASES (INSTRUMENTAL, CHORAL)

State certification is available in choral or instrumental music. (Note that the choral emphasis includes additional keyboard studies.) Guidelines for both options are available from the School of Education and Psychology. Students choose one of the following two emphases, depending on their certification goals:

Instrumental Emphasis

MUED	Instrumental Techniques and Methods Classes	8
MUPF	*Applied Music	20
MUPF	Voice Performance Studies	1
MUPF	Conducting	6
		35

Choral Emphasis

MUED 251, 252, 253	Singer's Diction	3
MUED 354	Vocal Techniques and Methods	3
MUPF	*Applied Music	20
MUPF	Keyboard Performance Studies	6
MUPF	Conducting	6
		38

*The student will choose these hours, eight of which must be upper-division, in one applied field. The upper-division hours must be distributed over at least three quarter hours. A maximum of three hours of MUPF 127 may apply to the major. Students who reach a high level of proficiency may, with music faculty approval and guidance, complete this requirement by electing courses which will strengthen their preparedness in other areas within the music field. In no case will the student take fewer than 15 quarter hours in one applied field.

MUSIC PERFORMANCE (BACHELOR OF MUSIC)

A student majoring in music performance must complete 116 quarter hours in the major, 65 hours in bachelor of music general studies as listed below, and all baccalaureate degree requirements as outlined in this bulletin. (This curriculum does not result in state teaching certification.) Students who are considering graduate study are strongly encouraged to take the general GRE.

Bachelor of Music General Studies:

ENGL 121, 122	College Writing I	6
ENGL 223	Research Writing	3
FREN 101, 102, 103	Elementary French	
	or	12
GRMN 101, 102, 103	Elementary German	
	(German recommended)	
HIST 120, 121, 122	History of Western Civilization	8
	Environmental Studies	2-8
	Humanities (non-music)	4
	Mathematics and General Science	12
	(as required by general studies)	
PEAC	Physical Education Activity Courses	2
RELB, RELH, RELT	Religion and Theology	16
		63

Music Performance Core Requirements:

MUCT 121, 122, 123	Theory I	9
MUCT 131, 132, 133	Ear Training I	3
MUCT 124	Music Notation Lab	1
MUCT 221, 222, 223	Theory II	9
MUCT 231, 232, 233	Ear Training II	3
MUCT 335	Composition	3
MUCT 424	Form and Analysis	3
MUCT 425	Orchestration	3
MUCT 426	Counterpoint	3
MUHL 134	World Music	4
MUHL 321, 322, 323	History of Music	12
MUPF 361	Basic Conducting	2
MUPF	Conducting (other)	2
MUPF	Organizations	11
MUPF	*Applied Music (one area)	48
MUPF 387	Junior Recital	0
MUPF 487	Senior Recital: Music Major	0
		116

*Twenty hours in the primary performance area must be upper division and must be distributed over at least five quarters. A maximum of 3 hours of MUPF 127 in the major performance area may apply to the major. The requirements listed below must be completed according to a student's primary area, as indicated. These performance requirements may be counted toward the applied music core requirement of 48 hours.

Piano Majors:

MUPF 127	Organ or Harpsichord	3
MUPF 276	Accompanying Practicum	0, 0, 0
MUPF 351	Advanced Keyboard Skills	1, 1, 1

Organ Majors:

MUPF 127	Piano or Harpsichord	3
MUPF 276	Accompanying Practicum	0, 0, 0
MUPF 351	Advanced Keyboard Skills	1, 1, 1

Instrumental Majors:

MUPF 285	Chamber Ensemble	3
MUPF 127	Applied lessons in an instrument of the same family	3

Voice Majors:

MUED 251, 252, 253	Singer's Diction	1, 1, 1
MUED 354	Vocal Techniques and Methods	3

MUSIC MAJOR (BACHELOR OF ARTS)

A student majoring in music must complete 66 quarter hours in the major, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Students who are considering graduate study are strongly encouraged to take the general GRE.

Major Requirements:

MUCT 121, 122, 123	Theory I	9
MUCT 131, 132 ,133	Ear Training I	3
MUCT 124	Music Notation Lab	1
MUCT 221, 222, 223	Theory II	9
MUCT 231, 232, 233	Ear Training II	3
MUCT 424	Form and Analysis	3
MUCT 425	Orchestration	
	or	3
MUCT 426	Counterpoint	
MUHL 134	World Music	4
MUHL 321, 322, 323	History of Music	12
	Electives[1]	4

Choose one of the following course groups:

MUPF	Applied Music[2]	15
MUPF 487	Senior Recital: Music Major	0
	or	
MUPF	Applied Music[3]	12
MUHL 479	Directed Research/Project	3
		66

1. Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

2. A maximum of 3 hours of MUPF 127 may apply to the major. Six hours in the primary performance area must be upper-division and must be distributed over at least three quarters.

3. A maximum of 3 hours of MUPF 127 may apply to the major. With faculty permission, a conducting or research project may be substituted for the senior recital. In this case, 3 hours in the primary performance area must be upper division, and the project credits must be distributed over at least three quarters.

MUSIC MINOR

A student minoring in music must complete 30 quarter hours:

Required Courses:

MUCT 121, 122, 123	Theory I	9
MUCT 131, 132, 133	Ear Training I	3
MUCT 124	Music Notation Lab	1
MUHL 124	Introduction to Music	
	or	
MUHL 134	World Music	4
MUPF	*Applied Music	
MUPF 486	Senior Recital: Music Minor	8
	Electives (2 must be upper-division)	0
		5
		30

*A maximum of 3 hours of MUPF 127 may apply to the minor. Three hours must be upper division. Participation in an ensemble appropriate to the applied area is required during each quarter of applied music studies.

See page 228 for a list of course descriptions. *Look for courses with the following prefixes for the Music Department: MUCT, MUED, MUHL, and MUPF.*

COOPERATIVE EDUCATION

In selected programs, students may blend their academic study with career-related, paid, productive employment in business, industry, government, or social agencies. Co-op/Internships, full or part-time, are arranged by the student or through academic departments. Duration of appointments is typically one quarter but may be extended or repeated. One credit hour of cooperative education is equal to 30 work hours. Also required is an accurate and complete file as directed through the Career Center. Supervision and evaluation are the responsibility of the co-op adviser in the student's major field of study, the student's employer, and the University co-op coordinator.

Participants in the Cooperative Education Program may gain valuable work experience while earning university credit. For more information, students may contact their academic departments and the Career Center.

Program Guidelines

The following are academic guidelines for the Cooperative Education program: (1) a minimum of 30 hours of approved activity/experience must be completed to have a Cooperative Education experience recorded on the transcript for 0 credit; (2) for each credit earned, a minimum of 30 hours of approved activity must be completed; (3) the Cooperative Education experience/credit is restricted to the major; (4) excess hours cannot be used toward general electives.

See page 228 for a list of course descriptions. *Look for the following prefixes to find Nondepartmental courses: CDEV, DENT, SMTF, GNRL, and RDNG.*

SCHOOL OF NURSING

Lucille Krull, Dean; Kari Firestone, Associate Dean; Rosemarie Buck Khng, Emilie Butler, Debbie Lampson, Mary McClay, Michelle MacLachlan, Michaelynn Paul, Karen Tetz, Jan Vigil, Lynn Wagner.

The School of Nursing offers a four-year program leading to a baccalaureate degree with a major in nursing. The purpose of the program is to prepare professional nurses to function in a variety of settings and to provide a foundation for graduate study.

The freshmen and sophomore years of the nursing curriculum are taken on the College Place campus and include a combination of general studies, nursing cognates, and nursing courses. The junior and senior years are taken on the Portland, Oregon campus. A limited number of students who have completed the required prerequisites and admissions procedures can take sophomore nursing courses during the summer term on the Portland campus.

The Portland campus is located adjacent to the Adventist Medical Center. The nursing education building houses teachers' offices, classrooms, and the library. The Howard F. Hansen Hall is the residence for students on the Portland campus.

The School has contractual agreements for student clinical experience in a variety of settings, including community hospitals, service agencies, home-care and extended care facilities, and schools.

Upon completion of the program, graduates are eligible to apply for the National Council Licensure Examination for Registered Nurses (NCLEX-RN) in the jurisdiction of choice. The Accreditation Commission for Education in Nursing (ACEN) serves as an additional resource for information regarding required tuition, fees, and length of program.

Accreditation
The School of Nursing is fully accredited by the Accreditation Commission for Education in Nursing. The program is approved by the Washington State Nursing Care Quality Assurance Commission and the Oregon State Board of Nursing.

Admission
Applicants must first apply for admission online to the University through Marketing and Enrollment Services. See the admission requirements to the University. Additional requirements are listed below for each student category.

Once admitted to the University and prior to entering the first clinical nursing course (usually before beginning the sophomore year), each student must be accepted to the School of Nursing as a nursing major. A separate online nursing application must be submitted. Priority will be given to qualified applicants with 24 or more credits from WWU including past and current enrollment. Applicants must have been enrolled at WWU within the past two quarters at the time of application to be given this priority.

The following requirements must be met for all categories of nursing applicants:

1. Have an acceptable grade point average (see categories below) and submit all official transcripts. Credits in Anatomy and Physiology, Chemistry, and Microbiology that are more than five years old will not be applied as cognates.
2. Submit the completed online School of Nursing application.
3. Submit two additional letters of recommendation besides the one required for admission to the University (prefer teacher, employer, or co-worker).
4. Have a passing score on the required entrance tests; reading comprehension, critical thinking/reasoning, and math. Schedule with adviser. See the Financial Bulletin for required testing fee.
5. Have a minimum TOEFL score of 550 (paper test) or 213 (computer based test) for those whose native language is not English. This must be passed before taking the reading comprehension, critical thinking/reasoning, and math tests.

After acceptance into the School of Nursing, the following are required:

1. A fee is required to secure a place in the program. The fee will be applied to tuition. If the applicant does not enroll in the program, the fee is not refundable (See Financial Bulletin for fee amounts).
2. Each nursing student is subject to a security check. The School of Nursing reserves the right to deny admission or remove students from the nursing program who have records of misconduct, legal or otherwise, that would jeopardize their professional performance. State licensure boards reserve the right to deny licensure in their states if applicants have a criminal history.
3. Have required immunizations and TB testing. Submit immunization records to Campus Health and Wellness Office for the College Place, Washington, campus or to the School of Nursing for the Portland, Oregon, campus.
4. Obtain health insurance. Provide necessary information on the WWU health care insurance plan form, required yearly, or whenever health insurance is changed.
5. Prior to taking clinical coursework, a student must obtain current American Heart Association cardiopulmonary resuscitation (CPR) certification for health care providers. Submit a copy of your CPR-health care provider card to the School of Nursing. Current CPR certification must be maintained while enrolled in the nursing program
6. Purchase the standard School of Nursing uniform, available at the School of Nursing office. (The uniform is the same for both campuses.)

Additional admission requirements must be met for each of the following categories in the nursing program.

Category 1, Autumn Nursing Applicant: College Place, Washington, campus. In addition to the admission requirements above, applicants must have successfully completed prerequisite courses and have a GPA of 2.75 or above. The School of Nursing begins reviewing applicants on April 15 and continues until the class is full. Applicants will be notified of their status by the School of Nursing.

Category 2, Summer Entry Applicant; Portland, Oregon, campus. In addition to the admission requirements above, applicants must have a 3.25 GPA or above and have successfully completed at least 85 credits of the required cognates, general studies, and electives that apply to the nursing major. The School of Nursing begins reviewing applicants on February 1 and continues until the class is full. Applicants will be notified of their status by the School of Nursing.

Category 3, Transfer Student from Another Nursing Program. In addition to the admissions requirements above, the applicant must:

1. Be a current student or a student within the past two years of an accredited school of nursing. The applicant must be in good standing with the previous institution with a cumulative GPA of at least 2.75 and no grade of C- or below in nursing classes or cognate courses.
2. Submit a letter of recommendation from the dean of the school of nursing from which the applicant is transferring.
3. Submit nursing class syllabi as requested for evaluation. Placement in nursing courses will be determined by review of syllabi from completed nursing courses. The previous nursing school may be consulted concerning their curriculum content and sequence. General studies and cognate courses will be transferred according to WWU policy. Transfer students will be evaluated individually to determine program placement and accepted on a space-available basis.

Category 4, Registered Nurse (RN) Applicant. In addition to the admission requirements above, applicants must:

1. Hold an associate degree in nursing from a regionally accredited college and have at least a 2.75 GPA.
2. Have an unrestricted registered nurse license in the State of Oregon. Submit a copy of this license to the School of Nursing. License must remain unrestricted throughout the program.
3. Submit to the School of Nursing a letter of recommendation from the director of the school of nursing from which the applicant graduated; or from the employer if applicant is more than five years from graduation.

4. Complete validation process. The School of Nursing does not directly transfer in nursing courses from another school of nursing, but uses a process of validation of previous nursing education to give advanced placement to RN's with an associate degree in nursing. Placement in the program is determined by completed cognates and general studies courses and by validation examination on a space-available basis.

    a. The licensed RN who completed an associate degree in nursing and passed the NCLEX-RN ***more*** than five years prior is required to pass a standardized examination to validate nursing knowledge. (Fee Applies). After passing the validation exam, the student will receive credit; see course description NRSG 291 and NRSG 391.

    b. The licensed RN who completed an associate degree in nursing and passed the NCLEX-RN ***within*** five years is not required to take a validation examination. Upon providing proof of licensure in Oregon and an official A.D. transcript, the student will receive credit; see course description NRSG 291 and NRSG 391.

Category 5, Licensed Practical Nurse (LPN). In addition to the above admission requirements, the LPN applicant must:

1. Have an unrestricted LPN license in any state. Submit a copy to the School of Nursing. License must remain unrestricted throughout the program.
2. Have at least a 2.75 GPA with no grades of C- or below in prior nursing courses or cognate courses.
3. Have completed 85 transferrable credits of required cognates, general studies and electives that apply to the nursing major. Applicants are accepted on a space-available basis.
4. Take a standardized examination to validate nursing knowledge and receive advanced standing as a junior level student. (Fee Applies.) After passing the validation exam, the student will receive credit; see course description NRSG 290.

Progression and Graduation Requirements

Any student with a WWU grade-point average less than 2.75 will be placed on conditional progression status and be limited to 12 credits for the following quarter. If after one quarter, the student has not achieved a 2.75 GPA, he or she may not enroll in another clinical nursing course until the GPA is above 2.75. Clinical courses may be repeated to improve the GPA if space is available.

Students who receive a grade lower than a C or withdraw because they are failing in a required nursing course cannot enroll in further nursing courses until approved to register by the School of Nursing Dean. A written request for approval to register and a written plan for improvement must be submitted. Approval to register is granted or denied on a case-by-case basis by the nursing faculty. If a request is denied, the student is dismissed from the nursing program. Readmission to the School of Nursing is also contingent upon meeting the following criteria: 1) meet all admission requirements and 2) complete all

outstanding work including standardized examinations. Readmission is not guaranteed and space for re-entering students may be limited.

A passing grade in a course cannot be achieved without the successful completion of the clinical portion. An unsatisfactory clinical grade or a grade below C in the theory portion of any clinical course requires that the total course be repeated, both theory and clinical, prior to further progression in the program. Students with an incomplete in a clinical nursing course, NRSG 211, NRSG 212, NRSG 213, NRSG 321, NRSG 331, NRSG 344, NRSG 421, NRSG 437, NRSG 441, cannot begin the next clinical course until the incomplete is removed.

Standardized examinations are given after completion of designated sophomore and junior nursing courses. Students who fail to achieve a satisfactory score must enroll in remedial courses. Students who do not pass a standardized examination in three attempts must stop progression in the nursing program. Exam material must be reviewed by auditing the theory component of the course connected with the exam. After auditing the class, students have one more chance to take the exam. If students still do not pass the exam on the fourth attempt, they may not continue as nursing majors. All sophomore and junior level standardized tests must be passed prior to entrance into any senior nursing classes.

Students must earn a grade of C or better in every required nursing course within a level of course work before progressing to a higher level.

During the last quarter of the senior year, two standardized comprehensive nursing examinations are given. A passing score must be achieved on one exam to graduate. Graduation will be delayed and the student will not be eligible to take the NCLEX-RN until a satisfactory score is achieved.

Students who are judged to be unsafe practitioners will be removed from the clinical area and are subject to dismissal as nursing majors.

Students must graduate within two years of completion of nursing courses to be recommended to take the NCLEX-RN exam.

Student Responsibilities

The School of Nursing Student Handbook is given to all nursing students. Students have the responsibility to acquaint themselves with its contents and are held accountable for all policies therein.

Students are responsible for their own transportation to agencies used for educational experience. The use of a car is essential for each student to reach clinical sites. Transportation costs, including auto insurance, are the student's responsibility.

Some clinical agencies require an additional background security check and a drug screening. Students are responsible for any fee.

Any student missing class or lab time during the first week of a quarter for any reason, is required to make up that time with the instructor. The student will be charged a fee for each instructor hour of this make-up time. See *Financial Bulletin*. Students electing not to make up the time missed must withdraw from the course.

NURSING MAJOR (BACHELOR OF SCIENCE)

A student majoring in nursing must complete 83 quarter hours in nursing courses, the required cognates, the general studies program, and all baccalaureate degree requirements for a total of 192 quarter hours as outlined in this bulletin. In compliance with the regulations of the state, the School of Nursing reserves the right to revise, add or withdraw courses as necessary to ensure a quality nursing program. A minimum grade-point average of 2.75 is required. No grade lower than C will apply.

Required Courses:

NRSG 210	Introduction to Nursing	3
NRSG 211	Fundamentals of Nursing	4
NRSG 212	Health Assessment and the Nursing Process	4
NRSG 213	Pharmacology in Nursing	4
NRSG 321	Nursing of the Acutely Ill Adult	8
NRSG 325	Research in Nursing	4
NRSG 331	Mental Health Nursing	8
NRSG 344	Nursing of the Family	8
NRSG 354	Pathophysiology	5
NRSG 421	Nursing of the Chronically Ill	8
NRSG 431	Nursing Management	3
NRSG 437	Advanced Acute Nursing	8
NRSG 441	Community Health Nursing	8
NRSG 445	Issues and Trends in Nursing	3
NRSG 475	Interpreting Lab Values	
	or	2
NRSG 490	Nursing Practicum	
NRSG 450	NCLEX Review	3
		83

NRSG 325: This course is a prerequisite for 400 level nursing clinical courses

Cognates: No grade lower than C will apply.

BIOL 121, 122, 123	Anatomy and Physiology	12
BIOL 222	Microbiology	5
CHEM 101, 102	Introductory Chemistry	8
HLTH 220	Human Nutrition	4
MATH 206	Applied Statistics	4
PSYC 130	General Psychology	4
SOCI 204	General Sociology	4
SOCI 236	Privilege and Oppression	4
SOWK 224	Human Development and The Family	4
SPCH 101	Fundamentals of Speech Communication	
	or	3-4
SPCH 207	Small Group Communication	
		52-53

General Studies: See the General Studies section of this Bulletin.

PEAC	Physical Education Activity Courses	2
HIST	History	8
	Humanities (fine arts, literature, philosophy)	12
ENGL 121	College Writing I	3
ENGL 122	College Writing II	3
ENGL 223	Research Writing	3
	Religion and Theology (minimum of 6 quarter hours in Biblical Studies)	16
	General Studies Electives (varies)	9

See page 228 for a list of course descriptions. *Look for courses with the following prefix for the School of Nursing: NRSG.*

PHYSICS

Thomas Ekkens, Chair; Roy Campbell, Frederic Liebrand.

The department offers a Bachelor of Science degree with a major in physics. It also offers a major in biophysics in cooperation with the department of biology. A degree in physics prepares a student for a career in industry, for graduate study, and/or for careers in research and teaching. The Bachelor of Science degree is designed to provide extensive preparation for each of these, with the opportunity to gain practical experience in a research or industrial setting.

The interdisciplinary biophysics major fills the needs of the student who plans a career in medicine or who plans on research and advanced study into the physics of living systems.

For entrance, 30 semester credits of secondary mathematics chosen from algebra, plane and solid geometry, and trigonometry are required. (See the Interdisciplinary section of this bulletin)

PHYSICS MAJOR (BACHELOR OF SCIENCE)

A student majoring in physics must complete 60 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (Physics) sections and report the results to the Physics Department.

Each Bachelor of Science major is required to perform either: 1) a summer Research Experience for Undergraduates (REU) program or equivalent; 2) an industrial co-op experience; or 3) an on-campus project undertaken with departmental faculty under the course listing PHYS 479, Directed Research/Project.

Required Courses:

PHYS 251, 252, 253	*Principles of Physics	9
PHYS 254, 255, 256	Principles of Physics Laboratory	3
PHYS 310, 311	Modern Physics I	6
PHYS 313	Thermodynamics	4
PHYS 314	Modern Physics Laboratory I	1
PHYS 316	Modern Physics Laboratory II	1
PHYS 340	Introduction to Matlab and Mathematica	2
PHYS 401, 402	Electricity and Magnetism	8
PHYS 414, 415	Experimental Physics I	2
PHYS 419	Graduate Review	1
PHYS 420, 421	Classical Mechanics	6
PHYS 422, 423	Quantum Mechanics	6
PHYS	Electives	11
		60

*Students completing PHYS 211, PHYS 212, PHYS 213 may meet the PHYS 251, PHYS 252, PHYS 253 requirement upon departmental validation.

Electives:

Physics electives may be chosen from the following courses or chosen in consultation with adviser:

PHYS 312	Physical Electronics	3
PHYS 315	Physical Electronics Laboratory	1
PHYS 321	Modern Optics I	3
PHYS 325	Modern Optics II	3
PHYS 326, 327	Modern Optics Laboratory I, II	2
PHYS 331	Introduction to Nanotechnology	3
PHYS 332	Introduction to Nanotechnology Laboratory	1
PHYS 431, 432	Mathematical Physics	6
PHYS 470	Biophysics	4
PHYS 479	Directed Research/Project	1-3

Required Cognates:

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CPTR 141	Introduction to Programming	4
ENGR 228	Circuit Analysis	4
MATH 181, 281-283	Analytic Geometry and Calculus I-IV	16
MATH 289	Linear Algebra and its Applications	
	or	3-4
MATH 423	Complex Analysis	
MATH 312	Ordinary Differential Equations	4

Recommended Courses:

ASTR 142, 143	General Astronomy	6
ASTR 145, 146	General Astronomy Lab	2
ENGR 325	Instrumentation	3
ENGR 354	Digital Logic	3
MATH 315	Probability and Statistics	4
MATH 341	Numerical Analysis	4
MATH 413	Partial Differential Equations	4
MATH 423	Complex Analysis	4

BIOPHYSICS MAJOR (BACHELOR OF SCIENCE)

The biophysics major is a joint program offered by the Department of Biological Sciences and the Department of Physics. See the Interdisciplinary Programs section (p. 159) of this bulletin.

PHYSICS MINOR

A student minoring in physics must complete 27 quarter hours in physics. Either the Principles of Physics sequence or the General Physics sequence, but not both, are required of all minors. PHYS 310 Modern Physics I and PHYS 314 Modern Physics Laboratory I are required of all minors. For students also completing the BSE, these requirements are modified as below:

1. For BSE students with a concentration in Electrical Engineering or a concentration in Computer Engineering the following modifications apply:
   - If the student has satisfactorily completed PHYS 313 Thermodynamics as a substitution for ENGR 332 Thermodynamics, the total required quarter hours for a minor are reduced by 4 quarter hours.
   - If the student has received departmental certification of satisfactory knowledge of PHYS 401 after satisfactory completion of ENGR 451 the total required quarter hours for a minor are reduced by 3 quarter credit hours.
   - If the student has received departmental certification of satisfactory knowledge of PHYS 312 and PHYS 315, respectively by satisfactory completion of ENGR 312 and ENGR 315, respectively, the total required quarter hours for a minor are reduced by 3 and 1 quarter credit hours, respectively.
2. For BSE students with a concentration in Mechanical Engineering the following modifications apply:
   - If the student has satisfactorily completed ENGR 332 Thermodynamics and received departmental certification of satisfactory knowledge in PHYS 313 Thermodynamics, the total required quarter hours for a minor are reduced by 4 quarter hours.

Because of the unique nature of the professional curriculum of the engineering degree, any physics course taken to meet any requirement for the BSE degree is considered a cognate and therefore can be simultaneously counted toward the credit requirements for a physics minor.

As a result of overlap in course content of ENGR 312, ENGR 315, and ENGR 332 with physics courses, these courses may be simultaneously counted toward both a BSE degree and a physics minor.

See page 228 for a list of course descriptions. *Look for courses with the following prefixes for the Physics Department: ASTR and PHYS.*

PREPROFESSIONAL PROGRAMS

The University offers courses required for admission to professional or technical schools. Most preprofessional curricula require two units of high school mathematics (algebra and geometry). All programs should be planned in consultation with and approved by the assigned academic adviser.

The requirements for Loma Linda University are listed in this bulletin for some programs. Requirements for admission to preprofessional programs vary among different professional schools and are subject to change. Students should request information about current admission requirements from the professional school they plan to attend.

Completion of courses listed in the Preprofessional Programs does not assure acceptance into the professional school of your choice. For up-to-date requirements for Loma Linda School of Allied Health Professions, see the http://www.llu.edu/allied-health/sahp/transfer/index.page.

Please note that C- grades are not transferable for credit.

CHIROPRACTIC

Steven Lee, Academic Adviser.

Two years of college work are generally required, including one year of biology and at least one year of chemistry. Students should obtain a bulletin from each chiropractic college where they may wish to apply for information on specific entrance requirements. Of the dozen approved schools in the United States, Western States Chiropractic College in Portland, Oregon, is the only one in the Northwest. The admission requirements of Western State Chiropractic College presently include one-year courses in general chemistry, organic chemistry, general biology, and general physics.

CYTOTECHNOLOGY

Steven Lee, Academic Adviser.

Students preparing for the Bachelor of Science degree in Cytotechnology should plan to complete 96 quarter hours before entering the professional training. The curriculum requirements of Loma Linda University include:

ANTH 225	Cultural Anthropology	
	or	4
SOCI 236	Privilege and Oppression	
BIOL 141, 142, 143	General Biology	12
BIOL 121, 122, 123	Anatomy and Physiology	12
BIOL 222	Microbiology	5
CHEM 141-146	General Chemistry	12
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3

HLTH 110	Wellness for Living	3
	or	
HLTH 220	Human Nutrition	4
MATH 117	Accelerated Precalculus	
	or	4-5
MATH 121	Precalculus Mathematics I	
PEAC	Physical Education Activity Courses	2
	Humanities	9-12
	Select courses from at least three subject areas: ART 251; MUHL 124, 134 (Applied ART/MUS 2 hrs max); PHIL 205, 206; HIST 120, 121, 122, 221, 222; ENGL 204, 207; Any foreign language.	
	Religion	4 credits per year
	Social Sciences	12-16
	Select from at least two areas: ECON 204, 211, 212; HIST 224, 454; PSYC 130, 215, 220; SOCI 204, 225.	
	Electives	
	To meet the minimum of 98 quarter hours (choose from SPCH 101, CIS 140)	

DENTISTRY

Anthony Smith, Joan Redd, Academic Advisers.

The minimum requirement for admission to dentistry is 144 quarter hours. However, most dental schools expect candidates to have completed a bachelor's degree. The following courses are basic requirements for Loma Linda University School of Dentistry and other dental schools may also have similar requirements:

BIOL 141, 142, 143	General Biology	12
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Chemistry Laboratory	2
CHEM 431, 432	Foundations of Biochemistry	8
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Laboratory	3

Loma Linda University also recommends additional courses selected from the following areas:

Accounting
Anatomy
Business Management
Cellular and Molecular Biology
Ceramics
Communication
Genetics
Histology
Immunology
Microbiology
Neuroscience
Psychology
Religion
Sculpture
Statistics
Systems Physiology

The Pre-Dental student should choose a major and plan for a degree even though she/he may be accepted to dentistry prior to completion of degree requirements.

EMERGENCY MEDICAL CARE/CARDIOPULMONARY SCIENCES

Joan Redd, Academic Adviser.

Students preparing for the Bachelor of Science degree in emergency medical care/cardiopulmonary sciences should plan to complete 48 quarter hours before entering the professional training. The curriculum requirements of Loma Linda University include:

ANTH 225	Cultural Anthropology (may be taken while in the program)	
	or	
SOCI 236	Privilege and Oppression	4
BIOL 121	Anatomy and Physiology	
	or	
BIOL 122	Anatomy and Physiology	4
BIOL 222	Microbiology	
CHEM 101	Introductory Chemistry	5
ENGL 121, 122	College Writing I, II	4
ENGL 223	Research Writing	6
HLTH 110	Wellness for Living	3
	or	
HLTH 220	Human Nutrition	3-4
MATH 121	Precalculus Mathematics I	
PEAC	Physical Education Activity Courses	4
PHYS 201, 204	Conceptual Physics (or high school physics)	2
PSYC 130	General Psychology	0-4
	Select 8 additional credits from PSYC 215, 220, SOCI 204	4

	Humanities Select courses from at least three subject areas: ART 251; MUHL 124; ENGL 204, 214; PHIL 205, 206; HIST 120, 121, 122, 221, 222; Any foreign language.	9-12
	Religion	4 credits per year
	Electives To meet the minimum of 48 quarter hours. Recommended: SPCH 101, CPTR 110.	

Additional general education courses may be taken at WWU before transferring.

HEALTH INFORMATION ADMINISTRATION

Steve VanOrden, Academic Adviser.

Students preparing for the Bachelor of Science degree in health information administration should plan to complete 96 quarter hours before entering the professional training. The curriculum requirements of Loma Linda University include:

ACCT 201	Principles of Accounting	4
ANTH 225	Cultural Anthropology	4
	or	
SOCI 236	Privilege and Oppression	4
BIOL 121	Anatomy and Physiology	4
BIOL 122	Anatomy and Physiology	4
BIOL 123	Anatomy and Physiology	4
CPTR 110	Principles of Computing	2
ENGL 121	College Writing I	3
ENGL 122	College Writing II	3
ENGL 223	Research Writing	3
GBUS 370	Business Communication	4
HLTH 110	Wellness for Living	3
	or	
HLTH 220	Human Nutrition	4
MATH 105	Finite Mathematics	4
	or	
MATH 121	Precalculus Mathematics I	4
NRSG 234	Medical Terminology	2
PEAC	Physical Education Activity Courses	2
PSYC 130	General Psychology	4
	Humanities Select courses from: ART 251; MUHL 124, 134 (Applied ART/MUS 2 hrs max); PHIL 205, 206; HIST 120, 121, 122, 221, 222; ENGL 204; Any foreign language.	9-12

	Natural Sciences/Mathematics Select courses from: CHEM 101, 102, 103; MATH 121; PHYS 201, 204	0-4
	Religion	4 cr. per year
	Social Sciences Select from at least two areas: ECON 204, 211, 212; GEOG 252; PLSC 224; SOCI 204, 225	8-12
	Electives To meet the minimum of 96 quarter hours.	

LAW

Terrell Gottschall, Academic Adviser.

There is no specific curriculum for prelaw students. Courses designed to develop skills in oral and written communication and the ability to reason and think analytically are strongly recommended. This would include, for example, course work in history, political science, economics, English and speech.

Most law schools require a bachelor's degree and a satisfactory grade-point average and score on the Law School Admission Test (LSAT) for admission. Law schools vary in the levels of achievement required for admission. Students planning to study law are encouraged to consult with the prelaw adviser.

MEDICINE

Shirley Anderson, David Lindsey, Janice McKenzie, Academic Advisers.

The basic entrance requirements are not exactly the same for all medical schools. Most medical schools require completion of a bachelor's degree with a grade-point average of 3.50 or above, computed separately for science and nonscience courses. The following courses are normally required by Loma Linda University:

BIOL 141, 142, 143	General Biology*	12
CHEM 141, 142, 143	General Chemistry*	9
CHEM 144, 145, 146	General Chemistry Laboratory*	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Chemistry Laboratory	2
MATH 121, 122	Precalculus Mathematics I, II	
	or	
MATH 117	Accelerated Precalculus	4-8
	or	
MATH 181	Analytic Geometry and Calculus I	
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Laboratory	3
	or	12
PHYS 251, 252, 253	Principles of Physics	
PHYS 254, 255, 256	Principles of Physics Laboratory	
	Religion	16

*AP and CLEP credits do not meet Loma Linda University requirements for General Chemistry or General Biology.

Also recommended are:

BIOL 449	Vertebrate Histology	4
BIOL 466	Immunology	4
CHEM 431	Foundations of Biochemistry	4
MATH 181	Analytic Geometry and Calculus I	4
MATH 206	Applied Statistics	4

If applying to a medical school other than Loma Linda University, the student should refer to the bulletin of that institution for specific entrance requirements.

MEDICAL TECHNOLOGY

Steven Lee, Academic Adviser.

Students interested in entering the field of medical technology should be aware that entry can be made through several different types of programs. There are three common types of programs available through our sister Seventh-day Adventist institutions and in the Pacific Northwest. They are briefly summarized below:

a. Two-plus-two program. In this program entry is made into a combined classroom/clinical program following two years of undergraduate study. A bachelors of science degree is awarded at the completion of the two-year clinical program.
b. Three-plus-one program. In this program entry is made into a clinical program following three years of undergraduate study. A bachelors degree is awarded at the completion of a one-year clinical program.
c. Four-plus-one program. In this program a student completes a bachelors degree in any major, while taking a core of classes in preparation for the clinical training. Following graduation the student then enters a one-year clinical training program.

Entry into a clinical program is competitive. Applicants are selected on the basis of such qualities as scholarship, integrity, dependability, and motivation for medical technology.

The exact entry requirements into these programs vary. If Loma Linda University is the professional school of choice, updated requirements may be found on the LLU School of Allied Health Articulation http://www.llu.edu/allied-health/sahp/transfer/index.pages page. Students interested in this major should contact institutions offering the clinical program early in their university career in order to plan a course schedule. In general the course requirements will include:

BIOL 141, 142, 143	General Biology	12
BIOL 222	Microbiology	5
BIOL 466	Immunology	4
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Chemistry Laboratory	2

One college-level class in mathematics.

NURSING

See Nursing section of this Bulletin (p. 181).

OCCUPATIONAL THERAPY

Curtis Kuhlman, Academic Adviser.

Students preparing for the Bachelor of Science degree in occupational therapy should plan to complete 96 quarter hours with a cumulative grade point average of 3.20 or more before entering the professional training. The curriculum requirements of Loma Linda University include:

ANTH 225	Cultural Anthropology	
	or	4
SOCI 236	Privilege and Oppression	
BIOL 121, 122, 123	Anatomy and Physiology	12
CHEM 101	Introductory Chemistry	4
CPTR 110	Principles of Computing	2
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
HLTH 110	Wellness for Living	
	or	3-4
HLTH 220	Human Nutrition	
MATH 206	Applied Statistics	4
PHYS 201	Conceptual Physics	3
PHYS 204	Conceptual Physics Laboratory	1
PSYC 130	General Psychology	4
PSYC 215	Child and Adolescent Development	
	or	4
SOWK 224	Human Development and The Family	
SOCI 204	General Sociology	4
	Select an additional behavioral science or sociology course.	
SPCH 101	Fundamentals of Speech Communication	4
	Humanities	12
	Select from at least three subject areas: ART 251; MUHL 124, 134; (Applied Art/Music 2 hours max); PHIL 205, 206; HIST 120, 121, 122, 221, 222; ENGL 204, 210, 211, 212; any foreign language.	
	Mathematics	
	High school algebra and geometry or equivalent with grade of C or better.	
	Religion	8

	Physical Education	2
	Electives To meet the minimum of 96 quarter hours. Courses in applied art, general crafts, and behavior science are recommended.	

OCCUPATIONAL THERAPY ASSISTANT

Curtis Kuhlman, Academic Adviser.

The increased demand for occupational therapists has created a demand for occupational therapy assistants. These are usually two year programs and students receive an Associate Science Degree upon completion. Loma Linda University (LLU) offers this program with one year of college prerequisite courses and one year of training at LLU. Courses with grades below C do not count on the program. Courses at Walla Walla University which meet these prerequisites are:

BIOL 121, 122, 123	Anatomy and Physiology	12
CPTR 110	Principles of Computing	2
PHYS 201+204	Conceptual Physics + Lab	
	or	4
CHEM 101	Introductory Chemistry	
ANTH 225	Cultural Anthropology	
	or	4
SOCI 204	General Sociology	
PSYC 130	General Psychology	4
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
SPCH 101	Fundamentals of Speech Communication	4
ART 284	Introduction to Pottery I	2
	Cultural Heritage Select from ART 251 or MUHL 124, HIST 121 or 222, high school algebra and geometry or equivalent with a grade of C or better.	4
	Religion	4
	Electives To meet the minimum of 48 quarter units.	

In addition to the above, Loma Linda requires a documented minimum of 40 hours work/observation experience (volunteer/employee) in an occupational therapy department before acceptance.

OPTOMETRY

Fred Liebrand, Academic Adviser.

While two years of college work is the minimum requirement for admission to most optometry schools, the majority of students being admitted have finished at least four years of college or received a bachelor's degree. Students interested in optometry should choose a major even though they may later gain admission to professional school before finishing it. At some optometry schools a student admitted before graduation must then finish a bachelor's degree while pursuing professional studies. This is not advisable since the requirements of the school awarding the degree must then be met.

The preprofessional curriculum should include as a minimum the following courses:

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
MATH 121, 122	*Precalculus Mathematics I, II (may be satisfied by a good secondary mathematics background)	8
MATH 181	Analytic Geometry and Calculus I	4
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Laboratory	3
PSYC 130	General Psychology	4

*Precalculus Mathematics should be taken the first year since it is a corequisite for General Chemistry and a prerequisite for General Physics.

Additional Requirements:

Since the requirements for other preoptometry courses differ among the optometry schools, students should obtain catalogs from each school of interest in order that all prerequisites may be fulfilled. Other required courses will include some or all of the following:

BIOL 141, 142, 143	General Biology	12
BIOL 121, 122, 123	Anatomy and Physiology	12
BIOL 222	Microbiology	5
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Chemistry Laboratory	2
	A course in statistics	
	An additional psychology course	

Students may also wish to request the booklet Admissions to Schools and Colleges of Optometry, available from the American Optometric Association, 243 N Lindbergh Blvd., St, Louis, MO 63141-9982.

ORTHOTICS AND PROSTHETICS

Tom Ekkens, Academic Adviser.

Entry requirements vary according to the professional school. Summarized below are the requirements for entry into the program at Loma Linda University. For admission into the Orthotics and Prosthetics program, students are required to complete a minimum 96 credits and required courses.

*BIOL 121, 122, 123	Anatomy and Physiology	12
*CHEM 101	Introductory Chemistry	
	or	4
*CHEM 141 + 144	General Chemistry + Lab	
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
*MATH 206	Applied Statistics	4
	(or stats course from another department)	
PEAC	Any PEAC activity courses	2
*PHYS 201 + 204	Conceptual Physics + Lab	
	or	4
*PHYS 211 + 214	General Physics + Lab	
SPCH 101	Fundamentals of Speech Communication	
	or	4
CIS 140	Business Applications	
	Social Sciences	12
	Select from at least two subject areas:	
PSYC 130	General Psychology	4
*PSYC 215	Child and Adolescent Development	
	or	4
*PSYC 492	Abnormal Psychology	
	Select additional credits from PSYC, SOCI, ANTH, PLSC	4
	Humanities	12-16
	Select from at least three subject areas: ART 251; ENGL 204, 210; HIST 120, 121, 122; MUHL 124 (Applied Art/Mus, 2 Qtr hr max) PHIL 205; Any Foreign Language/ American Sign Language	
	Religion	
	4 credits per year	

*Individuals who have received a Bachelor's degree from a regionally accredited college or university need only to complete these prerequisite courses.

In addition to the above, Loma Linda requires a documented minimum of 80 work/observation hours under the supervision of a CPO practitioner.

OSTEOPATHY

Shirley Anderson, Academic Adviser.
Schools of osteopathic medicine usually require a degree from an accredited college. The course requirements are essentially the same as for medical schools. (See the medical requirements listed previously in this section of the bulletin.)

PHARMACY

Steven Lee, Academic Adviser.
At least three years of college work are required. Additional requirements are often needed if a bachelor's degree is not completed. Students should consult with the college of pharmacy of their choice about course requirements. In general the course requirements will include:

BIOL 121	Anatomy and Physiology	4
BIOL 141, 142, 143	General Biology	12
BIOL 222	Microbiology	5
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Chemistry Laboratory	2
CHEM 431	Foundations of Biochemistry	4
ECON 212	Principles of Microeconomics	4
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
MATH 181, 281	Analytic Geometry and Calculus I, II	8
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Laboratory	3
PSYC 130	General Psychology	4
SPCH 101	Fundamentals of Speech Communication	4

All pharmaceutical colleges require three years in residency beyond the three years of prepharmacy; most require four years.

PHYSICAL THERAPY ASSISTANT

Steven Lee, Shirley Anderson, Academic Advisers.

These are usually two year programs and students receive an Associate Degree upon completion. Loma Linda University (LLU) offers this program with one year of college prerequisite courses and one year of training at LLU. Courses with grades below C do not count on the program. Courses at Walla Walla University which meet these prerequisites are:

BIOL 121, 122, 123	Anatomy and Physiology	12
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
PHYS 201	Conceptual Physics	3
PHYS 204	Conceptual Physics Laboratory	1

PSYC 130	General Psychology	4
PSYC 215	Child and Adolescent Development	4
	or	
PSYC 492	Abnormal Psychology	4
SPCH 101	Fundamentals of Speech Communication	4
	Humanities Elective:	4
	Select from fine arts, foreign language, literature, philosophy	
	Mathematics	
	(High school algebra and geometry with grade of C or better)	
	Physical Education or Health	2
	Electives	4
	To meet minimum of 48 quarter hours.	

PHYSICIAN ASSISTANT

Kyle Craig, Academic Adviser.

There is a wide variation in the prerequisites for entrance into a Physician Assistant program. A minimum of 3.0 G.P.A. is usually required for science courses. A bachelor degree is required for admittance into many programs. Usually a minimum of 2,000 hours of clinical experience involving patient contact is also required. Physician Assistant programs may lead to a bachelor of science (B.S.) or to a Master of Science (M.S.)

Requirements may include the following courses; however students should request information about **current** admission requirements from the professional school they plan to attend.

BIOL 141, 142, 143	General Biology	12
BIOL 121, 122, 123	Anatomy and Physiology	12
BIOL 222	Microbiology	5
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CPTR 110	Principles of Computing	2
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
HLTH 217	First Aid	2
HLTH 220	Human Nutrition	4
MATH 121, 122	Precalculus Mathematics I, II	8
MATH 206	Applied Statistics	4
PSYC 130	General Psychology	4
PSYC 215	Child and Adolescent Development	4
SOCI 204	General Sociology	4
SPCH 101	Fundamentals of Speech Communication	4

PUBLIC HEALTH

Shirley Anderson, Academic Adviser.

Since the field of public health includes such a wide variety of career disciplines, the training opportunities offered by Schools of Public Health present a striking array of distinctly different program tracks.

Students preparing to enter graduate professional programs in public health should realize that the various career options require different types of preparation, and that they have a significant advantage if they anticipate prerequisite differences early. While no particular group of prerequisites can be considered constant for all program tracks, students will find that certain basic public health elements are fundamental to all. Therefore, the applicant who has included in his undergraduate preparation courses in general statistics, epidemiology, public health administration, environmental health, and behavioral science may benefit from advanced standing and/or course waivers for these requirements once accepted into the graduate program.

RADIOLOGICAL TECHNOLOGY

Curtis Kuhlman, Academic Adviser.

The minimum requirement for admission to the study of radiological technology is 42 quarter hours. The following courses are to be included for the Associate of Science degree from Loma Linda University:

BIOL 121, 122, 123	Anatomy and Physiology	12
CPTR 110	Principles of Computing	2
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
NRSG 234	Medical Terminology	2
PHYS 201, 202	Conceptual Physics	6
PHYS 204, 205	Conceptual Physics Laboratory	2
PSYC 130	General Psychology	
	or	4
SOCI 204	General Sociology	
	Math (two years of high school math)	
	Religion	4
SPCH 101	Fundamentals of Speech Communication	4

In addition to the basic courses listed above, the following elective courses are highly recommended.

An introductory computer course

An introductory photography course

Keyboarding

A 12 hour minimum work/observation experience (volunteer/employee) in a radiology department required for LLU.

For those students planning for further academic work, a B.S. degree requires 16 units of humanities and 12-16 units of social sciences. 12-16 units science/mathematics, health education (HLTH 110 or HLTH 220), 2 P.E. activity courses and 8 units of religion. Other clinical specialties require General Chemistry, and most highly recommend General Physics. Courses with grade below C do not count on this program.

RESPIRATORY THERAPY

Curtis Kuhlman, Academic Adviser.

The minimum requirement for admission to the study of respiratory therapy is 48 quarter hours. The following courses are to be included for the Associate of Science degree from Loma Linda University:

ANTH 225	Cultural Anthropology	
	or	4
SOCI 236	Privilege and Oppression	
BIOL 141, 142, 143	General Biology	
	or	12
BIOL 121, 122, 123	Anatomy and Physiology	
BIOL 222	Microbiology	5
CHEM 101, 102	Introductory Chemistry	8
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
	High school physics	
	or	
PHYS 201, 202	Conceptual Physics	6
	and	
PHYS 204, 205	Conceptual Physics Laboratory	2
PSYC 130	General Psychology	4
SOCI 204	General Sociology	4
SOCI 225	Marriage and Family Life	2
	(Select additional courses from PSYC 215, ECON 211, and SOCI.)	
	Math (high school algebra and geometry with C grade or better.)	
	Religion	4
	Electives	
	To meet the requirement of 48 quarter hours. (Speech is highly recommended).	

The ACT or SAT examination is required for students entering Loma Linda University.

Bachelor of Science

After completing an Associate in Science degree in respiratory therapy or the equivalent, the student may continue studies toward the Bachelor of Science degree, completing a computer course and the general studies requirement of 9-13 units communication, 16-20 units cultural heritage including ANTH 225, 12-16 units social sciences, 12-16 units science/math, health education + 2 PE activity courses, and 8 quarter units religion at LLU.

VETERINARY SCIENCE

Jim Nestler, Academic Adviser.

The requirements below apply to the Washington-Oregon-Idaho (WOI) Regional Program in veterinary medical education. Since the basic requirements for entrance into other veterinary schools may be different, students should confer with the schools of their choice.

