In Dedication

Walla Walla College dedicates the 1987-88 bulletin to Orpha Osborne with thanks and appreciation from the students, faculty and staff.

Orpha's legendary memory of bulletin details allows her to work quickly and confidently with anyone who enters her office. Her extensive knowledge of curriculum requirements and her energetic support of academic excellence have helped thousands of WWC students successfully complete their education. As a long-time staff member of WWC, she has made major contributions to the development of the admissions, registration and graduation processes. Her dedication to this institution is commended.
Walla Walla College

is accredited by
The Northwest Association of Schools and Colleges
Seventh-day Adventist Board of Regents
The Washington State Board of Education

offers programs accredited by
Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc. (Bachelor of Science in Engineering degree program)
Council on Social Work Education (Bachelor of Social Work degree program)
Department of Baccalaureate and Higher Degree Programs of the National League for Nursing
National Association of Schools of Music

is a member of
American Association of Colleges for Teacher Education
American Association of Collegiate Registrars and Admissions Officers
American Council on Education National Commission on Accreditation
American Society for Engineering Education
Council of Member Agencies, Department of Baccalaureate and Higher Degree Programs of the National League for Nursing
National Association of Independent Colleges and Universities
National Association of Student Financial Aid Administrators
National Association of Summer Sessions

is approved by
The Attorney General of the United States for nonimmigrant students
State Approving Agency for the training of veterans under the U.S. Code, Title 38, Chapters 31, 32, 34 and 35
Washington State for training in Vocational Rehabilitation

Equal Opportunity Commitment
Walla Walla College maintains a policy of equal educational opportunity for all applicants without regard to sex, race, color, handicap, national and/or ethnic origin, and in administration of its educational and admissions policies, financial affairs, employment programs, student life and services, or any other college-administered program.

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.

BULLETIN
WALLA WALLA COLLEGE
VOL. 96, NO. 2
SEPT. 1987

Published March, June, September and December at College Place, Washington, by Walla Walla College.
Entered as second-class mail matter, College Place, Washington 99324, under Act of Congress, August 24, 1912.

38733 Color Press, College Place, WA 99324 Litho U.S.A.
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Automotive Technology
Aviation Technology
Business
Computer Programming
Construction Technology
Data Entry
Early Childhood Education
Electronics Technology
Graphics Technology
Management Information Systems
Plant Maintenance Technology
Two-Year Secretarial Program
**Accounting Assistant
**Administrative Assistant
**Legal Office Assistant
**Medical Office Assistant

CERTIFICATE PROGRAMS (One Year)
Auto Mechanics
Aviation
Carpentry
Offset Copy Preparation
Plant Maintenance
Printing

PREPROFESSIONAL CURRICULA
Architecture (2)*
Chiropactic (2)
Dental Hygiene (2)
Dentistry (2)
Dietetics (2)
Law (4)
Medicine (4)
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Pharmacy (2)
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Public Health (4)
Radiological Technology (1)
Respiratory Therapy (1)
Veterinary Science (2)

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

GRADUATE PROGRAMS
(See Graduate Bulletin)
Master of Arts
Education
Counseling and Guidance
Curriculum and Instruction
Educational Foundations
Religious Education
School Administration

Master of Science
Biology

Master of Education
Counseling and Guidance
Elementary Instruction
Junior High Instruction
School Administration
Secondary Instruction in:
Biology, Biophysics, Business,
Chemistry, English, Health & PE,
History, Industrial Arts, Language
Arts, Mathematics, Physics, Social
Science

Teaching Credentials available in the areas mentioned above.
FOR INFORMATION

ADMISSIONS .................. 509/527-2327
Application Blanks
Bulletins

RECORDS ...................... Orpha Osborne, Dean
Academic Information Academic Records
General Information 509/527-2811
Transcripts or
Transfer Student Information 509/527-2812

FINANCES .................... Cassie Ragenovich, Director
General Financial Information Student Financial Services
Work Opportunities 509/527-2815
Financial Aid
Financial Planning
Loans and Grants
Payment Arrangements

RESIDENCE HALL LIVING ... Lynn Prohaska, Dean of Men
General Information Sittner Hall
Room Reservations 509/527-2111
or
Ilo Hutton, Dean of Women
Foreman/Conard Hall 509/527-2532
or
Carol Pifer, Residence Hall Dean
Portland Campus 503/251-6118

STUDENT AFFAIRS .......... Walter Meske, Vice President
Automobile Registration Student Administration
Off-Campus Housing 509/527-2511
Student Life

COLLEGE ADDRESS ........... Walla Walla College
Portland Campus
College Place, WA 99324
10355 S.E. Market
Portland, OR 97216
Rosario Marine Station
174 Rosario Beach
Anacortes, WA 98221

GENERAL TELEPHONE NUMBER .......... 509/527-2615
Toll Free (Washington state) 1-800-572-8964
Toll Free (Continental U.S.A.) 1-800-541-8900
Portland Campus 503/251-6115
Rosario Marine Station 206/293-2326

RESIDENCE HALL TELEPHONE NUMBERS
Foreman/Conard ............................................. 509/527-2532
Sittner Hall .................................................. 509/527-2111
Sittner East ................................................. 509/527-2661
Portland Campus Residence Hall ...................... 503/251-6118

Administrative offices are closed from Friday noon until Monday morning and on
legal holidays. The administrative officers are available on Sundays by appointment.
# WALLA WALLA COLLEGE
## ACADEMIC CALENDAR 1987-88

### AUTUMN QUARTER

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<td>F-M</td>
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</tr>
<tr>
<td>29</td>
<td>T</td>
<td>Registration</td>
</tr>
<tr>
<td>30</td>
<td>W</td>
<td>Instruction Begins</td>
</tr>
<tr>
<td>October 7</td>
<td>W</td>
<td>Last Day to Register</td>
</tr>
<tr>
<td>14</td>
<td>W</td>
<td>Last Day for Registered Students to Add a Class or Change to Audit</td>
</tr>
<tr>
<td>November 24</td>
<td>T</td>
<td>Last Day to Withdraw from Classes</td>
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<tr>
<td>25</td>
<td>W</td>
<td>Thanksgiving Vacation Begins (noon)</td>
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<tr>
<td>29</td>
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<td>M</td>
<td>Registration</td>
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<td>5</td>
<td>T</td>
<td>Instruction Begins</td>
</tr>
<tr>
<td>13</td>
<td>W</td>
<td>Last Day to Register</td>
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<td>20</td>
<td>W</td>
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<tr>
<td>February 3</td>
<td>W</td>
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</tr>
<tr>
<td>23</td>
<td>T</td>
<td>Last Day to Withdraw from Classes</td>
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<td>Mar. 13, 14, 15, 16</td>
<td>SMTW</td>
<td>Final Exams</td>
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<th>Date</th>
<th>Day</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>March 22</td>
<td>T</td>
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<tr>
<td>30</td>
<td>W</td>
<td>Last Day to Register</td>
</tr>
<tr>
<td>April 6</td>
<td>W</td>
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<td>May 4</td>
<td>W</td>
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<td>June 5</td>
<td>S</td>
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<td>M</td>
<td>Instruction Begins</td>
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<td>July 4</td>
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<td>Independence Day Holiday</td>
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<td>August 6</td>
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AUTUMN QUARTER