BIOL 141, 142, 143	General Biology	12
BIOL 250	Biostatistics	4
BIOL 382	Cell Biology II: Genetics and Molecular Biology	4
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Chemistry Laboratory	2
CHEM 431, 432	Foundations of Biochemistry	8
ENGL 121, 122	College Writing I, II	6
ENGL 223	Research Writing	3
MATH 121, 122	Precalculus Mathematics I, II	8
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Laboratory	3
SPCH 101	Fundamentals of Speech Communication	4
	Humanities and Social Studies	15-20

Recommended Courses:

Electives highly recommended by the WOI Regional Program include:

BIOL 222	Microbiology	5
BIOL 435	Developmental Biology	4
BIOL 464	Animal Physiology	4
CPTR 110	Principles of Computing	2
Total hours required (electives additional)		90

Nonacademic Requirements:

Graduate Record Examination (General Test)

Veterinary Medical Exposure and Animal Experience

Applicants must have some hours of veterinary medical exposure (may include biomedical research, academic medicine, or private practice) and experience with animals by November 1 of the year of application.

SCHOOL OF SOCIAL WORK AND SOCIOLOGY

Pamela Cress, Dean; Susan Smith, B.S.W. Director; Cheris Current, Janet Ockerman, Helo Oidjarv, Wayne Pollard, Emily Tillotson.

The School of Social Work and Sociology offers a Bachelor of Social Work degree and a Bachelor of Arts degree with a major in sociology. Minors are available in social welfare and sociology.

The degree in social work is designed to prepare students for generalist social work practice in a variety of practice settings and graduate study. Supervised field practicum experience in selected social work agencies is an integral part of the program. The Bachelor of Social Work is accredited by the Council on Social Work Education.

Candidates for social work are selected on the basis of scholarship, ethical conduct, awareness of diverse issues, and a commitment to social and economic justice. In addition to completing the requirement for the Bachelor of Social Work, students must be accepted into candidacy in the junior year to continue in the program. Criteria for acceptance include a minimum overall grade point average of 2.5 with a minimum grade point average of 3.0 in core requirements.

Sociology broadens the student's perspective of the overall organization and function of society. A sociologist is concerned with the scientific study of social phenomena arising out of group relationships. A major in sociology is useful as pre-professional preparation for advanced research and teaching in sociology, community planning, public administration, law and medical professions, and other fields concerned with social relationships.

SOCIAL WORK MAJOR (BACHELOR OF SOCIAL WORK)

Students enrolled in the professional curriculum must complete a total of 192 quarter hours, including the general studies requirements for a Bachelor of Science degree, the core requirements (85 quarter hours) in the areas of social work, sociology, and psychology, and cognates (12 quarter hours) in economics, human biology, and political science. The core requirements include 12 hours of field practicum the senior year, which involves 420 clock hours in a supervised professional social work practice setting. In addition, SOWK 495, Colloquium, is required of all junior and senior social work majors while in residence. Senior students are required to take the School of Social Work and Sociology comprehensive examination.

Core Requirements:

PSYC 130	General Psychology	4
SOCI 204	General Sociology	4
SOCI 236	Privilege and Oppression	4
SOCI 451	Research Methods	4
SOCI 452	Research Practicum I	1
SOCI 453	Research Practicum II	1

SOWK 234	Current Social Problems	4
SOWK 260	Human Behavior and The Social Environment I	3
SOWK 261	Human Behavior and The Social Environment II	3
SOWK 264	Introduction to Social Work	4
SOWK 266	Structural History of Social Welfare	4
SOWK 350	Field Practicum Orientation	1
SOWK 371	Social Work Practice With Individuals	4
SOWK 372	Social Work Practice With Small Groups	4
SOWK 373	Social Work Practice With Couples and Families	4
SOWK 375	Policy and Advocacy Practice for Social Justice	3
SOWK 465	Social Work Practice With Organizations and Communities	4
SOWK 466	Comparative Theories of Social Work Practice	3
SOWK 490	Field Practicum	12
SOWK 491	Social Work Capstone	2
SOWK 495	*Colloquium	0
	**Electives	12
	Psychology	0-8
	Social Work	3-11
	Anthropology, Corrections, Sociology	3-11
	Environmental Studies	0-4
		85

*Three colloquia required.

**Electives may be chosen from classes with the following prefixes: SOWK, SOCI, CORR, ANTH. Electives may also be chosen from PSYC 247, 344, 370, 373, 447, 466, 492, ENVI 151 or ENVI 385.

Cognates:

ECON 204	Fundamentals of Economics	4
PLSC 224	American Government	4

Choose one of the following: (4)

BIOL 105	Contemporary Biology
BIOL 121	Anatomy and Physiology
BIOL 141	General Biology

SOCIOLOGY MAJOR (BACHELOR OF ARTS)

A student majoring in sociology must complete 55 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general section only.

Major Requirements:

SOCI 204	General Sociology	4
SOCI 234	Current Social Problems	4

SOCI 236	Privilege and Oppression	4
SOCI 327	Sociology Seminar	3
SOCI 451	Research Methods	4
SOCI 452	Research Practicum I	1
SOCI 453	Research Practicum II	1
SOCI 455	Social Theory	4
SOCI 490	Capstone Internship	
	or	6
SOCI 491	Capstone Research Internship	
	*Electives	24
	*SOCI or CORR Electives	6-8
	*Interdisciplinary Electives	16-18
		55

*Electives may be chosen from the following courses: All SOCI and CORR prefixes, or the list below.

ANTH 225	Cultural Anthropology	4
ART 312	Aesthetics and Photography	4
ART 324, 325, 326	History of World Art	9
ECON 204	Fundamentals of Economics	4
ECON 211	Principles of Macroeconomics	4
ECON 212	Principles of Microeconomics	4
ENGL 485	Linguistics	3
ENVI 385	Environmental Stewardship	4
FREN 407	Survey of French and Francophone Literature	4
FREN 408	Contemporary French and Francophone Literature	4
GEOG 252	Physical Geography	4
HIST 283	Spain and Latin America	4
HIST 337	Baseball and American Culture	4
HIST 354	American History and Visual Culture	4
HIST 357	The African American Experience	4
HIST 359	The American Economy	4
HIST 449	Recent American History	4
HIST 450	America Overseas	4
HIST 458	American Intellectual History	4
HIST 460	Science and The Enlightenment	4
HONR 349	Religion in a Social Context	4
HONR 131	Western Thought	4
HONR 132	Western Thought	4
HONR 133	Western Thought	4
LANG 406	Language and Culture	4
PHIL 205	Introduction to Philosophy	4
PHIL 305	Moral Philosophy	4

PHIL 318	History of Philosophy III: 18th Century to The Present	4
PLSC 224	American Government	4
PSYC 344	Social Psychology	4
SOWK 266	Structural History of Social Welfare	4
SOWK 375	Policy and Advocacy Practice for Social Justice	3
SOWK 471	Human Sexuality	3
SPAN 407	Survey of Spanish Literature	4
SPAN 408	Contemporary Latino Literature	4
TECH 321	Technology and Society	4

Cognates:

MATH 206	Applied Statistics	4

SOCIAL WELFARE MINOR

A student minoring in social welfare must complete 30 quarter hours.

Required Courses:

SOCI 204	General Sociology	4
SOCI 236	Privilege and Oppression	4
SOWK 234	Current Social Problems	4
SOWK 264	Introduction to Social Work	4
SOWK 266	Structural History of Social Welfare	4
SOWK 375	Policy and Advocacy Practice for Social Justice	3
	*Electives	7
		30

*Electives must be chosen from the following prefixes in consultation with the academic adviser: SOWK, SOCI, ANTH, CORR.

SOCIOLOGY MINOR

A student minoring in sociology must complete 30 quarter hours:

Required Courses:

CORR 385	Criminology	4
SOCI 204	General Sociology	4
SOCI 234	Current Social Problems	4
SOCI 236	Privilege and Oppression	4
SOCI 327	Sociology Seminar	3
	Electives	11
		30

Electives must be chosen in consultation with the academic adviser from the following prefixes: SOCI, SOWK, ANTH, CORR.

See page 228 for a list of course descriptions. *Look for courses with the following prefixes for the School of Social Work and Sociology: ANTH, CORR, SOCI, and SOWK.*

TECHNOLOGY

Linda Felipez, Chair; Brent Bergherm, Loury J. Duffy, Robert Holm, Bill Lane, Anthony Rembolt.

The Department of Technology provides quality technological instruction in a Christian environment, preparing students to work in a variety of service industries. Each program provides a balance between technical theory and experiential laboratory experiences. Students may choose from an array of four-year Bachelor of Science or two-year Associate of Science degree study programs.

The Bachelor of Science majors offered in the Department of Technology include Automotive Service, Aviation Technology, Graphic Design, Industrial Design, and Web Design. Each of these majors include a number of core courses which provide broad technical experience. Along with the technical expertise, these majors provide communication, writing, and social skills through the University general studies program. Combining the specific major requirements, the technical core courses, and the general studies program provides the student with exemplary skills for today's workplace.

Bachelor of Science (BS) degrees in Automotive Management and Aviation Management are also jointly offered by the Technology Department and the School of Business. These degrees combine technology and business to prepare students for managing automotive or aviation businesses.

The Associate of Science majors offered in the Department of Technology include Automotive Technology, Aviation Technology and Graphic Communications. Each major prepares graduates for employment in that field. In each case, a broad technical background balances theory with laboratory experience. These programs serve students who wish to complete their technical training in a Christian environment with minimal general studies and time requirements. The programs also allow continuance in the baccalaureate programs with minimal loss of credit.

Courses in the Department of Technology provide non-majors with the opportunity of developing technical skills to complement their major, provide a minor or to strengthen their background in the applied arts.

Students must obtain a C- or above in cognates.

AUTOMOTIVE TECHNOLOGY MAJOR (BACHELOR OF SCIENCE)

A student majoring in Automotive Service must complete a minimum of 84 quarter hours in the major consisting of the core courses and technical requirements. In addition, the student must complete required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Students will be required to take A1-A8 ASE exams prior to graduation as their exit exam.

Core Requirements:

AUTO 134	Internal Combustion Engine Theory	2
AUTO 135	Internal Combustion Engine Laboratory	2
AUTO 145	Manual Drive Trains and Axles	2
AUTO 146	Manual Drive Trains and Axles Laboratory	2
AUTO 156	Electrical Systems	2
AUTO 157	Electrical Systems Laboratory	2
AUTO 280	Practicum	2
AUTO 314	Engine Performance	2
AUTO 315	Engine Performance Laboratory	2
AUTO 335	Suspension and Steering Systems	2
AUTO 336	Suspension and Steering Systems Laboratory	2
AUTO 337	Brake Systems and Traction Control	2
AUTO 338	Brake Systems and Traction Control Laboratory	2
AUTO 355	Climate Control Systems	2
AUTO 356	Climate Control Systems Laboratory	2
AUTO 357	Automatic Transmissions and Transaxles	2
AUTO 358	Automatic Transmissions and Transaxles Laboratory	2
AUTO 365	Diesel Engines	3
AUTO 414	Advanced Engine Performance	3
AUTO 434	High Performance Engine Tuning	3
AUTO 466	Body Electronics and Computer Systems	3
AUTO 473	Alternative Fuels	3
AUTO 480	Advanced Practicum	2
AUTO 495	Colloquium*	0
DRFT 120	Perspective Drawing	2
DRFT 121	Fundamentals of CAD	2
TECH 204	Fundamentals of Electronics	4
TECH 235	Introduction to Materials and Processes	2
TECH 236	Introduction to Plastics	2
TECH 241	Fabrication and Machining of Metals I	2
TECH 321	Technology and Society	4
TECH 335	Computer Applications in Technology	3
TECH 380	Space Planning and Design	3
TECH 499	Senior Project	1
	**Electives (4 credits must be within the Technology Department)	8
		84

Open only to students of junior standing or higher. Automotive degree candidates must satisfactorily complete two quarters, at least one of which must be during the senior year.

**Electives must be chosen from AVIA, TECH, DRFT, CPTR, FINA, GBUS, ECON, ACCT, MKTG, MGMT, GRPH, and/or PHTO in consultation with and approved by the academic adviser assigned by the department chair.

Cognate:

ACCT 201	Principles of Accounting	4
CPTR 110	Principles of Computing	2
MGMT 275	Entrepreneurship and Small Business Management	
	or	
MGMT 371	Principles of Management	4
PHYS 201, 202	Conceptual Physics	6
PHYS 204, 205	Conceptual Physics Laboratory	2

AVIATION TECHNOLOGY MAJOR (BACHELOR OF SCIENCE)

A student majoring in Aviation Technology must complete a minimum of 93 quarter hours in the major consisting of the core courses and technical requirements. In addition, the student must complete required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Aviation Technology students can work with their academic adviser to focus their elective choices towards a career as a professional pilot. Specialty areas include commercial aviation or mission/humanitarian aviation.

Core Requirements:

AVIA 124	Introduction to Aviation	3
AVIA 141	Private Pilot Lectures	5
AVIA 142	Private Pilot Flight Training	3
AVIA 143	Advanced Private Flight Training	3
AVIA 152	Cross-Country Flight	2
AVIA 234	Meteorology	2
AVIA 256	Principles of Aircraft Maintenance	4
AVIA 261	Instrument Pilot Lectures	4
AVIA 262	Instrument Flight Training	3
AVIA 263	Advanced Instrument Flight Training	3
AVIA 270	Multi-Crew Flight Operations	2
AVIA 325	Flight Performance	2
AVIA 334	Commercial Pilot Lectures	4
AVIA 335	Commercial Flight Training	3
AVIA 336	Advanced Commercial Flight Training	3
AVIA 337	Mission/Humanitarian Flight Training	2
AVIA 340	Multi-Engine Flight Training	3
AVIA 355	Aviation Safety	2
AVIA 356	Flight Instructor Training I	3
AVIA 358	Flight Instructor Training II	3
AVIA 455	Crew Resource Management	2
AVIA 496	Senior Seminar	2
DRFT 120	Perspective Drawing	2
DRFT 121	Fundamentals of CAD	2
TECH 204	Fundamentals of Electronics	4

TECH 235	Introduction to Materials and Processes	2
TECH 236	Introduction to Plastics	2
TECH 241	Fabrication and Machining of Metals I	2
TECH 321	Technology and Society	4
TECH 335	Computer Applications in Technology	3
TECH 380	Space Planning and Design	3
TECH 499	Senior Project	1
	*Electives	5
		93

*Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

Aviation students planning a career in mission/humanitarian flight are encouraged to take RELH 303 World Religions and RELM 233 Introduction to Cross Cultural Ministry as part of their general studies religion requirements.

Cognates:

ACCT 201	Principles of Accounting	4
CPTR 110	Principles of Computing	2
GBUS 361	Business Law I	4
MATH 121	Precalculus Mathematics I	4
MGMT 275	Entrepreneurship and Small Business Management	4
	or	
MGMT 371	Principles of Management	4
PHYS 201, 202	Conceptual Physics	6
PHYS 204, 205	Conceptual Physics Laboratory	2

GRAPHIC DESIGN MAJOR (BACHELOR OF SCIENCE)

A student majoring in Graphic Design must complete a minimum of 80 quarter hours in the major consisting of the core courses and technical requirements. In addition, the student must complete required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Core Requirements:

DRFT 120	Perspective Drawing	2
DSGN 315	History of Design	3
GRPH 124	Introduction to Graphics	4
GRPH 125	Introduction to Typography	3
GRPH 235	Digital Imaging I	4
GRPH 255	Graphic Design and Layout	4
GRPH 262	Computer Illustration	4
GRPH 263	Web Design I	3
GRPH 320	Principles of Print Production	3
GRPH 336	Digital Imaging II	4
GRPH 345	Designing for Large Format	3
GRPH 355	Advanced Document Design	3

GRPH 365	Web Animation	3
GRPH 366	Multimedia Publishing	3
GRPH 370	Fundamentals of Packaging	4
GRPH 371	Design Studio	3
GRPH 445	Graphics Services	3
GRPH 492	Portfolio Design	2
PHTO 156	Principles of Photography	3
PHTO 256	Intermediate Digital Photography	3
PHTO 356	Advanced Digital Photography	4
TECH 321	Technology and Society	4
TECH 499	Senior Project	1
	*Electives	7
		80

*May be chosen from ART, COMM, GRPH, INFO, JOUR, MKTG, and PHTO in consultation with and approved by the academic adviser assigned by the department chair.

Cognates:

ART 184	Introduction to Drawing I	2
ART 294	Introduction to Printmaking I	2
COMM 235	Introduction to Filmmaking	4
COMM 357	Media Law	
	or	
GBUS 361	Business Law I	4
JOUR 245	Media Writing	
	or	4
JOUR 341	Feature Writing	
SPCH 101	Fundamentals of Speech Communication	4
		4

Select one of the following (3):

ART 161	Design	3
ART 162	Design	3
ART 163	Design	3

Select from the following (4):

ART 244	Commercial Art	2
ART 245	Commercial Art	2
ART 246	Commercial Art	2

Select one of the following (3):

ART 324	History of World Art	3
ART 325	History of World Art	3
ART 326	History of World Art	3

Select one of the following (4):

MKTG 381	Principles of Marketing	4
MKTG 383	Principles of Advertising	4
MKTG 384	Consumer Behavior	4

INDUSTRIAL DESIGN MAJOR (BACHELOR OF SCIENCE)

A student majoring in Industrial Design must complete a minimum of 89 quarter hours in the major consisting of the core courses and technical requirements. In addition, the student must complete required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Industrial Design is the professional service of creating and developing concepts and specifications optimizing the function, value and appearance of products and systems for the mutual benefit of user and manufacturer. Students learn to analyze and solve diverse design problems from technical, aesthetic, social, and ecological viewpoints. Work progresses from developmental drawings, mock ups and models, to working drawings and prototype construction with manufacturing considerations. The B.S. in Industrial Design offers the knowledge and experiences that prepare students to become competitive industrial designers.

Core Requirements:

COMM 357	Media Law	4
	or	
GBUS 361	Business Law I	4
DRFT 120	Perspective Drawing	2
DRFT 121	Fundamentals of CAD	2
DSGN 315	History of Design	3
GRPH 124	Introduction to Graphics	4
GRPH 235	Digital Imaging I	4
GRPH 255	Graphic Design and Layout	4
GRPH 262	Computer Illustration	4
GRPH 341, 342, 343	3-D Design I, II, III	9
GRPH 370	Fundamentals of Packaging	4
GRPH 492	Portfolio Design	2
INDS 210	Modelmaking Techniques	2
INDS 371, 372, 373	Industrial Design	9
INDS 425, 427	Senior Studio I, II	6
PHTO 156	Principles of Photography	3
TECH 138	Shielded Metal Arc Welding	2
TECH 220	Introduction to Basic Woodworking	2
TECH 223	Introduction to Fine Woodworking	2
TECH 235	Introduction to Materials and Processes	2
TECH 236	Introduction to Plastics	2
TECH 241, 242	Fabrication and Machining of Metals I, II	4
TECH 321	Technology and Society	4
TECH 335	Computer Applications in Technology	3
TECH 499	Senior Project	1
	*Electives	5
		89

*Electives: May be chosen from ART, COMM, GRPH, INDS, MKTG, PHTO, SOCI 451, 452, 453 and TECH in consultation with and approved by the academic adviser assigned by the department chair.

Cognates:

ART 184	Introduction to Drawing I	2
ART 194	Introduction to Painting I	2
ART 264	Introduction to Sculpture I	2
SPCH 101	Fundamentals of Speech Communication	4

Choose one of the following: (3)

ART 161	Design	3
ART 162	Design	3
ART 163	Design	3

Choose one of the following: (3)

ART 324	History of World Art	3
ART 325	History of World Art	3
ART 326	History of World Art	3

Choose one of the following: (4)

MKTG 381	Principles of Marketing	4
MKTG 383	Principles of Advertising	4
MKTG 384	Consumer Behavior	4

Choose one of the following sequences (8)

PHYS 201, 202	Conceptual Physics	6
PHYS 204, 205	Conceptual Physics Laboratory	2
	or	
CHEM 101, 102	Introductory Chemistry	8

AUTOMOTIVE MANAGEMENT MAJOR (BACHELOR OF SCIENCE)

The automotive management major is a joint program offered by the School of Business and the Department of Technology. See the Interdisciplinary Programs section (p. 152) of this bulletin.

AVIATION MANAGEMENT MAJOR (BACHELOR OF SCIENCE)

The aviation management major is a joint program offered by the School of Business and the Department of Technology. See the Interdisciplinary Programs section (p. 153) of this bulletin.

WEB DESIGN MAJOR (BACHELOR OF SCIENCE)

A student majoring in Web Design must complete a minimum of 81 quarter hours in the major consisting of the core courses and technical requirements. In addition, the student must complete required cognates, the general studies requirements, and all baccalaureate degree requirements as outlined in this bulletin.

Core Requirements:

CPTR 110	Principles of Computing	2
DSGN 315	History of Design	3
GRPH 124	Introduction to Graphics	4
GRPH 125	Introduction to Typography	3
GRPH 235	Digital Imaging I	4
GRPH 255	Graphic Design and Layout	4
GRPH 262	Computer Illustration	4
GRPH 263	Web Design I	3
GRPH 273	Web Design II	3
GRPH 336, 337	Digital Imaging II, III	4, 4
GRPH 365	Web Animation	3
GRPH 366	Multimedia Publishing	3
GRPH 445	Graphics Services	3
GRPH 463	Web Publishing	3
GRPH 480	Advanced Practicum	1
GRPH 492	Portfolio Design	2
INFO 250	System Software:	9
PHTO 156	Principles of Photography	
	or	3
PHTO 256	Intermediate Digital Photography	
PHTO 356	Advanced Digital Photography	4
TECH 321	Technology and Society	4
TECH 499	Senior Project	1
	*Electives	8
		82

*Electives may be chosen from ART, COMM, CPTR, GRPH, INFO, MKTG, and PHTO in consultation with and approved by the academic adviser assigned by the department chair.

Cognates:

Choose one of the following:

ART 161, 162, 163	Design	3
COMM 235	Introduction to Filmmaking	4
COMM 357	Media Law	
	or	4
GBUS 361	Business Law I	

CPTR 141	Introduction to Programming	4
CPTR 235	Web Application Development	4
SPCH 101	Fundamentals of Speech Communication	4

AUTOMOTIVE TECHNOLOGY (ASSOCIATE OF SCIENCE)

A student majoring in Automotive Technology must complete a minimum of 59 quarter hours in the major consisting of the core courses and technical requirements. In addition, the student must complete required cognates, general studies requirements, and all Associate of Science degree requirements as outlined in this bulletin.

Core Requirements:

AUTO 134	Internal Combustion Engine Theory	2
AUTO 135	Internal Combustion Engine Laboratory	2
AUTO 145	Manual Drive Trains and Axles	2
AUTO 146	Manual Drive Trains and Axles Laboratory	2
AUTO 156	Electrical Systems	2
AUTO 157	Electrical Systems Laboratory	2
AUTO 280	Practicum	2
AUTO 314	Engine Performance	2
AUTO 315	Engine Performance Laboratory	2
AUTO 335	Suspension and Steering Systems	2
AUTO 336	Suspension and Steering Systems Laboratory	2
AUTO 337	Brake Systems and Traction Control	2
AUTO 338	Brake Systems and Traction Control Laboratory	2
AUTO 355	Climate Control Systems	2
AUTO 356	Climate Control Systems Laboratory	2
AUTO 357	Automatic Transmissions and Transaxles	2
AUTO 358	Automatic Transmissions and Transaxles Laboratory	2
AUTO 414	Advanced Engine Performance	3
DRFT 121	Fundamentals of CAD	2
TECH 204	Fundamentals of Electronics	4
TECH 335	Computer Applications in Technology	3
	*Electives	13
		59

*Electives must be chosen from AUTO, AVIA, DRFT, TECH, or PHTO in consultation with and approved by the academic adviser.

Cognates:

CPTR 110	Principles of Computing	2

AVIATION TECHNOLOGY (ASSOCIATE OF SCIENCE)

A student majoring in Aviation Technology must complete a minimum of 54 quarter hours in the major consisting of the core courses and technical requirements. In addition, the student must complete required cognates, general studies requirements, and all Associate of Science degree requirements as outlined in this bulletin.

Core Requirements:

AVIA 124	Introduction to Aviation	3
AVIA 141	Private Pilot Lectures	5
AVIA 142	Private Pilot Flight Training	3
AVIA 143	Advanced Private Flight Training	3
AVIA 152	Cross-Country Flight	2
AVIA 234	Meteorology	2
AVIA 256	Principles of Aircraft Maintenance	4
AVIA 261	Instrument Pilot Lectures	4
AVIA 262	Instrument Flight Training	3
AVIA 263	Advanced Instrument Flight Training	3
AVIA 325	Flight Performance	2
AVIA 334	Commercial Pilot Lectures	4
AVIA 335	Commercial Flight Training	3
AVIA 336	Advanced Commercial Flight Training	3
AVIA 337	Mission/Humanitarian Flight Training	2
AVIA 355	Aviation Safety	2
	*Electives	6
		54

*Electives must be chosen in consultation with and approved by the academic adviser.

Cognates:

TECH 204	Fundamentals of Electronics	4
TECH 321	Technology and Society	4

GRAPHIC COMMUNICATIONS (ASSOCIATE OF SCIENCE)

A student majoring in Graphic Communications must complete a minimum of 54 quarter hours in the major consisting of the core courses and technical requirements. In addition, the student must complete required cognates, general studies requirements, and all Associate of Science degree requirements as outlined in this bulletin.

Core Requirements:

COMM 357	Media Law	
	or	4
JOUR 245	Media Writing	
DRFT 120	Perspective Drawing	2
GRPH 124	Introduction to Graphics	4

GRPH 235	Digital Imaging I	4
GRPH 255	Graphic Design and Layout	4
GRPH 262	Computer Illustration	4
GRPH 263	Web Design I	3
GRPH 280	Practicum	3
GRPH 320	Principles of Print Production	3
GRPH 355	Advanced Document Design	3
GRPH 370	Fundamentals of Packaging	4
PHTO 156	Principles of Photography	3
	*Electives	14
		54

*Electives: Must be chosen in consultation with and approved by the academic adviser.

Cognates:

ART 161, 162, 163	Design (choose one)	3
CPTR 110	Principles of Computing	2

AVIATION MINOR

A student minoring in Aviation must complete 30 quarter hours:

Required Courses:

AVIA 124	Introduction to Aviation	3
AVIA 141	Private Pilot Lectures	5
AVIA 142	Private Pilot Flight Training	3
AVIA 143	Advanced Private Flight Training	3
AVIA 234	Meteorology	2
	*Electives (3 must be upper-division)	14
		30

*Approval of aviation adviser required. Electives must be chosen in consultation with and approved by the academic adviser.

GRAPHIC ARTS MINOR

A student minoring in Graphic Arts must complete 30 quarter hours:

Required Courses:

GRPH 124	Introduction to Graphics	4
GRPH 235	Digital Imaging I	4
GRPH 255	Graphic Design and Layout	4
GRPH 262	Computer Illustration	4
GRPH 263	Web Design I	3
PHTO 156	Principles of Photography	3
	*Electives (Must have GRPH or PHTO prefix)	8
		30

*Approval of graphics technology adviser required.

PHOTOGRAPHY MINOR

A student minoring in Photography must complete 36 quarter hours:

Required Courses:

ART 161, 162, 163	Design (choose one)	3
ART 312	Aesthetics and Photography	4
COMM 235	Introduction to Filmmaking	4
GRPH 235	Digital Imaging I	4
GRPH 336	Digital Imaging II	4
PHTO 156	Principles of Photography	3
PHTO 255	Film Photography	3
PHTO 256	Intermediate Digital Photography	3
PHTO 356	Advanced Digital Photography	4
	*Electives	4
		36

*Electives must be chosen in consultation with and approved by the academic adviser.

TECHNOLOGY MINOR

A student minoring in Technology must complete 30 quarter hours:

Required Courses:

DRFT 120	Perspective Drawing	2
DRFT 121	Fundamentals of CAD	2
TECH 235	Introduction to Materials and Processes	2
TECH 236	Introduction to Plastics	2
	*Electives (3 must be upper-division)	22
		30

*Approval of technology adviser required.

WEB DESIGN AND DEVELOPMENT MINOR

A student minoring in Web Design and Development must complete 33 quarter hours:

Required Courses:

GRPH 235	Digital Imaging I	4
GRPH 262	Computer Illustration	4
GRPH 263	Web Design I	3
GRPH 273	Web Design II	3
GRPH 365	Web Animation	3
GRPH 463	Web Publishing	3
	*Electives	13
		33

*Electives must be chosen from courses with GRPH, PHTO, CPTR, COMM, and INFO prefixes and approved by the graphics adviser.

See page 228 for a list of course descriptions. *Look for courses with the following prefixes for the Technology Department: AUTO, AVIA, DRFT, DSGN, GRPH, INDS, PHTO, and TECH.*

SCHOOL OF THEOLOGY

David Thomas, Dean; Branton Berglin, Darold Bigger, Susan Bungard, Carl Cosaert, Paul Dybdahl, Pedrito Maynard-Reid, Ferdinand Regalado, Alden Thompson.

The principal purposes of the School of Theology are to provide undergraduate education for students seeking to pursue religious callings such as pastoral ministry, chaplaincy, religious scholarship, and to teach religion and offer courses in religion for the general student body in harmony with the mission of the University.

Students interested in becoming pastors, chaplains, evangelists, Bible workers, or teachers of religion are best advised to pursue the Theology Major. This degree is the preferred degree for entering the various religious professions because it includes elements of religious practice, the necessary academic components, as well as the development of proficiency in two major Biblical Languages, Greek and Hebrew. The Theology Major is also designed to meet Seminary entrance requirements.

A Religion Major is also offered for those who wish to have an emphasis in religion at the undergraduate level, but who do not want or need to have the practical elements of ministry or biblical languages as part of their education.

The School of Theology offers a third major, one in Biblical Languages. This major is intended for those who wish to gain facility in the basic tools for biblical study, especially those anticipating graduate work in this and related areas.

Candidates for the Theology degree who want to receive a recommendation from the faculty to Church employing agencies, in addition to completing the listed requirements for the degree, must go through the process of being Advanced to Candidacy. This process typically takes place early in the Junior year. Candidates for advancement are evaluated on the basis of spiritual qualities and interest, cultural refinement, social abilities, interpersonal skills, ministry skills, and scholarship. The process of advancement is more fully described in a separate handout obtainable from the School of Theology. Those who achieve candidacy should expect to go on into some kind of internship before going to seminary, typically the Theological Seminary at Andrews University, where they will complete an additional two years of study in order to earn the basic ministerial degree, a Master of Divinity. Those planning to attend the Seminary should complete the undergraduate subjects required for entrance and maintain a minimum grade-point average of 2.50.

All majors must successfully complete a Senior Comprehensive Examination in order to graduate. In addition, Theology and Biblical Language majors are required to take Greek and Hebrew qualification exams prior to graduation which, if they pass at appropriate levels, may be recognized by the Andrews University Theological Seminary according to their policies thus obviating the need for students to take the language entrance exams at the Seminary.

Students who plan to teach religion in Seventh-day Adventist academies are advised to obtain teacher certification as outlined in the Education section of this bulletin. Students should consult the Dean of the School of Theology about courses required as early as possible in their university career.

RELIGION MAJOR (BACHELOR OF ARTS)

A student majoring in religion must complete 55 hours in the major (30 hours must be upper-division), the required cognates, the general studies requirements, and all baccalaureate degree requirements as outlined in this bulletin.

Required Courses:

RELB 104	The Ministry of Jesus	4
RELB 111	Messages of the Old Testament	4
RELB 231	Exploring the New Testament	4
RELB 421	Interpreting the Bible	4
RELB	*Biblical Studies Electives	10
RELH 303	World Religions	4
RELH 457	History of Adventism	3
RELP 131	Introduction to Faith and Ministry	4
RELT 202	Christian Beliefs	4
RELT 326	Spirituality and Discipleship	4
RELT 348	Christian Ethics	4
RELT 417	Inspiration and Revelation	3
RELT 495	Colloquium (12 quarters or equivalent required)	0

*All electives must be upper division. One class must be from the Old Testament and one from the New Testament.

Choose one from the following RELT courses:

RELT 342	Issues of God and Faith	3
RELT 456	Systematic Theology I	3
RELT 457	Systematic Theology II	3
		55

Cognates:

ENGL 327	Research and Writing in Religion	3
HIST 254	History of Christianity	4
	One Philosophy Course*	4

*PHIL 412 or PHIL 305 recommended.

Whenever possible, Religion majors are advised to take RELP 131 as their first course, followed by RELB 111 and RELB 231, in that order.

THEOLOGY MAJOR (BACHELOR OF ARTS)

A student majoring in theology must complete 63-64 quarter hours in the major, the required cognates, the general studies requirements, and all baccalaureate degree requirements as outlined in this bulletin.

Required Courses:

RELB 111	Messages of the Old Testament	4
RELB 231	Exploring the New Testament	4
RELB 421	Interpreting the Bible	4
RELH 303	World Religions	4
RELH 455	Early Church History	3
RELH 457	History of Adventism	3
RELP 131	Introduction to Faith and Ministry	4
RELP 236	Church Worship	2
RELP 336	Church and Personal Ministry	4
RELP 338	Church Leadership	3
RELP 440	Crisis Ministry	3 - 4
RELP 490	Public Evangelism	2
RELP 496	Senior Seminar	2
RELT 342	Issues of God and Faith	3
RELT 348	Christian Ethics	4
RELT 417	Inspiration and Revelation	3
RELT 456	Systematic Theology I	3
RELT 457	Systematic Theology II	3
RELT 495	Colloquium (12 required)	0
	*Electives (upper-division)	6
		63-64

*Electives must include one course from each of the two following groups:
RELB 301, 302, 303, 304, or 312
RELH 413, 437, 439, 441, 462, 467

Cognates:

ENGL 327	Research and Writing in Religion	3
HIST 456	Medieval and Early Modern Christianity	4
GREK 231, 232, 233	Greek I	9
GREK 331. 332, 333	Greek II	9
GREK 334	Greek Exegesis: Romans	4
HEBR 331, 332, 333	Hebrew I, II, III	12
PSYC 130	General Psychology	4
SPCH 101	Fundamentals of Speech Communication	4
SPCH 381	Biblical Preaching: Foundations	2
SPCH 382	Biblical Preaching: Exposition	2
SPCH 383	Biblical Preaching: Evangelism	2
	One Philosophy Course*	

*PHIL 412 or PHIL 305 recommended.

Pastoral Mentoring Experience: Theology majors must participate in the program operated jointly between the School of Theology and the Upper Columbia Conference. Details of this program are available in the School of Theology office.

Note on Advancement to Candidacy
Advancement to candidacy typically takes place early in the Junior year, except for those students transferring from other colleges or those changing majors close to the beginning of their Junior year. In order to be evaluated, students must have successfully completed RELP 131, RELT 202, ENGL 224, GREK 231, GREK 232, GREK 233, SPCH 381, and RELP 336.

BIBLICAL LANGUAGES MAJOR (BACHELOR OF ARTS)

A student majoring in Biblical Languages must complete 48 quarter hours in the major, the required cognates, the general studies programs, and all baccalaureate degree requirements as outlined in this bulletin.

Required Courses:

GREK 231, 232, 233	Greek I, II	9
GREK 331, 332, 333	Greek II	9
GREK 334	Greek Exegesis: Romans	4
GREK 341	The Text of The New Testament	3
HEBR 331, 332, 333	Hebrew I, II, III	12
RELB 111	Messages of the Old Testament	
	or	4
RELB 231	Exploring the New Testament	
RELB 406	The Bible and Its Translations	2
	*Electives (1 upper-division RELB)	3-4
		45-46

*Electives be chosen in consultation with and approved by the academic adviser assigned by the School of Theology.

Cognates:

ENGL 327	Research and Writing in Religion	3
HIST 305	The Ancient Near East	
	or	4
HIST 306	Classical Greece and Rome	
RELB 421	Interpreting the Bible	4

Select one of the following:

RELB 301	Old Testament History	3
RELH 455	Early Church History	3
HIST 254	History of Christianity	4

BIBLICAL LANGUAGES MINOR

A student minoring in Biblical Languages must complete 30 quarter hours of Biblical Language courses:

Required Courses:

*Electives (9 must be upper division)	30

*Approval of Biblical languages adviser required. Recommended electives outside the minor are RELB 406, RELH 205, 455.

RELIGION MINOR

A student minoring in religion must complete 30 quarter hours of religion courses:

Required Courses:

*Electives (12 must be upper division)	30

*Electives: 12 must be upper division. Approval of religion adviser recommended.

All religion classes (courses with REL[x] prefixes), except RELP, may count toward a Religion Minor.

At least one lower-division religion course is required before students may take upper-division religion courses listed in the bulletin.

See page 228 for a list of course descriptions. *Look for courses with the following prefixes for the School of Theology: RELB, RELH, RELM, RELP, RELT, GREK, HEBR, and SPCH.*

COURSES

ACCT - ACCOUNTING

ACCT 201, 202, 203 - PRINCIPLES OF ACCOUNTING (4, 3, 3)
Study of accounting concepts and procedures required in the accumulation and presentation of data needed for decision making. ACCT 203 may be taken before ACCT 202.

ACCT 235 - FUNDAMENTALS OF INCOME TAX (2)
Fundamentals of United States federal income taxation and preparation of personal income tax returns.

ACCT 321, 322, 323 - INTERMEDIATE ACCOUNTING (3, 4, 4)
Study of financial accounting concepts and content, construction, and analysis of financial statements within the framework of generally accepted accounting principles. Prerequisite: ACCT 202.

ACCT 331 - MANAGERIAL COST ACCOUNTING (4)
Study of standards and budgets for control, cost-volume-profit relationships, discretionary and committed costs, application of overhead and analysis of variances, accounting systems for accumulating cost data, responsibility centers and controllable costs, long-range planning, and capital budgeting; quantitative techniques and computer problems applied to cost accounting. Prerequisite: ACCT 203.

ACCT 335 - PERSONAL INCOME TAX (4)
Study of United States income taxation laws and regulations relating to tax planning and preparation of individual income tax returns.

ACCT 341 - ACCOUNTING INFORMATION SYSTEMS (4)
Study of computerized accounting information systems and programs, including internal controls, systems documentation and analysis, and accounting software packages. Prerequisite: ACCT 202, CIS 140.

ACCT 350 - NOT-FOR-PROFIT AND GOVERNMENT ACCOUNTING (4)
Study of the application of accounting principles, procedures, and presentations for not-for-profit and government institutions. Prerequisite: ACCT 202. Offered odd years only.

ACCT 421 - ADVANCED ACCOUNTING (4)
Preparation of consolidated financial statements, partnership accounting, foreign currency transactions, and translation of foreign currency financial statements. Prerequisite: ACCT 322. Offered even years only.

ACCT 430 - AUDITING (5)
Study of the auditing standards and concepts observed by certified public accountants in the examination of financial statements of business and other organizations. Prerequisite: ACCT 323, or permission of instructor.

ACCT 435 - BUSINESS TAXATION (4)
Study of United States federal income taxation of corporations, partnerships, and fiduciaries. Prerequisite: ACCT 335. Offered odd years only.

ACCT 494 - COOPERATIVE EDUCATION/INTERNSHIP (0 - 4)
Practical experience allowing application of classroom learning. Requirements include a minimum of 120 hours of documented work experience and a reaction paper. See the Cooperative Education information in the Nondepartmental section of the Bulletin. Graded S or NC.

ANTH - ANTHROPOLOGY

ANTH 225 - CULTURAL ANTHROPOLOGY (4)
Study of the origin and nature of culture, cultural universals, the uniformities and variations in human cultural development in a cross-cultural context. Field research methods are emphasized and field work is embedded in the course.

ART - ART

ART 161, 162, 163 - DESIGN (3, 3, 3)
Intensified study of the basic elements of design aimed to develop cognizance of visual organization.

ART 184, 185, 186 - INTRODUCTION TO DRAWING I, II, III (2, 2, 2)
Experience in the use of line in representational and nonfigurative approaches, with application to still life and portraiture.

ART 194, 195, 196 - INTRODUCTION TO PAINTING I, II, III (2, 2, 2)
Introduction to painting with the media chosen by the instructor from among water, acrylic, and oil-based pigments. Includes instruction in design and drawing. (Course fees apply.)

ART 201 - CALLIGRAPHY (2)
Introduction to italic handwriting with emphasis on the creative aspects of page layout and design and on developing a beautiful style. Includes individual study of selected hands chosen from foundational, uncial, chancery cursive, or gothic hands.

ART 244, 245, 246 - COMMERCIAL ART (2, 2, 2)
Introduction to the various processes and media of commercial art, with emphasis on layout, design, new directions, and craftsmanship. First quarter covers the basic principles of proportion and design applied to letters of the alphabet.

ART 251 - INTRODUCTION TO ART (4)
Introduction to art for liberal arts students who wish to better understand and appreciate the visual arts of painting, sculpture, architecture, printmaking, and the minor arts. Will not apply toward a major or minor in art.

ART 264, 265, 266 - INTRODUCTION TO SCULPTURE I, II, III (2, 2, 2)
The study and application of three-dimensional forms in space using varied media such as clay, plaster, plasticene, and paper. (Course fees apply.)

ART 284, 285, 286 - INTRODUCTION TO POTTERY I, II, III (2, 2, 2)
Introduction to pottery and ceramic sculpture using wheel-thrown and hand-built forms. Stresses design as it relates to form, function, and glaze decoration. Includes an introduction to the different methods of kiln firing. (Course fees apply.)

ART 294, 295, 296 - INTRODUCTION TO PRINTMAKING I, II, III (2, 2, 2)
Introduction to the art of printmaking, emphasizing the relief method linoleum cut, woodcut, and wood engraving. Includes an introduction to the intaglio method. (Course fees apply.)

ART 307, 308, 309 - DRAWING IV, V, VI (2, 2, 2)
Advanced study using the basic principles of drawing in various experimental approaches and advanced techniques. Prerequisites: ART 184, 185, 186.

ART 312 - AESTHETICS AND PHOTOGRAPHY (4)
Explores a wide range of fine art photography of the 19th and 20th centuries. Considers the aesthetic choices that reflect the basic elements of art, and includes exploration of historical context and social goals. Guest presentations in lecture and textual studies will also be included. Students develop a black and white portfolio with emphasis on aesthetic and spiritual content. No darkroom experience necessary. Offered even years only.

ART 317, 318, 319 - PRINTMAKING IV, V, VI (2, 2, 2)
Advanced study of the various processes of intaglio printmaking, drypoint, engraving, etching, and lithography. Open to majors and minors only. Prerequisites: ART 161, 162, 163; ART 184, 185, 186; ART 294, 295, 296. (Course fees apply.)

ART 324, 325, 326 - HISTORY OF WORLD ART (3, 3, 3)
Chronological study of the great periods in the history of art, their causes and developments; includes discussion of the relation between art and society and the implications of aesthetic understanding in each period.

ART 334, 335, 336 - PAINTING IV, V, VI (2, 2, 2)
Advanced study of aesthetic enjoyment and understanding. Designed to develop the application of paint, including oil, casein, or tempera. Prerequisites: ART 184, 185, 186; ART 194, 195, 196. (Course fees apply.)

ART 344, 345, 346 - ADVANCED DESIGN (3, 3, 3)
Application of a wide variety of design principles relating to the needs of the commercial and fine artist. Prerequisites: ART 161, 162, 163.

ART 364, 365, 366 - SCULPTURE IV, V, IV (2, 2, 2)
Advanced study of basic three-dimensional design principles, using metal, fiberglass, wood, and stone, emphasizing experimentation in direction, media, and techniques. Prerequisites: ART 264, 265, 266. (Course fees apply.)

ART 374, 375, 376 - POTTERY AND CERAMIC SCULPTURE IV, V, IV (2, 2, 2)
Advanced study of the relationship of form, design, and decoration to tableware and hand-built, sculptural forms. Includes the understanding and making of clay, glaze formulation, construction methods, and kiln firing procedures. Prerequisites: ART 284, 285, 286. (Course fees apply.)

ART 395 - METHODS OF TEACHING ART (2)
Principles of design and exploration of materials appropriate for primary and intermediate- grade children. Methods of the intelligent use of art materials for the child of elementary-school age. Will not apply toward a major or minor in art. (Course fees apply.)

ART 494 - COOPERATIVE EDUCATION (0 - 4)
Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department.

ASTR - ASTRONOMY

ASTR 141, 142, 143 - GENERAL ASTRONOMY (3, 3, 3)
Introduction to modern astronomy with emphasis on the place of astronomy in man's cultural and scientific thought and experience. First quarter includes study of planets, moons, comets, meteors, and the solar system as a unit. Second quarter includes the sun and other stars, stellar life cycles and the fate of our sun. Third quarter includes black holes and quasars, galaxies, theories of the origin and fate of the universe, as well as perspectives on the search for other life in the universe. Any two quarters may be taken to satisfy the general science requirement. Corequisite: ASTR 144, 145, 146.

ASTR 144, 145, 146 - GENERAL ASTRONOMY LAB (1, 1, 1)
Laboratory and observatory activities integrated with ASTR 141, 142, 143. Corequisite: ASTR 141, 142, 143. (Course fees apply.)

AUTO - AUTOMOTIVE

AUTO 114 - PERSONAL CAR CARE (3)
Study of the automobile with emphasis on general maintenance and service procedures. Specifically designed for the student without an automotive background. Does not apply toward an Automotive Technology major. Two lectures and one laboratory per week.

AUTO 134 - INTERNAL COMBUSTION ENGINE THEORY (2)
Study of the internal combustion engine, including theory of operation, analysis of construction, working principles, and components as applicable to gasoline and diesel engines. Two lectures per week. Prerequisite: Automotive Technology major or permission of instructor.

AUTO 135 - INTERNAL COMBUSTION ENGINE LABORATORY (2)
Laboratory study of engine components through disassembly, inspection, measurement, servicing, and reassembly of engines. Corequisite: AUTO 134. (Course fees apply.)

AUTO 145 - MANUAL DRIVE TRAINS AND AXLES (2)
Study of manual transmissions and the automotive drive train and axle system with emphasis on proper procedures in diagnosis, servicing, and repair. Two lectures per week. This class will help prepare the student for the ASE A3 Test.

AUTO 146-MANUAL DRIVE TRAINS AND AXLES LABORATORY (2)
Laboratory study and application of technical information and skills required to diagnose, service, adjust, and perform test procedures on clutch assemblies, manual transmissions, transfer cases, drive lines, universal joints, bearings, and final drive assemblies. Corequisite: AUTO 145. (Course fees apply.)

AUTO 156 - ELECTRICAL SYSTEMS (2)
Study of the principles and operation of automotive electrical systems and components, including charging, cranking, ignition, lighting, and accessory systems. This class will help prepare the student for the ASE A6 Test. Two lectures per week. Prerequisite: ELCT 241 or equivalent.