SCHEDULE

September 25 - January 18

FINANCE

Student Financial Services

[Contact Information]

RESIDENCE HALL HAVING

Lynn Prendergast, Dean of Men

Winter Quarter

February 19 - May 19

STUDENT APPLIANCE

Automobile Registration

[Contact Information]

COLLEGE ADDRESS

[Location]

Portland Campus

[Contact Information]

GENERAL TELEPHONE NUMBERS

[Contact Information]

RESIDENCE HALL TELEPHONE NUMBERS

[Contact Information]
Aims and Objectives
AIMS AND OBJECTIVES

Walla Walla College is operated in harmony with the beliefs, practices and educational philosophy of the Seventh-day Adventist Church.* The College determines its academic policies and offerings in accordance with the following assumptions:

1. That the central mission of the church remain central to the concerns of the College, however variously it may express itself;

2. That a college at best is a community of teachers and students engaged in a search for truth;

3. That a college should be a place where teachers and students from among all people can meet and work together in peace for their good, the good of all men, and the glory of God;

4. That a college education should help develop the individuality of each student.

Cognizant of the power of a good education to cultivate the best that man, under God, is capable of, Walla Walla College strives to meet the needs of individuals and of society, keeping the following as its basic objectives:

1. To provide conditions that will encourage physical, social, intellectual and spiritual development, and to teach principles that stress the interdependence of these aspects of man's life and the need for proper balance among them;

2. To present the ideals and principles of Christianity in a manner that will promote the development of a Christian life characterized by understanding, integrity, responsibility and tolerance, as well as commitment to God and service to man;

3. To make the college community a place where, regardless of sex, creed, culture, race or nationality, students can meet and pursue their academic goals in dignity and peace;

4. To encourage independent thinking.

To accomplish the goals listed above, Walla Walla College seeks, more specifically, to provide:

1. A sound general education in the arts, humanities, mathematics, social and natural sciences and the Christian heritage;

2. A thorough instruction in a number of technical and industrial areas;

3. A thorough instruction in a specified field.

*For a more complete statement of the fundamental beliefs of Seventh-day Adventists, see the Seventh-day Adventist Church Manual (Washington, D.C.: 1986).
STUDENT LIFE

The College is concerned with the education of the total person for happy and effective campus living. It provides a broad range of cultural, social, religious and recreational activities to add depth and maturity for a Christ-centered life.

THE COLLEGE CAMPUS

Walla Walla College is located in the City of College Place, in the historic, fertile Walla Walla Valley of southeastern Washington. The Old Oregon Trail, near the campus, leads directly to the site of the old mission which was conducted by Marcus Whitman from 1836 to 1847. It has been reconstructed by the federal government as the Whitman Mission National Historic Site. The scenic Blue Mountains to the east and the Snake and Columbia Rivers to the north and west are but a few minutes drive from the campus, and offer unusual opportunities for recreation and relaxation.

The College, in successful operation since December 7, 1892, was established in harmony with a resolution unanimously adopted at the General Conference of Seventh-day Adventists held in Battle Creek, Michigan, in 1891.

The college buildings are situated on a 55-acre campus dotted with maple and sycamore trees. Other buildings belonging to the College are located on adjoining lots of land, totaling 22 additional acres.

The college campus and a number of buildings have been modified to provide easy access to handicapped students. Some buildings have not yet been modified; however, the college has provided and continues to provide every assistance so that students who are confined to wheel chairs or blind may be able to attend.

KGTS. The college operates a 4.6 kilowatt stereo radio station. It programs primarily a good music and sacred music format. Students fill most of the functions of the station including announcing and newscasting. KGTS is federally licensed as an educational, non-commercial station serving primarily Southeastern Washington and Northeastern Oregon.

PORTLAND CAMPUS. In addition to the College Place campus, Walla Walla College also uses the large plant of Portland Adventist Medical Center, located at Portland, Oregon, where the students in nursing complete their upper division nursing courses.

Academic and residence hall buildings provide Portland campus students with modern and comfortable facilities. Ample classrooms, a large library, skills laboratory and faculty offices are housed in the academic building. The residence hall provides living and recreational accommodations for 134 students.

MARINE STATION. This facility occupies 40 acres of beach and timberland at Rosario Beach adjoining Deception Pass State Park, Anacortes, Washington. The physical plant includes five laboratory buildings, a kitchen and assembly hall, shop and 29 cabins for student and staff housing.
PETE RSON MEMORIAL LIBRARY. The library is a vital part of the educational program at Walla Walla College. Reading room accommodations, the open-shelf system, a periodical room and a listening/viewing facility contribute to the study and enjoyment of learning materials. Microreaders make accessible microforms of scholarly material. The curriculum library, located in Smith Hall, contains a large selection of textbooks and children's literature books. A collection of mounted pictures, filmstrips, tapes and phonorecords supplement those held by the main library. The library on the Portland campus serves specifically the students of nursing assigned there to obtain their clinical practice. The combined libraries contain approximately 150,000 volumes. An average of 3,250 volumes is accessioned annually. There are about 1,000 currently received periodicals. Periodical indexes and other bibliographical aids are also available. Resources in other libraries are available to students and faculty members through the library's participation in the Resource Sharing Program, which serves as a clearinghouse for interlibrary loans. The library is a participating member of the Western Library Network, using its facilities for the cataloging of materials and for location of materials for interlibrary loan.

PUBLIC INFORMATION

The Family Educational Rights and Privacy Act of 1974 provides that the College will make every effort to maintain student records in confidence. With the exception of faculty and administrative officers who have legitimate need to use student records, no student information other than public information will be given to any third party without the consent of the student.

Students have the right to withhold the disclosure of any or all of the "Directory information" listed below.

CATEGORY I Name, address, telephone number, class standing, major, class schedule.
(In Student Directory)

CATEGORY II Parents' names, address, and telephone number. Month and day of student's birth.
(Available only upon specific request.)

The above information is released except when students indicate in writing that the information is to be withheld.

Copies of the Act, amendments subsequent to this Act and HEW guidelines are available in the Office of Student Administration. Students have the right to inspect and review official records, files and data directly related to them kept by any office of the College. This request should be made in writing to the administrator responsible for the record. Requests will be processed within 45 days from the date the request is filed.

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 college 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 college
does expect students to live as members of a Christian community in accord with the ideals of the Seventh-day Adventist church, as detailed in the Student Handbook.

RELIGIOUS ACTIVITIES

CHAPEL. Chapel, held each Tuesday, and assemblies, held several times each quarter, are regarded as a vital part of the total education program at Walla Walla College, and all undergraduate students are required to attend.

CHURCH AND SABBATH SCHOOL. The Walla Walla College Church with a membership of approximately 1,500 provides opportunities for group worship and offers training in missionary endeavor and church organization.

The Sabbath School in its various elements provides leadership training and teaching experiences for college students who wish to develop their abilities in religious education.

CAMPUS MINISTRIES. Campus Ministries is a student-operated organization that promotes religious understanding and activity both on and off campus. Besides providing Friday evening programs, typical activities include providing tutors for labor camps, arranging a variety of Sabbath afternoon service projects, conducting weekend lecture series and sponsoring student missionaries.

SABBATH OBSERVANCE. The Seventh-day Sabbath is observed at Walla Walla College from sunset Friday to sunset Saturday, and all students are expected to conduct themselves in harmony with the sacred nature of the day. This includes attendance at the Friday evening devotional service, as well as Sabbath School and church service on Sabbath morning.

Walla Walla College sponsors several organizations and activities which aid in training the students for Christian service.

HOUSING FOR STUDENTS

APARTMENTS. The College owns 50 units of one- and two-bedroom apartments which are available for married students. These apartments rent for reasonable amounts. Apartments in the community, furnished and unfurnished, are also available for married students. For information, write to the Director of College Rentals.

RESIDENCE HALLS. All unmarried students taking eight hours or more are required to live in one of the college residence halls and to board in the college cafeteria, unless they live with relatives.

Under special circumstances, students may make application to the Student Affairs Committee for permission to live off the campus in an officially approved home. Such applications are filed with the Office of Student Administration and will be processed only at the beginning of a quarter. Failure to secure official approval to reside in the community or to withdraw from a college residence hall will invalidate the registration of the student. Students who have received approval for off-campus living may be called into the college residence halls at any time.
Foreman/Conard. Foreman/Conard is a residence hall complex housing 450 women. The Foreman portion is a seven-story high-rise which houses upper-division women. This building provides elevator service and has individual parlors. The Conard portion of this complex includes such features as a large worship room designed in church style, a recreation room and attractive parlors.

Residence Hall, Portland Campus. Completed in 1978, this is a residence hall for unmarried students. It is located adjacent to the School of Nursing and the Portland Adventist Medical Center.

Sittner Hall. Sittner Hall, which accommodates approximately 400 resident men, includes lounges, a recreation room and health club facilities.

Sittner East. This is the front wing of Conard Hall and accommodates 100 upper-division men.

STUDENT SERVICES

ACADEMIC ADVISEMENT. The Academic Advisement Center coordinates all advisement activities. Students with no other adviser should consider the department chair of their major as their academic adviser. Students planning to teach on either the elementary or secondary level should also consult with the chair of the Department of Education and Psychology.

Freshman Advisement. The freshman advisement program is designed to assist freshmen toward making maximum use of their college experience beginning with freshman orientation and continuing throughout the school year. Each freshman is assigned an adviser by the coordinator of the program prior to the beginning of freshman orientation.

Preprofessional Advisement. Certain faculty members have been appointed to serve as the academic advisers to students preparing for careers in various professional vocations (see the Preprofessional Program section of this bulletin).

CAREER DEVELOPMENT CENTER. The Center is located on the upper level of Village Hall in Room 20. The Career Development Center assists students in three general areas: (1) it can help in early career explorations when students are trying to decide what career might suit them; (2) it offers valuable information about specific career fields, as well as opportunities to get valuable work experience that will help students narrow their career options and make informed decisions; and (3) it provides job search and placement assistance or it will help in decisions on graduate or professional school programs. Career decision-making services include:

(1) a career library with books and pamphlets of up-to-date information on occupations and professions; (2) career information presented by representatives from several fields who come to campus to talk with students; (3) career planning classes which help students learn to identify interests and career values, and develop goal-setting and decision-making skills; (4) a computerized service to give a printout of information about occupations, employment potential, salary range etc.; and (5) workshops which prepare students for employment.
Cooperative Education. In selected programs, students may blend their academic study with career-related, paid, productive employment in business, industry, government, or social agencies. Field placements in various cities of the Northwest are arranged through the Director of Cooperative Education. Placements are for either full or part-time work; duration of appointments and pay rates vary. Supervision and evaluation are the joint responsibility of a professor from the student's major field of study, the Director of Cooperative Education, and the employment supervisor. Participants in the Cooperative Education Program may also enjoy a significant financial advantage. Many of the usual costs of education cease or are reduced during the cooperative education experience, and the rates of pay often are quite attractive. Students wanting further information about placement in cooperative education should get in touch with the Director of the Career Development Center. Further information is also available from chair of participating academic departments.

Placement Services. Placement services include assistance for full-time career positions after graduation, or those undergraduates interested in summer or Cooperative Education experience, as well as appointments for interviews with various companies and professional organizations. Seniors seeking employment assistance should apply for placement services at the beginning of the senior year. A Placement Directory is published annually and is distributed to over 500 organizations in North America. This bulletin includes a picture and personal data for each graduation candidate. Individual placement files are established and maintained at the request of the student.

COUNSELING AND TESTING CENTER. The services of the Counseling Center are designed to help students deal with the pressures of college life. Students can receive help in dealing with negative situations in the past and present, in discovering themselves, and in planning their future. Types of problems commonly discussed include loneliness, depression, stress, relationship conflicts, eating disorders, incest, rape, sexuality, separation from parents, and marriage counseling.

Premarital education is offered for couples contemplating marriage. Issues can be worked through on an individual basis or in a group setting. All counseling is strictly confidential.

Career counseling is also provided by the Center. In-depth investigation of a student's interests, personality, values, skills, and expectations is offered through a variety of tests interpreted by a counselor.

Students can make appointments by visiting the Counseling Center in Village Hall. Or they may call the Center at 527-2666.