AUTO 157 - ELECTRICAL SYSTEMS LABORATORY (2)
Laboratory study and application of technical information and skills required to diagnose service, and repair automotive starting, charging, ignition, lighting, and accessory systems. Corequisite: AUTO 156. (Course fees apply.)

AUTO 280 - PRACTICUM (1 - 6; 6)
Laboratory work in Auto chosen in counsel with the supervising laboratory instructor. Six credits maximum. One 3-hour laboratory per week per credit.

AUTO 286 - ENGINE REBUILDING LABORATORY (2)
Experience in engine rebuilding involving machining operations such as cylinder reconditioning, valve train servicing, lubrication, and cooling system servicing. Two laboratories per week. Prerequisites: AUTO 134, 135.

AUTO 291 - ASE A1 VALIDATION (4)
Validation of prior automotive education for National Institute of Automotive Service Excellence (ASE) certification with successful completion of the A1 Engine Repair test. Students with current National ASE certification A1 are granted four lower division automotive credits and are exempt from AUTO 134 and 135.

AUTO 292 - ASE A3 VALIDATION (4)
Validation of prior automotive education for National Institute of Automotive Service Excellence (ASE) certification with successful completion of the A3 Manual Drive Train and Axles test. Students with current National ASE certification A3 are granted four lower division automotive credits and are exempt from AUTO 145 and 146.

AUTO 293 - ASE A6 VALIDATION (4)
Validation of prior automotive education for National Institute of Automotive Service Excellence (ASE) certification with successful completion of the A6 Electrical/Electronic Specialist test. Students with current National ASE certification A6 are granted four lower division automotive credits and are exempt from AUTO 156 and 157.

AUTO 314 - ENGINE PERFORMANCE (2)
Study of logical diagnosis and troubleshooting techniques as applied to engine repair and drivability. Theory and operation of fuel and emission control systems. Emphasizes use of electronic instrumentation as a diagnostic tool. Two lectures per week. This class will help prepare the student for the ASE A8 Test. Prerequisites: AUTO 134, 135, 156, 157. Corequisite: AUTO 315.

AUTO 315 - ENGINE PERFORMANCE LABORATORY (2)
Laboratory study and application of diagnostic principles in troubleshooting drivability, emissions, and performance problems of automotive engines. Includes experience with a computerized dynamometer and electronic test equipment. Corequisite: AUTO 314. (Course fees apply.)

AUTO 335 - SUSPENSION AND STEERING SYSTEMS (2)
Study of automotive suspension and steering system theory, designs, and applications, including the integration of tires and wheels, principles of wheel alignment, and methods of suspension component diagnosis and repair. This class will help prepare the student for the ASE A4 Test. Two lectures per week. Prerequisites: AUTO 145; AUTO 146. Corequisite: AUTO 336. Offered odd years.

AUTO 336 - SUSPENSION AND STEERING SYSTEMS LABORATORY (2)
Laboratory study and application of suspension and steering systems diagnosis and service procedures, including tire service, repair, and balancing. Experience performing 4-wheel alignments on a variety of vehicles using state-of-the-art computerized alignment equipment. Corequisite: AUTO 335. Offered odd years. (Course fees apply.)

AUTO 337 - BRAKE SYSTEMS AND TRACTION CONTROL (2)
Study of automotive brake and traction control systems with specific emphasis on system theory of operation. Includes study of ABS (anti-lock braking systems) systems and their integration with other vehicle systems. This class will help prepare the student for the ASE A5 Test. Two lectures per week. Corequisite: AUTO 338. Offered even years.

AUTO 338 - BRAKE SYSTEMS AND TRACTION CONTROL LAB (2)
Laboratory study and application of brake and ABS system troubleshooting and repair, brake system service, traction control system troubleshooting and repair. Experience using computerized servicing tools. Corequisite: AUTO 337. Offered even years. (Course fees apply.)

AUTO 355 - CLIMATE CONTROL SYSTEMS (2)
Study of climate control systems and service procedures as they relate to passenger vehicles and light trucks with emphasis on diagnosis and current control technologies. This class will help prepare the student for the ASE A7 Test. Prerequisites: ELCT 241. Corequisite: AUTO 356. Offered odd years.

AUTO 356 - CLIMATE CONTROL SYSTEMS LABORATORY (2)
Laboratory study and application of automotive climate control system service techniques; includes a broad range of diagnostic, repair, and service experiences. Corequisite: AUTO 355. Offered odd years. (Course fees apply.)

AUTO 357 - AUTOMATIC TRANSMISSIONS AND TRANSAXLES (2)
Study of passenger car and light truck automatic transmission and transaxle theory and service procedures. Emphasis on diagnosis and repair procedures of the latest control systems. This class will help prepare the student for the ASE A2 Test. Corequisite: AUTO 358. Offered even years.

AUTO 358 - AUTOMATIC TRANSMISSIONS AND TRANSAXLES LAB (2)
Laboratory study and application of automatic transmission service procedures, repair procedures, and diagnosis of late-model control system problems using computerized test equipment. Corequisite: AUTO 357. Offered even years. (Course fees apply.)

AUTO 365 - DIESEL ENGINES (3)
Study of diesel engine theory; includes types of engines, fuel injection systems, air induction systems, exhaust systems, cooling systems, starting, and controls. Two lectures and one laboratory per week. Prerequisites: AUTO 156, 157. Recommended: AUTO 286. Offered even years. (Course fees apply.)

AUTO 391 - ASE A4 VALIDATION (4)
Validation of prior automotive education for National Institute of Automotive Service Excellence (ASE) certification with successful completion of the A4 Suspension and Steering test. Students with current National ASE certification A4 are granted four upper division credits and are exempt from AUTO 335 and 336.

AUTO 392 - ASE A5 VALIDATION (4)
Validation of prior automotive education for National Institute of Automotive Service Excellence (ASE) certification with successful completion of the A5 Brakes test. Students with current National ASE certification A5 are granted four upper division credits and are exempt from AUTO 337 and 338.

AUTO 393 - ASE A7 VALIDATION (4)
Validation of prior automotive education for National Institute of Automotive Service Excellence (ASE) certification with successful completion of the A7 Heating and Air Conditioning test. Students with current National ASE certification A7 are granted four upper division credits and are exempt from AUTO 355 and 356.

AUTO 394 - ASE A2 VALIDATION (4)
Validation of prior automotive education for National Institute of Automotive Service Excellence (ASE) certification with successful completion of the A2 Automatic Transmissions and Transaxles test. Students with current National ASE certification A2 are granted four upper division credits and are exempt from AUTO 357 and 358.

AUTO 395 - ASE A8 VALIDATION (4)
Validation of prior automotive education for National Institute of Automotive Service Excellence (ASE) certification with successful completion of the A8 Engine Performance test. Based on successful completion of a standardized examination, students with current National ASE certification A8 are granted four upper division automotive credits and are exempt from AUTO 314 and 315.

AUTO 396 - ASE T2 VALIDATION (3)
Validation of prior automotive education for National Institute of Automotive Service Excellence (ASE) certification with successful completion of the T2 Diesel Engines Test. Students with current National ASE certification T2 are granted three upper division automotive credits and are exempt from AUTO 365.

AUTO 397 - ASE L1 VALIDATION (3)
Validation of prior automotive education for National Institute of Automotive Service Excellence (ASE) certification with successful completion of the L1 Advanced Engine Performance Specialist test. Students with current National ASE certification L1 are granted three upper division automotive credits and are exempt from AUTO 414.

AUTO 414 - ADVANCED ENGINE PERFORMANCE (3)
Advanced study of automotive engine management systems theory and application. Specific emphasis on solving complicated driveability and emissions problems with use of sophisticated test equipment and logic. This class will help prepare the student for the ASE L1 Test. Two lectures and one laboratory per week. Prerequisites: AUTO 314, 315. Offered odd years. (Course fees apply.)

AUTO 434 - HIGH PERFORMANCE ENGINE TUNING (3)
Advanced study of aftermarket high performance engine modifications and tuning. Includes specific instruction in dynamometer tuning on late model GM, Ford, and Chrysler engines using aftermarket tuning hardware and software such as HP Tuners, AEM and SCT. Prerequisite: AUTO 414. Offered even years only. (Course fees apply.)

AUTO 466 - BODY ELECTRONICS AND COMPUTER SYSTEMS (3)
Study of vehicle electronic and control systems that are not part of the power train. Includes theory of operation, diagnosis, and service of systems such as anti-theft, navigation, audio, video, remote vehicle controls, integrated lighting, communications, wipers, as well as others. Emphasizes heavy use of computerized test equipment, scanners, and wiring diagrams for diagnosis. Two lectures and one laboratory per week. Prerequisites: AUTO 156, AUTO 335, AUTO 337, AUTO 355. Offered odd years. (Course fees apply.)

AUTO 473 - ALTERNATIVE FUELS (3)
Advanced study of theory and service of alternative vehicle fuel and propulsion systems such as LPG, natural gas, alcohol, electric, and hybrid systems. Two lectures and one laboratory per week. Prerequisites: AUTO 314, AUTO 466 or permission of instructor. Offered even years only. (Course fees apply.)

AUTO 480 - ADVANCED PRACTICUM (1 - 6; 6)
Advanced laboratory work in Auto in counsel with the supervising laboratory instructor. Six credits maximum. One 3-hour laboratory per week per credit. Prerequisite: Lower division work in chosen area.

AUTO 494 - COOPERATIVE EDUCATION (0 - 4)
Individual contract arrangement involving students, faculty, cooperative businesses and organizations to gain experience in a work environment. Allows the student to apply advanced classroom learning. A response paper will be done at the end of the cooperative education experience. Prerequisite: Approval by department.

AUTO 495 - COLLOQUIUM (0)
Experiences and lectures relating to current automotive industry trends, technologies, environmental, and employment issues. Open only to students of junior standing or higher. Automotive degree candidates must satisfactorily complete two quarters, at least one of which must be during the senior year. Grades S or NC. Additional course fees apply.

AVIA - AVIATION

AVIA 124 - INTRODUCTION TO AVIATION (3)
Introduction to the aviation industry and job market to include the following: Careers and opportunities, ethics professionalism, industry maintenance procedures, flight scheduling, and familiarization with the FAA, TSA, and NTSB. Study of aviation history from mythology to present day.

AVIA 140 - INTRODUCTION TO FLIGHT (1)
An introduction to the experience of flight. The student will learn basic aviation principles and develop an understanding of the parts of the airplane. Will not apply toward a major or minor in Technology. Cannot be taken simultaneously with or after AVIA 141.

AVIA 141 - PRIVATE PILOT LECTURES (5)
Study of basic concepts of aircraft performance, navigation, principles of flight, and meteorology; includes interpretation, application, and use of Federal Aviation Regulations and aviation publications. Prepares the student to pass the FAA Private Pilot Knowledge Test. (Course fees apply.)

AVIA 142 - PRIVATE PILOT FLIGHT TRAINING (3)
Pre-solo aeronautical knowledge and flight training in preparation for solo flight. Corequisite: AVIA 141 or permission of instructor. (Course fees apply.)

AVIA 143 - ADVANCED PRIVATE FLIGHT TRAINING (3)
Flight instruction in advanced takeoffs and landings, night operations, and cross country flight operations. Includes a review of flight maneuvers and knowledge necessary to pass the Private Pilot Practical Test. Prerequisite: AVIA 142. (Course fees apply.)

AVIA 152 - CROSS-COUNTRY FLIGHT (2)
Directed cross-country flight experience to meet the FAA flight requirements for the instrument rating. Prerequisite: AVIA 143. (Course fees apply.)

AVIA 234 - METEOROLOGY (2)
Study of the atmosphere, winds, moisture, temperature, air masses, fronts, and weather forecasting with emphasis on aviation weather. Offered odd years only.

AVIA 256 - PRINCIPLES OF AIRCRAFT MAINTENANCE (4)
Study of aircraft systems to include applicable federal aviation regulations. Offered even years only.

AVIA 261 - INSTRUMENT PILOT LECTURES (4)
Study of aircraft flight instruments, instrument interpretation, instrument publications, regulations and procedures. Prepares student to pass the FAA Instrument Knowledge Test. (Course fees apply.)

AVIA 262 - INSTRUMENT FLIGHT TRAINING (3)
Flight instruction in instrument departures, attitude instrument flying, holding procedures, instrument navigation, and enroute navigation. (Course fees apply.)

AVIA 263 - ADVANCED INSTRUMENT FLIGHT TRAINING (3)
Flight instruction in instrument approaches and arrival procedures. Includes the long IFR cross-country flight required for the instrument rating. Prerequisite: AVIA 262, or permission of instructor. (Course fees apply.)

AVIA 270 - MULTI-CREW FLIGHT OPERATIONS (2)
Study and application of crew communications, decision-making, leadership, flying and non-flying pilot responsibilities, and situational awareness. Prerequisite: AVIA 262 or permission of instructor. (Course fees apply.)

AVIA 280 - PRACTICUM (1 - 6; 6)
Laboratory work in Aviation chosen in counsel with the supervising laboratory instructor. Six credits maximum. One 3-hour laboratory per week per credit. (Course fees apply.)

AVIA 325 - FLIGHT PERFORMANCE (2)
Instructor directed flight experience to meet FAA flight requirements for the Commercial Certificate. (Course fees apply.)

AVIA 334 - COMMERCIAL PILOT LECTURES (4)
Study of advanced aircraft systems, advanced aerodynamics, commercial operations, commercial pilot maneuvers, and the commercial environment. Prepares student to pass the FAA Commercial Knowledge Test. Prerequisite: AVIA 256 or permission of instructor. (Course fees apply.)

AVIA 335 - COMMERCIAL FLIGHT TRAINING (3)
Flight instruction in advanced aircraft including: systems training, complex aircraft familiarization, emergency procedures, instrument flight operations, cross-country flight, and night operations. (Course fees apply.)

AVIA 336 - ADVANCED COMMERCIAL FLIGHT TRAINING (3)
Flight instruction in advanced takeoffs and landings, advanced airwork, and emergency procedures. Includes training of flight maneuvers and knowledge necessary to pass the Commercial Pilot Practical Test. Prerequisite: AVIA 335. (Course fees apply.)

AVIA 337 - MISSION/HUMANITARIAN FLIGHT TRAINING (2)
Developing pilot skills related to mission/humanitarian flight operations. Training to include an introduction to low level flight operations and flying in mountainous terrain. Specialized training in advanced takeoffs and landings to include blind approaches and departures and takeoffs and landings on curved, sloped, and primitive surfaces. Prerequisite: AVIA 336 or permission of instructor. (Course fees apply.)

AVIA 340 - MULTI-ENGINE FLIGHT TRAINING (3)
Flight instruction in multi-engine aircraft including: takeoffs and landings, airwork, single-engine operations, and emergency procedures. Includes training of flight maneuvers and knowledge necessary to pass the Multi-Engine Rating Practical Test. (Course fees apply.)

AVIA 355 - AVIATION SAFETY (2)
Study and application of pilot decision making, risk management, and handling in-flight emergencies in both single and multi-engine aircraft. Prerequisites: AVIA 270 and AVIA 340, or permission of instructor. (Course fees apply.)

AVIA 356 - FLIGHT INSTRUCTOR TRAINING I (3)
Study of the methods of flight instruction, course organization, lesson planning, student progression, and practical teaching experiences. Prepares the student for the Flight Instructor and Fundamentals of Instructing Knowledge Tests. (Course fees apply.)

AVIA 358 - FLIGHT INSTRUCTOR TRAINING II (3)
Flight instruction in preparation for the Certified Flight Instructor Practical Test. This includes training in primary and advanced flight instruction techniques. (Course fees apply.)

AVIA 455 - CREW RESOURCE MANAGEMENT (2)
Study of the many facets of Crew Resource Management (CRM), situational awareness, information processing, communications, and decision making. Includes human factors and human error as it relates to today's modern aircraft. Students will have the opportunity to apply CRM principles in both single and multi-pilot roles. Prerequisite: AVIA 355 (Course fees apply.)

AVIA 458 - INSTRUMENT INSTRUCTOR FLIGHT TRAINING (3)
Flight instruction in preparation for the Instrument Flight Instructor Practical Test. (Course fees apply.).

AVIA 460 - MULTI-ENGINE INSTRUCTOR FLIGHT TRAINING (2)
Flight instruction in preparation for the Multi-Engine Flight Instructor Practical Test. (Course fees apply.)

AVIA 480 - ADVANCED PRACTICUM (1 - 6; 6)
Advanced laboratory work in Aviation in counsel with the supervising laboratory instructor. Six credits maximum. One 3 hour laboratory per week per credit. Prerequisite: Lower division work in chosen area. (Course fees apply.)

AVIA 494 - COOPERATIVE EDUCATION (0 - 4)
Individual contract arrangement involving students, faculty, cooperative businesses and organizations to gain experience in a work environment. Allows the student to apply advanced classroom learning. A response paper will be done at the end of the cooperative education experience. Prerequisite: Approval by department.

AVIA 496 - SENIOR SEMINAR (2)
Preparation for the aviation industry and job market to include the following: aviation resume design, technical interview training, simulator evaluation, ethics, and professionalism. Open only to Aviation students with senior standing. (Course fees apply.)

BIOL - BIOLOGY

BIOL 105, 106 - CONTEMPORARY BIOLOGY (4, 4)
Introduction to biological concepts and information for nonscience majors. Information is presented in the context of contemporary issues faced by society. First quarter emphasizes the biology of the human organism and the second quarter emphasizes the functioning of ecosystems and the challenges of human impacts upon the environment. Course is designed to meet the general studies science requirements. One laboratory per week. Prerequisite for BIOL 106 is BIOL 105, or BIOL 141, or BIOL 121. Will not apply on a biology major or minor. (Course fees apply.)

BIOL 121, 122, 123 - ANATOMY AND PHYSIOLOGY (4, 4, 4)
Study of human (organ-system) anatomy and physiology with reference to cellular, genetic, and developmental relationships. First quarter focuses on the integumentary, skeletal, and muscular systems. Second quarter focuses on nervous, endocrine, and circulatory systems. Third quarter focuses on digestive, urinary, lymphatic, respiratory, and reproductive systems. Must be taken in sequence. One laboratory per week. Will not apply to biology major electives. High school or college chemistry strongly recommended. (Course fees apply.)

BIOL 141, 142, 143 - GENERAL BIOLOGY (4, 4, 4)
Study of the basic principles of biology of animals, plants, and microorganisms. Topics include the cell, physiology, genetics, development, taxonomy, and ecology. Must be taken in sequence. One laboratory per week. High school or college chemistry strongly recommended. (Course fees apply.)

BIOL 211 - INTRODUCTION TO BIOLOGICAL RESEARCH I (2)
Study of the process of science throughout history, current principles of scientific research, and the function of the scientific method. Will include methods of literature research and scientific writing. Prerequisite: BIOL 143.

BIOL 222 - MICROBIOLOGY (5)
Study of the nature and control of bacteria and other disease-producing organisms; consideration of their relationship to human disease and the basic concepts of immunology. One laboratory per week. Will not apply to biology major. Prerequisites: CHEM 101, 102 or BIOL 141, 142 or permission of instructor. (Course fees apply.)

BIOL 250 - BIOSTATISTICS (4)
Practice and theory of statistical methods in quantitative biology. Prerequisites: BIOL 143, MATH 121, 122, or permission of instructor.

BIOL 296 - CURRENT TOPICS IN BIOLOGY (1)
An informal study of current topics in biology. Students will read scientific articles and lead and participate in weekly discussions. Limited to sophomore and junior biology majors and minors. Prerequisites: BIOL 143 and permission of instructor. Graded S or NC.

BIOLOGICAL SCIENCES UPPER DIVISION PREREQUISITES

BIOL 141, 142, and 143 are prerequisites for all upper-division courses.

BIOL 305 - GENERAL ECOLOGY (4)
Study of the relationship of plants and animals, both as individuals and assemblages, to their physical and biological environment. Laboratory work includes field studies designed to examine ecological principles. One laboratory per week. (Course fees apply.)

BIOL 316 - INTRODUCTION TO BIOLOGICAL RESEARCH II (1 - 2; 2)
The student will work with a departmental adviser on research activities such as a literature search, preliminary experiments, data collection, or data analysis. May be repeated with a different research adviser, or continued with the same research adviser. Prerequisite: BIOL 250 and permission of research adviser. Graded S or NC.

BIOL 360 - PLANT BIOLOGY (4)
Fundamental principles of plant biology with emphasis on morphology, anatomy, taxonomy, physiology, ecology, and natural history of algae, non-vascular, and vascular plants. Three class hours and one three-hour laboratory per week. (Course fees apply.)

BIOL 381 - CELL BIOLOGY I: STRUCTURE AND BIOENERGETICS (4)
The first quarter of a year-long sequence that covers the cell and molecular biology, and biochemistry of living cells. Topics include structure and function of biological membranes and subcellular organelles, metabolism and bioenergetics, cytoskeleton and motility, signal transduction, and cell-cell interactions. Priority will be given to biology, biochemistry, and bioengineering majors. One laboratory per week. Corequisite: CHEM 321 or permission of instructor. (Course fees apply.)

BIOL382 - CELL BIOLOGY II: GENETICS AND MOLECULAR BIOLOGY (4)
The second quarter of a year-long sequence that covers the cell and molecular biology, and biochemistry of living cells. A study of DNA replication, mutation and repair, the transfer of information from DNA to protein, prokaryotic gene regulation, and the principles of heredity in individuals and populations. Laboratory will include an introduction to recombinant DNA technology. One laboratory per week. Prerequisites: BIOL 381 and CHEM 321. (Course fees apply.)

BIOL 383 - CELL BIOLOGY III: GENOMICS AND REGULATION (4)
The third quarter of a year-long sequence that covers the cell and molecular biology and biochemistry of living cells. Advances in genomics, epigenetics, and control of gene expression. Topics will be explored in the context of development; growth, differentiation, morphogenesis, and cancer. One laboratory per week. Prerequisites: BIOL 381, 382, and CHEM 322. (Course fees apply.)

BIOL 403 - ORNITHOLOGY (4 - 5)
Study of native birds of North America, with emphasis on physiology, identification, migration, and life histories. One laboratory per week. (College Place campus - 4 quarter hours; Rosario Beach Marine Laboratory - 5 quarter hours.) A weekend field trip is required. Offered even years only. (Course fees apply.)

BIOL 405 - NATURAL HISTORY OF VERTEBRATES (4)
Study of vertebrates with emphasis on natural history, ecology, physiology, and taxonomy. One laboratory per week. (College Place campus - 4 quarter hours; Rosario Beach Marine Laboratory - 5 quarter hours.) A weekend field trip is required. Offered odd years only. (Course fees apply.)

BIOL 410 - LIMNOLOGY (4 - 5)
An introduction to the history, structure, physical characteristics, and biota of lakes, river, and streams and to the physical, biological, and geochemical processes occurring there. One laboratory per week with some Sunday labs. Prerequisite: Junior standing in a science, mathematics, or engineering major or consent of instructor. Offered odd years only on College Place campus. (College Place campus - 4 quarter hours; Rosario Beach Marine Laboratory - 5 quarter hours.) (Course fees apply.)

BIOL 416 - RESEARCH IN BIOLOGY (1 - 4; 4)
The student will work with a departmental adviser on an independent basis. Research may include data collection and analysis and must include a written manuscript. May be repeated with a different research adviser or continued with the same research adviser. Prerequisite: BIOL 316 and permission of research adviser.

BIOL 419 - FIELD STUDIES (1 - 2; 6)
A short-term intensive study of flora and fauna in a region of special biological interest, along with their interrelations with one another. Orientation and follow-up required. May be repeated with professor's permission. Prerequisite: BIOL 143.

BIOL 420 - SOCIOBIOLOGY (3)
A study of current concepts and ideas relating to the origin and structure of social behavior in animals. Special attention is focused on the adaptive significance of species-specific behavior in a wide variety of environments.

BIOL 426 - SYSTEMATIC BOTANY (4 - 5)
Study of the principles of plant classification, together with a systematic survey of vascular plants, with emphasis on natural history and ecology. One laboratory per week. (College Place campus - 4 quarter hours; Rosario Beach Marine Laboratory - 5 quarter hours.) Offered as needed. (Course fees apply.)

BIOL 430 - MOLECULAR BIOLOGY TECHNIQUES (4 - 5)
Introduction to the theory and practice of modern molecular techniques. The laboratory will include techniques such as the purification and analysis of DNA, RNA, and protein, recombination DNA procedures, mutagenesis, hybridization methods, PCR, and DNA sequencing technology. Two laboratories per week. Prerequisites: BIOL 382, CHEM 323, 326. (College Place campus - 4 quarter hours; Rosario Beach Marine Laboratory - 5 quarter hours). Offered even years only. (Course fees apply.)

BIOL 435 - DEVELOPMENTAL BIOLOGY (4)
Principles of development of plants and animals. Emphasizes problems of growth, differentiation, and morphogenesis. Laboratory work consists of both descriptive and experimental analysis of development. One laboratory per week. Prerequisites: BIOL 381, 382 and CHEM 322; or permission of department.

BIOL 445 - ADVANCED MICROBIOLOGY (4)
Study of the principles of morphology, physiology, and function of bacteria and other microorganisms. One laboratory per week. Prerequisites: BIOL 143 and CHEM 143. Offered odd years only. (Course fees apply.)

BIOL 449 - VERTEBRATE HISTOLOGY (4)
Study of the microscopic anatomy of vertebrate cells, tissues, and organs, including reference to their functions. Two laboratories per week.

BIOL 450 - PALEOBIOLOGY (4 - 5)
Study of the biology, diversity, and history of ancient life and of the principles and methods employed in interpreting life of the past. Special consideration will be given to the fossil record of western North America. (College Place campus - 4 quarter hours; Rosario Beach Marine Laboratory - 5 quarter hours). Offered even years only.

BIOL 464 - ANIMAL PHYSIOLOGY (4)
Study of animal physiology with emphasis on integration of vertebrate organ systems. One laboratory per week. Prerequisite: BIOL 381. Strongly Recommended: PHYS 213, 216. Offered as needed.

BIOL 465 - ECOLOGICAL PHYSIOLOGY (3)
The study of how an animal's physiology helps it survive in its unique environment. Special attention will be focused on internal physiological specializations and how these enable an animal to cope with a range of environments and habitats. Prerequisite: BIOL 143. Strongly recommended: BIOL 381.

BIOL 466 - IMMUNOLOGY (4)
Study of the molecular and cellular bases of the immune response including clinical applications. One laboratory per week. Prerequisites: BIOL 382. (Course fees apply.)

BIOL 470 - BIOPHYSICS (OR PHYS 470) (4)
Study of the structure and function of biological systems from the perspective of the physical sciences. Prerequisites: BIOL 143; PHYS 213 or PHYS 253; MATH 123 or MATH 181 or permission of instructor.

BIOL 483 - PHILOSOPHY OF ORIGINS AND SPECIATION (3)
Comparison of the various theories on the origin and history of living organisms in light of present scientific knowledge in biochemistry, paleontology, morphology, geology, genetics, and other related areas. For majors and minors only. Recommended for senior year.

BIOL 494 - COOPERATIVE EDUCATION/RESEARCH (0)
Specialized field or laboratory experience at an off-campus academic, industrial, or government site. A contractual arrangement between student, faculty adviser, and off-campus representative is required before work begins. Prerequisite: approval of major adviser.

BIOL 495 - COLLOQUIUM (0)
Lecture series designed to expose students to modern scientific research and researchers. Each lecture is normally given by a visiting scientist. Six quarters required of all biology majors. Graded S or NC.

BIOL 496 - SENIOR SEMINAR (2)
Presentation and discussion of current topics in biology. Students will read scientific articles and lead and participate in weekly discussions. Prerequisite: BIOL 250, 296, and senior standing. Graded S or NC.

ROSARIO BEACH MARINE LABORATORY COURSES

BIOL 141, BIOL 142, BIOL 143 or equivalent is prerequisite for all courses listed below. Rosario Beach Marine Laboratory courses of 5 credits include an additional credit for the requirement of a research problem (See BIOL 403, BIOL 405, BIOL 410, BIOL 426, BIOL 430, BIOL 450). Normally a maximum of two of the following courses are taught during a summer; see annual Rosario Beach Marine Laboratory Bulletin.

****Qualifies as a marine-oriented course.***

BIOL 417 - BEHAVIOR OF MARINE ORGANISMS* (5)
A study of inter- and intraspecific behaviors of marine animals and their behavioral responses to the physical environment. The course involves laboratory experience, field observations, and research project. Prerequisite: a course in animal behavior, organismal biology and/or psychology.

BIOL 440 - HUMAN ANATOMY (5)
Comprehensive study of human anatomy covering all systems of the head, neck, trunk, and extremities. A solid morphological basis for a synthesis of anatomy, physiology, and clinical sciences. Dissection and identification of anatomical structures using cadavers, charts, and models.

BIOL 458 - MARINE BIOLOGY* (5)
An integrated approach to understanding the marine environment primarily from an ecological perspective. Included are principles of basic oceanography, plankton biology, deep-sea biology, and shallow-water marine communities.

BIOL 460 - MARINE ECOLOGY* (5)
Study of interspecific, intraspecific, and community relationships demonstrated by marine organisms.

BIOL 462 - ICHTHYOLOGY* (5)
Systematic study of the fishes found in Puget Sound, with a survey of the fishes of other waters.

BIOL 463 - MARINE PHYCOLOGY* (5)
A systematic survey of marine algae, covering the principles of their classification, natural history, ecology, physiology, and practical use.

BIOL 468 - COMPARATIVE PHYSIOLOGY* (5)
Comparative study of the physiology and life processes of animals with emphasis on invertebrates. Prerequisite: BIOL 381.

BIOL 475 - MARINE INVERTEBRATES* (5)
A study of the biology of selected groups of marine invertebrates.

CDEV - CAREER DEVELOPMENT

CDEV 100 - EXPERIENTIAL PROGRAM (6; 18)
May be taken only if supervision is in conjunction with an approved Cooperative Educational experience. Credit will not apply toward graduation. Graded S or NC.

CDEV 101 - EXPERIENTIAL LEARNING (0 - 3)
Practical experience in an off-campus setting through a contractual agreement among student, faculty adviser, co-op coordinator and off-campus supervisor before work begins. The agreement will be supervised by the Career Center through the cooperative education program and meet the criteria for cooperative education as outlined in the bulletin. Students will work in a career area of interest with the goal of defining a career focus or major. Graded S or NC.

CDEV 210 - CAREER EXPLORATION AND PREPARATION (0-1)
Development of career exploration and decision making skills, allowing student to implement appropriate job search strategies. This would include resume writing, interviewing techniques and development of positive work habits and attitudes. Graded S or NC for 0 credits. Graded A-F for 1 credit.

CHEM - CHEMISTRY

CHEM 101, 102 - INTRODUCTORY CHEMISTRY (4, 4)
Introduction to chemistry, covering the fields of inorganic, organic, and biochemistry. Does not apply toward a major or minor. Must be taken in sequence. One laboratory per week. (Course fees apply.)

CHEM 141, 142, 143 - GENERAL CHEMISTRY (3, 3, 3)
Study of the structure and states of matter; atomic and molecular theory, including valency, periodicity, and bonding; solutions and equilibria, stoichiometry, kinetics, and thermodynamics; and the descriptive chemistry of metals and nonmetals. Must be taken in sequence. Prerequisites or corequisites: MATH 121, 122 or equivalent; CHEM 144, 145, 146.

CHEM 144, 145, 146 - GENERAL CHEMISTRY LABORATORY (1, 1, 1)
Laboratory integrated with CHEM 141, 142, 143. One laboratory per week. Corequisite: CHEM 141, 142, 143. (Course fees apply.)

CHEM 301 - CHEMICAL EQUILIBRIUM AND ANALYSIS (3)
Study of chemical equilibrium through a perspective of applications in analytical chemistry. Consideration is given to solubility as affected by competing equilibria, to acid-base equilibria in aqueous solutions, and to complexation equilibria; includes an introduction to oxidation reduction equilibria. Prerequisite: CHEM 143. Corequisite: CHEM 405.

CHEM 302 - ANALYTICAL INSTRUMENTAL METHODS I (3)
Primary emphasis is on electrochemistry, optical spectroscopies, and separations techniques. Consideration is given to both the instrumentation and techniques of interest in chemical analysis. Prerequisite: CHEM 301. Corequisite: CHEM 405.

CHEM 321 - ORGANIC CHEMISTRY (4)
Study of principles of organic chemistry and their applications to the preparation, properties, and reactions of organic compounds. Prerequisite: CHEM 143.

CHEM 322, 323 - ORGANIC CHEMISTRY (4, 3)
Study of principles of organic chemistry and their applications to preparation, properties, and reactions of organic compounds. Spectroscopic analysis of organic compounds. Prerequisite: CHEM 321. Corequisite: CHEM 325, 326 or CHEM 336.

CHEM 325, 326 - INTRODUCTION TO ORGANIC LABORATORY (1, 1)
Introduction to microscale techniques of preparation, purification, and identification of organic compounds. Includes spectroscopic techniques. Intended for non-majors. One laboratory per week. Corequisite: CHEM 322, 323. (Course fees apply.)

CHEM 336 - MICROSCALE ORGANIC LABORATORY (2)
The use of microscale techniques for the preparation, purification and identification of organic compounds. Includes spectroscopic techniques. Intended for majors and interested students. Two laboratories per week. Corequisite: CHEM 322, 323. (Course fees apply.)

CHEM 350, 352, 353 - PHYSICAL CHEMISTRY (3, 3, 3)
Survey of important topics in physical chemistry. The first quarter emphasizes quantum theory with applications to atomic structure, molecular structure, and spectroscopy. Second quarter includes thermodynamics applied to phase and chemical equilibria. Third quarter deals with kinetics, transport properties, and molecular dynamics. Prerequisites: MATH 281; PHYS 213 or 253; CHEM 143. Corequisite: CHEM 405 or permission of instructor.

CHEM 405 - INTEGRATED CHEMISTRY LABORATORY (1; 6)
A research laboratory integrating the major disciplines in chemistry: analytical, biochemical, inorganic, organic, and physical. Course will be synchronized with lecture courses for a given quarter, and will include experimental, analytical, and written components. Six quarters are required of BS Chemistry majors, 5 quarters for BA Chemistry majors, and 4 quarters for BS Biochemistry majors. Open to chemistry and biochemistry majors or by permission of the instructor. Prerequisite: CHEM 323 or Corequisite: CHEM 301.

CHEM 427 - ORGANIC STRUCTURE AND MECHANISMS (3)
In-depth study of the structures of organic molecules and the theories of reaction mechanisms. Prerequisite: CHEM 323. Corequisite: CHEM 405. Offered odd years only.

CHEM 429 - ORGANIC STRUCTURAL PROBLEMS (3)
Application of nuclear magnetic resonance, mass and other spectroscopies to organic structural determination. One lecture and two laboratories per week. Prerequisite: CHEM 323. Offered even years only.

CHEM 431, 432, 433 - FOUNDATIONS OF BIOCHEMISTRY (4, 4, 3)
A first course in biochemistry emphasizing the application of chemical principles to the study of proteins, nucleic acids, enzyme catalysis, membrane transport, bioenergetics, and metabolic pathways. An introduction to cellular signaling is also included. Priority will be given to biochemistry, chemistry, and pre-professional students whose programs require it. Prerequisite: CHEM 323. Recommended: BIOL 381, 382.

CHEM 442 - INORGANIC CHEMISTRY (3)
Study of the physical and chemical properties of inorganic and coordination compounds. Emphasis is placed on the use of molecular orbital, ligand field and crystal field theories as tools to understanding the structure and reactivity of inorganic compounds. Prerequisites: CHEM 143, 350 or permission of instructor. Corequisite: CHEM 405. Offered even years only.

CHEM 461 - ANALYTICAL INSTRUMENTAL METHODS II (3)
The study of mass spectrometric, nuclear magnetic resonance and surface or thermal analysis techniques for analytical studies. Prerequisite: CHEM 302. Corequisite: CHEM 405. Offered odd years only.

CHEM 479 - DIRECTED RESEARCH/PROJECT (1-3)
Original investigation of a chemical research problem carried out under the direction of an assigned faculty member. Most projects involve one laboratory period per week per credit hour.

CHEM 494 - COOPERATIVE EDUCUCATION (0 - 3)
Chemical research conducted at an off-campus site, usually in an industrial, academic, or government laboratory. A contractual arrangement involving the student, faculty adviser, and the off-campus site is required before work begins. If taken for credit, the student must submit a written report of the research upon completion of the work. Prerequisite: Approval of the department.

CHEM 496, 497, 498 - CHEMISTRY SEMINAR (1, 1, 1)
Application of communication skills to the chemical profession. Course will include resume writing, interview skills, literature searching, discussion of chemical literature, poster sessions, writing a paper, and making an oral presentation. Must be taken in sequence. Open only to chemistry and biochemistry majors. Prerequisites: CHEM 264, CHEM 323 or permission of instructor.

CIS - COMPUTER INFORMATIONS SYSTEMS

CIS 140 - COMPUTER BUSINESS APPLICATIONS (4)
Studies spreadsheet application with emphasis on problem solving for business using Microsoft Excel; and introduces database software using Microsoft Access. Prerequisite: working knowledge of personal computers and Microsoft Office.

CIS 235 - WEB APPLICATION DEVELOPMENT (OR CPTR 235) (4)
Introduction to web application development including UNIX systems software, web servers, database management systems, server - and client - side scripting languages, mark-up languages, and GUI design. Laboratory work and project required. Prerequisite: CPTR 141 or other programming experience. Offered even years only.

CIS 301 - MANAGEMENT INFORMATION SYSTEMS (4)
An analysis of information systems as the operational mechanism of the management process. The technology used, the systems development process and the application of information systems to the major business cycles are all investigated. Topics include the history of computers, information technology, managerial and ethical issues, structure, analysis, development and implementation of information systems that support a wide range of organizational functions. Prerequisite: CIS 140.

COMM - COMMUNICATIONS

COMM 110 - SEMINAR: INTERNATIONAL COMMUNICATION (1)
An introduction to various disciplines of communication in an international context and a focus on how to approach general study courses in order to support a career in international communication. Students create a collegiate plan of action towards a personal career goal.

COMM 145 - MEDIA AND CULTURE (4)
Introduction to the history, development and influence of mediated communication in American culture with emphasis on the social, economic, political, and psychological factors influencing media users.

COMM 201 - PREPRODUCTION (1)
Exploration and practice of the preproduction process for a short film. Students plan, budget, schedule, location scout, and cast for a short film produced the following quarter. To be taken concurrently with JOUR 201, Screenwriting. Prerequisite: COMM 235.

COMM 245 - DIRECTED MEDIA PRODUCTION (1 - 2; 2)
Practice of media production in areas where the student has demonstrated potential in production-related courses. Under the instructor's supervision, the student completes a project. Prerequisite: COMM 235 or permission of the instructor.

COMM 235 - INTRODUCTION TO FILMMAKING (4)
An introduction to video production. Covers basic language and process of preproduction (concept, story, planning), production (camera operation, cinematography, directing), and post-production (sound and picture editing). Students create multiple films. (Course fees apply).

COMM 301 - AUDIO PRODUCTION (4)
Advanced study of the sound medium and procedures for creative sound production in various media. Covers microphone selection, studio and remote recording, mixing, ADR and Foley production. Students create a variety of audio projects. Prerequisite: COMM 235.

COMM 302 - LIVE VIDEO PRODUCTION AND STREAMING (3)
Study and experience in multi-camera live production for broadcast and web streaming. Course covers basic studio and control room techniques including directing, camera operation, lighting, switching, and live graphics. Emphasis is on multi-camera directing, production planning, and visual aesthetics. Prerequisite: COMM 235 or permission of instructor. Offered even years.

COMM 303 - PRODUCTION AND CINEMATOGRAPHY (3)
Exploration and practice of the production process for a short film. Includes study and practice of cinematography (lighting and compositing), producing, and directing. Students create short films from JOUR 201. Prerequisites: JOUR 201, COMM 235.

COMM 304 - VIDEO EDITING AND COMPOSITING (4)
Exploration and practice in the post production process for a short film. Students study and apply advanced post production workflow including specialized editing techniques, color timing, animated special effects, and finishing. Students finish and screen films they wrote in JOUR 201. Prerequisite: COMM 303.

COMM 325 - MULTICULTURAL COMMUNICATION (3)
Study and practice in communicating cross culturally. In the intercultural context students explore practices, perspectives, and products. Requires students to actively engage in new cultures as they examine their interactions outside of their own culture.

COMM 357 - MEDIA LAW (4)
Study of legal and ethical issues affecting mass communication media professionals, including libel, privacy, confidentiality, obscenity, access, advertising, and broadcast ethics and regulation.

COMM 394 - DIRECTED READING: (1 - 2; 3)
Independent reading for students who wish to broaden their knowledge of history, biographies, classics, professional and/or trend literature in communication. Offered alternatively with JOUR 394 and SPCH 394.

COMM 411 - WEB VIDEO ACTIVISM (4)
Students partner with a community organization to create short films to support positive social change. Students plan, write, budget, and manage a professional level video production. Prerequisite: COMM 235. Offered odd years only.

COMM 412 - DOCUMENTARY FILM (4)
An application and exploration of advanced techniques for producing documentaries. Topics include documentary voice, ethics, sound recording, interview techniques, and post production dialog editing. Students will analyze production techniques and documentary voice of important creative documentaries and will form small production teams to create documentary films. Prerequisite: COMM 235.

COMM 445 - DIRECTED MEDIA PRODUCTION (1 - 4)
Refinement of media production skills in areas where the student has demonstrated potential in production-related courses. Under the instructor's supervision, the student designs and completes a project. Prerequisite: Permission of the instructor.

COMM 475 - COMMUNICATION THEORY (2)
Study of contemporary thought on the nature and process of communication from the perspective of interpersonal, group, public, organizational, mass, and intercultural communication. Emphasis on the critical analysis, application, and use of theory in research. Prerequisite: Senior standing, majors only.

COMM 487 - SENIOR PROJECT (1)
A student-selected, department-approved project to demonstrate the student's ability to perform in his/her major field of instruction. Satisfactory completion of this course constitutes the department comprehensive requirement for the bachelor's degree. At the beginning of the third quarter prior to graduation students must submit a project proposal to the department. Graded A-F.

COMM 494 - COOPERATIVE EDUCATION/PRACTICUM IN COMMUNICATION (0 - 4)
Practical experience in news reporting and editing, public relations, broadcasting or media production. The student works under the co-direction of professionals in participating agencies and the department. Instructor's permission must be obtained one quarter before registration. Graded S or NC.

COMM 495 - COMMUNICATIONS COLLOQUIUM (0)
A series of lectures, programs, discussions, and other activities presented by communication and/or language professionals. Majors are required to attend four quarters, at least one must be during the senior year. Graded S or NC.

COMM 496, 497 - SEMINAR IN COMMUNICATION (2, 1)
An integrating course required of all communication and international communication majors in the senior year. Study includes a review of literature, and research methods in communication, experience in writing critical reviews; individual research projects in areas of special relevance to the student; group conferences and oral presentation of formal papers. Prerequisite: COMM 475.

CORR - CORRECTIONS, LAW ENFORCEMENT AND CRIMINAL JUSTICE

CORR 285 - INTRODUCTION TO CRIMINAL JUSTICE (4)
Study of the philosophy and history of law enforcement; includes an overview of crime and police problems, agencies involved in administration of criminal justice, processes of justice from detection of crime to parole of offenders, evaluation of modern police services, and a survey of professional career opportunities and qualifications required. Observations and field trips arranged. Offered even years only.

CORR 385 - CRIMINOLOGY (4)
Study of the historical background of crime and factors of deviant social behavior; includes a survey of criminological theories to analyze contributing factors and evaluate remedial measures now in common use. Visits to agencies and institutions arranged. Prerequisite: SOCI 204 or CORR 285. Offered even years only.

CORR 387 - JUVENILE DELINQUENCY (3)
Study of delinquency, juvenile courts, detention, and probation; investigation and comparison of programs of treatment and prevention. Field trips arranged. Prerequisite: SOCI 204 or CORR 285. Offered even years only.

CPTR - COMPUTER SCIENCE

CPTR 110 - PRINCIPLES OF COMPUTING (2)
An introduction to the field of computing including the history and current trends of computing; social and ethical issues; hardware and software concepts; language, spreadsheet, and database applications; and the internet. Does not apply to major or minor in computer science.

CPTR 141 - INTRODUCTION TO PROGRAMMING (4)
Programming-in-the-small, introducing computer science principles and software engineering concepts for designing, coding, executing, and debugging within the C family of programming languages. Laboratory work required.

CPTR 142, 143-DATA STRUCTURES, ALGORITHMS, AND OBJECTS (4,4)
Topics include lists, stacks, queues, trees, graphs, searching, sorting, and hashing using concepts of object-oriented programming, space-time efficiency, and software engineering. Team projects and laboratory work required. Prerequisite: CPTR 141.

CPTR 215 - ASSEMBLY LANGUAGE PROGRAMMING (3)
Introduction to computer architecture, machine language, and assembly language. Laboratory work required. Prerequisite: CPTR 141.

CPTR 235 - WEB APPLICATION DEVELOPMENT (OR CIS 235) (4)
Introduction to web application development including UNIX systems software, web servers, database management systems, server - and client - side scripting languages, mark-up languages, and GUI design. Laboratory work and project required. Prerequisite: CPTR 141 or other programming experience. Offered even years only.

CPTR 301 - JAVA AND OBJECT-ORIENTED SYSTEM DESGN (4)
Software design and construction in the context of Object-Oriented Programming libraries. Laboratory work required. Prerequisite: CPTR 143. Offered odd years only.

CPTR 316 - PROGRAMMING LANGUAGES (3 - 4)
Introduces a variety of programming language paradigms and their implementations. Computer science majors must take four hours. Computer engineering majors may take three hours. Laboratory work required. Prerequisites: CPTR 143.

CPTR 345 - THEORY OF COMPUTATION (4)
Study of the basic theoretical principles of computer science. Areas covered include Chomsky's Hierarchy of formal languages, grammars, and machines; computability by Turing machines and recursive functions, non-computability, and computational complexity. Emphasis on practical implications. Offered even years only.

CPTR 350 - COMPUTER ARCHITECTURE (4)
Study of the organization and architecture of computer systems with emphasis on the classical von Neumann architecture. Topics include computer performance, instruction sets, computer arithmetic, processor datapath and control, memory management, storage and I/O, and multiprocessing. Project work required. Prerequisites: CPTR 215, ENGR 354.

CPTR 352 - OPERATING SYSTEM DESIGN (4)
Principles of operating systems, process management, memory management, file system management, device management, resource allocation, security and protection. Laboratory work required. Prerequisite: CPTR 143, CPTR 215. Offered odd years only.

CPTR 355 - COMPUTER GRAPHICS (4)
Introduction to the production of graphical representations of 2- and 3-dimensional objects using the computer. Theory and application of affine matrix transformations to manipulate these objects. Subtopics include fractals and integrated function systems (IFS tables), graftals, Beziér curves, stereopsis, animation and morphing. Pair programming and laboratory work required. Prerequisites: CPTR 141; MATH 117 or equivalent. Offered even years only.

CPTR 415 - INTRODUCTION TO DATABASE SYSTEMS (4)
Fundamental concepts, system organization, and implementation of database systems. The Relational data model, query languages; database design and normal forms. Laboratory work required. Prerequisites: CPTR 143, MATH 250. Offered odd years only.

CPTR 425 - INTRODUCTION TO NETWORKING AND COMPUTER I/O (4)
Concepts, principles, and implementation of modern computer I/O; networks, protocol layers, networking algorithms, and I/O programming. Laboratory work required. Prerequisite: CPTR 143. Offered even years only.

CPTR 435 - SOFTWARE ENGINEERING (4)
Fundamentals of software engineering using a group project as the basic vehicle. Topics covered include software quality characteristics, the software engineering process, life cycles, and tools; the issues involved in building large software systems, professionalism, and ethics. Laboratory work required. Prerequisite: CPTR 143.

CPTR 445 - INTRODUCTION TO ARTIFICIAL INTELLIGENCE (4)
A survey of key concepts and applications of artificial intelligence (AI) with languages commonly used for building AI systems. Subtopics include propositional logic, knowledge representation, state space/searching, heuristic search, expert systems, expert system shells, natural language processing, and cognitive learning models. Team project and laboratory work required. Prerequisite: CPTR 143. Offered odd years only.

CPTR 454 - DESIGN AND ANALYSIS OF ALGORITHMS (4)
Application of techniques using asymptotic notations, unit costs, and recurrence relations to the analysis of algorithms. Covers basic design strategies by analyzing and implementing algorithms. Proof-of-correctness methods are presented. Examples of NP-complete and NP-hard problems are discussed. Laboratory work required. Prerequisites: CPTR 143 and MATH 250. Offered odd years only.

CPTR 460 - PARALLEL AND DISTRIBUTED SYSTEMS (4)
Concepts of distributed and parallel systems; parallel and distributed architectures, parallel programming languages, parallel algorithms. Programming in one or more high-level parallel language. Laboratory work required. Prerequisites: CPTR 143, MATH 289. Offered even years only.

CPTR 464 - COMPILER DESIGN (4)
Fundamentals of compilers and interpreters; symbol tables; lexical analysis, syntax analysis, semantic analysis, code generation, and optimization for general purpose programming languages. Laboratory work required. Prerequisite: CPTR 143, CPTR 215. Offered even years only.

CPTR 494 - COOPERATIVE EDUCATION (0 - 2; 8)
Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in an off-campus setting. Prerequisite: CPTR 143 and approval of major adviser one quarter in advance of registration. Graded S or NC.

CPTR 495 - COLLOQUIUM (0)
Presentation and discussion of current topics of interest within the computer science profession. Required each quarter of all Junior and Senior CS majors. Graded S or NC.

CPTR 496, 497, 498 - SEMINAR (1, 1, 1)
Presentation and discussion of current topics of interest within computer science. Each student is required to conduct an approved design project from conception to final oral and written reports. Prerequisite: Senior standing in computer science.

DENT - PREDENTAL

DENT 315 - INTRODUCTION TO DENTISTRY (1)
A survey of modern dental practice that combines laboratory work, clinical observation, and classroom discussions of diagnosis, treatment plan formulation, practice management and other dentistry topics. Preference will be given to Juniors and Seniors. Graded S or NC. (Course fees apply.)

DRFT - DRAFTING

DRFT 120 - PERSPECTIVE DRAWING (2)
Introduction to perspective drawing and design with emphasis on sketching and ideation, visualization, principles and elements of design and analysis. Specific design applications to each technological area. One lecture and three laboratory hours per week.

DRFT 121 - FUNDAMENTALS OF CAD (2)
Fundamentals of computer aided drafting/design and its application, with emphasis on the varied features of a CAD system. One lecture and three laboratory hours per week. (Course fees apply.)

DRFT 226 - ARCHITECTURAL DRAWING (3)
Study of the fundamentals of designing and drawing house plans including architectural drafting standards, area planning, floor plans, elevations, sections, schedules, and specifications.

DRMA - DRAMA

DRMA 211 - ORAL INTERPRETATION (OR SPCH 211) (4)
Study of the various types of interpretative literature with a view toward its understanding for the purpose of public presentation. Includes reading from the printed page with fluency and effectiveness and readers' theatre script preparation and presentation.

DRMA 242 - ACTING (4)
Exploring and developing the clarity, range, and control of verbal and nonverbal language in creating and effectively communicating dramatic characters, modern and classical. Recommended: SPCH 107.

DRMA 252 - PERFORMANCE (0-2; 4)
Analysis, rehearsal, and performance of a role under the supervision of instructor. May be taken only by permission of the instructor. Non-drama minors may enroll in a maximum of 9 hours selected from DRMA 252 or DRMA 452.

DRMA 253 - TECHNICAL PRODUCTION (0-2; 4)
Design, construction, and/or coordination of a technical aspect of the production of a play chosen by the instructor. May be taken only by permission of the instructor.

DRMA 363 - HISTORY OF THEATRE (OR ENGL 363) (4)
Study of the history and development of the theater from the classical stage to the present. Offered even years only.

DRMA 364 - DIRECTING I (3)
The theory and practice of direction for stage and film, designed to familiarize the student with the skills necessary to lead a cast and technical crew. Includes the study of elements such as script selection and analysis; collaboration with the cast, designers, production crew or stage managers, and dramaturge; casting and rehearsal technique and management; and aesthetic, ethical, and economic concerns. Prerequisite for drama minors: DRMA 242. Prerequisite for film/television concentration: COMM 235.

DRMA 365 - DIRECTING II (3)
Exploration of the fundamentals of directing through the production and direction of a one-act play or short film for public presentation. Prerequisite: DRMA 364, or permission of instructor.

DRMA 394 - DIRECTED DRAMA READING (1-2; 3)
Independent reading for students who wish to broaden their knowledge of history, biographies, classics, professional and/or trend literature in drama.

DRMA 442 - ADVANCED ACTING: (4)
Refinement of performance skills for upper-division students who wish to build on acting fundamentals learned in DRMA 242 and continue broadening their acting techniques. Course may be repeated as topics vary. Example topics include acting for film and television, stage and musical theatre. Prerequisite: DRMA 242.

DRMA 445 - DIRECTED DRAMA WRITING (1 - 3)
The refining of writing skills through a program adapted to the student's professional interest. Submission of writing samples and permission of instructor required.

DRMA 452 - ADVANCED PERFORMANCE (0-2; 4)
Analysis and rehearsal of a complex or leading role that requires the student to critically read and analyze a substantial text in preparation for performance. Prerequisite: 2 hours of DRMA 252 or permission of instructor.

DSGN - DESIGN

DSGN 315 - HISTORY OF DESIGN (3)
A chronological study of the important periods in the history of design. Includes the history of industrial design, graphic design and new media. Consideration will be given to the period developments. Brings together cultural, business, and technical perspectives.

ECON - ECONOMICS

ECON 204 - FUNDAMENTALS OF ECONOMICS (4)
Deals with basic concepts in economics for the liberal arts and social sciences. Topics covered include the basic financial system, fiscal and monetary policy of the U.S. government, income distribution, poverty, education, and environmental concerns. Course does not apply toward the fulfillment of the economics requirement for business majors.

ECON 211 - PRINCIPLES OF MACROECONOMICS (4)
Deals with basic concepts of macroeconomics. Topics covered include the concept of supply and demand, the U.S. financial system, aggregate economic activities such as the level of employment, price levels, and the gross national product. The course also examines fiscal and monetary policies of the U.S. government and their impact on the economy.

ECON 212 - PRINCIPLES OF MICROECONOMICS (4)
Deals with basic concepts in microeconomics. Topics include the theory of rational consumer behavior, application of the factors of production, labor markets, and the implication of market failures. Prerequisite: ECON 211.

ECON 441-FINANCIAL MARKETS AND INSTITUTIONS (OR FINA 441)(4)
Study of the functional activities of the financial markets and institutions that comprise the American financial system; emphasizes the nature and functions of money, credit, and banking. Prerequisites: ECON 211 and FINA 351.

ECON 460 - METHODS OF FORECASTING (OR FINA 460) (4)
Introduces the methodology and techniques used in business forecasting (both qualitative and quantitative). It covers modeling, statistical estimation and hypothesis testing, and simulation of economic and financial relationships. Prerequisites: GBUS 263 or equivalent.

ECON 488 - INTERNATIONAL TRADE AND FINANCE (OR FINA 488) (4)
Study of alternative theories on trade, analyzes theoretical impact of trade on employment, economic growth and welfare, and the implications of protectionism on the economy; also studies the foreign exchange systems, and the conduct of monetary policy in an open economy. Prerequisites: ECON 211. Offered even years only.

EDUC - EDUCATION

EDUC 211 - INTRODUCTION TO AND FOUNDATIONS OF EDUCATION (3)
An education entry level course for students who are considering teaching as a profession and who are seeking better understanding about the complexity and importance of education. Provides students with an introduction to the field of education, focused primarily on the nature and importance of the teaching profession, with discussion of current challenges and requirements for the profession. Offers a variety of perspectives on education including historical, philosophical, social, legal, and ethical issues in a diverse society. Includes background knowledge in organizational structure of schools. Requires direct interaction with children. Students will be required to complete a criminal background check by the Washington State Patrol & finger printing by the FBI. Practicum required.

EDUC 237 - INTRODUCTION TO SCHOOL EXPLORATORY (0)
Explains the procedures and sequencing for the elementary and middle-level/secondary exploratories (EDUC 247 and EDUC 267) that are to be completed in August/September. Designed for candidates to receive and become familiar with the respective handbooks and to understand the rationale for knowing how to smoothly launch a new school year. Graded S or NC.

EDUC 247 - ELEMENTARY SCHOOL EXPLORATORY (1)
A three-week practicum in an elementary classroom, designed to acquaint the student with teacher responsibilities for planning, organizing, and launching a new school year. Deadline for application is the second week of April. Offered autumn quarter only. Prerequisites: EDUC 211, EDUC 237, and Washington State Patrol clearance on file in the office of Education and Psychology. Graded S or NC.

EDUC 267 - SECONDARY SCHOOL EXPLORATORY (1)
A forty-hour practicum in a secondary (5-12 grade) school classroom (public school preferred), designed to acquaint candidates with student behavior at the grade level assigned, along with teacher responsibilities for planning, implementing, and managing the instructional program. Offered autumn quarter only. Prerequisites:

EDUC 211, EDUC 237 and Washington State Patrol clearance on file in the office of Education and Psychology. Graded S or NC.

EDUC 280 - STUDENT LITERACY CORPS EXPERIENCE (1 - 2)
A service-learning course with the specific focus of tutoring persons who are educationally or economically disadvantaged. Students will learn effective methods of literacy tutoring and gain both training and experience in communicating stay-in-school values and building self-esteem. Students will gain experience in working with students from diverse populations and gain understanding of cultural differences. Students will evaluate their own attitudes of individual responsibility to the community. The course will include both in-class and on-site participation.

EDUC 315 - CLASSROOM TECHNOLOGY TOOLS (2)
Introduces a variety of technologies for teachers to enhance planning, instruction, and assessment. Includes hardware and software applications, website development, course management systems, mobile devices, and online media. Out-of-class service-learning project required.

EDUC 350 - LANGUAGE DEVELOPMENT IN YOUNG CHILDREN (OR PSYC 350) (3)
Study of current research-based theories, methods, and strategies needed to effectively teach and support early literacy from birth through beginning reading. Prerequisite: PSYC 215. Practicum required.

EDUC 360 - ELEMENTARY CURRICULUM AND INSTRUCTION: READING AND LANGUAGE ARTS I (3)
The development of language skills in elementary-age children, including speaking, listening, reading, writing, viewing, and representing to view. Philosophy curricula, media, historical, and research-based strategies used in teaching reading/language arts. Practicum required. Prerequisite: Admission to Teacher Certification Program.

EDUC 361 - ELEMENTARY CURRICULUM AND INSTRUCTION: READING AND LANGUAGE ARTS II (3)
The development of language skills in elementary-age children, including speaking, listening, reading, writing, viewing, and representing to view. Philosophy curricula, media, interdisciplinary, and research-based strategies used in teaching reading/language arts. Outside-of-class practicum required. Prerequisites: EDUC 360 and Admission to Teacher Certification Program.

EDUC 365 - INSTRUCTIONAL METHODOLOGY (3)
Study of research-based models and exemplary practices for teaching in the secondary classroom environment; emphasis on human dynamics, rules and routines, conflict resolution, motivational strategies, eliciting parental support, and professional growth. Prerequisite: Admission to Teacher Certification Program. Corequisite: EDUC 367.

EDUC 367 - INSTRUCTIONAL METHODOLOGY PRACTICUM (1)
Laboratory practice in selected teaching skills. Prerequisite: Admission to Teacher Certification Program. Corequisite: EDUC 365.

EDUC 373 - ELEMENTARY CURRICULUM AND INSTRUCTION: MATHEMATICS (4)
Survey of the curriculum, media, and research-based strategies used in teaching elementary mathematics. Practicum required. Prerequisites: Admission to Teacher Certification Program; MATH 112 and 113 or equivalent.

EDUC 381 - ELEMENTARY CURRICULUM AND INSTRUCTION: RELIGION (2)
Survey of the curricula, media, and interdisciplinary strategies used in teaching Bible to elementary-age children. Service-learning practicum required. Prerequisites: ENGL 223, general studies mathematics requirements, and junior standing.

EDUC 382 - ELEMENTARY CURRICULUM AND INSTRUCTION: SOCIAL STUDIES (3)
Survey of curriculum, media, and research-based strategies used in teaching elementary social studies, with special attention paid to developing pedagogical content knowledge and use of Curriculum Based Assessments. Practicum required. Prerequisite: Admission to Teacher Certification Program.

EDUC 383 - ELEMENTARY CURRICULUM AND INSTRUCTION: SCIENCE AND HEALTH (3)
Survey of the curriculum, media, and research-based strategies used in teaching elementary science and health; emphasis on science as a process of inquiry. Practicum required. Prerequisite: Admission to Teacher Certification Program.

EDUC 390 - MEASUREMENT AND EVALUATION IN EDUCATION (4)
Designing and interpreting criterion-referenced objective and performance assessments; interpretation of norm-referenced examinations; concepts of reliability and validity; item analysis; grading and reporting classroom performance. Prerequisites: Admission to Teacher Certification Program and permission of instructor.

EDUC 395 – METHODS OF TEACHING SECONDARY SCIENCE (3)
Intended for students seeking secondary endorsements in biology, chemistry, or physics. Study of inquiry based learning experiences in science; the relation of concepts of science to contemporary historical; technological and societal issues, course management, practices, and safety. Prerequisites: EDUC 365 and BIOL 143, or CHEM 143, or PHYS 213 or PHYS 253. Offered even years only.

EDUC 405 - CLASSROOM ORGANIZATION AND MANAGEMENT (3)
Study of research-based models and exemplary practices for organizing and managing the elementary classroom environment; emphasis on human dynamics, rules and routines, conflict resolution, motivational strategies, and eliciting parental support. Prerequisite: Admission to Teacher Certification Program.

EDUC 410 - PHILOSOPHY OF EDUCATION (OR PHIL 410) (3)
Study of educational thought and practice from a philosophical perspective: the aims, principles, and theories of education, with special reference to Christian schools.

EDUC 421 - PRINCIPALS OF TEACHING AND LEARNING IN INCLUSIVE CLASSROOMS (3)
Examines learner similarities and differences in complex diverse schools and classrooms. Practice in Professional Development Schools integrates inclusive strategies based upon theory and research in children's learning, emphasizing education for diverse student needs. Observations encompass teacher decision-making, student assessment, and situation analysis. Practicum required. Prerequisite: Admission to Teacher Certification Program or permission of instructor.

EDUC 425 - LEGAL, AND ETHICAL ASPECTS OF EDUCATION (2)
Issues of law and ethics with direct application to the teaching profession, including educational structure and governance, church/state relations, students' rights, teachers' rights and responsibilities, and tort liability. Prerequisite: Admission to Teacher Certification Program.

EDUC 444 - TEACHING CULTURAL DIVERSE STUDENTS (2)
Study of human diversity and its impact on the educational process; emphasis on instructional and management strategies that respect and value cultural, ethnic, and language differences. Prerequisites: Admission to Teacher Certification Program or permission of instructor.

EDUC 472 - INTRODUCTION TO STUDENT TEACHING FIELD EXPERIENCE (0 - 1)
Designed to provide an overview of Washington State certification requirements and classroom teaching practices. Prerequisites: Admission to Teacher Certification Program and completed/submitted application to student teaching. Graded S or NC. (Course fees apply.)

EDUC 475 - TEACHING READING SKILLS IN THE CONTENT AREAS (3)
Introduction to diagnosis, vocabulary, comprehension skills, rate variation, management, and study skills in junior high and secondary reading. Prerequisite: Admission to Teacher Certification Program.

EDUC 476 - ELEMENTARY STUDENT TEACHING PART I (2)
An orientation to the requirements of student teaching and the curriculum and procedures of the elementary school and classroom that will host the student teacher. Offered autumn quarter only. Prerequisites: EDUC 472, admission to the Teacher Certification Program and approval by the School of Education and Psychology. Graded S or NC.

EDUC 477 - SECONDARY STUDENT TEACHING PART I (2)
An orientation to the curriculum and procedures of the secondary school and classroom that will host the student-teacher candidate. Offered autumn quarter only. Prerequisites: EDUC 472, admission to the Teacher Certification Program and approval by the School of Education and Psychology. Graded S or NC.

EDUC 480 - ELEMENTARY STUDENT TEACHING PART II (2-12; 12)
Full participation in an elementary or middle-school classroom is required under the supervision of an experienced certificated teacher. The candidate must spend a minimum of 450 hours in supervised field experience over the course of their student teaching experience. Conferencing will be scheduled by the university supervisor. Student teacher placement is done in cooperation with school districts and, because it is a shared decision, placement is not guaranteed. Placement decisions are based on the applicant's academic preparation, interpersonal relationship abilities, classroom management skills, and other factors outlined in Minimum Competencies for Teacher Candidates, available from the School of Education and Psychology. Prerequisites: EDUC 472 and departmental permission. Corequisites: EDUC 476 and EDUC 493. Graded S or NC.

EDUC 481 - SECONDARY STUDENT TEACHING PART II (2-12; 12)
Full-time practicum designed to provide extended field experience in a designated secondary discipline-specific classroom. The candidates must spend a minimum of 450 hours in supervised field experience over the course of their student teaching experience. Student-teacher placement is done in cooperation with school districts/principals and, because it is a shared decision, placements is not guaranteed. Placement decisions are based on the applicant's academic preparation, interpersonal relationship abilities, classroom management skills, and other factors outlined in Minimum Competencies for Teacher Candidates, available from the School of Education and Psychology. Prerequisites: EDUC 365, EDUC 367, methods course(s) 395 of major(s). EDUC 472, EDUC 477, EDUC 493, passing scores on the West-E and departmental permission. Graded S or NC. *Elementary Education majors completing a secondary content major and/or 45+ credits in a secondary endorsement area who want secondary certification will need to complete secondary certification required courses along with 1-5 credits hours of secondary student teaching and the current Washington State assessment tool(s).

EDUC 493 - STUDENT TEACHING ASSESSMENTS (1 - 3)
Designed to support teaching candidates in preparing, executing, and evaluating assessments required for certification during the student teaching experience. Prerequisites: EDUC 472, Admission to Teacher Certification Program. Corequisites: EDUC 476 or EDUC 477.

EDUC 494 – COOPERATIVE EDUCATION (0 - 3)
Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by the School of Education and Psychology.

EDUC 495 - COLLOQUIUM: CHILD ABUSE (0)
Identification, impact, and prevention of physical, emotional, sexual, and substance abuse. Discussion of teachers' legal responsibilities. Graded S or NC. (Course fees apply.)

EDUC 496 - SEMINAR (1 - 3; 6)
In-depth examination of a specific topic in education. Topics may include cooperative learning, curriculum reform, small-school pedagogy, media applications, etc. Prerequisite: upper division major/minor in education or permission of instructor.

EDUC 497 - COLLOQUIUM: SMALL SCHOOLS (0)
Theory and application of procedures and practices in multigrade and multiage elementary classrooms. Graded S or NC. (Course fees apply.)

ENGL - ENGLISH

ENGLISH EDUCATION COURSES (ENGL)

The following courses do not apply toward and English major.

ENGL 374 - LITERATURE FOR CHILDREN (3)
Study of literature for children from early childhood through elementary school. Emphasizes literary and artistic quality and appeal to children. Requires extensive reading of children's books and writing of critical analysis. Will apply toward an English minor. Offered even years only.

ENGL 375 - LITERATURE FOR YOUNG ADULTS (3)
Study of literature appropriate for junior high and high school students. Emphasizes literary and artistic quality as well as theory of response to literature. Requires extensive reading of literature for young adults and writing of critical analysis. Will apply toward an English minor. Offered odd years only.

ENGL 376 - MULTICULTURAL LITERATURE FOR CHILDREN AND YOUNG ADULTS (4)
A study of literature portraying children and young adult minorities in both text and illustration. Includes preparation of materials for teaching elementary and secondary students. Will apply toward an English minor. Prerequisite: ENGL 374, 375, or permission of instructor. Offered summer quarter as needed.

ENGL 395 - METHODS OF TEACHING SECONDARY ENGLISH (3)
A study of objectives for and methods of teaching language, composition, literature, drama, and media in grades six through twelve. Students prepare and present lessons, evaluate student work, and create units of study. Prerequisites: ENGL 375, 384, and WRIT 389. Will not apply toward an English minor.

GENERAL COURSES (ENGL)

ENGL 494 - COOPERATIVE EDUCATION (0 - 2)

Individual contract arrangement involving student, faculty, and a cooperating organization. Students will develop learning objectives with the employer and academic adviser. Weekly summaries of learning experiences will be submitted. Evaluations by the employer and academic adviser are made at the completion of the co-op experience. Permission of academic adviser required for enrollment. (Will not apply to the English major or minor.) Prerequisites: 32 quarter hours including either ENGL 121 and 122 or HONR 141 and 142.

ENGL 495 - ENGLISH COLLOQUIUM (0)

A series of lectures, programs, discussions, and other activities designed to explore specific issues in literary and language study and enrich the professional preparation of students in English. One colloquium is required each quarter while in residence. Graded S or NC.

GENERAL STUDIES COLLEGE WRITING COURSES (ENGL)

ENGL 121 and ENGL 122 or HONR 141 and HONR 142 are prerequisites to all upper-division courses. For admission to upper-division courses, students must also have completed or be registered for ENGL 223, HONR 243, or ENGR 222. Credit will not be allowed for more than one of the following: ENGL 223, ENGL 323, and HONR 243. (HONR classes are open only to students who have been accepted into the Honors General Studies Program, and ENGL 323 is open only to engineering majors.)

Students must pass a departmental placement test, or pass ENGL 100 with a grade of C- or higher, before enrolling in the college writing sequence. ENGL 121, ENGL 122, and ENGL 223 (or ENGL 323) must be taken in sequence, and students must receive a grade of C- or higher before they can proceed to the next class in the sequence.

The following courses do not apply toward an English major or minor.

ENGL 100 - WRITING SKILLS (4)

Study of basic grammar, usage, and punctuation in the context of writing; emphasis on sentence and paragraph work. Short writing assignments required. Diagnostic test at the beginning with a competency-based exit exam at the end. Students must receive a grade of C- or higher before they can proceed to ENGL 121. Required of students who do not place in ENGL 121 or HONR 141. Corequisite: RDNG 100. Credit does not apply toward graduation.

ENGL 121, 122 - COLLEGE WRITING I, II (3, 3)

Study and practice in the forms of writing necessary for college. ENGL 121 emphasizes the writing process, a clear writing style, and the basic elements of academic writing, including critical thinking, analysis, and argument. ENGL 122 builds on the concepts introduced in ENGL 121 and teaches students to develop and refine their skills in critical thinking and written argumentation. Students must receive a grade of C- or higher before they can proceed to the next class in the college writing sequence. (Course fees apply.)

ENGL 223 - RESEARCH WRITING (3)

A study of library resources, information-gathering techniques, and research writing, including the ethics and style expected in the academic community. Includes a major documented research paper aimed at a scholarly audience. Prerequisites: ENGL 121 and ENGL 122 (or HONR 141 and HONR 142) with grades of C- or above and 36 hours of college credit. (Course fees apply.)

ENGL 323 - WRITING FOR ENGINEERS (3)

Emphasizes the research and writing techniques appropriate to engineering. Includes a research paper and other papers for both professional and general audiences. Corequisite courses are designed by the School of Engineering. Prerequisites: ENGL 121 and ENGL 122 (or HONR 141 and HONR 142) with grades of C- or above and upper-division standing in engineering. (Course fees apply.)

LITERATURE AND LANGUAGE COURSES (ENGL)

For all literature courses that are not general studies courses, ENGL 234 is a prerequisite.

ENGL 184 - GRAMMAR AND STYLE (3)

The study of grammar specifically designed to prepare students for the practical application of grammar to such fields as writing, editing, translation, and language study. Will not apply toward an English major.

ENGL 204 - INTRODUCTION TO LITERATURE (4)

Introduction to the art of reading and studying literature, emphasizing the methods of analyzing poetry, stories, and drama. Will not apply toward an English major.

ENGL 210, 211, 212 - SURVEY OF BRITISH AND AMERICAN LITERATURE (4, 4, 4)

A survey of British and American literature and literary history from Anglo-Saxon times to the present. The first quarter covers Anglo-Saxon, medieval, and Renaissance literature; the second quarter, neoclassical and Romantic literature; and the third quarter, nineteenth-century and twentieth-century literature. Open only to English majors, minors, and humanities majors, or by permission of the instructor.

ENGL 214 - THEMES IN LITERATURE (4)

Introduction to the study of literature in a basic literary theme or genre. Specific subjects to be studied vary from quarter to quarter; see Class Schedule. Will not apply toward an English major. May be repeated for credit when topics vary.

ENGL 234 - LITERARY ANALYSIS (4)

Instruction and practice in close analysis, interpretation, and evaluation of literature in the major genres with an introduction to various critical and theoretical approaches to the study of literature. Intended to prepare the student for upper-division literature courses. Prerequisite: ENGL 223, ENGL 323, or HONR 243.

ENGL 274 - STUDY TOUR: BRITISH LITERATURE IN CONTEXT (4)
The study of British literature in preparation for and conjunction with the UK History and Literature Tour. Course material will emphasize the role of place and culture in the formation of representative works from major literary periods. Will apply to the English major or minor. Offered even summer quarters.

ENGL 313 - IMAGE AND TEXT (4)
An exploration of ways in which literature and visual culture mirror the complexities of human existence and meaning. Course components include exploration of various communication methods: writing, sketching, pictograms, graphic novels, illuminated manuscripts, and icons. Students will read literature focusing on images and the imagination. Prerequisite: general studies humanities. Will apply as an elective on the English major. Offered even years only.

ENGL 317 - PACIFIC NORTHWEST WRITERS (4)
Readings in the documentary and imaginative literatures of the Pacific Northwest. Emphasizes the welfare of the landscape, the landscape's effect on the people who live in this particular region, and their response to one another and to the natural world. Will apply as an elective on the English major. Offered even years only. Fulfills the general studies requirement for environmental studies.

ENGL 344 - MEDIEVAL LITERATURE (4)
Study of British literature from its origins to about 1500. Literature in Old and Middle English to be read in translation; Chaucer's works to be read in the original Middle English. Offered odd years only.

ENGL 345 - RENAISSANCE LITERATURE (4)
Study of the major authors and literary movements of the British Renaissance. Offered even years only.

ENGL 346 - RESTORATION AND ENLIGHTENMENT (4)
Study of selected works of important seventeenth-and eighteenth-century British authors. Offered even years only.

ENGL 354 - ROMANTIC BRITISH LITERATURE (4)
Study of major Romantic British authors. Offered odd years only.

ENGL 355 - VICTORIAN LITERATURE (4)
Study of representative works of major nineteenth-century British poets and prose writers from 1830 to 1900. Offered odd years only.

ENGL 356 - TWENTIETH-CENTURY BRITISH LITERATURE (4)
Study of prominent British writers of the twentieth century; significant works studied in relation to intellectual and historical developments. Offered odd years only.

ENGL 357 - THE AFRICAN-AMERICAN EXPERIENCE (OR HIST 357) (4)
African-American contributions to American literature, history, and culture from the colonial period to the present. Prerequisite: HIST 221 or 222, or ENGL 211 or 212. Credit will not be allowed for both ENGL 357 and HIST 357. Offered odd years only.

ENGL 358 - CLASSICAL LITERATURE (4)
Study of Greek and Roman literature, emphasizing classical legend and thought in its cultural context. Prerequisite: general studies literature or ENGL 234 or ART 324, 325. Offered even years only.

ENGL 359 - WORLD LITERATURE (4)
Study of selected works outside of the Anglo-American tradition. Prerequisite: general studies literature or ENGL 234. Offered odd years only.

ENGL 360 - SHAKESPEARE AT ASHLAND (2)
Study of four Shakespeare plays (typically one tragedy, one or two comedies, and one history play). Students read the plays and write two-page essays on each beforehand and then attend lectures/discussions and performances of the plays at the Oregon Shakespeare Festival (Ashland, Ore.) in August. A paper is required, due in early September. Prerequisites: One of the following: ENGL 223, HONR 243, ENGL 323, or permission of instructor. Offered alternate summer quarters.

ENGL 363 - HISTORY OF THEATRE (OR DRMA 363) (4)
Study of the history and development of the theater from the classical stage to the present. Offered even years only.

ENGL 364 - NINETEENTH-CENTURY AMERICAN LITERATURE (4)
Study of prominent nineteenth-century American writers and their response to the intellectual, social, and historical developments of the period. Offered even years only.

ENGL 366 - TWENTIETH-CENTURY AMERICAN LITERATURE (4)
Study of prominent American writers of the twentieth century; significant works studied in relation to intellectual and historical developments. Offered even years only.

ENGL 368 - CONTEMPORARY LITERATURE (4)
Study of contemporary British and American writers and their analysis of current issues. Offered odd years only.

ENGL 384 - ADVANCED ENGLISH GRAMMARS (3)
Study of traditional, structural, and transformational grammars. Prerequisites: ENGL 121, 122, 223 or HONR 141, 142, 243; and ENGL 184 or a passing score on the grammar placement test.

ENGL 394 - DIRECTED READING (1 - 2; 3)
Independent reading for upper-division students who wish to continue broadening their knowledge of literature in a particular area by extensive reading. Prerequisites: general studies literature or ENGL 234; admission by permission of instructor.

ENGL 445 - SHAKESPEARE (3)
Advanced study of selected plays and poems of Shakespeare. Offered odd years only.

ENGL 454 - LITERATURE OF THE BIBLE (OR RELB 454) (4)
Study of biblical poetry and prose from a literary perspective. Prerequisite: general studies literature or ENGL 234. Offered even years only.

ENGL 470 - LITERARY AND CRITICAL THEORY (4)
Study of the history, theory, and practice of literary criticism, with an application to selected works of literature. Includes a survey of the principal genres of criticism from classical to postmodern, and representative theoreticians from those genres. Prerequisite: Students taking English Seminar must take ENGL 496 before ENGL 470 and ENGL 497. The three-quarter sequence must be completed in one academic year.

ENGL 474 - STUDY TOUR: TOPICS IN BRITISH LITERATURE (4)
Explores a topic or genre of British literature in conjunction with the UK History and Literature Tour. Will apply to the English major or minor. Offered even summer quarters.

ENGL 484 - HISTORY OF THE ENGLISH LANGUAGE (3)
Study of premodern and early modern English, with reference to Indo-European antecedents. Intended to illuminate major trends in English language history. Offered odd years only.

ENGL 485 - LINGUISTICS (3)
Study of modern linguistic science, emphasizing sociolinguistic approaches to phonology, morphology, syntax, semantics, pragmatics, language development, and linguistic variation. Offered even years only.

ENGL 496, 497 - SEMINAR (1, 2)
Required of English majors in the senior year. Includes studying research methods, giving oral reports, and writing a major scholarly paper. Research projects relate to a common topic chosen by the instructor. These courses must be completed during the same academic year.

ENGR - ENGINEERING

ENGR 121-INTRODUCTION TO THE PROFESSION OF ENGINEERING (2)
Introduction to the profession of engineering, computer based engineering calculation tools, analysis of team dynamics, teamwork and engineering communications.

ENGR 122 - INTRODUCTION TO CAD (2)
Introduction to Computer Aided Design and Computer Aided Engineering (CAD, CAE). Includes coverage of hand sketching, drafting standards, pictorial representations and principles of descriptive geometry. Covers both 2D and 3D CAD. Discipline specific computer applications will be represented as available. Recommended: ENGR 121.

ENGR 123 - INTRODUCTION TO SYSTEM DESIGN AND ENGINEERING (2)
The design process, systems engineering, principles of project management, applied to a full scale project. Emphasis on teamwork, written and oral communication. Prerequisite: ENGR 121 and 122 or permission of instructor.

ENGR 221, 222, 223 - ENGINEERING MECHANICS (3, 3, 3)
Introduction to two- and three-dimensional equilibria employing vector algebra; friction; centroids and centers of mass, virtual work, and moments of inertia. One- and two-dimensional kinetics and kinematics of rigid bodies by vector calculus; dynamics of rotation, translation, and plane motion; relative motion; work and energy; impulse and momentum. Must be taken in sequence. Corequisite for 221: MATH 282; Corequisite for 222: MATH 283. A student must have a grade of C- or higher in 221 before taking 222, and in 222 before taking 223.

ENGR 228 - CIRCUIT ANALYSIS (4)
Study of circuit variables and parameters; Kirchhoff's laws and network solution; equivalent circuits, network theorems; natural and complete response; sinusoidal steady-state, phasors, and impedance; frequency characteristics; power and power factor. Laboratory work required. Prerequisite: strongly recommended PHYS 252. Corequisite: Math 312.

ENGR 293 - GLOBAL HUMANITARIAN ENGINEERING SEMINAR I (1)
Preparation for international experience. Will include presentations by those who have completed an international experience and by guest speakers. Students will prepare a learning plan for their international experience. Prerequisites: ENGR 121, 122, 123.

ENGR 310 - SUSTAINABLE ENERGY SYSTEMS (2)
Interdisciplinary study of public policy decision making regarding issues with significant technology, economic, and environmental components, focusing on energy supplies derived from renewable resources. Topics include U.S. and global energy flows, the history of U.S. energy policy, economic and environmental considerations in energy supply, principles of sustainability, energy efficiency, and selected renewable energy technologies. Prerequisite: Upper-division standing.

ENGR 312 - PHYSICAL ELECTRONICS (OR PHYS 312) (3)
Study of the physical principles of solid state electronics devices. Prerequisites: MATH 283, PHYS 253, PHYS 310. Corequisite: PHYS 315.

ENGR 315 - PHYSICAL ELECTRONICS LABORATORY (OR PHYS 315) (1)
Experimental study of the physical principles of solid state electronics devices. Corequisite: PHYS 312.

ENGR 321 - MECHANICS OF MATERIALS (4)
Study of stresses and strains, deformations and deflections of posts, shafts, beams, columns; combined stresses; elasticity. Computational and experimental laboratory required. Prerequisite: ENGR 222.

ENGR 322 - ENGINEERING MATERIALS (4)
Study of the science of engineering materials. Crystal structures, electron transport in solids, single-phase metals, multiphase materials, equilibria, microstructures and properties, thermal processing, and corrosion of metals. Laboratory work required. Prerequisite: ENGR 321, CHEM 143 or equivalent.

ENGR 323 - CIVIL ENGINEERING MATERIALS (3)
Study of the engineering properties and applications of asphalt, concrete, plastics, steel, wood, and composites. Strength and serviceability considerations. Laboratory work required. Prerequisite: ENGR 321. Recommended: ENGR 341.

ENGR 324 - MATERIALS AND PROCESSES IN MANUFACTURING (2)
Study of polymer, ceramic, and composite materials; material selection, joining and manufacturing processes. Laboratory work required. Prerequisites: ENGR 321, 322.

ENGR 325 - INSTRUMENTATION (3)
Study of theory and application of modern instrumentation; design of experiments, validation of experimental data. Laboratory work required. Prerequisites: MATH 315, ENGR 228 or permission of instructor.

ENGR 326 - ENGINEERING ECONOMY (3)
Study of business, economic, and ethical aspects of engineering practice; financial planning in engineering decision making; tools for financial planning. Introduction to engineering organization and program management techniques. Prerequisite: Junior standing in engineering.

ENGR 331 - FLUID MECHANICS (4)
Fluid statics and dynamics of fluid motion; conservation of mass, momentum, and energy in laminar and turbulent flow using control volume formulation. Introduction to Navier Stokes equations for fluid flow; inviscid flow; dimensional analysis and similitude; boundary layer flow; lift and drag forces; viscous flow in conduits; open channel flow; flow measurements; turbomachinery. Prerequisites: ENGR 222, PHYS 251, 252, MATH 283, 289, 312 or permission of instructor.

ENGR 332 - THERMODYNAMICS (4)
Introduction to the nature of energy and study of energy transport conservation in closed and flowing systems; properties and states of solids, liquids, vapors, and gases; enthalpy; meaning and production of entropy and introduction to cyclic systems. Prerequisite: PHYS 253. Strongly recommended: MATH 312.

ENGR 333 - THERMODYNAMICS AND THERMAL SYSTEMS (4)
Study of thermodynamics of state for complex systems, detailed analysis of power and reversed cycle systems, thermodynamics, and equilibrium principles of nonreacting and reacting mixtures; application of the principles of global thermochemical energy balances to real power systems; introduction to compressible flow. Prerequisite: ENGR 332. Strongly recommended: ENGR 331.

ENGR 341 - GEOLOGY AND SOIL MECHANICS (4)
Introduction to geological structure, process, and weathering; soils properties, classification, and interpretation; subsurface investigation; flow of water through soils. Study of stress distribution and deformation of soils. Laboratory work required. Prerequisite: CHEM 143. Corequisite: ENGR 321, 331.

ENGR 342 - HYDROLOGY (3)
Introduction to precipitation; occurrence, measurement, transport, and storage of ground and surface waters; statistical models. Prerequisites: CPTR 141; ENGR 331, 341. Strongly recommended: MATH 315.

ENGR 343 - ENVIRONMENTAL ENGINEERING SYSTEMS (4)
Assessment of gaseous, liquid and solid wastes from commercial, domestic, and industrial sources; quantity and quality; conservation, collection, treatment, disposal, and storage; impact on resources and ecosystems; air, water, and land. Prerequisites: CHEM 143. Strongly recommended MATH 312, 315, ENGR 344.

ENGR 344 - CIVIL ENGINEERING ANALYSIS (4)
Analysis of structural, environmental, hydrologic, geotechnical, surveying and transportation engineering problems using computer software; applications of matrix solution, linear and non-linear least squares, numerical integration, and finite differences. Prerequisites: CPTR 141, ENGR 321, MATH 312, MATH 315; Corequisites: MATH 289. Recommended for students with Junior standing.

ENGR 345 - CONTRACTS AND SPECIFICATIONS (2)
Introduction to the preparation and interpretation of contracts and specifications; ethical, legal, and contractual relations of the professional engineer to the public, the owner, and the contractor. Prerequisite: junior standing in engineering.

ENGR 346 - SURVEYING (4)
Use of basic surveying instruments; computational methods for traverses, routes, and earthwork; mapping. Prerequisites: ENGR 122. Strongly recommended: ENGR 344. Corequisite: MATH 281.

ENGR 347 - STRUCTURAL ANALYSIS I (3)
Study of classical methods for analysis of determinate and indeterminate structures; load-stress-deflection parameters for beams, girders, trusses and frames. Prerequisite: ENGR 321. Corequisite: MATH 289.

ENGR 348 - STRUCTURAL ANALYSIS II (3)
Study of matrix methods for analysis of determinate and indeterminate structures; computer applications of matrix methods. Prerequisites: CPTR 141, ENGR 321, ENGR 347, MATH 289. Corequisite: MATH 312.

ENGR 351 - LINEAR NETWORK ANALYSIS (4)
Introduction to linear network theory including Laplace-transform analysis and state-space representations. Fourier analysis of periodic signals. Prerequisites: ENGR 228; MATH 283. Corequisites: MATH 289 and 312.

ENGR 352 - FEEDBACK AND CONTROL SYSTEMS (4)
Introduction to state-space analysis methods for continuous dynamic systems and processes; design of control systems including development of performance criteria, pole-placement design, and linear state observers. Classical analysis by means of frequency-domain methods such as root-locus diagrams and Bode plots. Prerequisite: ENGR 351.

ENGR 354 - DIGITAL LOGIC (3)
Introduction to the theory and application of digital logic circuits, logic functions, logic gates, flip-flops, counters, state machines, and modern integrated logic families. Laboratory work required.

ENGR 355 - EMBEDDED SYSTEM DESIGN (3)
Design of embedded microprocessor systems; system organization, CPU structures, address decoding and memory design, interrupts, real-time operating systems, input/output; hardware/software codesign. Laboratory work required. Prerequisites: CPTR 215, ENGR 228, 354.

ENGR 356, 357 - ENGINEERING ELECTRONICS (4, 4)
Study of characteristics and applications of discrete and integrated solid-state electronic devices and circuits; large-signal analysis, biasing; small-signal analysis, low and high frequency models, classical amplifier circuits, feedback amplifiers, operational-amplifier circuits; integrated-circuit electronics and superheterodyne receiver circuits. ENGR 356 is a prerequisite for ENGR 357. Laboratory work required. Corequisite for ENGR 356: ENGR 351. Corequisite for ENGR 357: ENGR 352.

ENGR 364 - FLUID MECHANICS LABORATORY (1)
Laboratory instruction in fluid mechanics. Incompressible and elementary compressible fluid flow with special application of steady state and conservation principles of mass, momentum, and energy; fluid flow measurements and real fluid phenomena in pipelines; theoretical and experimental analysis of open channel flow. Prerequisite: ENGR 331.

ENGR 365 - MACHINE ELEMENT DESIGN LABORATORY (1)
Study of the design process. Laboratory instruction in machine element design, form, and function. Machine elements studied include gears, shafts, bearings, links, fasteners, and hydraulic components. Prerequisites: ENGR 321, 322. Strongly recommended: ENGR 374.

ENGR 366 - VIBRATIONS (3)
Study of periodic motion; free and forced vibrations of single and multi-degree-of-freedom systems, nonsinusoidal forcing functions, and normal modes. Prerequisites: ENGR 223; ENGR 351, 352; MATH 289, 312.

ENGR 374 - ADVANCED CAD/MCAE (2)
Fundamental and advanced concepts of Computer Aided Design (CAD) and Mechanical Computer Aided Engineering (MCAE) with emphasis on design applications. Includes parts and assembly creation, drawing layout, geometric dimensioning, toleranceing, design definition, software prototypes, design visualization, animation and interfacing to analysis codes. Prerequisite: Junior standing in engineering or permission of instructor.

ENGR 390 - ENGINEERING IN A GLOBAL CONTEXT (4)
Study of the practice of engineering in a global context. Students will complete a design project constrained by local conditions in a chosen geographic region. Considerations may include language and social context; material selection and manufacturing processes; supply chains, labor force, and infrastructure. Prerequisites: Completion of one course in the Culture and Business Global Humanitarian Engineering Emphasis requirement and general studies natural science coursework.

ENGR 393 - INTERNATIONAL EXPERIENCE (0)
Work or study in an international context. Students will be immersed in a new culture, exploring its differences from their own culture and observing new ways of seeing and doing. All work or study applying to the emphasis must be pre-approved by the GHE committee. Prerequisite: ENGR 293 or approval of instructor. Graded S or NC.

ENGR 396 - JUNIOR SEMINAR (0)
Presentation and discussion of project reports of those students who are completing the senior seminar sequence. Prerequisite: Junior standing in engineering. Graded S or NC.

ENGR 419 – OPTIMIZATION (OR MATH 319) (4)
Modeling and design within a formal optimization environment. Mathematical formulation of optimization problems including decision space parameterization, objective function selection, and constraint definition. Survey of algorithms for unconstrained and constrained optimization; techniques for solving multi-disciplinary and multi-objective problems. Applications to problems in mathematics, physics, and engineering. Credit will not be allowed for both MATH 319 and ENGR 419. Offered odd years only.

ENGR 431 - ELECTROMECHANICAL ENERGY CONVERSION (4)
Study of electromechanical energy conversion principles and their application to electrical machines. Topics include three-phase circuits, magnetic circuits, force and torque, transformers, AC and DC motors and generators; performance characteristics and applications. Laboratory work required. Prerequisite: ENGR 228.

ENGR 432 - ANALOG SYSTEM DESIGN (4)
Advanced topics in analog design. An analog design project is selected and emphasis is on that project. Laboratory work required. Prerequisite: ENGR 357. Offered odd years only.

ENGR 433 - DIGITAL DESIGN (4)
MSI, LSI, and programmable logic circuits and applications; analysis and design of synchronous and asynchronous circuits and systems; VHDL design and synthesis. Laboratory work required. Prerequisite: ENGR 355.

ENGR 434 - VLSI DESIGN (4)
System, circuit, and physical design of Very Large Scale Integrated circuits using CAD software; project specification, documentation, and reporting. Prerequisites: ENGR 433, ENGR 356.

ENGR 440 - GROUNDWATER POLLUTION CONTROL (3)
Field, laboratory and computer simulation methods used for estimating the risk of contamination and cleanup options for groundwater supply systems. Prerequisites: ENGR 342, 343; MATH 312. Offered even years only.

ENGR 441 - STEEL STRUCTURAL DESIGN (3)
Study of structural steel design, emphasizing the Load and Resistance Factored Design (LRFD) methodology. Topics include design of tension members, bolted and welded connections, compression members, beams and plate girders. Computation Laboratory required. Prerequisites: ENGR 323, 348.

ENGR 442 - REINFORCED CONCRETE STRUCTURAL DESIGN (4)
Study of ultimate strength design concepts of reinforced concrete members and statically indeterminate frames, including flexure, shear, columns, bar anchorage and serviceability considerations. Computation Laboratory required. Prerequisites: ENGR 323, 348.