Testing Service. The Counseling and Testing Center is the official Testing Center for most standardized tests given on campus. These tests are given on certain dates specified in advance by the testing companies. Most of the tests require advance registration. Applications and information are available at the Counseling and Testing Center. Following are some of the tests administered by the Center:

- American College Testing (ACT)
- Allied Health Professions Admission Test (AHPAT)
- College-Level Examination Program (CLEP)
- Comprehensive English Language Test (CELT)
- Dental Dexterity Test (DDT)
- English Placement Test
Graduate Management Admission Test (GMAT)
Graduate Record Examination (GRE)
Home Study Institute Correspondence Tests
Law School Admission Test (LSAT)
Math Placement Test
Optometry College Admission Test (OCAT)
Test for Entrance into Teacher Education Programs (TETEP)
Test of English as a Foreign Language (TOEFL)

EDUCATIONAL COMPUTER CENTER. Walla Walla College offers computer services to a wide variety of college users through its Educational Computer Center. Computer services are available for instructional use by all faculty, staff and students from all segments of the campus including both the sciences and the humanities, using over two dozen terminals located primarily in large, conveniently located terminal clusters. These facilities are used as laboratories in classes teaching computer concepts and languages, as tools in classes requiring data manipulation, and as instructional aids in any discipline offering tutorial assistance and testing.

The novice user may communicate with the computer in easy, English-like language or use stored sophisticated routines requiring no knowledge of specialized computer languages. The more experienced user may use any of a large number of standard languages including BASIC, FORTRAN, RPG II, COBOL and PASCAL in addition to powerful assemblers, editors and utility languages. Time-sharing allows large numbers of users to simultaneously use the computer. Each may choose any of the available languages independent of which language others are using. A batch mode is also available for noninteractive use.

HEALTH EDUCATION SERVICE. Walla Walla College adheres to the Seventh-day Adventist philosophy of healthful living and abstinence from all harmful substances. Recognizing that not all college students make choices consistent with this philosophy, the Health Education Service provides individualized assessment, testing, counseling, and referral services. This office works closely with the residence hall deans and the Vice President of Student Administration to insure that students receive adequate help and support. It is a condition of continued enrollment that students follow the recommendations of this group. The student will bear the moderate costs associated with assessment and treatment of chemical dependancy.

STUDENT HEALTH CENTER. Clinical facilities are available for students requiring medical attention. Physician consultations, medication, and medical supplies are available. More serious medical and surgical services are provided by Walla Walla General Hospital. Student Health Service personnel will assist with insurance billing; however, financial responsibility for hospital care rests with the student.

Students on the Portland campus receive routine health services through the Employee Health Department of Portland Adventist Medical Center. Major illnesses may be treated through the emergency room or through hospitalization. In case of hospitalization, the student must make financial arrangements with the Medical Center.

TEACHING LEARNING CENTER. All Walla Walla College students may use the Teaching Learning Center services free of charge to improve business, language,
mathematics, science, writing and study skills. Private tutoring is available for a small fee. The center also offers a variety of seminars to help students improve their academic skills.

STUDENT ORGANIZATIONS AND ADVISERS

ASSOCIATED STUDENTS

The Associated Students is an organization whose membership consists of all faculty members and regularly enrolled students. The association has for its objective the promotion of Walla Walla College ideals and activities. The three official publications of the Associated Students are the Mask, the student directory; The Collegian, the weekly newspaper of the College; and the Mountain Ash, the yearbook.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Faculty Adviser</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASWWC Sponsor</td>
<td>Walter Meske</td>
</tr>
<tr>
<td>ASWWC Religious Activities Committee</td>
<td>Winston De Haven</td>
</tr>
<tr>
<td>The Collegian</td>
<td>Lori Lewis, Dave Bullock</td>
</tr>
<tr>
<td>The Mask</td>
<td>Kenneth Gruesbeck</td>
</tr>
<tr>
<td>The Mountain Ash</td>
<td>Tom Emmerson</td>
</tr>
<tr>
<td>Campus Ministries</td>
<td>Winston De Haven</td>
</tr>
<tr>
<td>Sabbath School</td>
<td>Beverly Beem</td>
</tr>
<tr>
<td>Student Missionary</td>
<td>Winston De Haven</td>
</tr>
</tbody>
</table>

CAMPUS CLUBS AND ADVISERS

Aleph Gimel Ain (AGA); Dormitory Women ........................................... Ilo Hutton
Canadian Club; Canadian students ...................................................... Gary Brendel
Epsilon Mu Sigma (EMS); Married students ............................................ Leonard Laabs
International Club ................................................................. Gordon Hare
Omicron Pi Sigma (OPS); Dormitory men ............................................ Lynn Prohaska
Village Singles Club ............................................................... Doug Taylor
ADMISSION
TO THE COLLEGE

Walla Walla College welcomes to its school family any student who wishes to obtain a quality education in a Christian environment. It is committed to equal opportunity for all students and extends the rights, privileges, programs and activities generally accorded or made available to all members of the college community. Walla Walla College does not discriminate on the basis of sex, race, handicap, color, national and/or ethnic origin in administration of its admissions, educational, financial, employment and student life programs and policies, or any other college-administered program.

ADMISSION PROCEDURE

Formal application for admission to the College is required on a form supplied through the Admissions Office. A recent photograph and a $20 fee must be included. The chief factors considered by the Admissions Committee are scholastic achievement, good character, financial support and good health. After the applicant’s transcripts and recommendations have been received by the College and approved by the Admissions Committee, prompt notification of acceptance is sent.

Applications should be made as early as possible prior to the quarter in which study is to commence. All records become the property of the College.

Transcripts, applications and other credentials submitted for admission will be destroyed after two years if the applicants do not enroll in the College.

OFFICIAL TRANSCRIPT. While a student may receive acceptance on the basis of an unofficial or an incomplete transcript, no one will be permitted to complete registration until there is an official transcript on file in the Academic Records Office.

LETTER OF ACCEPTANCE. Under no condition should an applicant consider himself accepted until he has received an official letter of acceptance. Applicants ought not to plan on residence or work on the campus until they have been formally accepted.

ROOM DEPOSIT. A $50 room deposit is required of all residence-hall students. This should be sent to the Accounting Office as soon as possible after acceptance. This will guarantee a room for the year. This fee is refundable any time until September 1 of each year. See section on Financial Information.

COLLEGE ENTRANCE EXAMINATION. ACT (American College Testing Program) test scores must be submitted by all entering freshmen and transfer students with fewer than 30 quarter credits. Students without these test scores will be provisionally registered (provided other criteria are met) until they have taken the ACT
during one of the regularly scheduled on-campus administrations of the test during their first quarter in residence.

All Seventh-day Adventist senior academies in the North Pacific Union Conference are testing centers for ACT, providing these services on a non-Saturday schedule. High school students and others not enrolled at these academies are invited to write or telephone the guidance counselor at the academy of their choice to obtain information regarding participation in the ACT testing program.

MEDICAL EXAMINATION. The health services of the College are administered by a registered nurse. In order to give efficient service and aid in cases of illness and accident, the College requires that all new students present a certificate of a recent physical examination. Approved forms are available in the Academic Records Office.