ENGR 443 - TIMBER STRUCTURAL DESIGN (3)
Study of working stress design of timber members and connections for industrial and commercial applications. Computation Laboratory required. Prerequisites: ENGR 323, 348.

ENGR 444 - STRUCTURAL DESIGN (3)
Study of design concepts as applied to structural systems. Topics include vertical and lateral building system layout, design problems, combinations of structural materials, analysis techniques, structural stability, diaphragms, shear walls, foundations and code applications. Computation Laboratory required. Prerequisites: ENGR 441, 442.

ENGR 445 - COLLECTION AND DISTRIBUTION SYSTEM DESIGN (4)
Analysis and design of water distribution systems, and sanitary and storm sewer collection systems. Computational laboratory required. Prerequisites: ENGR 331, 343, 344.

ENGR 446 - TREATMENT PLANT DESIGN (4)
Design of physical, chemical, and biological treatment processes of water and wastewater treatment. Laboratory work required. Prerequisites: CHEM 143, ENGR 343. Strongly recommended: ENGR 445.

ENGR 447 - RECEIVING WATER ANALYSIS (3)
Analysis and modeling of surface waters receiving point and nonpoint waste discharges; design of in-stream modifications. Corequisite: ENGR 343. Offered odd years only.

ENGR 448 - HYDROENVIRONMENTAL DESIGN (3)
Study of advanced water and wastewater treatment processes and practices. Emphasis upon current literature and recent developments in state-of-the-art practices. Prerequisite: ENGR 446. Offered as needed.

ENGR 449 - TRANSPORTATION ENGINEERING (4)
Study of the various modes of transportation that comprise the transportation system. Consideration is given to the planning, design and operation of the system. Introduction to traffic engineering. Prerequisites: ENGR 341, 346.

ENGR 450 - GEOTECHNICAL ENGINEERING (3)
Study of stress distribution and deformation of soils; applications to foundation and slope stability. Prerequisites: ENGR 321, 341.

ENGR 451 - ELECTROMAGNETIC FIELDS (4)
Study, by vector calculus, of static and dynamic electric and magnetic fields. Unbounded and bounded fields, fields in material media, force and torque, energy and potential functions, Faraday induction, and application to transmission lines. Prerequisites: MATH 312; PHYS 253.

ENGR 452 - ELECTROMAGNETIC PROPAGATION AND RADIATION (4)
Study of the propagation of electromagnetic energy; plane waves, transmission lines, and scattering parameters; radiation from dipole antennas; introduction to arrays. Laboratory work required. Prerequisite: ENGR 451. Offered even years only.

ENGR 454 - DIGITAL CONTROL SYSTEMS (4)
Study of the design and application of digital control methods to real-time dynamic systems such as servomechanisms, chemical processes, and vehicles. Analytical techniques include both transform (classical control) and state-space (modern control) methods. Prerequisite: ENGR 352. Strongly recommended: ENGR 455, MATH 315. Offered even years only.

ENGR 455 - SIGNALS AND SYSTEMS (4)
Introduction to continuous and discrete signal and system analysis and design; Fourier series, convolution, Fourier transforms, discrete Fourier transforms, digital filters and other applications. Prerequisites: ENGR 351; MATH 312.

ENGR 456 - COMMUNICATIONS SYSTEMS (4)
Introduction to analog and digital communication systems, including topics in modulation; baseband and bandpass signals; power spectral density and bandwidth; random processes; noise, signal-to-noise ratio, and error probability; and system performance and information theory. Prerequisite: ENGR 455. Strongly recommended: MATH 315.

ENGR 460 - POWER ELECTRONICS (4)
Applying electronics to energy conversion and control. Emphasis on switching techniques. Topics include switching power supplies, motor drives, DC-DC converters, control, rectifiers, magnetic components, characteristics of power semiconductors and HVDC applications. Laboratory work required. Prerequisite: ENGR 352, ENGR 356. Offered odd years only.

ENGR 461 - KINEMATICS (4)
Introduction to geometrical kinematics, including analysis of cams, linkages, and curvature relations by analytical and graphical methods; analytical kinematics for position, velocity, and acceleration analysis of plane mechanisms. Prerequisites: ENGR 223; MATH 289, 312.

ENGR 462 - MACHINE DESIGN (4)
Design of machines and machine elements; study of stress failure theories applied to machine elements; industrial design problems; CAD methods. Prerequisites: ENGR 321, 324, 365, 461, 468. Strongly recommended: ENGR 374.

ENGR 465 - HEAT TRANSFER (4)
Study of single and multidimensional steady-state and transient heat conduction; thermal radiation involving black and gray bodies and gas-filled enclosures; solar radiation; free and forced convection through ducts and over exterior surfaces; heat exchangers; combined heat transfer problems. Prerequisites: MATH 312, PHYS 252.

ENGR 466 - HEATING, VENTILATING, AND AIR CONDITIONING DESIGN (4)
Study of design of mechanical systems and controls in air conditioning and heating of buildings. Modern aspects of solar heating and cooling will be included. Prerequisite: ENGR 332.

ENGR 467 - ROBOTICS (4)
Introduction to three-dimensional kinematics, dynamics, and computer control of robot manipulators, with applications of robotic systems to modern automated manufacturing methods. Prerequisite: ENGR 352.

ENGR 468 - ENGINEERING FINITE ELEMENT METHODS (4)
Introduction to finite element methods for the solution of problems in structures, solid mechanics, heat transfer and fluids. Techniques for obtaining approximate numerical solutions to governing differential equations in the problem areas are covered. Industrial software is applied to a broad range of engineering problems involving analysis and design. Prerequisites: MATH 312, ENGR 321 or permission of instructor.

ENGR 475 - MECHANICS OF FLIGHT (4)
Study of the fundamentals of flight mechanics including: the standard atmosphere, aerodynamics, lift, drag, aerodynamic shapes, air foil characteristics, aircraft performance, stability of flight vehicles, and propulsion. Historical vignettes and design considerations will be presented. Prerequisites: ENGR 331, 332. Offered even years only.

ENGR 480 - MANUFACTURING SYSTEMS ENGINEERING (4)
Study of the fundamentals of manufacturing with an overview of manufacturing processes, machine tools and equipment; manufacturing systems and material flow. Implementation of automated manufacturing systems with pneumatics, hydraulics, electric actuators, PLCs sensors, factory communications, and human/machine interfaces is emphasized. Scheduling, resource optimization, material handling, and quality management are discussed. Laboratory work required. Prerequisites: ENGR 324, ENGR 326, ENGR 352, and MATH 315.

ENGR 493 - GLOBAL HUMANITARIAN ENGINEERING SEMINAR II (1)
Reflection on the international experience and mentoring of students enrolled ENGR 293. Students will report on what they learned from their international experience and compare their experience to their learning plan and to others' experiences. Prerequisites: ENGR 293, 393.

ENGR 494 - COOPERATIVE EDUCATION (0 - 2)
Individual contract arrangement involving students, faculty, and cooperating industries to gain practical engineering experience in an off-campus setting. Prerequisite: Permission of the Dean of the School of Engineering. Graded S or NC.

ENGR 495 - COLLOQUIUM (0)
Lectures on current engineering practice and other selected topics related to the engineering profession. Engineering degree candidates must satisfactorily complete three quarters, at least one of which must be during the senior year. Graded S or NC.

ENGR 496, 497, 498 - SENIOR SEMINAR (1, 1, 1)
Capstone engineering experience. Each student is required to conduct an approved project with appropriate engineering research, analysis and design content. The scope of the project covers the project life cycle from proposal to final oral and written reports, over the course of three quarters. Engineering career and professional issues are presented and discussed in ENGR 496. Each student is required to attend Autumn, Winter and Spring quarters irrespective of the quarters in which enrollment in Seminar occurs. Prerequisites: senior standing in engineering, ENGL 323, and ENGR 396.

ENVI - ENVIRONMENTAL STUDIES

ENVI 151 - ENVIRONMENTAL PRINCIPLES (4)
Consideration of resource, pollution and environmental quality issues through application of chemical, physical and geological principles: renewable and non-renewable resources; air, water and land pollution; human population demographics and impact; climate change, energy options, and hazardous materials. Includes at least one field trip. Prerequisite: BIOL106 recommended.

ENVI 385 - ENVIRONMENTAL STEWARDSHIP (4)
An interdisciplinary consideration of environmental problems and issues: resources and pollution, energy, population dynamics, quality of life; solutions: scientific, technological, economic, social/political, ethical.

ENVI 386 - ENVIRONMENTAL MANAGEMENT (4)
Limiting environmental degradation through environmental policy and economics; assessing impacts of resource depletion, population growth, non-market ecosystem values, environmental policy, trade; emphasis on local, state, federal and international environmental regulations and policy. Prerequisites: ENVI 151, 385, ECON 211 or 212, PLSC 224. Offered even years only.

ENVI 479 - ENVIRONMENTAL RESEARCH/PROJECT (2)
Each major must complete a project during the senior year.

ENVI 495 - COLLOQUIUM (0)
Lectures on current environmental topics. Minors must complete two quarters. Majors must complete six quarters. Graded S or NC.

ENVI 496, 497, 498 - ENVIRONMENTAL SEMINAR (1, 1, 1)
Group projects by majors and minors; oral and written presentations of results.

FILM - FILM

For all film courses that are not general studies courses, ENGL 234 is a prerequisite.

FILM 215 - INTRODUCTION TO FILM LITERATURE (4)
Study of the narrative techniques of film. Intended to develop criteria for analyzing film literature. Will not apply toward an English major. Credit will not be allowed for both FILM 215 and FILM 416. (Course fees apply.)

FILM 312 - DEVELOPMENT OF FILM LITERATURE (4)
Survey of the development of film literature throughout the twentieth century, with emphasis on the relationships among technology, film techniques, and cultural history. Offered even years only. (Course fees apply.)

FILM 318 - FILM STUDIES: (4; 8)
An advanced course that explores major genres in film and literature. Students will examine the grammar, theory, history, and literature of film in order to understand film makers' cultural views and ideas as expressed in their visions and craft. May be repeated for credit when topics vary. Will apply as an elective on the English major. Prerequisite: general studies literature, ENGL 234, or FILM 215. (Course fees apply.)

FILM 319 - THE AMERICAN WEST IN DOCUMENT AND FILM (4)
Study of selected films and documents with emphasis on Western American settlements, technologies, and ecologies. The course focuses on the West as an international symbol of freedom, oppression, hope, and exploitation.
Prerequisites: general studies literature, ENGL 234, or FILM 215. Offered odd years only. (Course fees apply).

FILM 415 - DIRECTED FILM STUDY (1 - 2; 3)
Directed study of film literature in a particular area by extensive viewing and analysis. Admission by permission of instructor. Will apply as an elective on the English major. Prerequisite: FILM 312.

FILM 416 - TEACHING WITH FILM LITERATURE (4)
An upper-division application of Introduction to Film Literature, FILM 215, aimed at providing teachers and teacher candidates with an understanding of film art that will enhance the use of film in the classroom. Students attend FILM 215 lectures and engage in classroom activities; in addition, they develop a teaching unit involving a film. Prerequisite: ENGL 395, EDUC 365, or EDUC 360. Credit will not be allowed for both FILM 215 and FILM 416. Will not apply toward an English major. (Course fees apply.)

FILM 438 - DIRECTED WRITING ABOUT FILM (1 - 2; 3)
Refinement of analytical skills applied to film or auteurs chosen in consultation with the instructor. Limited enrollment. Admission by permission of instructor. Prerequisite: ENGL 234. Will apply as an elective on the English major.

FINA - FINANCE

FINA 101 - PERSONAL FINANCE (2)
Introduction to personal financial planning and management. Topics include cash and risk management, investment and tax planning, retirement and estate planning, personal financial ethics, and stewardship.

FINA 351 - MANAGERIAL FINANCE (4)
Study of the theory and methods of financial management in corporate enterprises. Main topics include financial statement analysis, time value of money, debt and equity valuation, capital budgeting, risk and return, security market efficiency, capital structure, dividend policy, working capital management, derivative securities, and international finance.

FINA 365 - RISK AND INSURANCE (4)
Study of the principles of insurance, types of insurance, insurance contracts, and risk management for individuals and business firms. Offered odd years only.

FINA 367 - REAL ESTATE PRINCIPLES (4)
Study of the principles of real estate ownership, acquisition, sales, financing, valuation, investment, and property management. Offered even years only.

FINA 441-FINANCIAL MARKETS AND INSTITUTIONS (OR ECON 441)(4)
Study of the functional activities of the financial markets and institutions that comprise the American financial system; emphasizes the nature and functions of money, credit, and banking. Prerequisites: ECON 211 and FINA 351.

FINA 451 - INVESTMENTS (4)
Study of the principles of making sound investments in the securities markets, managing investment portfolios, and evaluating securities; the function of speculation, the hedging operation, and the evaluation of market risks.

FINA 460 - METHODS OF FORECASTING (OR ECON 460) (4)
Introduces the methodology and techniques used in business forecasting (both qualitative and quantitative). It covers modeling, statistical estimation and hypothesis testing, and simulation of economic and financial relationships. Prerequisites: GBUS 263 or equivalent.

FINA 488 - INTERNATIONAL TRADE AND FINANCE (OR ECON 488) (4)
Study of alternative theories on trade, analyzes theoretical impact of trade on employment, economic growth and welfare, and the implications of protectionism on the economy; also studies the foreign exchange systems, and the conduct of monetary policy in an open economy. Prerequisites: ECON 211. Offered even years only.

FINA 494 - COOPERATIVE EDUCATION/INTERNSHIP (0 - 4)
Practical experience allowing application of classroom learning. Requirements include a minimum of 120 hours of documented work experience and a reaction paper. See the Cooperative Education information in the Nondepartmental section of the Bulletin. Graded S or NC.

FREN - FRENCH

FREN 101, 102, 103 - ELEMENTARY FRENCH (4, 4, 4)
Introduction to the study of French with elementary practice in the skills of understanding, speaking, reading, and writing; includes grammatical terminology and the sound system of French, basic grammar, and vocabulary at the elementary level. This course is designed for non-native speakers of French or students with no French heritage. Language laboratory and tutoring required. Must be taken in sequence.

FREN 201, 202 - INTERMEDIATE FRENCH (4, 4)
Intermediate study of French, based on readings in French literature and civilization, combined with a review of grammar and the development of speaking and writing skills. Language laboratory required. Must be taken in sequence. Prerequisite: FREN 103 or equivalent or permission of instructor. Offered as needed.

FREN 394 - FRENCH DIRECTED READING (1 - 2; 4)
Assigned readings and reports in French. Prerequisite: permission of instructor.

FREN 405 - FRENCH STYLISTICS AND RHETORIC (4)
Examines theories of discourse analysis, and rhetoric. Study of authors, literary schools, genres, themes, stylistics and advanced language grammar. Concentrates on form and style through analysis of major texts. Prerequisite: Intermediate French or permission of instructor.

FREN 407- SURVEY OF FRENCH AND FRANCOPHONE LITERATURE (4)
Study of major literary works from the beginning of the 20th century to present. Attention to the use of pertinent critical and literary theories. Prerequisite: permission of instructor. Offered odd years only.

FREN 408 - CONTEMPORARY FRENCH AND FRANCOPHONE LITERATURE (4)
Study of current significant literary works and key themes relating to the Francophone world. Close readings will emphasize the distinctive cultures and challenges of the Francophone world and discuss the important issues raised by these texts. Regions studied vary: Quebec, Africa, French Caribbean, Switzerland, Belgium, and North Africa. Prerequisite: Permission of instructor. Offered even years only.

FREN 496 - SEMINAR IN FRENCH (1 - 4; 4)
Includes selected readings, studying research methods, giving oral reports, and writing scholarly papers.

GBUS - GENERAL BUSINESS

GBUS 161 - BUSINESS BASICS (2)
Overview of the functional business areas and career opportunities in business. Not open to senior business majors.

GBUS 263 - BUSINESS STATISTICS (4)
Survey of descriptive and inferential statistics with emphasis on business and economic applications. Topics include data collection and presentation (sampling methods, data distributions and graphics, numerical measures, displaying and exploring data), probabilities (basic concepts, probability and sampling distributions) and tools of statistical inference (estimation and confidence intervals, one-sample and two-sample tests of hypothesis, ANOVA, linear regression and correlation, multiple regression and model building). Prerequisites: CIS 140, MATH 121. (Course fees apply.)

GBUS 359 - THE AMERICAN ECONOMY (OR HIST 359) (4)
Development of the American economy and business systems from the colonial era to the present. It traces the transformation of key United States institutions (the firm, market, government) and themes (strategy, finance, organization) across the centuries, addressing their relevance to current debates. Prerequisite: a general studies history course. Offered even years.

GBUS 361 - BUSINESS LAW I (4)
An introduction to the judicial system, sources of law, and the legal environment in which individuals and business must operate. Subjects covered include contracts, agency, property, credit, bankruptcy, wills and estates.

GBUS 362 - BUSINESS LAW II (4)
Continues the study of the legal environment with emphasis on business and the Uniform Commercial Code. Subjects covered include sales, commercial paper, international business law, business organizations, and governmental regulation of business. Prerequisite: GBUS 361.

GBUS 366 - OPERATIONS MANAGEMENT AND PRODUCTION (4)
The application of management principles and mathematical techniques to production problems and decisions faced in both manufacturing and service organizations. Topics include planning and decision making, forecasting, design, production scheduling, inventory management, network models, quality control, layout and project management problems. Prerequisite: GBUS 263.

GBUS 370 - BUSINESS COMMUNICATION (4)
Study of the strategies for effective and ethical oral and written business communication. Emphasis is placed on writing letters, memos, reports, and proposals. Additional topics include individual and team communication, intercultural communication, and job-seeking skills. Prerequisites: SPCH 101, ENGL 223.

GBUS 463 - BUSINESS ETHICS (4)
Examines philosophical theories and Christian perspectives on ethical decision making for organizations. Applies these theories and perspectives to business related issues, with a strong focus on leadership, organizational justice, corporate social responsibility, and environmental issues and responsibility.

GBUS 494 - COOPERATIVE EDUCATION/INTERNSHIP (0 - 4)
Practical experience allowing application of classroom learning. Requirements include a minimum of 120 hours of documented work experience and a reaction paper. See the Cooperative Education information in the Nondepartmental section of the bulletin. Graded S or NC.

GBUS 495 - COLLOQUIUM (0)
Lecture series on current business practice. Graded S or NC.

GEOG - PHYSICAL GEOGRAPHY

GEOG 252 - PHYSICAL GEOGRAPHY (4)
Study of the earth as a dynamic system of interrelated components. This course introduces all aspects of earth systems, identifying physical phenomena and stressing their distribution and relationships. It places special emphasis on human-environmental relationships.

GNRL - GENERAL

GNRL 100 - PRINCIPLES OF SYSTEMATIC STUDY (2)
Study of systematic and practical techniques used in university work. Credit will not apply toward graduation or calculate into GPA.

GNRL 101 - UNIVERSITY EXPERIENCE (1)
Interactive classes and activities designed to prepare entering new students for their transition to Walla Walla University life. These classes promote development of academic and social skills as well as critical thinking and decision-making, which are essential to a balanced lifestyle of our collegiate environment. Students will also be assisted in a personalized approach to religion coursework in order to enhance their spiritual development. Graded S or NC. (Course fees apply.)

GNRL 401 - CONTINUING ENROLLMENT
A continuation course for students who have been approved to participate in Commencement, but have not completed degree requirements. (Course fees apply.)

GREK - GREEK

GREK 231, 232, 233 - GREEK I (3, 3, 3)
Introduction to the elements of New Testament Greek with experience in translation. Language laboratory required. Prerequisites: A score at the 70 percentile on the ACT composite score and at the 70 percentile on the ACT English scores or successful completion of ENGL 121, 122.

GREK 331, 332, 333 - GREEK II (3, 3, 3)
Continued reading in Koine Greek with emphasis on intermediate level syntax and practice in translating selected passages from the Gospels, Acts, the New Testament Epistles, Revelation, and the Apostolic Fathers. Prerequisite: GREK 231, 232, 233, or their equivalent.

GREK 334 - GREEK EXEGESIS: ROMANS (4)
Exegesis of the book of Romans with a focus on exegetical method. Prerequisites: GREK 331 and/or a successful completion of the Greek proficiency examination.

GREK 341 - THE TEXT OF THE NEW TESTAMENT (3)
An introduction to the history and present development of the text of the New Testament, including how ancient manuscripts illuminate the social history of early Christianity. Topics include the spread of Christianity, doctrinal disputes, the oppression of women, Jewish-Christian relations, as well as differences between modern Bible translation; integration of textual analysis and translation of selected passages from Novum Testamentum Graece. Credit will not be allowed for both GREK 341 and RELB 441. Prerequisites: GREK 231 and GREK 232 or their equivalent. Offered even years only.

GREK 342 - READINGS IN THE GREEK NEW TESTAMENT (2; 8)
Reading in selected sections of the Greek New Testament. Offered on request. Prerequisite: GREK 331, 332 or their equivalent.

GREK 344 - THE GREEK OLD TESTAMENT (2)
Translation of selected narrative portions from the Septuagint and comparison with the Masoretic Text. Also includes translation of selected portions of Hebrews with attention to Old Testament citations. Offered on request.

GRMN - GERMAN

GRMN 101, 102, 103 - ELEMENTARY GERMAN (4, 4, 4)
Introduction to the study of German with elementary practice in the skills of understanding, speaking, reading, and writing; includes grammatical terminology and the sound system of German, plus basic grammar and vocabulary at the elementary level. This course is designed for non-native speakers of German or students with no German heritage. Language laboratory and tutoring required. Must be taken in sequence.

GRMN 314 - GERMAN CIVILIZATION (4)
Study of the development of the cultural, social and political life in German-speaking lands as reflected in architecture, art, history, literature, music, and philosophy. Lectures, films, and reports. Offered as needed.

GRPH - GRAPHICS

GRPH 124 - INTRODUCTION TO GRAPHICS (4)
Overview of design and graphic communication systems including historical perspectives, theory and practice. Includes a survey of print design and layout practices. Examines the evolution of diverse occupations within graphic arts. (Course fees apply.)

GRPH 125 - INTRODUCTION TO TYPOGRAPHY (3)
Study of type in visual communication from its earliest use to present trends. Emphasizes awareness of cultural, emotional and commercial perspectives, as well as standard usage guidelines, to create clear, evocative documents and web pages. (Course fees apply.)

GRPH 235 - DIGITAL IMAGING I (4)
Study and application of raster image editing. Students will develop skills in technical manipulation, alteration, enhancement, restoration and organization of photographs and illustrations. Stresses creative exploration of acquisition and selection tools and techniques. Prerequisite: GRPH 135 or permission of instructor. (Course fees apply.)

GRPH 255 - GRAPHIC DESIGN AND LAYOUT (4)
Study and application of visual communications fundamentals. Includes survey of typographic essentials, color theory, image acquisition, repurposing, and file management. Stresses development of print production workflow from concept through execution and output. Includes a survey of digital production and distribution. Prerequisite: GRPH 124 or permission of instructor. (Course fees apply.)

GRPH 262 - COMPUTER ILLUSTRATION (4)
Creation and manipulation of vector-based digital illustration, with emphasis on logo development and branding. Prerequisite: GRPH 135. (Course fees apply.)

GRPH 263 - WEB DESIGN I (3)
Introduction to web design, usability theory and styles-based development. Includes application of visual editor to combine type and graphics for development of a personal web site. Prerequisites: GRPH 135 and GRPH 235 or permission of instructor. (Course fees apply.)

GRPH 273 - WEB DESIGN II (3)
Intermediate web design, stressing expanded knowledge of styles-based development by completing a website design or redesign. Introduction to back-end and interactive technologies, content management systems and multivariate testing. Prerequisite: GRPH 263. (Course fees apply.)

GRPH 280 - PRACTICUM (1 - 6; 6)
Laboratory work in Graphics chosen in counsel with the supervising laboratory instructor. Six credits maximum. One 3-hour laboratory per week per credit.

GRPH 320 - PRINCIPLES OF PRINT PRODUCTION (3)
Examination of a variety of contemporary printing methods and processes. Activities include exploration of graphics terminology, key concepts and work flow in pre-press, printing and finishing. Prerequisite: GRPH 255. Offered even years only. (Course fees apply.)

GRPH 336 - DIGITAL IMAGING II (4)
Creation and manipulation of raster images in a production setting. Also includes color correction, advanced image acquisition, and integration of styled type. Prerequisite: GRPH 235. Offered odd years only. (Course fees apply.)

GRPH 337 - DIGITAL IMAGING III (4)
Advanced study and application of image editing techniques for cross-media. Stresses efficient production techniques and creative problem-solving. Prerequisite: GRPH 336. Offered even years only. (Course fees apply.)

GRPH 341 - 3-D DESIGN I (3)
Introduction to 3-D modeling using surface modeling software. Course emphasis is on design intent, generation and manipulation of surfaces, addition of and modification of basic materials and texture maps, and output of finished rendered images in formats compatible with other graphic software. Prerequisites: DRFT 120, GRPH 235 or permission of instructor if corequisite. (Course fees apply)

GRPH 342 - 3-D DESIGN II (3)
Continued study of 3-D modeling using parametric solid-modeling software. This course emphasizes the editing of solid-modeling features, importing/exporting of design information, assembly modeling and graphic output techniques. Prerequisite: GRPH 341. (Course fees apply.)

GRPH 343 - 3-D DESIGN III (3)
This course explores the use of rendering software. Emphasis is on the integration and generation of images created with software used in GRPH 235, 341, 342 and others, to make photo realistic rendered images, appropriate for printed and virtual presentations. Prerequisite: GRPH 342. (Course fees apply.)

GRPH 345 - DESIGNING FOR LARGE FORMAT (3)
Examination of the birth and evolution of large format printing. Creative experience and exploration of design issues specific to the large image: Device calibration; inks; output media; lamination; and mounting. Offered odd years only. Prerequisites: GRPH 235 and GRPH 255. (Course fees apply.)

GRPH 355 - ADVANCED DOCUMENT DESIGN (3)
Rigorous application of graphic design principles as they relate to the creation, management, and production of a complex document. Topics include time management, cross-media publishing, implementing copy changes, developing interactivity, maintaining a theme, and cost estimating. Prerequisite: GRPH 255 or permission of instructor. Offered odd years only. (Course fees apply.)

GRPH 365 - WEB ANIMATION (3)
Methods and theory of 2-D animation concentrating on, but not limited to, web applications. Projects range from stop-frame and simple cartoon animation to design and application of banner advertising for the web. Prerequisite: GRPH 262. (Course fees apply.)

GRPH 366 - MULTIMEDIA PUBLISHING (3)
Examination and practice of design for various media. Students will develop content and style it appropriately depending on media type. Topics include content development, design, typography, editing, and incorporating interactive content using industry standard digital publishing techniques. Prerequisite: GRPH 235 and GRPH 255. Offered odd years only. (Course fees apply.)

GRPH 370 - FUNDAMENTALS OF PACKAGING (4)
Development and application of trend awareness and market influences as they relate to consistent brand development and 3-D visualization. Strong emphasis on craft. Prerequisite: GRPH 262 (Course fees apply.)

GRPH 371 - DESIGN STUDIO (3)
Application of problem-solving techniques and procedures related to design. Students are encouraged to use innovative techniques to achieve workable solutions to selected problems. Prerequisites: GRPH 124, 235, 262, 255.

GRPH 445 - GRAPHICS SERVICES (3)
The study of graphics job coordination and preflight techniques, including functions related to matching customer needs to the requirements of prepress and press operations. Considers customer service and education as related to preproduction and production planning, evaluation and file management. Prerequisites: GRPH 255, GRPH 370, and GRPH 262. (Course fees apply.)

GRPH 463 - WEB PUBLISHING (3)
Design and ethics of social network publishing, including underlying professional principles and terminology of web publishing. Application of knowledge for effective communication in the digital media world. Prerequisite: GRPH 263. (Course fees apply.)

GRPH 480 - ADVANCED PRACTICUM (1 - 6; 6)
Advanced laboratory work in Graphics in counsel with the supervising laboratory instructor. Six credits maximum. One 3-hour laboratory per week per credit. Prerequisite: Lower division work in chosen area.

GRPH 492 - PORTFOLIO DESIGN (2)
Design, collection, development, refinement and presentation of a professional portfolio of visual materials for the express purpose of interview. Consideration will be given to the total package, which must include a complete business system. The collection will include printed and digital media. Prerequisite: Senior standing or approval of instructor. (Course fees apply.)

GRPH 494 - COOPERATIVE EDUCATION (0 - 4)
Individual contract arrangement involving students, faculty, cooperative businesses and organizations to gain experience in a work environment. Allows the student to apply advanced classroom learning. A response paper will be done at the end of the cooperative education experience. Prerequisite: Approval by department.

HEBR - HEBREW

HEBR 331 - HEBREW I (4)
An introductory course to the grammar and vocabulary of Biblical Hebrew intended to enable the student to use the original language as a tool in Biblical studies.

HEBR 332 - HEBREW II (4)
Study of Hebrew grammar and syntax advancing to reading of selected biblical passages. Prerequisite: HEBR 331.

HEBR 333 - HEBREW III (4)
Advanced reading of selected passages from various sections of the Hebrew Bible and Modern Hebrew. Exegesis of biblical passages as time permits. Prerequisite: HEBR 332.

HEBR 451 - READINGS IN HEBREW (2; 8)
Selected reading in the various sections of the Hebrew Bible. Prerequisites: HEBR 332, 333.

HIST - HISTORY

HISTORY GENERAL COURSES

HIST 120, 121, 122 - HISTORY OF WESTERN CIVILIZATION (4, 4, 4)
European history from antiquity to the present. The first quarter covers ancient history of the Near East to early medieval Europe in the eighth century AD; the second quarter, old Europe from Charlemagne to 1789; and the third quarter, modern Europe from 1789 to the present.

HIST 221, 222 - HISTORY OF THE UNITED STATES (4, 4)
American history from the pre-Columbian period to the present. The first quarter covers through Reconstruction; the second quarter covers Reconstruction to the present.

HIST 242 - MODERN EAST ASIAN HISTORY (4)
East Asian history since 1800, with particular emphasis on China and Japan. Offered odd years only.

HIST 305 - THE ANCIENT NEAR EAST (4)
History of the Ancient Near East. Considers economic and social life as well as political developments and environmental change. Offered even years only.

HIST 316 - HISTORY OF PHILOSOPHY I: ANCIENT (OR PHIL 316) (4)
Major philosophers and philosophical movements from the sixth century BC to the fifth century AD. Prerequisites: PHIL 204 or 205, or permission of instructor. Offered odd years only.

HIST 317 - HISTORY OF PHILOSOPHY II: MEDIEVAL-EARLY MODERN (OR PHIL 317) (4)
Major philosophers and philosophical movements from the 6th through the 17th centuries. Prerequisites: PHIL 204 or 205, or permission of instructor. Offered odd years only.

HIST 318 - HISTORY OF PHILOSOPHY III: 18TH CENTURY TO THE PRESENT (OR PHIL 318) (4)
Major philosophers and philosophical movements from the 1700's through the present. Prerequisite: PHIL 204 or 205, or permission of instructor. Offered even years only.

HIST 335 - HISTORY OF WORLD WAR II (4)
Military, political, and diplomatic events from the late 1930s through 1945; covers both the European and the Pacific theaters. Will not satisfy general education history requirement. Offered even years only.

HIST 357 - THE AFRICAN AMERICAN EXPERIENCE (OR ENGL 357) (4)
African-American contributions to American history and culture from the colonial period to the present. Prerequisite: HIST 221 or 222. Offered odd years only.

HIST 382 - HISTORICAL BIOGRAPHY (4)
Biographical and autobiographical studies of distinguished as well as lesser-known figures throughout history. May be repeated for credit as topics vary. Prerequisite: One general studies history class, or permission of instructor.

HIST 394 - DIRECTED READING (1 – 3)
Independent reading for students who wish to continue broadening their knowledge of history by extensive reading; admission by department approval. Prerequisite: Eight hours of general studies history.

HIST 395 - METHODS OF TEACHING SOCIAL STUDIES (3)
Methods and techniques of teaching social studies on the secondary school level; requires observation, demonstration and class presentation. Will not apply towards a major or minor in history. Offered odd years only.

HIST 494 - COOPERATIVE EDUCATION (0 - 4)
Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in a non-classroom setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department.

HIST 495 - COLLOQUIUM (0)
A series of lectures, discussions, and other activities that address historical and professional issues for history students. For each quarter that a student fails to complete the colloquium requirement as stated for the major, there will be a fee to be paid before an alternative colloquium will be approved. Graded S or NC.

AMERICAN HISTORY COURSES

HIST 283 - SPAIN AND LATIN AMERICA (4)
Medieval and early modern Spain with an emphasis on the exploration and conquest of the Americas. Traces the development of Spain's American colonies to their independence. Offered odd years only.

HIST 337 - BASEBALL AND AMERICAN CULTURE (4)
The development of baseball and its impact on American popular culture, with an emphasis on baseball literature, music, and films. Will not satisfy general education history requirement. Offered even years only. Prerequisites: One general studies history course. (Course fees apply.)

HIST 354 - AMERICAN HISTORY AND VISUAL CULTURE (4)
Relationships between historical events and visual representation, including media such as fine arts, prints, political cartoons, photography and film, from the Revolutionary period to the present. Prerequisite: HIST 221 or 222. Offered even years only.

HIST 359 - THE AMERICAN ECONOMY (OR GBUS 359) (4)
Development of the American economy and business systems from the colonial era to the present. It traces the transformation of key United States institutions (the firm, market, government) and themes (strategy, finance, organization) across the centuries, addressing their relevance to current debates. Prerequisite: a general studies history course. Offered even years.

HIST 436 - RELIGION IN AMERICAN HISTORY (4)
A historical examination of American Religions and their role in the social, political, and economic life of the nation. The course will also survey the theologies, institutional forms, and the artistic and emotional expressions of religions that have developed on the United States. Offered even years.

HIST 443 - COLONIAL AND REVOLUTIONARY AMERICA (4)
Growth of the American colonies and movements toward independence, the American Revolution, and the formation of the United States Constitution. Prerequisites: HIST 221, PHIL 204, or permission of instructor. Offered odd years only.

HIST 445 - THE CIVIL WAR AND RECONSTRUCTION (4)
The sectional crisis, the war, and its impact on postwar political, economic, and social development. Prerequisite: HIST 221, 222, PHIL 204, or permission of instructor. Offered even years only.

HIST 446 - HISTORY OF THE PACIFIC NORTHWEST (4)
History of the Pacific Northwest from the age of discovery to contemporary times.

HIST 448 - THE EMERGENCE OF MODERN AMERICA (4)
America from the end of reconstruction through the Great Depression. Covers such issues as the rise of industry, the growth of consumerism, immigration, imperialism, Populism, and Progressivism. Offered odd years only. Prerequisites: HIST 222, PHIL 204.

HIST 449 - RECENT AMERICAN HISTORY (4)
American society, politics, and culture from the end of World War II to the present. Prerequisites: HIST 222, PHIL 204. Offered even years only.

HIST 450 - AMERICA OVERSEAS (4)
American foreign policy since 1960, particularly as applied to Vietnam and the Middle East. Prerequisites: HIST 122, 222, PHIL 204 or permission of instructor.

HIST 458 - AMERICAN INTELLECTUAL HISTORY (4)
Major schools of thought in American intellectual history including: Puritanism, the Great Awakening, the Enlightenment, Transcendentalism, and Pragmatism, as well as contemporary issues in American thought. Prerequisite: PHIL 204. Offered even years only.

EUROPEAN HISTORY COURSES

HIST 254 - HISTORY OF CHRISTIANITY (4)
Christian history from the early church to the present. The course will focus on the theological, political, and cultural development of Christianity around the world.

HIST 274 – STUDY TOUR: ENGLISH HISTORY IN CONTEXT (4)
History of medieval and early modern England offered in conjunction with the UK History and Literature Tour. The course will bring together an investigation of historic places, documents, art, music, theatre, and architecture in order to provide a window into the English past and present. Offered even years during the summer.

HIST 275, 276 - HISTORY OF ENGLAND (4, 4)
Development and expansion of the English nation from the earliest times to the present.

HIST 306 - CLASSICAL GREECE AND ROME (4)
Classical Greece and Rome to AD 476 with particular emphasis on cultural and political history.

HIST 435 - HISTORY OF MODERN GERMANY (4)
German history since 1862 with particular emphasis on the unification of Germany, the Kaiserreich, and the Nazi era. Prerequisites: HIST 121, 122, PHIL 204, or permission of instructor. Offered even years only.

HIST 437 - MEDIEVAL AND RENAISSANCE EUROPE (4)
History of the religious, political, social, intellectual, and artistic developments from Middle Ages through the Italian Renaissance. Prerequisite: HIST 121, PHIL 204, or permission of instructor. Offered odd years only.

HIST 438 - FAITH AND CONFLICT IN REFORMATION ENGLAND (4)
Seminar examining the political and religious upheavals that accompanied the rise of the English Protestantism from the reign of Henry VIII through the English Civil War, 1500-1688. Prerequisite: PHIL 204. Offered even years only.

HIST 456 - MEDIEVAL AND EARLY MODERN CHRISTIANITY (OR RELH 456) (4)
History of Christianity from the Council of Chalcedon through the Enlightenment, with an emphasis on the Lutheran and Calvinist Reformations, 400-1776. Prerequisite: HIST 121 or RELH 455, or permission of instructor.

HIST 460 - SCIENCE AND THE ENLIGHTENMENT (4)
History of the scientific revolution and enlightenment thought in Early Modern Europe. Prerequisites: HIST 121, PHIL 204, or permission of instructor. Offered odd years only.

HIST 466 - AGE OF REVOLUTIONS (1789-1849) (4)
Revolutionary Europe from the outbreak of the French Revolution in 1789 through the Revolutions of 1848/49. Prerequisites: HIST 121, PHIL 204, or permission of instructor. Offered odd years only.

HIST 467 - THE GREAT WAR, 1890-1919 (4)
Causes and course of World War I against the backdrop of nineteenth century nationalism and imperialism. Prerequisite: HIST 121, 122, PHIL 204, or permission of instructor. Offered even years only.

HIST 468 - INTERWAR EUROPE, 1919-1945 (4)
Europe between the two world wars with particular focus on post-1919 peacekeeping, the rise of totalitarianism, and the causes and course of World War II. Prerequisites: HIST 122, PHIL 204, or permission of instructor. Offered odd years only.

HIST 474 - STUDY TOUR: ENGLISH REFORMATION (4)
History of the long English Reformation from Wycliffe to the "Glorious" Revolution in 1688. Offered in conjunction with the UK History and Literature Tour. The course will examine such political issues as the reign of Henry VIII, Queen Elizabeth I, and the English Civil War, as well as social and intellectual issues ranging from theological developments to the religious practices and views of the people. Offered even years during the Summer.

HIST 480 - POSTWAR EUROPE, 1945 TO THE PRESENT (4)
Europe since World War II with particular focus on the Cold War, western European integration, and the rise and fall of the Soviet bloc. Prerequisites: HIST 122, PHIL 204, or permission of instructor.

HISTORY RESEARCH COURSES

HIST 391 - THE CRAFT OF HISTORY (2)
Introduction to the methods, materials, and problems of historical research; students choose the topic for their senior papers, commence research, and write a proposal.

HIST 392 - HISTORIOGRAPHY (3)
Survey of historians and historical writings from the development of the historical profession in the nineteenth century to the present. Prerequisite: HIST 391.

HIST 496, 497, 498 - SEMINAR (2, 2, 1)
Preparation and presentation of the senior paper. Open only to senior history majors. Must be taken in sequence. Prerequisites: HIST 391, 392.

HLTH - HEALTH

HLTH 110 or permission of instructor is a prerequisite to all upper division health science courses.

HLTH 110 - WELLNESS FOR LIVING (3)
Survey course covering current health issues; emphasizes the promotion of personal well-being. (Course fees apply.)

HLTH 205 - SURVEY OF HEALTH (2)
Survey of the development of health. Includes secular, biblical and Seventh-day Adventist history and current topics.

HLTH 208 - DRUGS AND SOCIETY (3)
Study of the use, misuse, and abuse of all classes of drugs, including alcohol and tobacco. Emphasis will be placed on the physiological, sociological, and psychological factors which may lead to drug experimentation and heavy drug use. Prerequisite: BIOL 123 or permission of instructor.

HLTH 217 - FIRST AID (2)
Preparation for earning Standard American Red Cross and Cardiopulmonary Resuscitation certificates; prepares the student to deal effectively with minor emergencies, sudden illness, and traumatic injuries. Lecture and laboratory. (Course fees apply.)

HLTH 220 - HUMAN NUTRITION (4)
Study of fundamental principles and basic vocabulary of nutritional science; interpretation and application of those principles through practical experiences. Covers the many factors associated with food and the digestion of food and the evaluation of current nutrition controversies.

HLTH 266 - SAFETY EDUCATION (2)
Study of safety at work, home, and school with emphasis on personal and community responsibility. Offered odd years only.

HLTH 308 - COMMUNITY HEALTH (3)
Study of the historical development of community health, including the role of different health agencies in the community. Emphasizes the prevention of disease and health promotion through organized community effort. Offered even years only.

HLTH 315 - ETIOLOGY OF SELECTED DISEASES (3)
Critical review of the morphology, pathogenesis, and epidemiology of major degenerative diseases. Major emphasis is on prevention, identification of high-risk groups, and early detection with applications to personal and community control programs. Prerequisites: HLTH 110, 220; BIOL 141 or 121, BIOL 105. (Course fees apply.)

HLTH 328 - BASIC THERAPY (2)
Study of simple, nondrug therapeutic health practices; includes legal implications. (Course fees apply.)

HLTH 331 - CONSUMER HEALTH (3)
Study of advertising techniques and claims concerning a variety of health care products. Analysis will also be made of quackery, various health care services, and the role of the FDA, FTC, and other governmental agencies in protecting the consumer. Offered odd years only.

HLTH 350 - INTERNSHIP PLACEMENT ORIENTATION (OR PETH 350) (0)
An internship placement orientation seminar intended to make students aware of agency possibilities, application and evaluation procedures, contracts and the internship learning process. Graded S or NC.

HLTH 370 - HEALTH PSYCHOLOGY (OR PSYC 370) (3)
The study of learning, motivation, and psychological theories as related to health decisions and practices. Topics include the psychology of addictive behavior, behavioral health, and the relationship between stressful life events, social support, and wellness.

HLTH 372 - HEALTH PROMOTION PLANNING AND EVALUATION (3)
Study of methods of determining health needs, organizing community service skills, planning techniques, and program evaluation. Laboratory required. Prerequisite: HLTH 370; 315 or permission of instructor.

HLTH 427 - FITNESS EVALUATION TECHNIQUES (OR PETH 427) (3)
The primary focus is to develop and enhance the knowledge and practical skills in health and fitness evaluation. Specific emphasis will be directed toward evaluation techniques of exercise, physiology, nutrition, weight control, exercise programming, health appraisal and fitness, lecture and laboratory. Preparation for meeting ACSM Health/Fitness Instructor Certification. Prerequisites: BIOL 121, 122, 123 PETH 426 or permission of instructor.

HLTH 437 - COMMUNITY NUTRITION (3)
Survey of current community nutrition problems and of programs designed to alleviate the problems; food habits of population groups which have a high incidence of malnutrition; implications of fad diets. Field experience included. Prerequisite: HLTH 220 or permission of instructor. Offered odd years only. (Course fees apply.)

HLTH 471 - HUMAN SEXUALITY (OR SOWK 471) (3)
Study of resources, research, anatomy and physiology, and personal values clarification on human sexuality. Emphasis will be on the interactions between biology, cognition, emotions, socialization, and culture. Prerequisite: PSYC 130 or SOCI 204.

HLTH 472 - STRESS MANAGEMENT (3)
Designed to guide the student in planning practical strategies for personal stress management. A holistic approach emphasizing physical, mental, emotional, and spiritual aspects of a positive Christian lifestyle. The works of Hans Selye and other theoreticians of modern stress management are considered. Students will develop skills in time management, and techniques of meditation and relaxation and exercise. Also considered is the market for stress management education in Employee Assistance Programs. Prerequisite: PSYC 130 or SOCI 204.

HLTH 475 - PROGRAMS IN HEALTH PROMOTION (3)
Study of the methods of program production in health. Supervised experience in the implementation of health education programs within churches, industries, schools, or hospitals of the community. Laboratory required. Prerequisite: HLTH 372.

HLTH 481 - INTERNSHIP IN HEALTH SCIENCE (12)
Supervised field experience in an approved health care agency. Practical experience and application of responsibilities and competencies necessary for practicing health education. Prerequisites: HLTH 350, 427, 475; HLTH 217 or current certification in First Aid and CPR.

HLTH 494 - COOPERATIVE EDUCATION (0 - 4)
Individual contract arrangement involving students, faculty and cooperating businesses, schools or agencies to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department.

HLTH 496 - SEMINAR (1)
Presentation and discussion of current topics in Health and Physical Education. Prerequisite: Senior standing in Health or permission of instructor.

HMNT - HUMANITIES

HMNT 496, 497 - SEMINAR (1, 2)
Study of interdisciplinary topics in humanities; includes group conferences and written and oral reports. The seminar concludes with a final paper and public presentation.

HONR - HONORS

HONR 131, HONR 132, HONR 133 and HONR 141, HONR 142, HONR 243 are prerequisite to all upper-division honors courses.

The Honors Program requires the completion of HONR 141, HONR 142, and HONR 243. ENGL 121, ENGL 122, ENGL 223, ENGL 323, AP credit, IB credit, or CLEP credit may not be substituted. Students transferring into the Honors Program from other institutions will be asked to provide a portfolio of writing assignments and may be asked to fulfill an Honors Directed Writing requirement in preparation for Honors Research Writing.

HONR 131, 132, 133 - WESTERN THOUGHT (4, 4, 4)
Integration of Western history and literature with added emphasis on philosophical concepts and their relationships to events. Completion of all three quarters satisfies 8 hours of general studies history and 4 hours of literature; completion of 8 hours satisfies 4 hours of history and 4 hours of literature; completion of 4 hours satisfies 4 hours of general studies humanities. HONR 131 is a prerequisite to HONR 132 and HONR 133.

HONR 141 - HONORS WRITING I (3)
Emphasizes scholarly methods of reading and writing about texts. (Course fees apply.)

HONR 142 - HONORS WRITING II (3)
Presents exercises in style, in the practice of prose, and the refinement of voice and clarity in writing. Assignments focus on methods of holding to a subject, hearing language, and practicing the traditional rhetorical forms. The course concludes with an approved proposal and research plan for the papers to be written in HONR 243. Prerequisite: HONR 141. (Course fees apply.)

HONR 143 - DIRECTED HONORS WRITING (1-2; 2)
Provides additional practice in scholarly methods of reading and writing about texts. Permission of instructor required.

HONR 243 - HONORS RESEARCH WRITING (3)
A study of library resources, information-gathering techniques, and research writing, including ethics and style expected in the academic community. Includes a major documented research paper that incorporates arguments, texts, and strategies studied in HONR 141 and 142. Public presentation of the final papers is required. Prerequisite: HONR 141, 142. (Course fees apply.)

HONR 281 - THE BIBLE AND ITS ENVIRONMENTS (4)
Study of selected biblical themes in light of the text and its contemporary culture and thought. This course satisfies four hours of RELB general studies religion credit.

HONR 310, 311 - SCIENCE AND THE ARTS (4, 4)
Study of science in its historical context and its relationship to the humanities. Laboratory included. Completion of both quarters satisfies 4 hours laboratory science and 4 hours humanities (fine arts); completion of one quarter satisfies 4 hours laboratory science or 4 hours humanities (fine arts). Prerequisites: HONR 131, 132, 133; math and lab science cognates. (Course fees apply.)

HONR 348 - TOPICS IN WORLD RELIGIOUS THOUGHT (4)
Examines various religious and philosophical ideas developed outside the Western tradition. Topics determined by instructors. Applies to the general studies religion requirement.

HONR 349 - RELIGION IN A SOCIAL CONTEXT (4)
Study of religion in its social setting, including the nature and role of religious symbol systems, the importance of religion in the creation of social values, the function of religion in social change, and the institutionalization of religion. Includes case studies from the history of Christianity and the history of Seventh-day Adventism. Satisfies 4 hours of general studies social science or 4 hours religion.

HONR 394 - HONORS DIRECTED READING (1-2; 3)
Independent reading for students who wish to continue broadening their interdisciplinary course work by intensive reading; admission by Honors Program director approval. Prerequisite: HONR 132 or HONR 133 and HONR 243.

HONR 496, 497, 498-HONORS SEMINAR: FAITH AND LEARNING (1, 1, 1)
This course seeks to integrate learning and religious faith. Students present formal papers based on reading, research, and dialogue with faculty. Must be taken in sequence. Applies to the general studies religion requirement. Prerequisite: Completion of 32 hours of HONR classes or senior standing.

INDS - INDUSTRIAL DESIGN

INDS 210 - MODELMAKING TECHNIQUES (2)
In a studio and laboratory environment, students will gain experience with a variety of hand tools, materials and techniques, to develop scale models. Students will learn to construct study models using appropriate materials and learn to use the model to evaluate and communicate product design concepts. Prerequisite or co-requisite: TECH 220 or permission of instructor. (Course fees apply.)

INDS 371, 372, 373 - INDUSTRIAL DESIGN (3, 3, 3)
Application of a number of problem-solving techniques and procedures related to industrial design. Students are encouraged to use innovative techniques to achieve workable solutions to selected design problems for team and special projects. Prerequisite: TECH 220 or permission of instructor. (Course fees apply.).

INDS 425, 427 - SENIOR STUDIO I, II (3, 3)
Capstone Industrial Design (ID) experience to prepare the student for TECH 499, Senior Project. Each student is required to conduct an approved project with appropriate ID research, analysis, and design content. The scope of the project covers the project life cycle from proposal to final presentation accomplished in TECH 499. Prerequisites: INDS 371, 372, 373, and senior standing in ID or permission of instructor. (Course fees apply.)

INFO - INFORMATIONAL TECHNOLOGY

INFO 250 - SYSTEM SOFTWARE: (1; 8)
Study of system software from a user and/or administrative perspective. Topics vary and may be repeated for credit. Prerequisite: Permission of instructor.

JOUR - JOURNALISM

JOUR 148 - CREATIVITY AND COMMUNICATION (3)
Students develop an understanding of their creative potential and how to nurture it through communication. The course focuses on the creative and strategic thinking required to generate ideas and produce work in creative disciplines.

JOUR 201 - SCREEN WRITING (3)
Students will journey behind the screen to create a film from idea to script. Participants will study and write short films to be produced by students the next quarter in COMM 303, Production and Cinematography. Topics include story, analysis, formula, and screenplay formatting. To be taken concurrently with COMM 201, Preproduction. Prerequisite: ENGL 122.

JOUR 245 - MEDIA WRITING (4)
Introduction to writing news and feature stories for publication in newspapers and in online media. Prerequisite: ENGL 122.

JOUR 246 - REPORTING METHODS (4)
Basic training in the use of interviewing and other social research techniques for the gathering and reporting of news. Prerequisite: JOUR 245.

JOUR 247 - COPY EDITING (3)
Introduction to the roles and responsibilities of a copy editor. Course includes practice in editing copy for content and style to meet generally accepted journalism standards and Associated Press style.

JOUR 257 - INTRODUCTION TO PHOTOJOURNALISM (3)
Introduction to the basic principles and practices of photojournalism for online media, newspapers, magazines and corporate publications, using still photographs to tell the story. A 35mm SLR digital camera is required. Two lectures and one laboratory per week. Prerequisite: PHTO 156. (Course fees apply.)

JOUR 341 - FEATURE WRITING (4)
Analysis of publication markets, fundamentals of gathering materials for feature articles, and preparation of manuscripts for publication.

JOUR 345 - SPECIALIZED WRITING: (3)
Study of and practice in writing in specialized areas such as public affairs, inspirational and religious, science and health, education, arts and entertainment; and opinion, editorial and column writing. Emphasis is on developing a level of writing suitable for publication in one such specialized area. Course may be repeated as topics vary. Prerequisites: JOUR 245 and 246 or permission of instructor.

JOUR 349 - SOCIAL MEDIA JOURNALISM (3)
An introduction to contemporary social media influences on how we think, interact, and learn with a focus on the skills necessary for quality storytelling via social media communication. Students will develop and write news content and respond interactively in multiple social media outlets.

JOUR 394 - DIRECTED READING: (1 - 2; 3)
Independent reading for students who wish to broaden their knowledge of major literature of the field, including biographies and classics. Offered alternatively with COMM 394 and SPCH 394.

JOUR 445 - DIRECTED MEDIA WRITING (1 - 3)
The refining of writing skills through a program adapted to the student's professional interest. Submission of writing samples and permission of instructor required.

JOUR 451 - DIGITAL PUBLISHING (4)
Instruction and practice in communicating effectively in a digital publishing environment including copy editing, headline writing, graphics development and placement and cross-platform publication. Students will plan and develop a new publication with prospectus, dummy copy, and design concepts. Prerequisite: GRPH 255. (Course fees apply.)

JOUR 457 - ADVANCED PHOTOJOURNALISM (3)
Advanced techniques of reporting and interpreting news with photography. Considers aesthetics, lighting, composition, storytelling techniques, and picture content, with emphasis on building professional skills. Prerequisite: JOUR 257. One laboratory per week. Offered odd years only. (Course fees apply.)

JOUR 458 - NEWSPAPER STAFF PHOTOGRAPHY PRACTICUM (1 - 3; 3)
During this year-long practicum the student shoots for the weekly broad sheet campus newspaper or works part-time at the local newspaper or works at a summer internship with a daily newspaper. Students experience a wide variety of news, sports, and feature assignments under deadline pressure. Students take one credit per quarter for three quarters, or full-time during a summer for three credits.

JOUR 479 - DIRECTED PHOTOJOURNALISM PROJECT: (1 - 3)
A directed class that focuses on developing a professional portfolio. Students who sign up for this course will engage in a specific activity, such as documentary photojournalism or multi-picture reporting on in-depth subjects with the approval of the instructor.

LANG - LANGUAGE

LANG 395 - METHODS OF TEACHING LANGUAGES (3)
Study of principles and methods of teaching languages in K-12. Observation, demonstration, and class presentation are required. Will not apply on a major or minor in languages.

LANG 406 - LANGUAGE AND CULTURE (4)
Study of the inter-dynamics of language and culture. Focuses on the role of language as a socio-cultural phenomenon. Covers topics such as language variation, multi-linguism, language contact, cultural products, cultural perspectives, cultural practices, social behavior and social issues.

LANG 494 - COOPERATIVE EDUCATION (0 - 3)
Individual contract arrangement involving students, faculty, and cooperating regional or international organizations to gain practical experience using a foreign language in an off-campus setting. Prerequisite: Approval of the department.

LATN - LATIN

LATN 211, 212, 213 - LATIN I (4, 4, 4)
Introduction to the elements of classical Latin with experience in translation. Prerequisites: A score of 50 percentile on the ACT composite score and 50 percentile on the ACT English scores or successful completion of ENGL 121, 122.

LATN 311, 312, 313 - LATIN II (4, 4, 4)
Continued reading in Latin authors with emphasis upon grammar and syntax. Offered as needed.

MATH - MATHEMATICS

Students must meet the University entrance requirement in mathematics, pass a departmental placement test, or pass MDEV 003 with a grade of C- or higher before enrolling in mathematics courses numbered above 100. Before enrolling in any mathematics course, students must have grades of C- or higher in all prerequisite courses.

MATH 105 - FINITE MATHEMATICS (4)
Introduction to mathematics, including algebraic concepts, sets, counting, probability, and descriptive statistics. Additional topics selected from geometry, logic, matrices, linear programming, game theory, mathematics of finance, and stochastic processes. Designed to meet the general studies requirement for the baccalaureate degree, but will not apply toward a major or minor in mathematics. Completion of MATH 117 or higher precludes subsequent enrollment in MATH 105. Prerequisite: MDEV 003 or satisfactory departmental placement.

MATH 112, 113 - MATHEMATICS FOR ELEMENTARY TEACHERS (3, 3)
Study of topics in mathematics, including number theory, geometry, numeration, number systems, graphs, algebra, statistics, and measurements. Designed to meet the general studies requirement for the baccalaureate degree. Will not apply toward a major or minor in mathematics. Must be taken in sequence.

MATH 117 - ACCELERATED PRECALCULUS (5)
Introduction to college algebra and trigonometry including equations and inequalities; algebraic, exponential, logarithmic, and trigonometric functions; graphs; and complex numbers. Credit will not be allowed for both MATH 117 and MATH 121 or 122. Prerequisite: MDEV 003 or satisfactory departmental placement.

MATH 121 - PRECALCULUS MATHEMATICS I (4)
Study of college algebra including integers; rational, real, and complex numbers; equations and inequalities; polynomials; algebraic, exponential, and logarithmic functions; and graphs. Credit will not be allowed for both MATH 117 and MATH 121. Prerequisite: MDEV 003 or satisfactory departmental placement.

MATH 122 - PRECALCULUS MATHEMATICS II (4)
Study of college precalculus including trigonometric functions and graphs; trigonometric identities; matrices; determinants; sequences; mathematical induction; and the binomial theorem. Credit will not be allowed for both MATH 117 and MATH 122. Prerequisite: MATH 121 or satisfactory departmental placement.

MATH 123 - SURVEY OF CALCULUS (4)
Introduction to calculus, including topics such as functions, limits, derivatives, and integration in one or more variables; applications from business and social sciences. Will not apply toward a major or minor in mathematics. Credit will not be allowed for both MATH 123 and MATH 181. Prerequisite: MATH 117 or 121 or satisfactory departmental placement.

MATH 181 - ANALYTIC GEOMETRY AND CALCULUS I (4)
Study of functions, limits, continuity, derivatives, definite integrals, and the Fundamental Theorem of Calculus. Credit will not be allowed for both MATH 123 and MATH 181. Prerequisite: MATH 117 or 122 or satisfactory departmental placement. See technology requirements (http://math.wallawalla.edu/).

MATH 206 - APPLIED STATISTICS (4)
Study of applied statistics, including methods of describing data, distributions, sampling, confidence intervals, hypothesis testing including analysis of variance, correlation and regression. Designed to meet the general studies requirements for the baccalaureate degree, but will not apply toward a major or minor in mathematics. Prerequisite: MDEV 003 or satisfactory departmental placement.

MATH 250 - DISCRETE MATHEMATICS (4)
Introduction to discrete mathematical structures. Topics include combinatorics, sets, recursion, and graph theory. Prerequisite: MATH 123 or 181.

MATH 281 - ANALYTIC GEOMETRY AND CALCULUS II (4)
Study of indefinite integrals, calculus of inverse functions, and techniques and applications of integration. Prerequisite: MATH 181. See technology requirements (http://math.wallawalla.edu/).

MATH 282 - ANALYTIC GEOMETRY AND CALCULUS III (4)
Study of sequences, series, polar coordinates, parametric equations, and vectors. Prerequisite: MATH 281. See technology requirements (http://math.wallawalla.edu/).

MATH 283 - ANALYTIC GEOMETRY AND CALCULUS IV (4)
Study of differential and integral calculus of multi-variable functions, line and surface integrals, Green's theorem, divergence theorem, and Stokes' theorem. Prerequisite: MATH 282.

MATH 289 - LINEAR ALGEBRA AND ITS APPLICATIONS (3)
Study of matrices and determinants, vector spaces, linear transformations, eigenvalues and eigenvectors, with applications. Prerequisite: MATH 123 or 181.

MATH 312 - ORDINARY DIFFERENTIAL EQUATIONS (4)
Study of solutions of first order differential equations, solutions of linear differential equations of order n, applications, linear systems, and series solutions. Prerequisite: MATH 283.

MATH 315 - PROBABILITY AND STATISTICS (4)
Study of counting and probability, probability distributions and densities, mathematical expectation, functions of random variables, sampling distributions, interval estimation, hypothesis testing, and analysis of variance. Prerequisite: MATH 283.

MATH 316 - REGRESSION AND TIME SERIES ANALYSIS (4)
Study of simple and multiple linear regression including estimation, hypothesis testing, data analysis, and appropriateness of models. Also includes a study of linear time series models including estimation, data analysis, and forecasting. Prerequisite: MATH 315. Offered even years only.

MATH 319 – OPTIMIZATION (OR ENGR 419) (4)
Modeling and design within a formal optimization environment. Mathematical formulation of optimization problems including decision space paramterization, objective function selection, and constraint definition. Survey of algorithms for unconstrained and constrained optimization; techniques for solving multi-disciplinary and multi-objective problems. Applications to problems in mathematics, physics, and engineering. Prerequisites: MATH 283, MATH 289, CPTR 141, PHYS 253. Offered odd years only.

MATH 321 - GEOMETRY (4)
Study of geometries, concentrating on Euclidean, non-Euclidean, and projective geometries; examination of axiomatic foundations and qualitative study of the geometries; considers briefly Mohr-Mascheroni constructions and impossible constructions. Prerequisite: MATH 282 or permission of instructor. Offered even years only.

MATH 341 - NUMERICAL ANALYSIS (4)
Study of numerical methods with computer applications; topics include numerical solutions of nonlinear equations, systems of equations, ordinary differential equations, interpolation, and numerical integration. Prerequisites: MATH 289; MATH 312.

MATH 351 - OPERATIONS RESEARCH (4)
Introduction to deterministic models in operations research; includes linear programming, network analysis, dynamic programming, and game theory. Prerequisites: MATH 283; MATH 289 or permission of instructor. Offered odd years only.

MATH 360 - INTRODUCTION TO THE HISTORY OF MATHEMATICS (4)
Introduction to the history of mathematics from the beginning of hieroglyphic writing in Egypt and cuneiform in Mesopotamia to the influence of computers in the 20th century. Topics will include ancient mathematics, geometry and algebra from Greece, mathematics from China, India, and Islam, medieval algebra and geometry, mathematics from the Renaissance and the scientific revolution including analytic geometry and calculus, analysis and algebra through the 19th century, and topics from the 20th century. Prerequisite: MATH 283 or permission of instructor. Offered even years only.

MATH 413 - PARTIAL DIFFERENTIAL EQUATIONS (4)
Study of partial differential equations, boundary-value problems and Fourier series. Prerequisites: MATH 289, MATH 312. Offered even years only.

MATH 423 - COMPLEX ANALYSIS (4)
Study of functions of a complex variable, the geometry of elementary functions, integration, power series, calculus of residues, and conformal mapping. Prerequisite: MATH 283. Offered odd years only.

MATH 431, 432 - MATHEMATICAL PHYSICS (OR PHYS 431, 432) (3, 3)
In-depth study of the mathematical foundations of physics and their applications to physical problems. Particular attention is paid to the theory of linear vector spaces in developing tensor analysis group theory and Hilbert Space theory. This course is recommended for students planning to attend graduate school in physics, or having a strong interest in the applications of mathematics to the physical world. Offered odd years only.

MATH 451, 452, 453 - ADVANCED CALCULUS (4, 3, 3)
Study of functions of one and several variables including continuity, differentiation, integration, infinite series, uniform convergence, and selected topics. Prerequisite: MATH 283. Offered odd years only.

MATH 461, 462, 463 - ABSTRACT ALGEBRA (4, 4, 4)
Study of groups, rings, fields, vector spaces, linear transformations, selected topics, and applications. Prerequisite: MATH 289. Offered even years only.

MATH 476 - PUTNAM PROBLEM SOLVING (1; 2)
Topics include problem solving with emphasis on both oral and written communication. This course prepares students for the William Lowell Putnam Mathematical Competition. Students will be required to participate in this competition which is held annually in early December. Prerequisite: Permission of the Department of Mathematics. Graded S or NC.

MATH 494 - COOPERATIVE EDUCATION (0)
Individual contract involving students, faculty, and cooperating employers which provides the student with practical experiences in an off-campus setting. Graded S or NC. Prerequisites: MATH 283, CDEV 210 or equivalent, minimum cumulative GPA 2.75 in college mathematics courses, minimum cumulative GPA of 2.75 in all college courses, and departmental approval. Open only to mathematics majors.

MATH 496, 497 - SEMINAR (1, 1)
Includes giving an oral report and writing a scholarly paper on an approved mathematical topic. Prerequisite MATH 451 or 461. Open to Junior/Senior mathematics majors only.

MDEV - DEVELOPMENTAL MATHEMATICS

MDEV 001 - ELEMENTARY ALGEBRA (4)
Designed for students who enter university without having met the mathematics entrance requirement of a one-year course in high school algebra. Topics include fractions, radicals, factoring, linear and quadratic equations, and graphing. Credit does not apply toward graduation. (Course fees apply.)

MDEV 002 - ELEMENTARY GEOMETRY (4)
Designed for students who enter university without having met the mathematics entrance requirements of a one-year course in high school geometry. Topics include angles, polygons, circles, and triangles. Concepts and techniques of proof are integrated into this course. Credit does not apply toward graduation.

MDEV 003 - INTERMEDIATE ALGEBRA (4)
Designed for students who enter university without having met the mathematics entrance requirements of a one-year course in high school Algebra II. Topics include sets, numbers, exponents, polynomials, factoring rational algebraic expressions, graphs, first and second degree equations, and inequalities. Credit does not apply toward graduation. (Course fees apply.)

MEDU - MATH EDUCATION

MEDU 395 - METHODS OF TEACHING MATHEMATICS (3)
Methods, materials, and techniques of teaching mathematics on the secondary school level; requires observation, demonstration, and class presentation. Will not apply toward General Studies or toward a major or minor in mathematics. Offered odd years only.

MGMT - MANAGEMENT

MGMT 275 - ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT (OR MKTG 275) (4)
Study of the ownership, startup, organization, finance, marketing, business plans, and exit strategies of small business enterprises. Topics include how to assess the feasibility of ideas, define a market, meet financing requirements, pitch business ideas, and develop an entrepreneurial team. Prerequisite recommended: ACCT 203.

MGMT 371 - PRINCIPLES OF MANAGEMENT (4)
Introduction to the concepts of effective management in organizational settings. Primary emphases include management functions (planning, organizing, directing, and controlling), levels of management, and interpersonal skills.

MGMT 373 - ORGANIZATIONAL BEHAVIOR (OR PSYC 373) (4)
The study of the behavior of individuals and groups in organizations with emphasis on the implications for organizational design and management practice. Topics include motivation, leadership, decision-making, organizational culture, power, and conflict. Recommended: MGMT 371.

MGMT 376 - HUMAN RESOURCE MANAGEMENT (4)
Emphasizes the importance of human resource management within organizations. Provides an overview of the human resource environment, acquiring and preparing human resources, assessing performance, employee training and development, and compensation and benefits. Prerequisite: MGMT 371 or permission of instructor.

MGMT 380 - PRINCIPLES OF PROJECT MANAGEMENT (4)
Develops a foundation of concepts and solutions supporting the planning, scheduling, controlling, resource allocation, and performance measurement activities required for successful completion of a project in both domestic and international environments.

MGMT 476 - MOTIVATION AND LEADERSHIP (4)
Advanced topics dealing with individual and organizational factors affecting employee motivation, performance, and satisfaction. Specific attention given to group dynamics, reward systems, and leadership roles. Case studies. Recommended: MGMT 371.

MGMT 488 - GLOBAL MANAGEMENT AND MARKETING (OR MKTG 488) (4)
An analysis of organizational, operational, and marketing problems associated with managing a business in the global environment. Emphasis is placed on culture, laws, and business practices. Prerequisites: MGMT 371 and MKTG 381.

MGMT 489 - STRATEGIC MANAGEMENT (4)
A study of business operations from an integrated viewpoint. Knowledge from the functional areas of business is applied to strategic issues and problems found in several organizational settings. Library research, business simulations, in-depth case analyses, and formal presentations required. Open to students with senior standing only. (Course fees apply).

MGMT 494 - COOPERATIVE EDUCATION/INTERNSHIP (0 - 4)
Practical experience allowing application of classroom learning. Requirements include a minimum of 120 hours of documented work experience and a reaction paper. See the Cooperative Education information in the Nondepartmental section of the Bulletin. Prerequisite: Candidacy. Graded S or NC.

MKTG - MARKETING

MKTG 275 – ENTREPRENEURSHIP AND SMALL BUSINESS MANAGEMENT (4)
Study of the ownership, startup, organization, finance, marketing, business plans, and exit strategies of small business enterprises. Topics include how to assess the feasibility of ideas, define a market, meet financing requirements, pitch business ideas, and develop an entrepreneurial team. Prerequisite recommended: ACCT 203.

MKTG 333 - STRATEGIES FOR FUNDRAISING (OR PREL 333) (4)
Study of philosophy, role, organization, and strategies of institutional development and fund raising. Includes consideration of annual funds, capital campaigns, special events, and direct mail. Offered even years only.

MKTG 381 - PRINCIPLES OF MARKETING (4)
An overview of the field of marketing including the marketing mix variables (product, price, promotion, and distribution), market segmentation, marketing strategy, market research, the role of marketing in the economic system, and consumer demand and behavior. Prerequisite: ECON 212 or permission of instructor.

MKTG 383 - PRINCIPLES OF ADVERTISING (4)
A study of the principles of advertising creation and planning, copywriting, media selection, budgeting, layout, and design. The advantages and disadvantages of advertising in-house and through agencies are compared. Recommended: MKTG 381.

MKTG 384 - CONSUMER BEHAVIOR (4)
A study of why, when and how consumption occurs at both individual and group levels. Recommended: MKTG 381, PSYC 130.

MKTG 385 - SALES MANAGEMENT (4)
An introduction to selling and sales management through the study of effective sales techniques. From prospect identification through gaining agreement and customer follow-up, these techniques add value to an organization while resolving customer concerns. Topics include sales forecasting, sales ethics, principles of bidding, negotiation strategy, problem resolution, and the recruitment, selection and training of the sales force. Offered odd years only.

MKTG 451 - MARKET RESEARCH METHODS (4)
Introduction to collecting market information from secondary and primary sources. The focus of the class will be the systematic and objective planning, gathering, recording, and analyzing of information in order to develop and communicate recommendations for marketing and business strategies. Prerequisites: GBUS 263, MKTG 381.

MKTG 481 - PUBLIC RELATIONS (OR PREL 481) (4)
An overview of public relations from the perspectives of business and communication; includes history, theory, and hands-on examples. Covers the basics of public relations writing and analyses a firm's public relations in detail.

MKTG 486 - MARKETING FOR NOT-FOR-PROFITS (2)
An examination of the unique marketing needs of not-for-profit institutions and the application of various strategic marketing methods. Various segments of not-for-profit organizations will be the focus; fine arts, health care, education, social services or churches. Offered even years only.

MKTG 487 - MARKETING MANAGEMENT (4)
An application of and expansion upon principles covered in the basic marketing course. Emphasis is on the four themes of customer relationship management, technology/internet revolution, brand building, and global marketing. Prerequisite: MKTG 381.

MKTG 488 - GLOBAL MANAGEMENT AND MARKETING (OR MGMT 488) (4)
An analysis of organizational, operational, and marketing problems associated with managing a business in the global environment. Emphasis is placed on culture, laws, and business practices. Prerequisites: MGMT 371 and MKTG 381.

MKTG 494 - COOPERATIVE EDUCATION/INTERNSHIP (0 - 4)
Practical experience allowing application of classroom learning. Requirements include a minimum of 120 hours of documented work experience and a reaction paper. See the Cooperative Education information in the Nondepartmental section of the Bulletin. Prerequisite: Candidacy. Graded S or NC.

MUCT - COMPOSITION AND THEORY

MUCT 111 - INTRODUCTION TO MUSIC THEORY (2)
Study of the principles of notation and of basic scales, intervals and triads. Basic aural skills include recognition of diatonic intervals, triads, and elementary melodic dictation. Registration based on theory placement examination or advisement. 0 credit lab required. May not apply toward a music major or minor. Offered as needed.

MUCT 112 - INTRODUCTION TO MUSIC THEORY (2)
Study of all minor scales, chromatic intervals, and inverted triads. Aural skills include recognition of chromatic intervals, triads, and melodic dictation. Open to students who have not passed the theory placement examination or who need additional preparation before taking MUCT 121 Music Theory I. Prerequisite: MUCT 111 or permission of instructor. 0 credit lab required. May not apply toward a music major or minor. Offered as needed.

MUCT 121, 122, 123 - THEORY I (3, 3, 3)
Intensive study of traditional harmonic concepts up to and including secondary dominants. Includes improvisation and jazz harmony components. Corequisite: MUCT 131, 132, 133. Prerequisite: passing of an entrance examination.

MUCT 124 - MUSIC NOTATION LAB (1)
Introduction to computer music notation. This is a required laboratory that is to be taken in conjunction with MUCT 121, 122, or 123.

MUCT 131, 132, 133 - EAR TRAINING I (1, 1, 1)
Development of aural skills, including sight singing and ear training. Corequisite: MUCT 121, 122, 123.

MUCT 221, 222, 223 - THEORY II (3, 3, 3)
Study of music theory, emphasizing melodic and harmonic developments of the late nineteenth and twentieth centuries. Includes an improvisation component. Corequisite: MUCT 231, 232, 233. Prerequisites: MUCT 121, 122, 123, 124, 131, 132, 133.

MUCT 231, 232, 233 - EAR TRAINING II (1, 1, 1)
Development of aural skills, including sight singing and ear training. Corequisite: MUCT 221, 222, 223.

MUCT 335 - COMPOSITION (1 - 2; 6)
Study of the art of composing in the smaller forms; emphasizes twentieth-century techniques. Prerequisites: MUCT 221, 222, 223 and/or the permission of the instructor. Offered as needed.

MUCT 424 - FORM AND ANALYSIS (3)
Detailed study of musical structure. Prerequisites: MUCT 221, 222, 223 or permission of instructor.

MUCT 425 - ORCHESTRATION (3)
Practical consideration of the techniques, capabilities, and effective uses of orchestral instruments in various combinations; includes scoring for small and large combinations of instruments. Prerequisites: MUCT 424 or permission of instructor. Offered even years only.

MUCT 426 - COUNTERPOINT (3)
Study of the more intricate forms of contrapuntal writing such as motet, canon, and fugue. Prerequisites: MUCT 221, 222, 223 or permission of instructor. Offered odd years only.

MUCT 434 - ADVANCED COMPOSITION (1 - 3; 3)
Advanced composition in the larger forms. Prerequisite: MUCT 335 and/or permission of instructor. Offered as needed.

MUED - MUSIC EDUCATION

MUED 251, 252, 253 - SINGER'S DICTION (1, 1, 1)
Study of Italian, German, and French phonetics. Required of all voice majors. May be waived by demonstrated proficiency. Offered odd years only.

MUED 261, 262 - BRASS TECHNIQUES AND METHODS (1, 1)
Class instruction in the performance and teaching of brass instruments for music education students. Prerequisite: fundamental ability on at least one brass instrument and permission of instructor. Offered as needed.

MUED 271, 272 - WOODWIND TECHNIQUES AND METHODS (1, 1)
Class instruction in the performance and teaching of woodwind instruments for music education students. Prerequisite: fundamental ability on at least one woodwind instrument and permission of the instructor. Offered as needed.

MUED 281, 282 - STRING TECHNIQUES AND METHODS (1, 1)
Class instruction in the performance and teaching of string instruments for music education students. Prerequisite: fundamental ability on at least one string instrument and permission of the instructor. Offered as needed.

MUED 291, 292 - PERCUSSION TECHNIQUES AND METHODS (1, 1)
Class instruction in the performance and teaching of percussion instruments for music education students. Offered as needed.

MUED 324 - ORGAN PEDAGOGY AND LITERATURE (3)
Study in the teaching of organ, including a survey of materials, repertoire, and techniques. Offered as needed.

MUED 333, 334, 335 - PIANO PEDAGOGY AND LITERATURE (1, 1, 1)
Study of the teaching of piano, including a survey of materials, repertoire, and techniques. Offered as needed.

MUED 354 - VOCAL TECHNIQUES AND METHODS (3)
Study of vocal production and instruction, including a survey of materials. Offered as needed.

MUED 394 - MUSIC IN THE ELEMENTARY SCHOOL (3)
An overview of objectives, procedures, and materials in music education for kindergarten through grade eight. For elementary education majors only.

MUED 395 - ELEMENTARY SCHOOL MUSIC METHODS AND MATERIALS (3)
A comprehensive study of objectives, procedures, and materials in music education for kindergarten through grade eight. Prerequisite: For music majors and minors or permission of instructor. Offered even years only.

MUED 396 - SECONDARY MUSIC METHODS (3)
Study of objectives, procedures, and materials in music education for grades seven through twelve. By permission of the instructor only. Offered odd years only.

MUHL - MUSIC HISTORY AND LITERATURE

MUHL 124 - INTRODUCTION TO MUSIC (4)
An experiential survey course that focuses primarily on the Western European art music tradition and introduces the principal musical styles, genres, composers, and musicians. Explores the ways that music has both mirrored and shaped society, technology, and aesthetic values of its times. May not apply toward a music major.

MUHL 134 - WORLD MUSIC (4)
An overview of music from various traditions and cultures around the world, focusing on the settings, backgrounds, and meanings associated with these musical styles and genres. (Course fees apply.)

MUHL 321, 322, 323 - HISTORY OF MUSIC (4, 4, 4)
The history and literature of western music from antiquity through the twenty-first century. Prerequisites: MUCT 221, 222, 223; or permission of instructor. Required laboratory. Offered even years only.

MUHL 479 - DIRECTED RESEARCH/PROJECT (1 - 2; 6)
As approved by the faculty, an alternative to MUPF 487 Senior Recital (0 credit), and three of the six required upper-division applied music credits in the B.A. degree in music. The credits must be distributed over at least three quarters.

MUPF - MUSIC PERFORMANCE

ENSEMBLES

Membership in the performance groups listed below is by audition or by invitation. Students who participate in an ensemble are required to register for either 0 or 1 credit. Graded S or NC for 0 credit. Graded A-F for 1 credit. These classes may be repeated for additional credit. NOTE: The term "organization" is used in this bulletin to designate a primary departmental music ensemble that fulfills the organization requirement for music majors and minors. Primary music organizations are MUPF 215 University Singers, MUPF 255 Wind Symphony, and MUPF 266 Symphony Orchestra.

MUPF 215 - UNIVERSITY SINGERS (0-1)
A large choir that performs major choral works and sings for church services. (Course fees apply when taken for zero credit.)

MUPF 245 - I CANTORI (0-1)
A select touring choral group that performs sacred and secular repertoire as well as dramatic musical works from all eras. Participation in MUPF 215 University Singers required. (Course fees apply.)

MUPF 255 - WIND SYMPHONY (0-1)
A traditional concert band that performs locally on a quarterly basis and occasionally tours. (Course fees apply when taken for zero credit.)

MUPF 266 - SYMPHONY ORCHESTRA (0-1)
An organization that performs representative orchestral literature from the Baroque era to the present. (Course fees apply when taken for zero credit.)

MUPF 276 - ACCOMPANYING PRACTICUM (0-1)
Supervised accompanying activities, including discussion of ensemble and technique as appropriate. Prerequisite: MUPF 227 and permission of instructor.

MUPF 283 - BIG BAND (0-1)
A traditional big band, including vocalists, that performs a variety of musical styles including jazz and popular music. (Course fees apply when taken for zero credit.)

MUPF 284 - STEEL BAND (0-1)
A Caribbean style steel band that performs music representative of Caribbean, other world music styles, and classical music in sacred and secular contexts. (Course fees apply when taken for zero credit.)

MUPF 285 - ENSEMBLE (0-1)
Vocal or instrumental duos, trios, quartets, or larger groups under the direction of a music department faculty member. (Course fees apply when taken for zero credit.)

CONDUCTING COURSES

MUPF 361 - BASIC CONDUCTING (2)
Study of basic techniques and the art of conducting musical ensembles of all kinds. Offered even years only.

MUPF 362 - INSTRUMENTAL CONDUCTING TECHNIQUES AND MATERIALS (3)
Study of advanced techniques, rehearsal procedures, repertoire, program building, and administration. Prerequisite: MUPF 361 or permission of instructor. Offered even years only.

MUPF 363- CHORAL CONDUCTING TECHNIQUES AND MATERIALS (3)
Study of advanced techniques, rehearsal procedures, repertoire, program building, and administration. Prerequisite: MUPF 361 or permission of instructor. Offered even years only.

MUPF 365 - CONDUCTING PRACTICUM (1 - 3; 3)
Conducting activities and projects approved by a relevant conducting teacher in consultation with the department chair. Prerequisites: MUPF 361, 362, or 363 and permission of instructor.

PERFORMANCE STUDIES COURSES (MUSIC LESSONS)

One to four credit hours of performance studies may be earned each quarter. Nine 30-minute lessons per quarter and daily practice totaling five clock hours a week corresponds to one credit hour. Nine 60-minute lessons per quarter and daily practice will earn two to four hours of credit. May be repeated for additional credit.

MUPF 117 - CLASS INSTRUCTION (1)
Class instruction in general or special areas of interest. Offered as needed.

MUPF 127 - APPLIED MUSIC (1-2)
Introductory study in an instrument or voice. Subject to approval of music faculty, up to three hours may be used to satisfy requirements for the primary performance area in a music major or minor.

MUPF 217 - APPLIED MUSIC (1-2)
Study in an instrument or voice; satisfies credit requirements for minor performance studies. Prerequisite: approval of music faculty by examination.

MUPF 227 - APPLIED MUSIC (1-4)
Study in an instrument or voice; satisfies credit requirements for performance studies in the B.A. and B.Mus in Music Education degrees. Prerequisite: approval of music faculty by examination.

MUPF 237 - APPLIED MUSIC (1-4)
Study in instrument or voice; satisfies credit requirements for performance studies in the B.Mus. degree. Prerequisite approval of music faculty by examination.

MUPF 317 - APPLIED MUSIC (1-2)
Study in instrument or voice; satisfies credit requirements for minor performance studies. Prerequisites: MUPF 217 or 227 and approval of music faculty by examination.

MUPF 351 - ADVANCED KEYBOARD SKILLS (1)
Development of certain practical skills that keyboard players may be called upon to exhibit in professional life such as transposition, score reading, reading from a figured bass, and simple improvisation. Required of students pursuing a B.Mus. degree in keyboard performance. Prerequisite: permission of instructor.

MUPF 387 - JUNIOR RECITAL (0)
Preparation of repertoire for the junior recital in consultation with the student's applied lesson teacher. Required for the B.Mus in Music Performance. Graded S or NC.

MUPF 427 - APPLIED MUSIC (1-4)
Advanced study in an instrument or voice; satisfies credit requirements for major and minor performance studies in the B.A. degree and in the B.Mus. degree in Music Education. Prerequisites: MUPF 227, completion of piano proficiency requirements, and approval of music faculty through examination.

MUPF 437 - APPLIED MUSIC (1-4)
Study in an instrument or voice; satisfies credit requirements for performance studies in the B.Mus. degree in Music Performance. Prerequisites: MUPF 237, completion of piano proficiency requirements, and approval of music faculty by examination.

MUPF 486 - SENIOR RECITAL: MUSIC MINOR (0)
Preparation of repertoire for the senior recital in consultation with the student's applied lesson teacher. Fulfills requirements for the minor in music. Graded S or NC.

MUPF 487 - SENIOR RECITAL: MUSIC MAJOR (0)
Preparation of repertoire for the senior recital as required for the B.A., B.Mus. in Music Performance, and B.Mus. in Music Education degrees, in consultation with the student's applied lesson teacher. Graded S or NC.

NRSG - NURSING

NRSG 100 - DIRECTED NURSING STUDIES (1; 4)
Directed remedial studies for identified deficiencies. Graded S or NC. Credits do not apply toward graduation or the nursing major.

NRSG 101 - NURSING PERSPECTIVES I (1)
An overview of the scope of nursing practice and the Walla Walla University nursing admission requirements and curriculum. Designed to promote the academic success of nursing students and compare their goals and aptitudes to the career realities. Introduction to essential academic skills, stress management, communication, critical thinking and workplace skills for success in nursing education and practice. Provides a forum for support and discussion. Recommended for pre-nursing majors. Does not apply to the nursing major.

NRSG 102 - NURSING PERSPECTIVES II (1)
Exploration of career and service opportunities in nursing. Focused preparation for the nursing admission tests. Introduction to the nursing process and to additional vocabulary and skills which will foster success in nursing. Provides a forum for support and sharing for pre-nursing students. Recommended for pre-nursing majors. Does not apply to the nursing major.

NRSG 210 - INTRODUCTION TO NURSING (3)
Introduction to professional nursing practice, education, and health maintenance. Includes concepts on historical perspectives, current trends, human needs, nursing process, and lifestyle practices necessary to prevent illness. Provides basis for developing effective communication skills and helping relationships.

NRSG 211 - FUNDAMENTALS OF NURSING (4)
Emphasis on developing beginning and intermediate skills and knowledge of the nursing process; two credit hours of clinical lab included. Includes learning experiences in an adult acute or chronic health care facility. Prerequisites: BIOL 121, 122, 123. Prerequisites or corequisites: NRSG 210; PSYC 130. (Course fees apply.)

NRSG 212 - HEALTH ASSESSMENT AND THE NURSING PROCESS (4)
Emphasis on the nursing process and physical assessment of children and adults. Includes introduction to psychosocial, spiritual, developmental, and nutritional assessment. Includes learning experiences in a health care facility. Two credit hours of clinical lab included. Prerequisite: NRSG 211. (Course fees apply.)

NRSG 213 - PHARMACOLOGY IN NURSING (4)
Introduction to the major classifications of therapeutic drugs. Two credit hours of clinical experience includes the administration of drugs to clients in an acute care setting. Prerequisite: NRSG 211. Prerequisite or corequisite: NRSG 212. (Course fees apply.)

NRSG 233 - TOPICS IN NURSING (2)
Study of current topics of interest in professional nursing. May include papers or other projects. Graded S or NC. Offered as needed.

NRSG 234 - MEDICAL TERMINOLOGY (2)
Introduction to the medical terminology used in any health career. Study of the basic rules for building, analyzing and pronouncing medical words. Information about structure, function, anatomy, physiology, pathology, diagnostic tests and treatments is organized utilizing a body systems approach.

NRSG 235 - TOPICS IN NURSING (2)
Study of current topics of interest in professional nursing. May include papers, tests, or other projects. Offered as needed.

NRSG 290 - LPN VALIDATION (15)
Validation of prior nursing education for licensed practical nurses. Based on successful completion of a standardized examination, LPN's with a current license are granted 15 lower division nursing credits and are exempt from taking NRSG 210, 211, 212, and 213.

NRSG 291 - RN VALIDATION - PART I (15)
Validation of prior nursing education for registered nurses. Based on successful completion of validation testing, RN's with current license in the state of Oregon are granted 15 lower division nursing credits and are exempt from NRSG 210, 211, 212, and 213. NRSG 291 and NRSG 391 are both part of the same validation process.

NRSG 310 - TRANSITIONS (1)
Facilitates the transition of students who transfer into the nursing major at WWU as LPNs, RNs or transfer students from another nursing program. Focus is on processes and concepts unique to the WWU nursing curriculum and review of nursing skills necessary to make a successful transition into the program.

NRSG 321 - NURSING OF THE ACUTELY ILL ADULT (8)
Nursing care of adult clients experiencing alterations in cardiovascular, respiratory, genitourinary, gastrointestinal, gynecological, or biliary function in an acute care facility with emphasis on use of the nursing process. Four credit hours of clinical lab included. Prerequisite: NRSG 213. Prerequisite or Corequisite: NRSG 354. (Course fees apply.)

NRSG 325 - RESEARCH IN NURSING (4)
Research methods, principles and techniques as applied to nursing scientific inquiry. The research process is systematically introduced with emphasis on its support of evidence-based practice and quality improvement in nursing. Reading and critiquing current nursing and health related research is a central activity. Students are assisted in the development of a realistic research proposal. Prerequisites: MATH 206 or equivalent; ENGL 223.

NRSG 331 - MENTAL HEALTH NURSING (8)
Nursing care of clients experiencing alterations in psychosocial behavior. Focus is on the predisposing factors, assessment, and evidenced-based nursing care in collaboration with the interdisciplinary team. Four credit hours of clinical lab included. Prerequisite: NRSG 213. Prerequisite or Corequisite: NRSG 354. (Course fees apply.)

NRSG 344 - NURSING OF THE FAMILY (8)
Emphasis is on childbearing and childrearing with focus on the child from conception through adolescence. Application of concepts of growth and development of the child and family is included. Four credit hours of clinical lab includes hospital, community, and outpatient settings. Prerequisite: NRSG 213. Prerequisite or corequisite: NRSG 354; SOCI 324. (Course fees apply.)

NRSG 354 - PATHOPHYSIOLOGY (5)
Emphasizes understanding diseases of body systems and treatment as a basis for nursing assessment and intervention. Prerequisites: BIOL 121, 122, 123; BIOL 222; CHEM 101, 102; NRSG 213.

NRSG 391 - RN VALIDATION - PART II (32)
Validation of prior nursing education for registered nurses. Based on successful completion of validation testing, RN's with a current license in the state of Oregon are granted 32 upper division nursing credits and are exempt from NRSG 321, 331, 344, 354, and 450. NRSG 391 and NRSG 291 are both part of the same validation process.

NRSG 421 - NURSING OF THE CHRONICALLY ILL (8)
Nursing care of clients experiencing long term alterations in health. Emphasis on concepts related to chronic illness applied in a variety of clinical settings to clients of different ages. Four credit hours of clinical lab included. Prerequisites: NRSG 321, 325, 331, 344, 354. (Course fees apply.)

NRSG 431 - NURSING MANAGEMENT (3)
Principles of leadership and management applied to health care organizations and nursing. Prerequisites: NRSG 321, 331, 344, 354.

NRSG 433 - TOPICS IN NURSING (2)
Study of current topics of interest in professional nursing. May include papers or other projects. Graded S or NC. Offered as needed. (Course fees may apply.)

NRSG 435 - TOPICS IN NURSING (2)
Study of current topics of interest in professional nursing. May include papers, tests, or other projects. Offered as needed. (Course fees may apply.)

NRSG 437 - ADVANCED ACUTE NURSING (8)
Advanced nursing care of clients in an acute care setting who are experiencing complex multi-system health problems. Four hours of clinical lab included. Prerequisites: NRSG 321, 331, 344, 354. (Course fees apply.)

NRSG 441 - COMMUNITY HEALTH NURSING (8)
Study and application of nursing, public health, and organizational theories through use of the nursing process to communities, populations, and subpopulations at risk within the community. Health beliefs and special needs of groups from diverse cultures are explored. Four credit hours of clinical lab included. Prerequisites: NRSG 321, 325, 331, 344, 354. (Course fees apply.)

NRSG 445 - ISSUES AND TRENDS IN NURSING (3)
Discussion of issues and trends affecting the practice of professional nursing and health care delivery.

NRSG 450 - NCLEX REVIEW (3)
Provides a systematic review of nursing material for the NCLEX-RN using a nationally known instructional program. Includes practice on NCLEX style test questions. Designed to be taken during the last quarter of the senior year. (Course fees apply.)

NRSG 475 - INTERPRETING LAB VALUES (2)
Introduction for nurses to the basic interpretation of a variety of clinical laboratory studies and diagnostic tests within the framework of the nursing process. Prerequisites: 300 level nursing courses.

NRSG 490 - NURSING PRACTICUM (2 - 4)
Individual study arrangement involving students, faculty, and health care agencies to gain additional clinical experience in an area of special interest. Prerequisite: Senior standing with a WWU junior year GPA (nursing and non-nursing courses) of 3.25 or higher. Other limitations apply - see the School of Nursing Handbook for details. Only one practicum per student is allowed. Graded S or NC.

NRSG 494 - COOPERATIVE EDUCATION (0 - 4; 4)
Individual contract arrangement involving students, faculty, and cooperating health care agencies to gain practical nursing experience. Prerequisite: NRSG 213 and permission of the nursing faculty. Graded S or NC.

PEAC – PHYSICAL ACTIVITY

PEAC 107-190 PHYSICAL ACTIVITY COURSES (1)

*	PEAC 107	Lifeguard Training	PEAC	155	Acrobatic Gymnastics
	PEAC 113	Beginning Swimming	* PEAC	157	Backpacking
	PEAC 114	Intermediate Swimming	PEAC	159	Cycling
	PEAC 115	Wakeboarding/ Water Activities	* PEAC	161	Rock Climbing
	PEAC 120	Nautilus Training I	* § PEAC	164	Downhill Skiing/ Snowboarding
	PEAC 121	Nautilus Training II	PEAC	171	Basketball
	PEAC 122	Strength Training	PEAC	173	Flagball
	PEAC 123	Circuit Weight Training	PEAC	174	Soccer
	PEAC 127	Tumbling	PEAC	175	Softball
	PEAC 128	Jogging	PEAC	177	Volleyball
	PEAC 133	Aerobic Rhythm	§ PEAC	182	Athletics: Golf

§ PEAC 136 Ice Skating
PEAC 142 Badminton
* PEAC 144 Golf
PEAC 146 Tennis
PEAC 151 Racquetball
§ PEAC 183 Athletics: Soccer
§ PEAC 184 Athletics: Softball
§ PEAC 185 Athletics: Volleyball
§ PEAC 186 Athletics: Basketball
§ PEAC 190 Independent Activity

* Course fees apply. See the Financial Bulletin.