ADMISSION STATUS

Regular. The following entrance requirements apply to students entering all Bachelor and some Associate degree programs. Students planning entrance to Associate degree programs should inquire concerning possible variations in entrance requirements.

Applicants for admission to the College should have graduated from an accredited secondary school and have a minimum grade-point average of 2.00. All students with secondary school backgrounds must present the following semester credits for admission:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>40</td>
</tr>
<tr>
<td>History</td>
<td>20</td>
</tr>
<tr>
<td>Algebra I</td>
<td>10</td>
</tr>
<tr>
<td>Geometry</td>
<td>10</td>
</tr>
<tr>
<td>Science</td>
<td>10</td>
</tr>
<tr>
<td>Laboratory Science</td>
<td>10</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Language*</td>
<td>20</td>
</tr>
<tr>
<td>Social Studies</td>
<td>10</td>
</tr>
<tr>
<td>Science (additional)</td>
<td>10</td>
</tr>
<tr>
<td>Mathematics** (additional course should be taken in the junior or senior year)</td>
<td>10</td>
</tr>
</tbody>
</table>

* Students completing two years of the same foreign language at the secondary level will fulfill the elementary language requirements for the bachelor of arts degree.

** Additional departments may require 10 semester credits of Algebra II including Trigonometry. Please check department requirements.
Provisional. Provisional admission may be granted to applicants who lack one or more of the subjects required for entrance, or whose grade-point average is below 2.00. All students accepted on a provisional basis must check with the Dean of Records about specific requirements for meeting their deficiencies. Students must make up deficiencies during the freshman year to qualify for admission to the second year of studies. A student must satisfy entrance requirements in mathematics before enrolling for a college level (above 100 level) mathematics class. Concurrent enrollment may be allowed with permission from the department of Mathematics.

ADMISSION TO CHOSEN MAJORS

Certain major areas of study require specific subjects prior to admission. The following departments require an additional 10 semester credits of Algebra II which should include Trigonometry:

Chemistry
Computer Science
Engineering
Mathematics
Physics

Business recommends 10 semester credits of Algebra II.

Applicants who are deficient in subjects required for entrance to their chosen major will be required to:

1. Present secondary credit to cover the deficiency by the end of the first year of registration in that major; or
2. Complete a waiver examination by the end of the first year of registration in that major; or
3. Take additional college course work in areas approved by the major adviser.

ADMISSION BY EXAMINATION

HIGH SCHOOL EQUIVALENCY. Mature persons who have not completed secondary school or who are unable to furnish a transcript of credits may be admitted to freshman standing on the basis of a high school equivalency diploma. Such students will have obtained an average standard score of 50 on the five sections of the General Education Development (GED) Test, with no score less than 45 on any one section. The student must be at least 18 years of age when the test is taken and four years must have elapsed since the student's eighth grade graduation.

CALIFORNIA HIGH SCHOOL PROFICIENCY EXAMINATION. Applicants who are under 18 years of age, but have successfully passed 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 reasons, goals and objectives 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.
NONMATRICULATED ADMISSION

NONMATRICULATED ADMISSION. Mature individuals ineligible for regular admission may be admitted as nonmatriculated students and may register for any course for which they have sufficient background. Nonmatriculated students are not eligible for a degree; however, by completing requirements for regular admission, they may become degree candidates.

GUEST ADMISSION. Students who have been in residence at other institutions of higher learning and who are not candidates for a degree from Walla Walla College may be classified as guest students. The guest student must show evidence that he is in good and regular standing at the university or college to which the credits are to be transferred.
SPECIAL STUDENTS. Students who are currently enrolled as seniors in secondary school and who have permission from their principal are classified as special students.

ADMISSION OF INTERNATIONAL STUDENTS

Applicants must have met the college or university entrance requirements of their native country. If English is not the native language, international students must demonstrate ability to pursue studies in the English language by passing the University of Michigan Test of English Language Proficiency with a minimum score of 85. Questions regarding this test should be directed to Testing and Certification, English Language Institute, University of Michigan, North University Building, Ann Arbor, Michigan 48104. Students presenting Test of English as a Foreign Language (TOEFL) scores of 500 and above need not take the University of Michigan Test. In addition to tests taken abroad, students will be evaluated after arrival at Walla Walla College for appropriate placement in English. Before final acceptance is given and an I-20 form sent to the applicant, the applicant must have $1,500 on deposit with the College. (Canadian students are exempt.) Please see also the section "International Students" under Financial Information.

ADMISSION OF TRANSFER STUDENTS

ACCRREDITED COLLEGES. Applicants who have attended accredited institutions of higher education and who have on file in the Academic Records Office official transcripts showing a minimum grade-point average of 2.00 on all course work taken may be admitted to advanced standing. Students transferring from other institutions may be required to take validating examinations should they wish credit to be transferred to Walla Walla College. Failure to indicate at the time of application that work has been taken at other institutions invalidates any admission.

COMMUNITY COLLEGE. A maximum of 96 quarter hours may be transferred from an accredited community or two-year college (see Concurrent Registration, p. 28).

ENGINEERING TRANSFER STUDENTS. Students enrolled in the Engineering affiliation program will be allowed to graduate under any official Walla Walla College bulletin in effect since the time they first enrolled on an affiliated campus as an engineering student provided that the bulletin chosen has been current at some time within three academic years prior to the first year at Walla Walla College. Any student who withdraws 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 his withdrawal.

SENIOR TRANSFER STUDENTS. A transfer student with senior standing must be in residence three consecutive quarters and must 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.

residence is not necessary but three years and recommendations
ACADEMIC INFORMATION
AND POLICIES

ACADEMIC POLICIES

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

The academic year is divided into four quarters. The summer session is regarded as one quarter of the academic school year. (See Summer Bulletin)

REGISTRATION

All students are required to register on designated days at the beginning of each quarter. Registration is official only after all procedures required by the College have been completed and all fees have been paid. Faculty advisers are available to assist students with registration and in the planning of academic programs.

LATE REGISTRATION. Due to unusual circumstances, students may register after the designated registration periods, however, they will be charged a late registration fee. Students may register after the first week of a quarter only with permission of the Dean of Records and the instructors involved. Late registrants may expect a reduction in course load.

CONCURRENT REGISTRATION. Students registered at Walla Walla College wishing to enroll for courses in neighboring colleges must have prior approval of the Dean for Academic Administration prior to enrollment. Students wishing to take courses at Whitman College under the exchange program, must also make prior arrangements with the Dean for Academic Administration.

CHANGES IN REGISTRATION. Changes in registration may be made during the first four days of instruction without charge. Course changes after the first four days require permission in advance from the instructor and from the student's academic adviser. A charge for each course added or dropped is made after the first four days of instruction. Courses may not be added after the second week of any quarter.