§ Graded S or NC

PETH - PHYSICAL EDUCATION THEORY

PETH 150, 151, 152 - COACHING SPORTS ACTIVITIES: (2, 2, 2)
Study of materials, methods, strategies and teaching progressions for coaching various sports activities; Autumn, flagball; Winter, basketball; Spring, volleyball. Offered even years.

PETH 205 - WATER SAFETY INSTRUCTOR'S COURSE (2)
Preparation for meeting the requirements of the National Red Cross Certificate to teach swimming and supervise swimming areas. Prerequisite: PEAC 107. (Course fees apply.)

PETH 214 - INTRODUCTION TO PHYSICAL EDUCATION AND RECREATION (2)
Introduction and orientation to the field of physical education; includes survey of the philosophy and objectives, as well as the professional opportunities and responsibilities, of the physical educator.

PETH 225 - PREVENTION OF INJURIES (2)
Methods of prevention, evaluation, recognition, and immediate care and rehabilitation of injuries. Lecture and laboratory. (Course fees apply.)

PETH 250, 251, 252 - COACHING SPORTS ACTIVITIES: (2, 2, 2)
Study of materials, methods, strategies and teaching progressions for coaching various sports activities. Autumn, soccer; Winter, gymnastics; Spring, golf/tennis. Offered odd years. (Course fees apply for PETH 252).

PETH 261, 262 - OFFICIATING OF SPORTS ACTIVITIES (2, 2)
Introduction to officiating in a variety of activities covered in the service areas; students are required to officiate in the intramural activities sponsored by the department. Lecture and laboratory.

PETH 278 - PROGRAMMING INTRAMURAL AND RECREATIONAL ACTIVITIES (2)
Study of the mechanics of programming the intramural and recreational activities in the school and community.

PETH 324 - ADAPTED PHYSICAL EDUCATION AND RECREATION (3)
Study of common abnormalities found in students which may be corrected or helped by proper exercise; considers extent and limitations of the teacher's responsibility in this phase of education. Lecture and laboratory.

PETH 325 - KINESIOLOGY (4)
Study of joint and muscular mechanism action of muscles involved in fundamental movements; effect of gravity and other forces on motion. Lecture and laboratory. Strongly recommended: BIOL 121, 122, 123.

PETH 350 - INTERNSHIP PLACEMENT ORIENTATION (OR HLTH 350) (0)
An internship placement orientation seminar intended to make students aware of agency possibilities, application and evaluation procedures, contracts and the internship learning process. Graded S or NC.

PETH 360 - ADVANCED PRINCIPLES OF COACHING (2)
Study of the principles and concepts of coaching sports activities. Topics include sport psychology, ethics, group dynamics, and leadership.

PETH 366 - COACHING PRACTICUM (1)
Directed coaching experiences and activities including scouting/player evaluation, practice planning, and event management. Prerequisite: PETH 360.

PETH 395 - TEACHING SECONDARY HEALTH AND PHYSICAL EDUCATION (3)
Study of the methods and techniques of teaching health and physical education in the secondary school, includes individual as well as group activities; students are required to observe and demonstrate in class. Offered even years only.

PETH 425 - MOTOR LEARNING (4)
Analysis of selected variables which influence the learning of motor skills; includes research methods in physical education. Requires a research paper. Lecture and laboratory. Prerequisite: MATH 206.

PETH 426 - PHYSIOLOGY OF EXERCISE (4)
Study of the physiological basis for motor fitness, factors limiting human performance in athletic competition, pertinent research from the sports medicine literature, and laboratory techniques used in analysis of motor fitness. Lecture and laboratory. Prerequisites: BIOL 121, 122, 123; PETH 323 or permission of instructor.

PETH 427 - FITNESS EVALUATION TECHNIQUES (OR HLTH 427) (3)
The primary focus is to develop and enhance the knowledge and practical skills in health and fitness evaluation. Specific emphasis will be directed toward evaluation techniques of exercise, physiology, nutrition, weight control, exercise programming, health appraisal and fitness, lecture and laboratory. Preparation for meeting ACSM Health/Fitness Instructor Certification. Prerequisites: BIOL 121, 122, 123 PETH 426 or permission of instructor.

PETH 473 - TEACHING ELEMENTARY HEALTH AND PHYSICAL EDUCATION (3)
Introduction to the planning of the curriculum in the elementary school and the organization of a balanced health and physical education program. Requires participation in the elementary school physical education program.

PETH 479 - DIRECTED RESEARCH/PROJECT (1 - 3; 6)
Additional research or study carried out under the direction of an assigned faculty member.

PETH 484 - ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION, AND RECREATION (3)
Study of the techniques of scheduling, organizing, and planning suitable activities; includes purchasing of supplies and equipment, planning and use of facilities, and comparative cost and budgeting for physical education and recreation programs.

PETH 490 - INTERNSHIP IN FITNESS MANAGEMENT (12)
Supervised field experience in an approved fitness agency. Practical experience and application of responsibilities necessary for practicing fitness management. Prerequisite: Senior standing or departmental approval.

PETH 493 - HISTORY AND PHILOSOPHY OF PHYSICAL EDUCATION (3)
Study of Physical Education and Recreation from earliest times to the present. Emphasis on the social and religious conditions which determine the character of physical education in a given society. Offered odd years only.

PETH 494 - COOPERATIVE EDUCATION (0 - 4)
Individual contract arrangement involving students, faculty, and cooperating businesses, schools or agencies to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department.

PETH 496 - SEMINAR (1)
Presentation and discussion of current topics in Health and Physical Education. Prerequisite: Senior standing in Physical Education or permission of instructor.

PHIL - PHILOSOPHY

PHIL 204 - ESSENTIALS OF CRITICAL REASONING (4)
Concepts and procedures basic to effective thinking including an introduction to the nature of formal argumentation, with practice constructing logically sound arguments as well as analyzing those of others. Prerequisite: ENGL 121, 122, or permission of instructor.

PHIL 205 - INTRODUCTION TO PHILOSOPHY (4)
Selected writings from classical and contemporary philosophy.

PHIL 305 - MORAL PHILOSOPHY (4)
Examines the relativist, objectivist, and absolutist moral theories of classical and contemporary philosophers. Prerequisites: PHIL 205 or permission of the instructor.

PHIL 316 - HISTORY OF PHILOSOPHY I: ANCIENT (OR HIST 316) (4)
Major philosophers and philosophical movements from the sixth century BC to the fifth century AD. Prerequisites: PHIL 204 or 205, or permission of instructor. Offered odd years only.

PHIL 317 - HISTORY OF PHILOSOPHY II: MEDIEVAL-EARLY MODERN (OR HIST 317) (4)
Major philosophers and philosophical movements from the 6th through the 17th centuries. Prerequisites: PHIL 204 or 205, or permission of instructor. Offered odd years only.

PHIL 318 - HISTORY OF PHILOSOPHY III: 18TH CENTURY TO THE PRESENT (OR HIST 318) (4)
Major philosophers and philosophical movements from the seventeenth century through the present. Prerequisite: PHIL 204 or 205, or permission of instructor. Offered even years only.

PHIL 407 - PHILOSOPHY OF SCIENCE (4)
Contemporary issues in the philosophy of science. These include identifying a scientific theory, distinguishing science from pseudoscience, and considering the scope and limits of scientific knowledge as well as science's relationship with religion.

PHIL 410 - PHILOSOPHY OF EDUCATION (OR EDUC 410) (3)
Study of educational thought and practice from a philosophical perspective: the aims, principles, and theories of education, with special reference to Christian schools.

PHIL 412 - PHILOSOPHY OF RELIGION (OR RELT 412) (4)
Study of religious thought and practice from a philosophical perspective; considers the arguments for the existence of God, the relationship of faith and reason, the use of religious language, and the problem of evil. See the History and Philosophy section of this bulletin.

PHIL 496 - SEMINAR (4)
In-depth study of specific areas of philosophical research. Prerequisite: PHIL 205.

PHTO - PHOTOGRAPHY

PHTO 156 - PRINCIPLES OF PHOTOGRAPHY (3)
Introduction to universal, creative photographic concepts. Study of color and composition emphasized. Students will learn to control camera settings to match pre-visualized image. Emphasis on natural light photography. Operational six mega-pixel or greater digital camera required. Some rental cameras available. Two lectures and one laboratory per week. (Course fees apply.)

PHTO 255 - FILM PHOTOGRAPHY (3)
Creative exploration of film based photographic processes while building technical and aesthetic skills. Includes film and paper selection, selective coloration, retouching, archiving and finishing through chemical toning and other techniques. Two lectures and one lab per week. Working 35mm film SLR camera required. Rental cameras available. Offered odd years only. (Course fees apply.)

PHTO 256 - INTERMEDIATE DIGITAL PHOTOGRAPHY (3)
Various practices of creating quality images with a digital camera. Digital camera selection and use, processing RAW images and editing will be covered. Common practices for storing and retrieval, using images in different media and digital manipulation. Application of technique of "seeing" the image before capturing it. Making the proper adjustments for composition, lighting, and camera settings to achieve the desired results. On-camera and studio flash use are also covered. DSLR camera required. Rental cameras available. Prerequisite: PHTO 156. Offered even years only. (Course fees apply).

PHTO 355 - ADVANCED PHOTOGRAPHY (4)
Advanced photographic techniques for silver-based and digital systems. Includes lighting, chemistry, photo accessories, printing, and processing of chromatic and monochromatic mediums. Emphasizes preparation and editing for presentation and publication. Two lectures and one laboratory per week. Prerequisite: PHTO 255. Offered even years only. (Course feels apply.)

PHTO 356 - ADVANCED DIGITAL PHOTOGRAPHY (4)
Advanced photographic techniques for digital systems. Includes lighting, photo accessories, and printing gallery-quality images. Emphasizes preparation and editing for presentation and publication of a themed project. Two lectures and one laboratory per week. Prerequisite: PHTO 156 and GRPH 235. Offered even years only. (Course fees apply.)

PHTO 358 - PHOTOGRAPHIC ASSIGNMENTS (1 - 2; 3)
Individualized digital or traditional assignments, chosen in consultation with a graphics professor. Emphasis on work for commercial client, publication or public presentation. Prerequisite: PHTO 156.

PHTO 456 - DIGITAL PHOTOGRAPHY AND IMAGING FOR EDUCATORS (2)
Covers basics of photography, imaging technology, compositional shooting practices, and technical aspects of digital photography. Emphasizing skills appropriate for elementary and secondary classes. Includes processing, filing, sizing, printing, and electronic distribution of images. Credit will not be allowed for both PHTO 256 and PHTO 456. Offered summer quarter only. (Course fees apply.)

PHYS - PHYSICS

PHYS 251, PHYS 252, PHYS 253 or equivalent and MATH 281, MATH 282, MATH 283 are prerequisites for all courses numbered PHYS 300 or above except PHYS 395.

PHYS 201, 202 - CONCEPTUAL PHYSICS (3, 3)
Investigation, explanation, and understanding of the natural world using the ideas and concepts of physics. Topics include mechanics, properties of matter, heat, sound, electricity and magnetism, light, atomic and nuclear physics, relativity, and astrophysics. Does not apply towards a major or minor. Corequisites: PHYS 204, 205

PHYS 204, 205 - CONCEPTUAL PHYSICS LABORATORY (1, 1)
Laboratory work integrated with PHYS 201, 202. Does not apply towards a major or minor. (Course fees apply.)

PHYS 211, 212, 213 - GENERAL PHYSICS (3, 3, 3)
Introduction to mechanics, heat, sound, light, electricity, atomic and nuclear physics, elementary particles, quantum mechanics, and special relativity; designed primarily for non-physics majors to acquaint them with the ideas and methods of physics for possible application to problems in other areas of human endeavor. Prerequisites: MATH 121, 122 or equivalent. Must be taken in sequence. Corequisites: PHYS 214, 215, 216.

PHYS 214, 215, 216 - GENERAL PHYSICS LABORATORY (1, 1, 1)
Laboratory work integrated with PHYS 211, 212, 213. (Course fees apply.)

PHYS 251, 252, 253 - PRINCIPLES OF PHYSICS (3, 3, 3)
Introduction to mechanics, relativity, thermodynamics, electromagnetism, wave motion, and optics; designed to provide the science and engineering major with an intuitive and a mathematical understanding of fundamental physical concepts. Must be taken in sequence. Prerequisites: MATH 181, 281. Corequisites: PHYS 254, 255, 256; MATH 282, 283.

PHYS 254, 255, 256 - PRINCIPLES OF PHYSICS LABORATORY (1, 1, 1)
Experimental exploration and study of the fundamental concepts of physics integrated with PHYS 251, 252, 253. (Course fees apply.)

PHYS 310 - MODERN PHYSICS I (3)
Study of the basic principles of quantum theory and their application to atomic and molecular properties. Corequisites: PHYS 314.

PHYS 311 - MODERN PHYSICS II (3)
Study of special relativity, elementary particles, nuclei and the solid state. Prerequisites: PHYS 310; MATH 315. Corequisite: PHYS 416 recommended. Offered odd years only.

PHYS 312 - PHYSICAL ELECTRONICS (OR ENGR 312) (3)
Study of the physical principles of solid state electronics devices. Prerequisites: MATH 283, PHYS 253, PHYS 310. Corequisite: PHYS 315.

PHYS 313 - THERMODYNAMICS (4)
Study of thermodynamics and elementary statistical mechanics. Systems containing very large numbers of particles are discussed, bridging the gap between the microscopic and macroscopic description of such systems. Heat, temperature, and pressure are covered and related to the motions and energies of individual atoms. Irreversible processes and their implications are also covered. Prerequisite: PHYS 310.

PHYS 314 - MODERN PHYSICS LABORATORY I (1)
Laboratory activities integrated with PHYS 310 Modern Physics. Corequisite: PHYS 310.

PHYS 315 - PHYSICAL ELECTRONICS LABORATORY (OR ENGR 315) (1)
Experimental study of the physical principles of solid state electronics devices. Corequisite: PHYS 312.

PHYS 316 - MODERN PHYSICS LABORATORY II (1)
Laboratory activities integrated with PHYS 311 Modern Physics. Corequisite: PHYS 311. Offered odd years only.

PHYS 321 - MODERN OPTICS I (3)
Study of optical phenomena and its technological applications beginning with their basis in Maxwell's equations. Includes the phenomena of reflection, refraction, dispersion, diffraction, interference, coherence, polarization, scattering, and their role in the operation of modern devices. Corequisite: PHYS 326. Offered odd years.

PHYS 325 - MODERN OPTICS II (3)
Continuation of the study of light and matter. Non-linear effects in materials, lasers, and device applications in fiber optics and photonics. Prerequisite: PHYS 321 or permission of instructor. Corequisite: PHYS 327. Offered odd years.

PHYS 326 - MODERN OPTICS LABORATORY I (1)
Laboratory work integrated with the topics of PHYS 321. Corequisite: PHYS 321. Offered odd years.

PHYS 327 - MODERN OPTICS LABORATORY II (1)
Laboratory work integrated with the topics of PHYS 325. Corequisite: PHYS 325. Offered odd years.

PHYS 331 - INTRODUCTION TO NANOTECHNOLOGY (3)
Covers material properties and technology at the nanoscale. Applications involving material science, optical and semiconductor technology, and organic materials are introduced. This course is designed to complement PHYS 312 Physical Electronics and PHYS 321, PHYS 325 Modern Optics. Corequisite PHYS 332. Offered odd years.

PHYS 332 - INTRODUCTION TO NANOTECHNOLOGY LABORATORY (1)
Laboratory work integrated with the topics of PHYS 331 emphasizing current industrial technologies. Corequisite: PHYS 331. Offered odd years.

PHYS 340 - INTRODUCTION TO MATLAB AND MATHEMATICA (2)
An introduction to two of the prevailing computing tools used in physics, engineering, and other disciplines. One class and one lab per week. Offered odd years only.

PHYS 401, 402 - ELECTRICITY AND MAGNETISM (4, 4)
Study of electric and magnetic field theory, polarization, magnetization, solutions to the equations of Laplace and Poisson, Maxwell's equations, applications to plane waves, and dipole radiation. Offered even years.

PHYS 414 - EXPERIMENTAL PHYSICS I (1)
An introduction to the tools of modern experimental physics. Topics include instrumentation, data acquisition techniques and computer interfacing. Offered odd years.

PHYS 415 - EXPERIMENTAL PHYSICS II (1)
Study of experimental methods in physics. Topics include physical measurement, experiment design and data analysis. Experiments in classical and modern physics will be performed. A term project is required. Offered odd years.

PHYS 419 - GRADUATE REVIEW (1)
An integrated review of the main concepts and problems of lower and upper-division physics. The review prepares students for taking the Physics Subject Test of the Graduate Record Exam during their senior year.

PHYS 420, 421 - CLASSICAL MECHANICS (3, 3)
Study of kinematics and dynamics of particles and rigid bodies, harmonic and orbital motion, using the methods of Newton, Lagrange, and Hamilton. Offered even years.

PHYS 422, 423 - QUANTUM MECHANICS (3, 3)
Study of the experimental and theoretical foundations of modern atomic and sub-atomic physics. Topics include wave mechanics, matrix mechanics, perturbation theory, and particle physics. Prerequisite: PHYS 420. Offered odd years.

PHYS 431, 432 - MATHEMATICAL PHYSICS (OR MATH 431, 432) (3, 3)
In-depth study of the mathematical foundations of physics and their applications to physical problems. Particular attention is paid to the theory of linear vector spaces in developing tensor analysis group theory and Hilbert Space theory. This course is recommended for students planning to attend graduate school in physics, or having a strong interest in the applications of mathematics to the physical world. Offered odd years only.

PHYS 470 - BIOPHYSICS (OR BIOL 470) (4)
Study of the structure and function of biological systems from the perspective of the physical sciences. Prerequisites: BIOL 143; PHYS 213 or PHYS 253; MATH 123 or MATH 181 or permission of instructor.

PHYS 494 - COOPERATIVE EDUCATION (0)
Individual contract arrangement between a cooperating employer and a student which provides the student with practical experience in an off-campus setting. Graded S or NC. Prerequisites: CDEV 210 or equivalent, completion of at least ten credit hours of upper division physics courses, and departmental approval.

PLSC - POLITICAL SCIENCE

PLSC 224 - AMERICAN GOVERNMENT (4)
The principles, organization, and development of American national, state, and local government.

PREL - PUBLIC RELATIONS

PREL 333 - STRATEGIES FOR FUNDRAISING (OR MKTG 333) (4)
Study of the philosophy, role, organization, and strategies of institutional development and fund raising. Includes consideration of annual funds, capital campaigns, special events, and direct mail. Offered even years only.

PREL 350 - WRITING FOR PUBLIC RELATIONS (3)
An application of news writing and public relations principles in the nonprofit sector. Course includes preparing press releases and in-depth analysis of public information strategies, crisis management, and special event planning and press relations. Prerequisite: JOUR 245.

PREL 481 - PUBLIC RELATIONS (OR MKTG 481) (4)
An overview of public relations from the perspectives of business and communication; includes history, theory, and hands-on examples. Covers the basics of public relations writing and analyses a firm's public relations in detail.

PSYC - PSYCHOLOGY

PSYC 120 - INTRODUCTION TO THE PSYCHOLOGY MAJOR (0)
A required seminar offering practical information regarding taking Psychology as a major. Topics include possible career options, strategies to excel as a major, and tips for professional conduct. Graded S or NC.

PSYC 130 - GENERAL PSYCHOLOGY (4)
Survey emphasizing the scientific bases of psychological investigation. Introduction to the fundamental vocabulary, methodologies, established facts, and sound principles of psychology.

PSYC 140 - INTRODUCTION TO PSYCHOLOGY: SOCIAL FOUNDATIONS (4)
The study of human behavior, focusing on the social aspects. Includes the scientific bases of psychological investigation as well as an introduction to the social processes that influence both normal and abnormal behavior. Topics such as social influence, individual differences, personality, behavior disorders and therapy will be addressed. Corequisite: PSYC 120.

PSYC 141 - INTRODUCTION TO PSYCHOLOGY: BIOLOGICAL FOUNDATIONS (4)
The study of human behavior, focusing on the biological aspects. Includes the scientific bases of psychological investigation as well as an introduction to biological processes that influence both normal and abnormal behavior. Topics such as learning and cognitive processes, sensation and perception, human development, and schizophrenia and depression will be addressed. Prerequisite: PSYC 120 or permission of instructor.

PSYC 215 - CHILD AND ADOLESCENT DEVELOPMENT (4)
Life from prenatal through adolescent years. Emphasis is placed on the emotional, social, physical, motor, and psychological development of the individual.

PSYC 216 - ADULT DEVELOPMENT AND AGING (3)
Current methods and theories relating to psychological development, maturity, and decline as evidenced during the adolescent, youth, middle age, and retirement years.

PSYC 220 - EDUCATIONAL PSYCHOLOGY (3)
Study of current research in human development, individual differences, learning, cognition, and motivation, with particular reference to elementary and secondary classrooms; emphasis placed on the application of theory to teacher decision-making and problem-solving. This course will not apply toward a psychology major. Prerequisite: permission of instructor.

PSYC 225 - MARRIAGE AND FAMILY LIFE (OR SOCI 225) (2)
Study of the physical, economic, and psychological adjustments necessary for happy marriage and parenthood; stresses Christian philosophy and principles; staff members and guest speakers will lecture and lead discussions.

PSYC 247 - INTRODUCTION TO FORENSIC PSYCHOLOGY (4)
This course is designed to introduce the student to forensic psychology in a social psychology context. It includes interactive components of law and law enforcement, an exploration of the criminal mind, investigation techniques, eyewitnesses and criminal profiling. Offered even years only.

PSYC 266 - LEARNING AND BEHAVIOR (3)
Basic learning phenomena in animals and humans, including classical and operant conditioning and more complex learning. The application of these phenomena in human and animal behavior change is also addressed. Emphasis will be placed on behavioral approaches. Prerequisite: PSYC 130 or PSYC 140 and 141. Offered even years only.

PSYC 344 - SOCIAL PSYCHOLOGY (4)
The dynamics of social interaction and interpersonal behavior with application to contemporary society. Prerequisite: PSYC 130 or PSYC 140 and 141 or permission of instructor.

PSYC 350 - LANGUAGE DEVELOPMENT IN YOUNG CHILDREN (OR EDUC 350) (3)
Study of current research-based theories, methods, and strategies needed to effectively teach and support early literacy from birth through beginning reading. Prerequisite: PSYC 215. Practicum required.

PSYC 366 - THEORIES OF PERSONALITY (4)
A survey of the principal theories of personality with attention to the experimental methods and findings on which they are based, as well as their applications in everyday life. Prerequisite: PSYC 130 or PSYC 140 and 141.

PSYC 370 - HEALTH PSYCHOLOGY (OR HLTH 370) (3)
The study of learning, motivation, and psychological theories as related to health decisions and practices. Topics include the psychology of addictive behavior, behavioral health, and the relationship between stressful life events, social support, and wellness.

PSYC 373 - ORGANIZATIONAL BEHAVIOR (OR MGMT 373) (4)
The study of the behavior of individuals and groups in organizations with emphasis on the implications for organizational design and management practice. Topics include motivation, leadership, decision-making, organizational culture, power, and conflict. Recommended: MGMT 371.

PSYC 390 - COGNITIVE PSYCHOLOGY (4)
Theories and methods in the study of mental processes such as attention, pattern recognition, comprehension, memory, knowledge representation, and problem solving. Connections to neuroscience and applications to information science are also explored.

PSYC 425 - PSYCHOLOGY OF RELIGION (OR RELH 425) (3)
Interpretation of religious behavior and motivation from psychological perspectives.

PSYC 430 - PSYCHOLOGICAL TESTING (3)
Principles of test selection, administration, and interpretation; consideration of the contributions and limitations of major types of standardized tests and inventories used in the behavioral sciences. Prerequisites: PSYC 130 or PSYC 140 and 141, MATH 206, and permission of instructor.

PSYC 434 - PERSPECTIVES IN PSYCHOLOGY (1 -3; 6)
Current theory and practice in psychology. Elective credit.

PSYC 437 – DEATH AND DYING (OR SOCI, SOWK 437) (3)
Study of the process of death and dying from four distinct perspectives: cultural, social, personal, and professional.

PSYC 447 - ADVANCED FORENSIC PSYCHOLOGY (4)
An advanced course in selected topics in forensic psychology, criminal justice, and criminology. This course focuses on the application and practice of psychology in the areas of police and investigative psychology, family forensic psychology, psychology of crime and delinquency, consulting and correctional psychology. Prerequisite: PSYC 247 or permission of instructor. Offered even years only.

PSYC 455 - HISTORY AND SYSTEMS OF PSYCHOLOGY (4)
Historical development of the various systems and theories of psychology. Prerequisite: PSYC 130 or PSYC 140 and 141.

PSYC 464 - INTRODUCTION TO COUNSELING (4)
A systematic, comprehensive, and balanced survey of the leading counseling approaches, including an analysis of each system's perspective on personality, abnormal behavior, clinical methods, and the helping relationship. Course is designed for all those interested in the helping professions. Prerequisite: PSYC 130 or PSYC 140 and 141.

PSYC 466 - BIOLOGICAL PSYCHOLOGY (4)
The study of the physiological, developmental and functional explanations of behavior. This includes sensory and motor mechanisms, as well as motivated behaviors, learning, memory and language. The biological basis for mental disorders and the behavioral effects of brain damage are also addressed. Prerequisites: PSYC 130 or PSYC 140 and 141, BIOL 141 or 121, or permission of instructor.

PSYC 471 - RESEARCH METHODS I: DESIGN AND STATISTICS (2)
Study of qualitative and quantitative research design and interpretation of statistics in psychology. Prerequisites: PSYC 140, PSYC 141, MATH 206 or equivalent. Juniors or seniors only.

PSYC 472 - RESEARCH METHODS II: PROJECT DEVELOPMENT (2)
The development of a research project in psychology. Includes the review of literature, proposal development, human subjects review, and ethical approval. Prerequisite: PSYC 471.

PSYC 473 - RESEARCH METHODS III: RESEARCH PROJECT (2)
Execution of the research proposal accepted in PSYC 472. Prerequisite: PSYC 472 and permission of instructor.

PSYC 478 - APPLIED PSYCHOLOGICAL RESEARCH (1 - 3; 4)
The student will work with a departmental adviser on research activities such as literature search, preliminary experiments, data collection, data transcription, or data analysis. Prerequisite or Corequisite: PSYC 471. Graded S or NC.

PSYC 489 - CAREER COUNSELING THEORIES (3)
Theories of career and lifestyle development, counseling approaches, ethical issues, and applications to the diversity of work settings are covered. The changing roles of women and men, dual career families and life-span changes in career are addressed. Offered odd years only.

PSYC 492 - ABNORMAL PSYCHOLOGY (4)
An overview of the major categories of abnormal behavior, including clinical description and classification, as well as recent research on etiology and approaches to treatment. Prerequisites: PSYC 130 or PSYC 140 and 141; PSYC 366.

PSYC 493 - PSYCHOLOGY PRACTICUM (1 - 3; 3)
A volunteer experience utilizing psychological skills structured by the student in conjunction with his/her adviser in a community agency. A weekly requirement of three hours in a social service agency which provides the student with a field experience in a local setting. This course is not designed to provide expertise, but simply to introduce students to the complexity and subtlety of applied problems and begin the process of informing them of the theory and methods which psychologists use. A written contract and short final report are required. Prerequisite: Senior status and permission of instructor. Graded S or NC.

PSYC 494 - COOPERATIVE EDUCACTION (0 - 4)
Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by the School of Education and Psychology.

PSYC 495 - COLLOQUIUM: ORIENTATION TO CAREER AND GRADUATE SCHOOL (0)
An overview of career and graduate school options available to psychology majors. A review of typical graduate school and employment prerequisites and application procedures.

PSYC 496 - SEMINAR (2 - 3; 6)
In-depth examination of a specific topic in psychology. Topics may include motivation, sensation and perception, mental health, human sexuality, etc. Prerequisite: Upper-division major/minor in psychology or permission of instructor.

PSYC 498 - SENIOR PROJECT IN PSYCHOLOGY (2)
Planning and developing a significant project in undergraduate psychology that focuses on the development of some socially useful program or training. A formal report and/or public presentation is required upon conclusion. Prerequisite: PSYC 473 or permission of the instructor.

PSYC 499 - SENIOR THESIS IN PSYCHOLOGY (2)
An original independent research study in psychology. May be based on research completed in PSYC 473. Must be presented to peers and submitted for presentation at a scientific meeting. Prerequisite: PSYC 473 or permission of the instructor. Graded S or NC.

RDNG - READING

RDNG 100 - DEVELOPMENTAL READING (2; 6)
Individualized instruction in reading, including comprehension, vocabulary, speed, and study skills essential for success in college studies. This course may be taken for up to six quarter hours during three quarters with materials being chosen to suit the individual's progress. Credit does not apply toward graduation.

RDNG 191 - ANALYTICAL READING SKILLS (2)
Study of advanced vocabulary, with emphasis on the student's major field, critical reading and review writing, speed, and specialized study skills.

RELB - BIBLICAL STUDIES

RELB classes that fall into the 300 range are focused on the Old Testament while RELB classes in the 400 range are New Testament.

RELB 104 - THE MINISTRY OF JESUS (4)
Survey of Christ's life in its historical setting as a basis for determining Christian action. Not open to students with senior standing.

RELB 105 - THE SERMON ON THE MOUNT (2)
Study of the Sermon on the Mount as it relates to the needs of the Christian. Not open to students with senior standing.

RELB 106 - THE PARABLES OF JESUS (2)
Exegetical study of Jesus' parables; considers literary structure, historical context, and relevance for today. Not open to students with senior standing.

RELB 111 - MESSAGES OF THE OLD TESTAMENT (4)
Survey of basic themes of the Old Testament. Not open to students with senior standing.

RELB 231 - EXPLORING THE NEW TESTAMENT (4)
An introduction to the New Testament Scriptures and the faith of the earliest Christians. The course will focus on Jewish and Greco-Roman background, the nature and message of the gospels, the life and ministry of Jesus and the ministry and theology of Paul, and the later developments that transformed the church from a first-century Jewish sect into a separate movement that spread around the world.

RELB 301 - OLD TESTAMENT HISTORY (3)
Study of the historical framework in which the religion of Israel developed; considers dominant events and trends in God's saving relationship to His covenant people.

RELB 302 - PENTATEUCH (4)
Exegetical examination of significant passages in the first section of the Hebrew Bible (Old Testament); considers the historical setting, authorship, time, circumstance of writing, and other literary and theological questions.

RELB 303 - OLD TESTAMENT PSALMS, STORIES, AND WISDOM (3)
Introduction to the third section of the Hebrew Bible; considers authorship, the time and circumstance of writing, and other literary and theological questions.

RELB 304 - HEBREW PROPHETS (4)
A study of the ministry and messages of selected pre-exilic, exilic and post-exilic prophets in Israel including consideration of their relevance for today.

RELB 312 - DANIEL AND JEREMIAH (4)
An exegetical study of selected passages from the prophetic books of Daniel and Jeremiah within their historical and literary contexts with special attention to their significance for Christian Eschatology.

RELB 333 - BIBLICAL PERSPECTIVES ON HEALING (4)
A survey of the various ways biblical writers describe restoration to wholeness of life and of how these biblical views have been understood in prominent Christian traditions down to modern times. Offered on Portland campus. Offered as needed.

RELB 406 - THE BIBLE AND ITS TRANSLATIONS (2)
Survey of the history of the Bible from the earliest manuscripts through the science of textual criticism to a comparison of the numerous English versions currently available.

RELB 413 - REVELATION (3 - 4)
An exegetical study of the book of Revelation within its historical context, with special attention to its significance for Christian Eschatology. College Place campus – 3 credit hours; Portland campus – 4 credit hours.

RELB 421 - INTERPRETING THE BIBLE (4)
Introduction to different approaches to interpreting the Bible and to the procedures and resources for exegesis of biblical texts with a focus on literary forms. Prerequisite: Complete at least one upper-division RELB course.

RELB 437 - JESUS AND THE GOSPELS (4)
An examination of the gospels, attending to the background and purpose, literary composition, theology, ethics, and relevance to contemporary issues and life.

RELB 439 - LUKE-ACTS (4)
An examination of the Gospel of Luke and of Acts with attention to background and purpose, literary composition, theology, ethics, the development of early Christianity, and relevance to contemporary issues.

RELB 441 - SCRIBES, MANUSCRIPTS, AND THE NEW TESTAMENT (2)
An introduction to the history and present development of the text of the New Testament, including how ancient manuscripts illuminate the social history of early Christianity. Topics include the formation of the Gospels, development of the New Testament canon, the spread of Christianity, doctrinal disputes, the oppression of women, Jewish-Christian relations, as well as differences between modern Bible translations. Credit will not be allowed for both GREK 341 and RELB 341.

RELB 454 - LITERATURE OF THE BIBLE (OR ENGL 454) (4)
Study of biblical poetry and prose from a literary perspective. Prerequisite: general studies literature or ENGL 234.

RELB 462 - PAUL AND THE GOSPEL (4)
An examination of I and II Thessalonians, I and II Corinthians, Galatians, and Romans with attention to background and purpose, literary composition, theology, ethics, and relevance to contemporary issues and life.

RELB 467 - CONFLICT AND HOPE IN THE LATER NEW TESTAMENT LETTERS (4)
An examination of Paul's prison and pastoral letters and of the general letters of the New Testament with attention to background and purpose, literary composition, theology, ethics, and relevance to contemporary issues and life.

RELB 474 - STUDY TOUR: THE HOLY LANDS AND ITS PEOPLES (4)
An examination of the cultural, historical, geographical, and theological dimensions of the Old and New Testament scriptures in conjunction with the Bible Lands Study Tour. Primary attention is given to the teachings of the Old and New Testaments and the significance these scriptures continue to have within Judaism, Christianity, and Islam. Offered odd years during the summer.

RELH - RELIGIOUS HISTORY

RELH 205 - BIBLICAL ARCHAEOLOGY (4)
Introduction to the science of archaeology with particular attention to those discoveries which bear on the interpretation of the Biblical text.

RELH 303 - WORLD RELIGIONS (4)
Introduction to the greater religions of mankind, such as Hinduism, Buddhism, Confucianism, Shintoism, Islam, and Christianity; considers the historical setting out of which these religions arose, their founders, their basic teachings and rituals, their conceptions of God and mankind, as well as their influence on cultural development.

RELH 425 - PSYCHOLOGY OF RELIGION (OR PSYC 425) (3)
Interpretation of religious behavior and motivation from psychological perspectives.

RELH 455 - EARLY CHURCH HISTORY (3)
Study of the rise of Christianity with emphasis on the development of theological concepts. Prerequisite: ENGL 224 or permission of instructor.

RELH 456 - MEDIEVAL AND EARLY MODERN CHRISTIANITY (OR HIST 456) (4)
History of Christianity from the Council of Chalcedon through the Enlightenment, with an emphasis on the Lutheran and Calvinist Reformations, 400-1776. Prerequisite: HIST 121 or RELH 455, or permission of instructor.

RELH 457 - HISTORY OF ADVENTISM (3)
Study of the rise and development of the Seventh-day Adventist denomination.

RELH 490 - ARCHAEOLOGICAL FIELDWORK (0 - 4)
Participation in an archaeological expedition. Involves all aspects of dig life - stratigraphic excavation employing the most up-to-date methodologies, careful recording and analysis of data in consultation with experts from a wide range of disciplines. Prerequisites: RELH 205 or permission of instructor. Application to the School of Theology is required by March 1 of the year the course is taken. Offered summers of even years.

RELI – MINISTRY AND EVANGELISM

RELI 255 - BIBLE STUDY FOR PERSONAL EVANGELISM (4)
Study and practice of Bible knowledge and skills to prepare students to give Bible studies in evangelistic settings. Open to SOULS Northwest students only.

RELI 425 - BIBLE WORKER MINISTRY (3)
A study of the knowledge and skills necessary for Bible work coordination in local church settings with a major focus on practical skills. Required for all SOULS Northwest students. Open to others as space allows.

RELM - MISSIONS

RELM 233 - INTRODUCTION TO CROSS-CULTURAL MINISTRY (3)
Study of the major issues involved in communicating Christianity in other cultures with the aim of preparing the student for actual field work. This prerequisite for student missionaries is also open to other interested students.

RELP - PROFESSIONAL

RELP 131 - INTRODUCTION TO FAITH AND MINISTRY (4)
Exploration of personal faith and pastoral ministry focusing on spiritual growth, the call to pastoral ministry, the scope of pastoral ministry, and Seventh-day Adventist doctrines. The course includes a required weekend retreat. Open only to theology and religion majors. Not open to students with senior standing. (Course fees apply).

RELP 236 - CHURCH WORSHIP (2)
A study and application of the theology and choreography of worship. Open only to theology and religion majors. Prerequisite: RELP 131. (Course fees apply.)

RELP 336 - CHURCH AND PERSONAL MINISTRY (4)
A study of the skills needed for personal and public ministry, including pastoral visitation and counseling, and various forms of evangelism. Combines theory and practice on how to minister to people of both genders and all age groups in church and community. Open only to theology and religion majors. Prerequisites: RELP 131, RELB 132, RELT 133.

RELP 338 - CHURCH LEADERSHIP (3)
Study of the theological and psychological principles of leadership applied to the church. Emphasizes Adventist church policy and programs, materials, and methods that can be used in preserving and fostering the life of the church. Open only to theology and religion majors. Prerequisite: RELP 131.

RELP 370 - CHAPLAIN MINISTRY (2 - 4)
Study and exposure to chaplaincy as an alternative vocational setting to traditional pastoral assignments. Includes hospital, prison, military, school and industrial chaplain work. The basic 2-hour course includes visits by professionals such as administrators, guards, physicians, nurses, and institutional chaplains. The optional hours include an inductive exploration of chaplain ministry through visitation, small group process, and discussion.

RELP 385 - PASTORAL MENTORING PROGRAM (0)
Theology majors must participate in one school year of working with a local pastor in a church setting, thereby exposing them to active church life and pastoral ministry. This training is typically completed during the student's Junior or Senior school year. Graded S or NC.

RELP 395 - METHODS OF TEACHING BIBLE IN THE SECONDARY SCHOOL (3)
Examination of religion teaching in the secondary school with emphasis on objectives, content, organization, methods and materials, as well as adolescent developmental needs and spiritual formation. Includes a practicum experience at the secondary level. Prerequisite: EDUC 390.

RELP 440 - CRISIS MINISTRY (3 - 4)
Introduction to the principles and practice of pastoral care of troubled persons through the application of counseling techniques, the utilization of the spiritual resources of the Christian community, and theological reflection. Open only to theology and religion majors. Includes practicum. Prerequisite: RELP 131.

RELP 483 - ADVANCED PASTORAL CARE (3)
Study of the role of the pastor in relationship to his/her ministering to families; includes study of the pastor as premarital counselor, as marriage and family counselor, and as marriage and family life enrichment leader. Prerequisite: RELP 440 or permission of instructor. Open only to theology and religion majors. Offered as needed.

RELP 490 - PUBLIC EVANGELISM (1 - 3; 3)
Experience in evangelistic techniques to include giving Bible studies and holding public meetings. Open only to theology and religion majors. Offered as needed.

RELP 494 - COOPERATIVE EDUCATION (0 - 3)
Individual contract arrangement involving students, faculty, and cooperating institutions to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval of the major adviser. Open only to theology and religion majors. Graded S or NC.

RELP 496 - SENIOR SEMINAR (2)
Reading, writing and discussion focused on applying the range of theological disciplines to practical problems faced by the pastor. Open only to senior theology majors.

RELT - THEOLOGY

RELT 110 - INTRODUCTION TO SEVENTH-DAY ADVENTIST BELIEF AND PRACTICE (4)
A general introduction to the Adventist community in its historical and contemporary contexts. Not open to students with senior standing. Students who have taken RELT 202 are not eligible to take RELT 110 for credit.

RELT 201 - THE CHRISTIAN WAY OF SALVATION (4)
Study of the Christian offer of salvation as found through Jesus Christ and the church; considers not only the future, but also contemporary moral and social dimensions of salvation. Offered as needed.

RELT 202 - CHRISTIAN BELIEFS (4)
Study of Christian teachings and doctrines from a Seventh-day Adventist perspective; explores topics such as revelation, God, creation, Sabbath, human beings and sin, the person and work of Jesus, the nature and purpose of the church, salvation, and the Christian hope of the Second Advent. Prerequisite: One college-level religion course or permission of instructor. Students who take RELT 110 are not eligible to take RELT 202 for credit.

RELT 326 - SPIRITUALITY AND DISCIPLESHIP (4)
Study of the dynamics of the Christian spiritual life as lived individually, in the church community, and in the world. Prerequisite: 6 hours of religion general studies credit.

RELT 340 - SPIRITUAL CARE AND NURSING (3 - 4)
Study of religion and its major role and function in life along with a practical application of religious ideas and practices as they pertain to people experiencing illness and suffering. Offered on the Portland campus.

RELT 342 - ISSUES OF GOD AND FAITH (3)
An intellectual defense of the Christian faith from a Seventh-day Adventist perspective. Students will look at the philosophical and experiential elements that undergird religious belief.

RELT 348 - CHRISTIAN ETHICS (3 - 4)
Study of the foundations and application of ethics to contemporary issues such as bioethics, sexuality, economics, violence, discrimination and the environment, with a focus on moral decision-making and behavior. (College Place campus - 4 quarter hours; Portland campus - 3 quarter hours.)

RELT 352 - THE CHRISTIAN AND THE ENVIRONMENT (2)
Exploration of issues, interests, strategies, and implications that arise from the intersection of environmental concerns and biblical creationism.

RELT 356 - UNDERSTANDING CHRISTIAN MARRIAGE (2)
An overview of the subject of marriage in light of biblical principles and teachings pertinent to the subject. The class will look at marriage as an idea, as a process, as a blessing, and as an achievement.

RELT 402 - HUMAN FORGIVENESS (2)
Biblical Examples, injunctions, invitations and descriptions of forgiving augmented with psychological and relational studies, stories and skills. The course explores the benefits of forgiving, the hazards of not forgiving, and practical suggestions for making forgiveness work.

RELT 412 - PHILOSOPHY OF RELIGION (OR PHIL 412) (4)
Study of religious thought and practice from a philosophical perspective; considers the arguments for the existence of God, the relationship of faith and reason, the use of religious language, and the problem of evil. See the History and Philosophy section of this bulletin.

RELT 417 - INSPIRATION AND REVELATION (3)
Study of the concept of inspiration as revealed in the Bible writers as compared to the concept of inspiration in modern times as revealed in the person and writings of Ellen G. White.

RELT 456, 457 - SYSTEMATIC THEOLOGY I (3, 3)
An inquiry from a Seventh-day Adventist perspective into the major themes of Christian theology; introduces students to the process of theological thinking, including systematic reflection of one's own views. Open only to departmental majors. Prerequisites: RELH 455 and HIST 456 or permission of instructor.

RELT 465 - CONTEMPORARY ISSUES IN ADVENTIST THOUGHT (4)
Study of current ideas and issues in Adventist theology designed for those who have an adequate background in Adventist doctrine. Offered as needed.

RELT 495 - COLLOQUIUM (0)
Lecture series designed to enrich the professional and spiritual development of students in religion and theology, and create a sense of community within the School of Theology. All Religion and Theology majors must satisfactorily complete twelve colloquiums, at least one of which must be during the senior year. Requirement must be completed at least one quarter before graduation. Graded S or NC. Appropriate adjustments will be made for transfer students.

SMTF - STUDENT MISSION TASK FORCE

SMTF 100 - EXPERIENTIAL PROGRAM (12)
Student Missionary Program provides a practical educational experience in a structured environment. Course required for all SM students, but credit will not apply toward class level or graduation requirements. Students with less than 6 hours left to meet degree requirements are not eligible to register for this class. Graded S or NC.

SOCI - SOCIOLOGY

SOCI 204 - GENERAL SOCIOLOGY (4)
Study of the fundamentals of group behavior, social conditions, and dynamics; considers culture, groups, population trends, religions, institutions, social problems, theories, and objectives.

SOCI 225 - MARRIAGE AND FAMILY LIFE (OR PSYC 225) (2)
Study of the physical, economic, and psychological adjustments necessary for happy marriage and parenthood; stresses Christian philosophy and principles; staff members and guest speakers will lecture and lead discussions.

SOCI 234 - CURRENT SOCIAL PROBLEMS (OR SOWK 234) (4)
Study of sociological theories, concepts, and terminology to build insight into societal issues. Allows an understanding of social problems within the context of social groups and examines potential solutions. Topics addressed include the economy, overpopulation, health care, education, social class, poverty, race, gender, and the environment. The impact of social problems will be viewed in terms of individuals, groups, institutions, organizations, and society. Assists students to become more aware of issues of social justice and informing their view of the complexity of systemic societal problems. Recommended prerequisite: SOCI 204.

SOCI 236 - PRIVILEGE AND OPPRESSION (4)
Study of the construction of contemporary American social categories including mechanisms of privilege and oppression. Examination of the distribution of social resources to groups and individuals, as well as theoretical explanations of how unequal patterns of distribution are produced, maintained, and challenged. Emphasizes how race, culture, ethnicity, gender, sexuality, age, ability, and religion intersect with social class to produce different life experiences. Course will stress the importance of advocating for social justice and equality. Recommended prerequisite: SOCI 204 or ANTH 225.

SOCI 327 - SOCIOLOGY SEMINAR (3; 9)
An in-depth seminar that focuses on a particular social issue. Specific subjects studied will vary from quarter to quarter on issues such as poverty, gender, social class, economic opportunity, human rights, and social justice. May be repeated for credit when topics vary. Prerequisites: SOCI 204, ANTH 225, or permission of instructor.

SOCI 394 - DIRECTED READING (1 - 2; 4)
Independent reading for upper-division students who wish to continue broadening their knowledge of sociology in a particular area by extensive reading.

SOCI 420 - IMMIGRATION AND IDENTITY (4)
Provides an analysis of the political, social, and economic impact of immigration in the United States. Additionally, the class traces how the immigration process reshapes ethnic identity while simultaneously expanding what it means to be "American." Prerequisite: SOCI 204 or ANTH 225. Offered odd years only.

SOCI 435 - SOCIAL GERONTOLOGY (OR SOWK 435) (3)
Provides understanding of the field of gerontology, including historical review of US and world-wide population trends. Specific aspects of aging and impacts on society are explored in-depth. Practitioner responses in human services and health care are examined. Prerequisite: SOCI 204. Offered odd years only.

SOCI 437 - DEATH AND DYING (OR PSYC, SOWK 437) (3)
Study of the process of death and dying from four distinct perspectives: cultural, social, personal, and professional.

SOCI 438 - SOCIOLOGY OF HEALTH, ILLNESS, AND HEALTHCARE (4)
Examination of the social context of health, illness, and the healthcare system. Attention given to the impact of social, cultural, political, and economic determinants on health, illness and the delivery of medical care in the United States. The course includes but is not limited to social epidemiology, health/illness behavior, medical facilities, healthcare professionals, insurance, and public policy. Includes more in-depth assignments designed for upper division students. Prerequisite: SOCI 204. Offered even years only.

SOCI 451 - RESEARCH METHODS (4)
Introduction to the principles of research design; data collection through surveys and other methods; scaling, sampling; computer assisted statistical analysis. Statistics highly recommended. Laboratory required.

SOCI 452, 453 - RESEARCH PRACTICUM I, II (1, 1)
Directed design and execution of an empirical research project over a two quarter period. Prerequisites: SOCI 451 for SOCI 452, SOCI 452 for SOCI 453.

SOCI 455 - SOCIAL THEORY (4)
Survey of modern social, political, and economic thought. Emphasizes 19th and 20th century theories and models which have directed contemporary research in the social sciences and have influenced public policy. Prerequisite: SOCI 204. (Offered odd years only.)

SOCI 490 - CAPSTONE INTERNSHIP (2-6; 6)
Provides students the opportunity to apply theoretical learning to professional experiences in local community organizations. Along with the accrual of clock hours, students will complete a portfolio demonstrating their ability to view experiences through a sociological lens. Six quarter credit hours (180 clock hours) are required; up to 12 credits can be taken with additional hours counting as major electives. One credit hour is equivalent to 30 clock hours. Departmental approval and supervision is required.

SOCI 491 - CAPSTONE RESEARCH INTERNSHIP (1-3; 6)
Students will participate in research activities under the supervision of a research faculty member. This capstone experience will vary based on the availability of research projects and the approval of the supervisory research faculty member. Prerequisite or corequisite: SOCI 451

SOCI 494 - COOPERATIVE EDUCATION (2)
Individual contract arrangement involving students, faculty, and cooperating institutions to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisites: SOCI 204, SOWK 224, SOCI 236; Prerequisite or corequisite: SOCI 324. Two quarter hours are required during senior year (30 clock hours per quarter hour = 60 hours).

SOWK - SOCIAL WORK

SOWK 205 - MENTAL HEALTH FIRST AID (1)
Provides knowledge and skills in responding to early stage mental illnesses and how to provide assistance in specific situations. Training focuses on providing comfort, the reduction of distress, promotes recovery and encourages seeking appropriate professional help. Students will be eligible to receive a certificate in the Mental Health First Aid USA training model.

SOWK 224 - HUMAN DEVELOPMENT AND THE FAMILY (4)
Study of the individual as seen in the context of the family; explores the interrelation of biological, psychological, and sociocultural systems and their effect on human development and behavior; covers the complete life cycle of the growth of an individual and current theories concerning each stage of the life cycle as it applies to the modern American family as well as families of other cultures. Prerequisites: SOCI 204. Recommended prerequisite: PSYC 130.

SOWK 234 - CURRENT SOCIAL PROBLEMS (OR SOCI 234) (4)
Study of sociological theories, concepts, and terminology to build insight into societal issues. Allows an understanding of social problems within the context of social groups and examines potential solutions. Topics addressed include the economy, overpopulation, health care, education, social class, poverty, race, gender, and the environment. The impact of social problems will be viewed in terms of individuals, groups, institutions, organizations, and society. Assists students to become more aware of issues of social justice and informing their view of the complexity of systemic societal problems. Recommended prerequisite: SOCI 204.

SOWK 260- HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I (3)
Study of the biological, psychological, and social theories of human development from birth to adolescence. Human development is examined using the underpinning of the ecological system's perspective including the multiple factors that impact development such as; race, class, gender, and religion. Recommended prerequisite: PSYC 130.

SOWK 261-HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II(3)
The study of the biological, psychological, and social theories of human development from young adulthood to old age. Human development is examined using the underpinning of the ecological systems perspective including the multiple factors that impact development such as; race, social class, gender, and religion. Recommended prerequisite: PSYC 130.

SOWK 264 - INTRODUCTION TO SOCIAL WORK (4)
Introduction to the profession of social work including an examination of the knowledge, values, and skills influencing the role of the social worker in a variety of practice settings.

SOWK 266 - STRUCTURAL HISTORY OF SOCIAL WELFARE (4)
Study of the history and structure of the U.S. social welfare system; examination of current social welfare institutions in terms of political, social, and value systems. Presents the history and social structures that create and maintain systems of privilege, oppression, and discrimination. Prerequisite or corequisite: SOWK 264.

SOWK 305 - MENTAL HEALTH SEMINAR (3)
Examines historical and contemporary issues in mental health care and the stigma and discrimination associated with mental illness. Students must have an active certificate in Mental Health First Aid to enroll in this course. Prerequisite or Corequisite: SOWK 205.

SOWK 350 - FIELD PRACTICUM ORIENTATION (1)
A field practicum orientation seminar intended to make students aware of agency possibilities, application and evaluation procedures, contracts, and the field instruction learning process. Prerequisites: SOWK 264, 371; Prerequisite or Corequisite: SOWK 372, 373.

SOWK 371 - SOCIAL WORK PRACTICE WITH INDIVIDUALS (4)
Methods course focusing on the knowledge, values, and skills needed for generalist social work practice with individuals. Major subject areas include values and ethics, interviewing, assessment, intervention, termination, evaluation, and documentation. Framed with a view of clients and social work practice that honors individual strengths and recognizes the impact of societal forces that create opportunities for some and barriers for others. Prerequisites: PSYC 130, SOCI 204, SOWK 264 or permission of instructor.

SOWK 372 - SOCIAL WORK PRACTICE WITH SMALL GROUPS (4)
Methods course focusing on the knowledge, values, and skills needed for generalist social work practice with groups. Course content includes: assessment of group dynamics, structure, and process, and models of intervention in a variety of settings. Develops an understanding of the typology of groups, the functions and roles of group members, stages of group development, group leadership, and the foundational skills of group facilitation and evaluation. Prerequisite: SOWK 371.

SOWK 373 - SOCIAL WORK PRACTICE WITH COUPLES AND FAMILIES (4)
Methods course focusing on the knowledge, values, and skills needed for generalist social work practice with couples and families. The course provides mezzo skill development for work with this special population. Includes theoretical and intervention models specifically designed for work with couples and families, both historical and contemporary. Students will develop practice skills through lab setting activities, role play, supervision and observation. Prerequisite: SOWK 372.

SOWK 375 - POLICY AND ADVOCACY PRACTICE FOR SOCIAL JUSTICE (3)
Study of social welfare policy and its impact upon clients, social workers, and social services. Introduces students to the process of policy formulation and acquaints them with different frameworks for policy analysis. Includes a study of legislative advocacy, lobbying, and empowerment of clients through social and political action. Encourages student participation in local and national advocacy organizations that seek to further social justice. Prerequisite: SOWK 266 or permission of instructor.

SOWK 394 - DIRECTED READING: (1 - 2; 4)
Independent reading for upper-division students who wish to continue broadening their knowledge of social work in a particular area by extensive reading.

SOWK 435 - SOCIAL GERONTOLOGY (3)
Provides understanding of the field of gerontology, including historical review of US and world-wide population trends. Specific aspects of aging and impacts on society are explored in-depth. Practitioner responses in human services and health care are examined. Prerequisite: SOCI 204. Offered odd years only.

SOWK 437 - DEATH AND DYING (OR PSYC, SOCI 437) (3)
Study of the process of death and dying from four distinct perspectives: cultural, social, personal, and professional.

SOWK 460 - SERVICES TO FAMILIES WITH CHILDREN (3)
Development of child welfare services, their structure and function today, current challenges facing America in the welfare of its children, the role of social work in child abuse investigations, treatment provisions, and regulation. Prerequisite: PSYC 130 or SOCI 204, or permission of instructor.

SOWK 465 - SOCIAL WORK PRACTICE WITH ORGANIZATIONS AND COMMUNITIES (4)
Introduction to generalist practice with communities and larger organizations. Study of community organization, organizational analysis, management skills, program planning and evaluation. Enhances students' ability to initiate and implement macro change. Prerequisite: SOWK 375. Prerequisite or corequisite: SOWK 373.

SOWK 466-COMPARATIVE THEORIES OF SOCIAL WORK PRACTICE (3)
Study of intervention strategies, change theories, and therapeutic techniques employed at individual, family, and group levels. Emphasizes criteria for selecting alternative approaches and appropriate intervention activities. Prerequisites: SOWK 371 or permission of instructor.

SOWK 471 - HUMAN SEXUALITY (OR HLTH 471) (3)
Study of resources, research, anatomy and physiology, and personal values clarification on human sexuality. Emphasis will be on the interactions between biology, cognition, emotions, socialization, and culture. Prerequisite: PSYC 130 or SOCI 204.

SOWK 477 - INTRODUCTION TO ALCOHOLISM AND ADDICTION TREATMENT (3)
A comprehensive survey covering the basic aspects of alcohol, alcoholism, prevention and intervention, rehabilitation and treatment. Alcoholism and other addictions are studied as disease processes. Recommended prerequisite: HLTH 208.

SOWK 479 - DIRECTED RESEARCH/PROJECTS IN SOCIAL WORK (1-3)
Directed learning experience in a special area of social work or social welfare of particular interest to the student. Projects may include research which is agency organization based and should be chosen in consultation with the adviser. Written report of research/project is required describing the project, the theoretical base, the learning experience and the conclusion. Prerequisites: Social Work Major- SOWK 264, SOWK 371; Social Welfare Minor- SOWK 264, SOWK 266.

SOWK 490 - FIELD PRACTICUM (2 - 12; 12)
Training is completed under a professional social worker in a social service agency. Field instruction is offered in various settings such as: medical, mental health, school, corrections, child welfare, and community organization. Placement may be taken in one quarter (block) or concurrently with course work over two or more consecutive quarters. Twelve quarter credits (420 clock hours) are required for a social work major. Prerequisites: SOWK 266, 371, acceptance to the B.S.W. program, and permission of instructor. Prerequisite or Corequisite: SOWK 350, SOWK 372, SOWK 373. Students with two grades of IP in SOWK 490 are not eligible to register for practicum. Open to social work majors only. (Course fees apply.)

SOWK 491 - SOCIAL WORK CAPSTONE (2)
Involves demonstration of professionalism, ethical decision making, critical thinking, enhancement of diversity, advancement of social justice, and application of knowledge of human behavior and the social environment. Integrates this set of knowledge, values, and skills in a process of self-examination, reflection, articulation of professional identity, and development of plans for continued growth and development. Prerequisite or corequisite: SOWK 490. Open to senior social work majors only.

SOWK 495 - COLLOQUIUM (0)
Lecture series designed to expose students to contemporary social workers and to assist them in their professional development. Required of all social work juniors and seniors while in residence. Graded S or NC.

SPAN - SPANISH

SPAN 101, 102, 103 - ELEMENTARY SPANISH (4, 4, 4)
Introduction to the study of Spanish with elementary practice in the skills of understanding, speaking, reading, and writing; includes grammatical terminology and the sound system of Spanish, plus basic grammar and vocabulary at the elementary level. This course is designed for non-native speakers of Spanish or students with no Spanish heritage. Language laboratory and tutoring required. Must be taken in sequence.

SPAN 201, 202 - INTERMEDIATE SPANISH (4, 4)
Intermediate study of Spanish, emphasizing oral, writing, and reading skills, and mastery of grammar; designed to prepare students to use Spanish as a research and cultural tool. Prerequisite: SPAN 103 or equivalent or permission of instructor.

SPAN 394 - SPANISH DIRECTED READING (1 - 2; 4)
Assigned readings and reports in Spanish. Prerequisites: permission of instructor.

SPAN 405 - SPANISH STYLISTICS AND RHETORIC (4)
Examines theories of discourse analysis, and rhetoric. Study of authors, literary schools, genres, themes, stylistics and advanced language grammar. Concentrates on form and style through analysis of major texts. Prerequisite: Intermediate Spanish or permission of instructor.

SPAN 407 - SURVEY OF SPANISH LITERATURE (4)
A study of selected contemporary texts and movements. The course emphasizes communicative skills of learning, reading, speaking, and writing within a social and cultural context, using such themes as personal identity, the family the individual and society, and social classes in the Hispanic world. The course also seeks to develop further proficiency in literary analysis and criticism. Prerequisite: permission of instructor. Offered even years.

SPAN 408 - CONTEMPORARY LATINO LITERATURE (4)
Designed to analyze significant works and key themes relating to the Latino Experience. This class will examine contemporary Latino literature in the United States. Offered odd years.

SPAN 496 - SEMINAR IN SPANISH (1 - 4; 4)
Includes selected readings, studying research methods, giving oral reports, and writing scholarly papers.

SPCH - SPEECH

SPCH 101 - FUNDAMENTALS OF SPEECH COMMUNICATION (4)
Introduction to the procedure of public speaking. Emphasis on acquiring ease, a conversational attitude, and reasonable facility in organizing and delivering content relevant to the audience.

SPCH 107 - VOICE AND ARTICULATION (OR SPPA 107) (4)
Study of and practice in improving the speaking voice. Emphasizes the structure and function of the speech mechanism, quality and effectiveness of voice; stresses developing clear enunciation and articulation. As a guide to correct pronunciation, the International Phonetic Alphabet is also included.

SPCH 207 - SMALL GROUP COMMUNICATION (3)
Study of the nature of group and interpersonal processes; includes leadership, member participation, and general communication strategies in group discussion utilizing the learned skills during the course experience.

SPCH 211 - ORAL INTERPRETATION (OR DRMA 211) (4)
Study of the various types of interpretative literature with a view toward its understanding for the purpose of public presentation. Includes reading from the printed page with fluency and effectiveness and readers' theatre script preparation and presentation.

SPCH 310 - INTERPERSONAL AND NONVERBAL COMMUNICATION (3)
Examination of both the process and the messages, verbal and non-verbal, that characterize interpersonal communication; analyzes communication styles of self and others while attending to the skill of adapting communication to a specific individual(s) context; employs readings, discussion, and strategies useful in understanding and improving one's interpersonal interactions.

SPCH 341 - ARGUMENTATION (4)
Examination of contemporary logic to develop higher critical thinking; includes study of claims, evidence, reasoning, and fallacies; application of logic by analyzing current rhetoric debating contemporary issues, and applying presentational skills for professional use. Prerequisite: SPCH 101. Offered odd years only.

SPCH 381 - BIBLICAL PREACHING: FOUNDATIONS (2)
Preparation and delivery of Biblical sermons with a focus on the foundations of Biblical preaching. Laboratories and Sabbath speaking appointments included. Prerequisite: SPCH 101.

SPCH 382 - BIBLICAL PREACHING: EXPOSITION (2)
Preparation and delivery of Biblical sermons with a focus on expository preaching. Laboratories and Sabbath speaking appointments included.

SPCH 383 - BIBLICAL PREACHING: EVANGELISM (2)
Preparation and delivery of Biblical sermons with a focus on evangelism and preaching for special occasions. Laboratories and Sabbath speaking appointments included.

SPCH 394 - DIRECTED READING: (1 - 2; 3)
Independent reading for students who wish to broaden their knowledge of theater and speech classics and professional literature. Offered alternatively with JOUR 394 and COMM 394.

SPCH 395 - METHODS OF TEACHING SPEECH COMMUNICATION (3)
Study of the basic principles and practices of teaching speech on the junior high and secondary levels. Special attention given to contemporary methods of presentation in classrooms and therapy sessions; includes observations, demonstration, and class participation. Offered as needed.

SPCH 407 - ADVANCED SMALL GROUP COMMUNICATION (3)
Study of the nature of group and interpersonal processes; includes leadership, member participation, and general communication strategies in group discussion utilizing the learned skills during the course experience. In addition, students will be required to submit a research paper on the course topic, take a leadership role, and various other in and out of class assignments. Prerequisite: SPCH 101.

SPCH 443 - PERSUASIVE SPEAKING (4)
Study of motivation in human persuasion strategies as applied in interpersonal, group, organizational and public context; analysis of persuasive speeches for their emotional, ethical, and logical value; practice in composing and delivering speeches to influence choice. Prerequisite: SPCH 101. Offered even years only.

SPCH 453 - RHETORIC OF WESTERN THOUGHT (4)
Broad historical scope of rhetorical theory from its inception in the classical world, through the middle ages, the renaissance, and the enlightenment to the present, including contemporary theories, practices and scholarship. Prerequisite: SPCH 101.

SPCH 483 - ADVANCED PREACHING SEMINAR (1)
This class will focus on improving sermon writing and sermon delivery abilities. Prerequisites: SPCH 381, 382, 383, or permission of instructor.

SPCH 487 - SENIOR PROJECT (1)
A student-selected, department-approved project to demonstrate the student's ability to perform in his/her major field of instruction. Satisfactory completion of this course constitutes the department comprehensive requirement for the bachelor's degree. At the beginning of the third quarter prior to graduation, students must submit a project proposal to the department.

SPCH 494 - COOPERATIVE EDUCATION/PRACTICUM IN MEDIA (0-4; 4)
Practical experience in event planning, public relations, public speaking or other speech communication related activity. The student works under the co-direction of professionals in participating agencies and the department. Instructor's permission must be obtained one quarter before registration. Graded S or NC.

SPCH 496, 497 - SPEECH COMMUNICATION SEMINAR (2, 1)
An integrating course required of all speech communication majors in the senior year. Includes review of literature and research methods in speech communication, experience in writing and presenting critical reviews, and development and formal presentation of assigned projects.

SPPA - SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY

SPPA 107 – VOICE AND ARTICULATION (OR SPCH 107) (4)
Study of and practice in improving the speaking voice. Emphasizes the structure and function of the speech mechanism, quality and effectiveness of voice; stresses developing clear enunciation and articulation. As a guide to correct pronunciation, the International Phonetic Alphabet is also included.

SPPA 210 - SURVEY OF SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY (3)
Survey of communication disorders with major emphasis given to the etiologies, symptomatologies, and the recognition of speech, language, voice, and hearing disorders. Offered even years only.

SPPA 250 - SIGN LANGUAGE FOR THE DEAF (3)
Introduction to the basic signs used in communicating with the hearing impaired; includes group practice in signing letters, words, sentences, and songs. (Offered contingent on sufficient enrollment.)

TECH - TECHNOLOGY EDUCATION

TECH 137 - OXYACETYLENE WELDING AND CUTTING (2)
Study of oxyacetylene and oxyfuel applications and practice in developing skills in oxyacetylene welding and cutting with fuel gases. (Course fees apply.)

TECH 138 - SHIELDED METAL ARC WELDING (2)
Study of shielded metal arc welding theory and hands-on laboratory experiences to develop mastery of arc welding processes. (Course fees apply.)

TECH 139 - SPECIALIZED WELDING (2)
Study of gas tungsten arc welding (tig), gas metal arc welding (mig), flux core arc welding, and shielded metal arc pipe welding. Prerequisites: TECH 137 and TECH 138 or permission of instructor. (Course fees apply.)

TECH 204 - FUNDAMENTALS OF ELECTRONICS (4)
Study of fundamentals of electronics technology, including Ohms Law, series and parallel DC circuits, resistive capacitive and inductive AC circuits, motors and generators, and an introduction to semiconductors. Laboratory work will emphasize the use of basic electronic test equipment. Three lectures and one laboratory per week. Prerequisite: MATH 105 or higher. Offered even years only. (Course fees apply.)

TECH 220 - INTRODUCTION TO BASIC WOODWORKING (2)
Students will learn basic woodworking techniques and the use of woodworking tools. Course will include hand tools, power tools, and stationary power tools. Example projects will be completed in lab. (Course fees apply.)

TECH 223 - INTRODUCTION TO FINE WOODWORKING (2)
Students will learn skills and techniques for building fine woodworking projects like cabinets and furniture. Laboratory work will include skill building tasks and projects. Prerequisite: TECH 220. (Course fees apply.)

TECH 224 - ADVANCED WOODWORKING (2)
Students will learn skills and techniques for designing and building individual wood projects. Laboratory work will include defining the project design, spacing, and procuring materials, and building the project. Prerequisite: TECH 223. (Course fees apply.)

TECH 235 - INTRODUCTION TO MATERIALS AND PROCESSES (2)
The internal organizational structure, function and operation of a variety of manufacturing industries. Laboratory experiences focus on commonly shared processes in raw materials and production through field trip experiences of local resources.

TECH 236 - INTRODUCTION TO PLASTICS (2)
Basic manufacturing processes and techniques used in the plastics industry. A variety of forming, casting, and reinforced plastic processes will be examined and developed in the lab. Prerequisite: DRFT 120 or permission of instructor. (Course fees apply.)

TECH 241 - FABRICATION AND MACHINING OF METALS I (2)
Theory and practice in metal operations, including safety practices, creation, construction, measurement, print reading, engine lathe operations, turning, and threading processes. (Course fees apply.)

TECH 242 - FABRICATION AND MACHINING OF METALS II (2)
Layout projects, develop improvements using measurement tools, drilling and milling operations. (Course fees apply.)

TECH 252 - WEB TECHNOLOGY I (3)
Study of web technologies from a user and/or administrator perspective. Topics include HTML, XML, CSS (Cascading Style Sheets), and audio/video streaming.

TECH 253 - WEB TECHNOLOGY II (3)
Study of web technologies from a user and/or administrator perspective. Topics include Java Script, PHP, web page editors, Perl and AJAX.

TECH 254 - WEB TECHNOLOGY III (3)
Study of web technologies from a user and/or administrator perspective. Topics include SQL/Database handling, Intro Apache Server and Web Security.

TECH 280 - PRACTICUM (1 - 6; 6)
Laboratory work chosen in counsel with the supervising laboratory instructor. Six credits maximum. Six credits maximum. One 3-hour laboratory per week per credit.

TECH 321 - TECHNOLOGY AND SOCIETY (4)
An examination of technological change from historical, artistic, and philosophical perspectives and its impact on human needs and concerns. Students will study the transformative interaction between technology and society and enhance their understanding of its nature and cultural significance. Prerequisites: Junior standing, ENGL 223.

TECH 335 - COMPUTER APPLICATIONS IN TECHNOLOGY (3)
A study of the applications of computers and microprocessor board controllers in industrial production and process control. (Course fees apply.)

TECH 343 - FABRICATION AND MACHINING OF METALS III (2)
Advanced design and development of creation and construction of metals. Use of horizontal and vertical mills, exploration of CNC programming for part design and development. Prerequisite: TECH 335. (Course fees apply.)

TECH 380 - SPACE PLANNING AND DESIGN (3)
The study of planning and organization of technical facilities and space use. Design includes efficiency in traffic flow, space usage, service systems, storage, building structure, environment control, and architectural drawing software application. Aesthetic considerations will be explored. (Course fees apply.)

TECH 398 – MACHINE AND TOOL MAINTENANCE (1-2; 2)
Methods of care and maintenance of tools, machines, and supplementary equipment. Selection may be made in any field offered. Prerequisite: adequate background in chosen fields. One laboratory per credit per week. One or two hours any quarter; maximum, two.

TECH 428 - TEACHING TECHNOLOGY TO CHILDREN (3)
Study of technology, as applied to the elementary grades, covering the broad areas of manufacturing, transportation, construction, and communication. Emphasis on methods of application, materials and processes. Offered Summer only, as needed.

TECH 480 - ADVANCED PRACTICUM (1 - 6; 6)
Advanced laboratory work in counsel with the supervising laboratory instructor. Six credits maximum. One 3-hour laboratory per week per credit. Prerequisite: Lower division work in chosen area.

TECH 494 - COOPERATIVE EDUCATION (0 - 4; 4)
Individual contract arrangement involving students, faculty, cooperative businesses and organizations to gain experience in a work environment. Allows the student to apply advanced classroom learning. A response paper will be done at the end of the cooperative education experience. Prerequisite: Approval by department.

TECH 499 - SENIOR PROJECT (1 - 3)
A departmental performance experience as part of the Senior Comprehensive Examination. The type of experience is selected by the student in consultation with the adviser and approved by the department faculty. A presentation on completed work may be required. Graded S or NC.

WRIT - WRITING

For all writing courses that are not general studies courses, ENGL 234 is a prerequisite.

ENGL 327 - RESEARCH AND WRITING IN RELIGION (3)
Study of research, analysis, and writing skills in religion, including the use of library resources; instruction in reading analytically, understanding audience, and writing papers for academic, professional, and general audiences. Prerequisite: ENGL 223.

WRIT 324 - CREATIVE NONFICTION WRITING (3)
Techniques of writing creative nonfiction in a range of styles for a variety of audiences. Emphasizes intensive revision and the development of critical writing and thinking. Offered even years only.

WRIT 333 - POETICS (3)
Introduces students to the fundamentals of prosody and poetics. Students read across a range of literary eras and from a variety of poetic forms, studying the commentary of poets, critics, and theorists. Students will practice the forms studied and write critiques of poems. Offered odd years only.

WRIT 334 - POETRY WRITING (3)
A writing course designed to study and apply the basic principles of poetics. Analysis and discussion of student work.

WRIT 335 - NARRATIVE WRITING (3)
Study of narrative theory and practice in the techniques of narrative writing, including characterization, theme, and plot. Analysis and discussion of student work.

WRIT 336 - DRAMA WRITING (3)
Study of dramatic theory and practice in planning, writing, and revising a play. The focus is primarily on the fundamentals of writing drama. Analysis and discussion of student work. Offered odd years only.

WRIT 337 - STYLISTICS (3)
Examines theories of word choice through linguistic and grammatical exercises and discussions. It will also examine a variety of prose texts with an emphasis on what differentiates one style from another. Students will write papers analyzing prose styles and will produce original work based upon traditional stylistic exercises and mimesis. Offered even years only.

WRIT 389 - WRITING THEORY (3)
A study of composition theory and the writing process. Through writing practice, students study the application of this theory to their own work and to the teaching of writing.

WRIT 424 - DIRECTED CREATIVE NONFICTION WRITING (1 - 2; 3)
Refinement of essay writing skills through a writing project chosen in consultation with the instructor. Limited enrollment. Admission by permission of instructor. Prerequisites: WRIT 324 and a portfolio of creative nonfiction.

WRIT 426 - DIRECTED DEVOTIONAL WRITING (1 - 2; 3)
Study and practice in various forms of devotional writing, such as spiritual autobiography, the examen, spiritual journaling, lectio divina, and theological reflection. Limited enrollment. Admission by permission of instructor. Prerequisite: a portfolio of writing.

WRIT 434 - DIRECTED POETRY WRITING (1 - 2; 3)
Refinement of poetry writing skills through a writing project chosen in consultation with the instructor. Limited enrollment. Admission by permission of instructor. Prerequisites: WRIT 334 and a portfolio of poetry. Recommended: WRIT 333.

WRIT 435 - DIRECTED NARRATIVE WRITING (1 - 2; 3)
Refinement of narrative writing skills through a writing project chosen in consultation with the instructor. Limited enrollment. Admission by permission of instructor. Prerequisites: WRIT 335 and a portfolio of narrative writing.

WRIT 436 - DIRECTED DRAMA WRITING (1 - 2; 3)
Refinement of drama writing skills through a writing project chosen in consultation with the instructor. Limited enrollment. Admission by permission of instructor. Prerequisites: WRIT 336 and a portfolio of dramas.

WRIT 498, 499 - WRITING SEMINAR (1, 2)
As the culmination of the writing concentration, this course will guide students through the preparation and completion of their senior writing portfolio of fiction, poetry, and non-fiction. Students may have a general portfolio or one that concentrates on one genre. A bound copy of the senior portfolio remains with the English department. Each student in this course will give a public reading during the student's last quarter.

FINANCIAL INFORMATION

The ***Financial Bulletin*** is published as a detailed guide to finances at Walla Walla University. It contains information about estimated expenses, course fees, student employment, financial aid applications, scholarships, grants, and loan programs. Students and parents should refer to the ***Financial Bulletin*** for more specific information about finances.

STUDENT FINANCIAL SERVICES

Members of the Student Financial Services staff work with parents, students, the federal and state governments, the University, and others to make financial arrangements for students to receive an education at Walla Walla University. Students and parents are encouraged to phone, write, or stop by the office for answers to questions about financing a college education.

FINANCIAL COUNSELORS provide help in financial planning. They are responsible for approving all financial arrangements and are available to discuss problems if parents or students have difficulty meeting the terms of the payment plan the family has chosen.

FINANCIAL AID COUNSELORS assist with the completion of financial aid applications, loan promissory notes, and with the administration of scholarship programs.

STUDENT EMPLOYMENT assists students in looking for work both on and off campus. Employment personnel neither hires students nor assigns them to particular jobs, but works with students individually to assist them in their employment search.

STUDENT LOAN OFFICE assists current students with completing student loan applications and obtaining additional loans to finance educational expenses; also works with borrowers in repayment on Federal Perkins, Nursing, or Institutional Loans.

FOR INFORMATION	Call	Toll Free	E-Mail
Financial Counselors	509-527-2815	800-656-2815	stufin@wallawalla.edu
Financial Aid Counselors	509-527-2315	800-656-2315	finaid@wallawalla.edu
Student Employment	509-527-2357	800-656-2357	stuemp@wallawalla.edu
Student Loan Office	509-527-2333	800-656-2333	student.loans@wallawalla.edu
FAX	509-527-2556		

EXPENSES

This section of the bulletin is designed to help parents and students anticipate the costs connected with receiving a Walla Walla University education. This list identifies many of the expenses a student may incur. Students may have additional expenses for transportation, personal needs, and other necessities and extras not mentioned here. Parents and students should consider such expenses when making plans to cover the university costs.

In 2012-2013, Walla Walla University awarded over $41 million in financial aid. The average student received $21,604 with over 85% of the student body receiving financial aid. Be sure to refer to the ***Financial Bulletin*** for more specific information about our great scholarship programs.

ESTIMATED UNDERGRADUATE STUDENT BUDGETS

For 2014-2015

DORMITORY STUDENT

	Per Quarter	Per Year
Tuition (full-time, 13-16 hours)	$8,432	$25,296
General Fee (Includes ASWWU Dues)	190	570
Room Rent	1245	3,735
Cafeteria (Meal Plan)	910	2,730
Books (average)	345	1,035
Miscellaneous	607	1,821
TOTAL	$11,729	$35,187

NON-DORMITORY STUDENT

	Per Quarter	Per Year
Tuition (full-time, 13-16 hours)	$8,432	$25,296
General Fee (Includes ASWWU Dues)	190	570
Books (average)	345	1,035
Miscellaneous	607	1,821
TOTAL	$9,574	$28,722

TUITION

Undergraduate Student Tuition

	Cost	Rate
Part-time Tuition (1-12 quarter hours)	$660	Per Qtr. Hr.
Full-time Tuition (13-16 quarter hours)	$8,432	Per Quarter
Overload Tuition (above 16 qtr. hours)	$560	Per Qtr. Hr.

Student Missionary Tuition $15 for 12 credits per quarter

Participants in the Student Missionary and Task Force programs are registered as full-time students in the Experiential Program, SMTF 100, provided they meet the Student Missions Office's eligibility criteria and receive financial clearance from Student Financial Services. Registration cannot be retroactive. Contact the Student Missions office for more information.

Graduate Student Tuition $570 per quarter hour

Extension Tuition 55% of undergraduate tuition

Full-time teachers employed within driving distance of Walla Walla University may enroll for one class per quarter. Acceptance into the graduate Education Program and a copy of the school district's contract are required to qualify for the tuition rate of 55 percent of the undergraduate tuition. The balance of the tuition charge must be paid at the time of registration.

Senior Citizen Discounted Tuition

The Senior Citizen Class Program (non-degree seeking) makes it possible for students who are 65 or more years of age to take advantage of the following reduced tuition rates:

To take up to a 4 hour class for credit* one half the regular tuition rate

To sit in on a class** $100 per quarter

* *Permission of the instructor is required.*

** *Class or lab fees are the responsibility of the student.*

PAYMENT PLANS

Parents and students may choose one of the following payment plans that is the most convenient for them.

Regular Payment Plan

The quarter's tuition, required fees, cafeteria meal plan, and rent plus any previous balance and less any awarded financial aid are paid before the student receives financial clearance for registration. Students and/or parents are billed for variable charges (such as bookstore and other campus purchases and additional meals beyond the student's meal plan) as those charges are incurred. International overseas students are expected to use the Regular Payment Plan.

Monthly Payment Plan

The quarter's tuition, required fees, cafeteria meal plan, and rent less any awarded financial aid are divided into three equal payments. The first payment plus any previous balance is due before the student receives financial clearance for registration. The second and third payments are due by set dates during the following two months. Students and/or parents are billed for other charges (such as bookstore and other campus purchases and additional meals beyond the student's meal plan) as those charges are incurred. Finance charges will accrue on the unpaid balance.

The schedule of payments is as follows:

	Autumn	Winter	Spring
Down Payment + Previous Balance	Registration	Registration	Registration
Second Payment	October 25	January 25	April 25
Third Payment	November 25	February 25	May 25

Automatic Payment Plan

The quarter's expenses (plus any previous balance and less any awarded financial aid) are processed as automatic charges to a MasterCard®, VISA® or Discover® credit card. The card holder may choose to use either the regular payment plan or monthly payment plan. At the end of the school year (or sooner if a student finishes midyear), a final charge or credit is applied to the card. Many people choose this option because it reduces the time spent arranging payment while making the user eligible for rewards many credit cards offer (frequent flyer mileage, discounts, rebates, etc.).

Beginning Autumn 2014, the University plans to outsource credit card processing to a third party vendor who will charge a fee to accept credit card payments. Note: This fee only applies to credit card payments and will not be imposed on checks, cash, or online payments directly from a bank account.

Change in Expenses

Because of fluctuation in the economy, the University Board of Trustees reserves the right to adjust costs and policies throughout the school year or to supersede statements published in this bulletin.

Release of Transcripts or Degrees

By action of the Board of Trustees of the University, a diploma or transcript (official or unofficial) may not be released until the following criteria are met:

The student's account is paid in full.
The student does not have a short-term loan co-signed by WWU.
The student's Nursing, Perkins, and institutional loans are current.
The student's loan exit interviews are complete (Diploma only).

To expedite the release of transcripts, diplomas, and other legal documents, a money order, credit card payment, or certified check should be sent to cover the balance of the student's account. Requests for transcripts must be made in writing and signed by the student, either faxed or mailed to the Academic Records Office. There is a $5 charge for each transcript requested.

Financial Aid

Families unable to meet the full costs of a Walla Walla University education are encouraged to apply for financial aid from the government and the University. All financial aid applications are evaluated based on the government's standard analysis of need. This analysis determines how much each family can afford to pay for a college education according to federal government guidelines. Financial aid recipients are then awarded aid packages which typically include a combination of scholarships, grants, low-interest loans, and student employment. Unless otherwise noted, all forms of financial assistance are disbursed one-third each quarter (Autumn, Winter, Spring). ***The total amount of scholarships, grants, and subsidy (from all sources) which a student receives cannot exceed WWU's packaging budget in any given year. If the total does exceed the packaging budget, the award from WWU will be reduced.***

Scholarships are awarded for academic excellence, student leadership, and other accomplishments. They are not awarded based on need and do not have to be repaid. Even though it is recommended that students apply for financial aid, they are not required to do so in order to receive scholarships. **Grants** are awarded on the basis of financial need and do not have to be repaid. **Low-interest loans** are an investment in a student's future, allowing the student to attend university with payments and interest typically being deferred until after the student graduates or withdraws from school. Almost all financial aid award packages include a long-term loan. **Part-time employment** helps students meet the expenses of university life.

In order to receive the maximum financial assistance available, students should plan their finances for the entire academic school year prior to registration and complete their financial aid file by April 30, 2014, for the 2014-2015 school year.

INTERNATIONAL STUDENTS

International Student Deposit

Students who will first enroll during Autumn 2014 through Summer 2015, and who are not citizens or permanent residents of the United States (except Canadian students) are asked to place a $8,000 (U.S.) deposit with the university before final acceptance can be given and the I-20 form, necessary to secure the U.S. student visa, can be sent. For students first enrolling for Autumn 2015 or later the deposit will be equal to one quarter's tuition (Full-Time, 13-16 hours).

Insurance

Walla Walla University requires all international students to purchase the WWU Student Health and Additional Accident Insurance Plan.

Billing

International students will be expected to use the Regular Payment Plan described in this bulletin.

Employment

According to Immigration and Naturalization Services regulations, international students attending WWU while on student visas are only permitted to work on campus and are limited to a maximum of 20 hours of work per week during periods of enrollment. Spouses and children who are not students may not accept employment under any circumstances.

Financial Aid

International students on student visas do not qualify for the majority of loans and grants described in the *Financial Bulletin*. To determine ability to meet educational costs, the University requires applicants to submit a declaration of finances before final acceptance is given.

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ADMINISTRATIVE STAFF

ACADEMIC ADMINISTRATION - SCHOOL DEANS

Business
Josefer Montes, Ph.D.

Education and Psychology
Denise Dunzweiler, Ph.D.

Engineering
Douglas M. Logan, Ph.D.

Engineering Associate
Larry D. Aamodt, Ph.D.

Nursing
Lucille Benson Krull, Ph.D.

Nursing, Associate
Kari A. Firestone, M.S.

Social Work and Sociology
Pamela Keele Cress, Ph.D.

Theology
David E. Thomas, D.Min.

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Biology
David Lindsey, Ph.D.

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Steven H. Lee, Ph.D.

Communications and Languages
David Bullock, Ph.D.

Computer Science
Jonathan D. Duncan, Ph.D.

English
Kellie A. Bond, Ph.D.

Health and Physical Education
Marvin L. Denney, M.Ed.

History and Philosophy
Gregory Dean Dodds, Ph.D.

Mathematics
Jonathan D. Duncan, Ph.D.

Music
Karin Thompson, Ph.D.

Physics
Thomas B. Ekkens, Ph.D.

Technology
Linda M. Felipez, Ed.D.

ACADEMIC SUPPORT

Director of Academic Advisement
Betty Duncan, B.A.

Director of Career Center
David Lindstrom, M.A.

Director of Summer Session
Scott H. Ligman, Ph.D.

Director of Teaching Learning Center and Disability Services
Kristy Guldhammer, M.A.

Director of Technical Support Services
Karl Thompson, M.S.

General Manager, Positive Life Radio 91.3
Paul Richardson, B.A.

Registrar
Carolyn Denney, M.A.

Director, University Libraries
Carolyn S. Gaskell, M.A.

Director of Institutional Research and Effectiveness
Tyler Steffanson, B.S.

UNIVERSITY ADVANCEMENT

Director of Alumni and Parent Relations
Terri Neil, B.S., M.A.

Director of Gift Planning
Dorita Tessier, B.S., CFRE

Associate Director of Development
Breanna Bork, M.B.A.

FINANCIAL ADMINISTRATION

Executive Director of Physical Plant Operations
George Bennett

Director of Student Financial Services
Cassie Ragenovich, B.S.

Director of Human Resources
Jennifer, Carpenter, J.D.

Director of Information Services
Scott McFadden, B.S.

MARKETING AND ENROLLMENT SERVICES

Director of Admissions
Dallas Weis, M. Ed.

Director of Marketing and University Relations
Holley Bryant, M.A.

STUDENT SERVICES

Lead Campus Chaplain
Paddy McCoy, B.A

Director of Counseling and Testing Center
Donald E, Wallace, Ph.D.

Director of Athletics.
Gerald E. Larson, M.A.

Director of Food Service
Sandra Williams, B.S.

Director of Resident Life and Housing
Kristen Taylor, B.A.

Interim Director of Security
M. John McMackin, B.A.

Dean of Students
Hilary Catlett, M.S.W.

Director of Campus Health and Wellness
Wanda Nelson, M.N., A.R.N.P.

AUXILIARY

Manager, University Bookstore
Matt Heinrich, B.S.

Manager, Dairy Express
Hugh Daley, B.B.A.

PRESIDENTS OF WALLA WALLA UNIVERSITY

*William Prescott	1892-1894
*Edward A. Sutherland	1894-1897
*Emmett J. Hibbard	1897-1898
*Walter R. Sutherland	1898-1900
*Edwin L. Stewart	1900-1902
*Charles C. Lewis	1902-1904
*Joseph L. Kay	1904-1905
*Marion E. Cady	1905-1911
*Ernest C. Kellogg	1911-1917
*Walter I. Smith	1917-1930
*John E. Weaver	1930-1933
*William M. Landeen	1933-1938
*George W. Bowers	1938-1955
*Percy W. Christian	1955-1964
*William H. Shephard	1964-1968
*Robert L. Reynolds	1968-1976
N. Clifford Sorensen	1976-1985
H. J. Bergman	1985-1990
Niels-Erik Andreasen	1990-1994
W. G. Nelson	1994-2001
John C. Brunt	2001
N. Clifford Sorensen	2001-2002
Jon L. Dybdahl	2002-2006
John K. McVay	2006-

**deceased*

INSTRUCTIONAL FACULTY

Larry D. Aamodt, *Professor of Engineering and Computer Science (1983-87; 1989)*
B.S.E. 1977, Walla Walla College
M.S.E.E. 1990; Ph.D. 1999, Washington State University
P.E. 1981, State of California, State of Washington

Terrie Dopp Aamodt, *Professor of History and English (1979)*
B.A. 1976, Columbia Union College
M.A. 1978, The College of William and Mary
Ph.D. 1986, Boston University

Alma Alfaro, *Professor of Languages (2004)*
B.A. 1998, Occidental College
M.A. 2000, Ph.D. 2004, University of California at Santa Barbara

Shirley J. Wilson Anderson, *Professor of Health (1999)*
B.S.N. 1976, Loma Linda University
M.S.N. 1978, University of Alabama
Ed.D. 1991, University of Virginia

Austin C. Archer, *Professor of Psychology and Education (1991)*
B.S. 1980; M.A. 1984, Andrews University
Ph.D. 1993, Indiana University

Johanna Retana Attoh, *Assistant Professor of Economics (2014)*
B.S. 2008, National University of Costa Rica
M.A. 2009, East Carolina University

Cindee M. Bailey, *Professor of Social Work and Sociology (1991)*
B.S. 1980; M.P.H. 1982, Loma Linda University
M.S.W. 1994, Walla Walla College
Ph.D. 1987, Oregon State University

W. Brandon Beck, *Associate Professor of Music (2000)*
B.S. 1985, Walla Walla College
M.Mus. 1988, VanderCook College of Music

Beverly G. Beem, *Professor of English (1976)*
B.A. 1967, Union College
M.A. 1969, Andrews University
Ph.D. 1974, University of Nebraska

Brent Bergherm, *Assistant Professor of Technology (2007)*
B.A. 1999, Walla Walla College
M.A. 2010, Savannah College of Art and Design

Brant Berglin, *Assistant Professor of Biblical Studies (2013)*
B.A. 1995, Walla Walla College
M.Div. 2001, Andrews University

Darold F. Bigger, *Professor of Religion: Pastoral Administration, Theology and Spirituality; and Social Work (1992)*
B.A. 1966, Walla Walla College
M.Div. 1970, Andrews University
M.S.W. 1994, Walla Walla College
Ph.D. 1978, Claremont School of Theology

Pamela Bing Perry, *Assistant Professor of Social Work (2009)*
B.S. 1984, Union College
M.B.A. 1988, University of Kansas
M.S. 2003, Loma Linda University
D.M.F.T. 2009, Loma Linda University

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B.A. 1990, Whitman College
J.D. 2003, University of Florida Fredric G. Levin College of Law

Kellie A. Bond, *Associate Professor of English (2004)*
B.A. 1993, Walla Walla College
M.A. 1998; Ph.D. 2002, University of Oregon

James D. Boyd, *Associate Professor of Social Work and Sociology (2002)*
B.A. 1987; M.S.W. 2000, Walla Walla College

Montgomery S. Buell, *Associate Professor of History (1996)*
B.A. 1990, Walla Walla College
M.A. 1995, Purdue University

David A. Bullock, *Professor of Communications (1984)*
B.A. 1976, Walla Walla College
M.A. 1985, Washington State University
Ph.D. 1994, University of Arizona

Susan Bungard, *Instructor in Religion (2004)*
B.A. 1981, Walla Walla College
M.A. 2012, Walla Walla University

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B.S. 2010, Walla Walla University

Roy K. Campbell, *Professor of Physics (2001)*
B.S. 1978, Southern Adventist University
Ph.D. 1986, Florida State University

Paul F. Cimmino, *Visiting Professor of Social Work (2004)*
B.A. 1976, California State University, Northridge
M.S.W. 1977, California State University, Fresno
Ph.D. 1986, Columbia Pacific University

Karen Clausen-Brown, *Assistant Professor of English (2013)*
B.A. 2007, Walla Walla University

Bryce E. Cole, *Associate Professor of Engineering (1995)*
B.A., B.S.E. 1987, Walla Walla College
M.S.C.E. 1989, University of Massachusetts
Ph.D. 1995, University of Notre Dame

Mark J. Copsey, *Associate Librarian (1984)*
B.A. 1981, Andrews University
A.M.L.S. 1983, University of Michigan

Carl P. Cosaert, Professor of *Biblical Studies: Greek and New Testament (2005)*
B.A. 1989, Union College
M.Div. 1993, Andrews University
M.A. 2000, Nazarene Theological Seminary
Ph.D. 2005, University of North Carolina at Chapel Hill

David L. Cowles, *Professor of Biology (2001)*
B.S. 1978; M.S. 1981, Walla Walla College
Ph.D. 1987, University of California, Santa Barbara

Kyle S. Craig, *Associate Professor of Chemistry (2003)*
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B.A. 2002, Southern Adventist University
M.A. 2005; Ph.D. 2007, Washington State University

Robert A. Cushman Jr., *Professor of Paleobiology (2008)*
B.S. 1975, Walla Walla College
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C.P.A. 1966, State of Washington
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B.S.; B.A. 1997, Walla Walla College
M.A. (Math); M.S. (Cptr. Sci) 2001, Indiana University
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Paul B. Dybdahl, *Professor of Mission and New Testament (2000)*
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Thomas J. Emmerson, *Professor of Art (1976)*
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P.E. 1998, State of Washington

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B.A. 1968, Walla Walla College
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Ph.D. 1975, Oxford University

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B.A. 1976, Pacific Union College
M.A. 1977, University of Denver

Terrell D. Gottschall, *Professor of History (1986)*
B.A. 1973, Walla Walla College
M.A. 1975; Ph.D. 1981, Washington State University

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Licence en Theologie 1995, University of Strasbourg
Maitrise en Francais 1997, University of Grenoble

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