FRESHMAN ORIENTATION. All entering freshmen are required to attend the orientation program. Counseling and instruction concerning study skills, registration and college regulations are given.
ADMISSION TO UPPER DIVISION. A student may register for upper-division courses with the permission of the department chair and the instructor of the course provided that the student has completed ENGL 121, 122, 123, College Writing, or its equivalent and has completed 45 quarter hours of course work.

SENIOR REGISTRATION FOR GRADUATE COURSES. Seniors who wish to take graduate (500) courses must submit to the Graduate Council for evaluation an approved senior outline and transcript. Approval to register for a course is given only after determination of eligibility for admission to the Graduate School. Credits taken under any circumstances will not apply to a graduate program without completed graduate application forms and registration approval.

For admission to the graduate program, students should consult the Graduate Bulletin.

COURSE LOAD

The academic study load at Walla Walla College is described in terms of quarter hours. A quarter hour normally represents one class meeting a week or three hours of laboratory work a week for the duration of the quarter. 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 two clock hours a week in outside preparation or three hours a week in supervised study or laboratory work.

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

Students in college residence halls are charged for and should register for a minimum of 12 hours per quarter, except seniors in their final quarter who need less than 12 quarter hours to graduate. Requests for exceptions should be processed through the Student Administration Office.

The following minimum study loads will satisfy the authorities 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

WITHDRAWALS

ALL COURSES. Students withdrawing from all classes must submit an official Class Drop Voucher to the Academic Records Office. It must be signed by: (1) Vice President for Student Administration (2) Academic Adviser, (3) Director of Student Financial Services (4) Dean of Academic Records.
INDIVIDUAL COURSES. 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 on page 9.

CLASS REGULATIONS

Students are not officially registered for a course until the instructor has been informed by the Academic Records Office. Students are not permitted to attend courses for which they have not registered. The student is responsible for punctual and regular attendance at all classes for which he is registered. It will be recognized that missing instruction for any reason may jeopardize the class standing and course grade. Students will not be permitted to register for two classes which meet concurrently.

CLASSIFICATION OF STUDENTS

FRESHMAN. Students who have fulfilled the entrance requirements for their chosen course of study and have completed less than 45 quarter hours are classified as freshmen.

SOPHOMORE. Students who have met the entrance requirements of their chosen course of study and who have completed a minimum of 45 quarter hours with a grade-point average of at least 2.00 are classified as sophomores.

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

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

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

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

NONMATRICULATED ADMISSION. Mature individuals ineligible for regular admission may be admitted as nonmatriculated students and may register for any course for which they have sufficient background. Nonmatriculated students are not eligible for a degree; however, by completing requirements for regular admission, they may become degree candidates.

SPECIAL STUDENTS. Students who are currently enrolled as seniors in secondary school and who have permission from their principal are classified as special students.

AUDIT. Students may audit classes provided (1) they register in the usual manner; (2) receive prior approval of the instructor, because some classes may not be audited; (3) pay any special fees, as appropriate; and (4) pay one-half tuition. They are not required to do class assignments or take tests. They receive no grades and no credit. Students may not take challenge or waiver examinations on courses they have audited. Students with a cumulative grade-point average of at least 3.00 and taking 13-16 hours for credit pay $10 for each audited course in excess of 16 hours.
GRADING SYSTEM

The quality of student achievement is measured by a system of grades and by computed grade-point averages. The grade-point average is computed by totaling the grade points of all courses 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. The AU, I, NC, S, W and X are disregarded in computing the grade-point average. A report of grades earned is made to students at the end of each quarter. With the student’s written permission, a copy of his/her quarterly scholarship record will be sent to the parents or guardian.

The following grades and point values are used:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Points per Quarter Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>Above Average</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>Average</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>Below Average</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>Failure</td>
<td>0</td>
</tr>
<tr>
<td>S/NC</td>
<td>Satisfactory (C or better)/No Credit</td>
<td></td>
</tr>
</tbody>
</table>

Indicates that credit earned was satisfactory (C or better) or that the credit was not earned because the course was evaluated with a mandatory S/NC mark but 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.

In place of grades, the following symbols are used:

AU — Audit

I — Incomplete

The Incomplete is given in case of incomplete work due to justifiable cause and must be made up three weeks before the close of the following quarter (excluding summer term). When an Incomplete is turned in to the Academic Records Office, the instructor will also turn in a course grade taking into consideration all the course requirements. This grade will be recorded if the Incomplete is not made up in the allotted time.

W — 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 early in the quarter but failed to withdraw officially.

GRADING REGULATIONS

ERRORS AND CORRECTIONS. Grade reports are issued at the close of each quarter. Upon the receipt of a grade report, the student should carefully check it for correctness as to the courses recorded, quarter hours and grades. Any error should be reported within two weeks to the Academic Records Office. Grades may be changed only if a teacher error has been made.
ACADEMIC PROBATION. Student's whose cumulative grade-point average falls below 2.00 (C) are automatically placed on academic probation and they will remain so classified until the overall grade-point average is again 2.00 (C) or better. The student's record will be reviewed by the Dean for Academic Administration.

DEAN'S LIST. The Dean for Academic Administration maintains a list of those students who have earned a minimum of 15 hours per quarter (excluding "S" credits) and have achieved a grade-point average of 3.50 or better. The names of students otherwise qualifying but having "I" grades will be added to the Dean's List only after their incompletes have been satisfactorily made up.

GRADUATION WITH HONORS. Candidates for the baccalaureate degree with a minimum overall grade-point average of 3.50 and with a 3.50 grade-point average on credit earned at Walla Walla College may be awarded the degree with honors, cum laude.

CREDIT BY EXAMINATION

Walla Walla College 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 comparable classes offered by the College. (Certain college classes may not be challenged.)

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

1. Students must be currently enrolled before credit by examination can be recorded on the permanent record.
2. Credit by examination may be earned only if the student has not already earned credit in a similar course.
3. A maximum of 24 quarter hours by examination may be counted toward a baccalaureate degree excluding validation examinations.
4. Grades are issued as on normal test scores and all grades are recorded on the permanent record of the student.
5. Examinations may not be repeated.
6. Repeat course work and F grades are not open to credit by examination.
7. Students may not take challenge or waiver examinations on courses they have audited.

APPLICATION FORMS. Application forms for challenge, validation and/or waiver examinations may be obtained from the Academic Records Office.

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

English 121, 122; or 141, 142 College Writing
Students obtaining a 3, 4, or 5 will receive 6 quarter hours which will fulfill two quarters of the College Writing requirement. All students must take ENGL 123 or 143.
History 221, 222  History of the United States
Students obtaining a 4 or 5 will receive 8 quarter hours which will fulfill two quarters of the History requirement.

COLLEGE-LEVEL EXAMINATION PROGRAM (CLEP). There are two types of CLEP examinations General and Subject. Walla Walla College grants credit for Subject Examinations only. The Guidance and Counseling Center administers these tests in the third week of each month. Candidates should consult with the center for application forms and other specific information. These tests may not be repeated.

A number of subject-matter examinations are offered by CLEP. Students obtaining the percentile established by the department will receive credit toward that basic requirement.

Biology 101, 102, 103  General Biology
Students obtaining the 70th percentile in the “Biology” examination will receive 12 quarter hours which will fulfill the basic science requirement.

English 121  College Writing
Students who earn a 60th percentile on the English examination will receive credit for ENGL 121. All students must take ENGL 122, 123 or 142, 143.

History 221, 222  History of the United States
Students achieving the 60th percentile 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 History 221; that covering 1865 to the present may substitute for History 222.

Mathematics 117  Precalculus
Students obtaining the 50th percentile in the “College Algebra-Trigonometry” test will receive 5 quarter hours which will fulfill the basic math requirement.

Mathematics 121  Fundamentals of Mathematics
Students obtaining the 50th percentile in the “College Algebra” test will receive 4 quarter hours which will fulfill the basic math requirement.

Sociology 204  General Sociology
Students obtaining the 60th percentile in the “General Sociology” examination will receive 4 quarter hours which will fulfill the basic social studies requirement.

CHALLENGE EXAMINATIONS. A challenge examination is a college-prepared or a standardized examination which, if successfully completed, will yield regular college credit. A student wishing to challenge a course must first obtain permission from the chair of the department in which the course is offered and then the permission of the course instructor. 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. A fee is charged as indicated under the heading “Special Fees” of the financial section of this bulletin.

VALIDATION EXAMINATIONS. Students who have transcripts from nonaccredited 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 College. Upon successful completion of the examination, the stu-
dent will be given credit in the comparable College course. A student must first obtain permission from the chair of the department in which the course is offered and then the permission of the course instructor. A fee is charged as indicated under the heading "Special Fees" of the Financial section of the bulletin.

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. A fee is charged as indicated under the heading "Special Fees" of the Financial section of this bulletin.

TRANSFER CREDIT BY EXAMINATION. Credit earned by examination may be transferred from other educational institutions provided such credit meets the guidelines used by Walla Walla College 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, 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.

CORRESPONDENCE WORK

The College will accept a maximum of 24 quarter hours of approved courses by correspondence toward a baccalaureate degree or a maximum of 12 quarter hours for the associate degree. Correspondence work will not meet upper-division requirements, nor can a student who has failed a course make this up by correspondence study. Students must obtain approval from their major department chair in order to carry correspondence work while in college. Correspondence work may not apply on a major unless approved by the department chair concerned. Seniors must have all correspondence work completed prior to the beginning of their last quarter in residence.

The Home Study International, Washington, D.C., is a member of the Seventh-day Adventist school system in the United States, and while we recommend this correspondence school, students may take correspondence from any accredited correspondence school. Further information may be obtained from the Academic Records Office.
EXTENSION COURSE WORK

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

Because of the commitment of Walla Walla College to the preparation of Christian teachers and other professionals for southeast Asia, the college operates an extension degree program on the Southeast Asia Union College campus. Walla Walla College confers approved baccalaureate degrees on those students who fulfill the necessary admission, academic, and course requirements.

The College 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 College, together with nine 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, arrangements are in operation for students to study a full year at Seminaire Adventiste, Collonges-sous-Saleve, France; Colegio Adventista de Sagunto, Sagunto, Spain; and Seminar Schloss Bogenhofen, Braunau, Austria.
Prerequisites for admission to a year of study abroad through ACA are:

1. Admission as a regular student of Walla Walla College.
2. Competence in the language (minimum: one year of college language or two years of secondary study).
3. A grade-point average of 3.00 in the language and an overall grade-point average of 2.50.
4. A good citizenship record.
5. Application to the Academic Records Office on the special ACA application form.
6. Meeting the financial requirements.
7. Transcripts will be recorded only for students who have been or who are currently enrolled at Walla Walla College.

Students planning to study under this program must submit a completed application with a $100 refundable deposit by January 3, 1988, as there are usually more applications than spaces available.

All applications and payments for tuition, room and board are to be made through Walla Walla College before August 1. Any deviation from this schedule by students of Walla Walla College must be arranged in advance with the Office of Financial Aid. A small incidental deposit is to be made to the foreign college on arrival.

Financial credit for work cannot be counted on by students residing in foreign countries. The student financial aid officer has information on grants and loans available to students for overseas study.

Academic credit will be granted for these studies so that a student will 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. It is recommended that students desiring to participate do so during their sophomore year. Applicants must consult with their major professors, the Modern Language Department and the Dean of Records prior to enrollment. The Dean of Records, the Major Department Chair, and the Academic Standards Committee will determine how the credits are applied.

Information and applications may be obtained from the Academic Records Office.

**FINAL EXAMINATIONS**

All students are expected to take final examinations as scheduled. Special administrations are arranged by petition to the Dean for Academic Administration three weeks prior to the close of the quarter. If approved, a special fee of $30 for each examination is assessed.

**TRANSCRIPTS**

One transcript of a student's record is supplied without charge. A fee of $2 per transcript is charged thereafter. Credit is not recorded after a student has ceased residence in the College.
THE ACADEMIC PROGRAM

DEGREES OFFERED

Walla Walla College offers courses of study leading to the following degrees:

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

Walla Walla College is a comprehensive institution of higher education offering not only traditional liberal arts programs, but also preprofessional, special two-year associate degree curricula, and certificate programs for students who may wish to pursue a terminal program of a vocational nature. For a listing of undergraduate and graduate areas of study offered see pages 6 and 7 of this bulletin.

GRADUATE DEGREES

Students desiring information concerning graduate degree requirements (standards of admission, degree candidacy, curricula, etc.) should consult the Graduate Bulletin, which is available at the Academic Records Office.

TEACHER EDUCATION PROGRAM

The Walla Walla College Department of Education and Psychology is authorized by the Washington State Board of Education to recommend both initial and continuing teachers’ and principals’ credentials. Students who plan to enter the teaching profession with a denominational or state teaching credential should become thoroughly acquainted with the certification requirements as 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 that foreign language study be included in the student's course of study.

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 minor or foreign language study is required.

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 in Business Administration degree consists of a four-year program with concentrations available in accounting, economics, management, management information systems and marketing. For specific requirements, see the Business section of this bulletin.

The Bachelor of Science in Engineering degree is a four-year program approved by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc., requiring 200 quarter hours of course work. It is designed to prepare students for entry into the profession of engineering and to provide an adequate foundation for graduate studies in civil, electrical or mechanical areas. 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 designed to meet the requirements of the Council on Social Work Education. It permits specialization in the area and qualifies students for job entry in a variety of social service agencies. For specific requirements, see the Sociology and Social Work section of this bulletin.

**BACCALAUREATE DEGREE REQUIREMENTS**

Although general studies are stressed during the first two years of study, the student should plan to include certain elementary and intermediate courses in the desired major during the freshman and sophomore years to permit successful completion of 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 plans his choices with an academic adviser. A major should 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. A student 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 not in regular attend-
dance for one full school year (except for Student Missionaries and Taskforce workers) must meet the requirements of the current bulletin upon resuming attendance. 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 two years 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.

Degrees are formally conferred in June and in August of each year. Students completing all degree requirements may receive their degrees at the close of the quarter of completion of their studies and are eligible to participate in the June graduation exercises. All degrees received at times other than at the June and August presentation are granted in absentia and a special fee is required. The college president must approve all degrees granted in absentia.

Residence Requirements:

1. Degree candidates must be in residence the three quarters preceding graduation.

2. Transfer students must be in residence the three consecutive quarters preceding graduation and must complete a minimum of 36 quarter hours, including 9 upper-division quarter hours in the major and 3 upper-division quarter hours in the minor.

General Requirements:

1. **Credits required.** Successful completion of a minimum of 192 quarter hours, including 60 quarter hours in courses numbered 300 or above, and a cumulative grade-point average of 2.00 (C) or above.

2. **Major.** The completion of a major field of departmental specialization (minimum of 45 quarter hours). 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. The maximum allowed on a major for the Bachelor of Arts degree is 60 quarter hours unless the excess is beyond the 192 quarter hours required for the degree, except for the music major which is 66 quarter hours. 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. Students taking double majors must meet all the degree requirements for each major, including the general studies program.

3. **Minor.** Bachelor of Arts degrees require the completion of a minor of at least 27 quarter hours 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 fulfill requirements for several majors or minors but credit will apply to only one.

4. **General Studies Requirements.** The completion of the general studies requirements as specified for the type of degree sought and as outlined below and detailed in the following section (86 quarter hours for the Bachelor of Arts and 74 quarter hours for the Bachelor of Science degree).
5. **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 Dean of Academic Records 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 Dean of Academic Records.

6. **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 College.

7. **Comprehensive Examinations.** A comprehensive examination is required for each major before a degree may be conferred. For some majors the Graduate Record Examination (GRE) subject examination is used as the comprehensive. Where GRE subject examinations are not available for specific majors the academic department will provide a comprehensive examination or project.

Students whose majors require that they take the Graduate Record Examination (GRE) should make arrangements at the Counseling Center at least six weeks in advance of the test dates.

8. **Transcripts and Correspondence Work.** June seniors must have all transcripts for correspondence transfer credit on file in the Academic Records Office by May 15, and summer seniors by July 15, in order to graduate. **Seniors must have all correspondence work completed prior to the beginning of their last quarter in residence.**

9. **Second Baccalaureate Degree.** Two baccalaureate degrees may be conferred concurrently or sequentially if the candidate has met all requirements, has completed a total of 237 quarter hours, and has spent a minimum of three quarters (36 quarter hours) in residence.

10. **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.

**GENERAL STUDIES REQUIREMENTS**

**Objectives.** The general studies courses are required in order to provide the student with opportunities for the acquisition of knowledge and skills over a range of disciplines. While the requirements for a major speak to the need for proficiency and excellence in one or two fields, the general studies courses bring into focus the unity of knowledge and are intended to help the student develop a cognitive perspective consistent with that unity.

The general studies courses are so designed that students may increase both their breadth of knowledge and depth of thought in major areas of learning. The breadth of knowledge is achieved by having students take courses from a number of teachers in many departments and disciplines. The depth of thought, which presupposes background, is achieved (1) by taking courses of sufficient duration to allow for in-depth study or (2) by taking courses that presuppose adequate background for intensive study. Courses in the general studies area are taught, as far as possible, so as to show relationships to other fields of knowledge.
Such a format for the general studies area insures that the students will develop some practical skills, a general knowledge of major areas of learning, in-depth study in selected areas and an overview of the unity of knowledge to help them in their professions as well as to enrich their lives.

For the General Studies Honors Program, see page 48.

Following is an outline of the general studies requirements for the various degrees. A full description and listing of general education courses follow the outline.

<table>
<thead>
<tr>
<th>Degree</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Arts Degree</td>
<td>86 quarter hours</td>
</tr>
<tr>
<td>Bachelor of Music Degree</td>
<td>*</td>
</tr>
<tr>
<td>Bachelor of Science Degree</td>
<td>74 quarter hours</td>
</tr>
<tr>
<td>Bachelor of Science in Business Administration</td>
<td>74 quarter hours</td>
</tr>
<tr>
<td>Bachelor of Science in Engineering Degree</td>
<td>*</td>
</tr>
<tr>
<td>Bachelor of Social Work</td>
<td>74 quarter hours</td>
</tr>
<tr>
<td>Associate of Science Degree</td>
<td>32 quarter hours</td>
</tr>
<tr>
<td>Certificate Program</td>
<td>10 quarter hours</td>
</tr>
</tbody>
</table>

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

**GENERAL AREAS**

The range of hours for each area indicates the minimum number of hours that must be chosen from that area and the maximum number of hours from that area that can 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 can count toward that area requirement. Credits earned beyond the listed maximums may be counted as general electives.

<table>
<thead>
<tr>
<th>Areas</th>
<th>Minimum/Maximum in specific subject areas</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>APPLIED ARTS</strong></td>
<td></td>
<td>0-4</td>
</tr>
<tr>
<td>Courses in the applied arts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>should introduce the student</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to basic manual and technical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>skills.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HEALTH AND PHYSICAL EDUCATION</strong></td>
<td></td>
<td>2-6</td>
</tr>
<tr>
<td>Courses should introduce the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>student to health principles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and, by stressing both theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and activity, emphasize the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pursuit of healthful living.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(No more than 4 quarter hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>from any one area will count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>toward the requirement.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity Courses</td>
<td></td>
<td>2-4</td>
</tr>
<tr>
<td>Theory Courses in Health,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health-related, or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition</td>
<td></td>
<td>0-4</td>
</tr>
</tbody>
</table>
HISTORY AND SOCIAL STUDIES ........................................ 12-20
Courses in history and social studies 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 Studies courses should introduce the student to the methodology and contributions of the particular discipline.

History ........................................ 8
Social Studies ................................. 4-12

If more than one course is selected from the areas listed below, courses chosen must be from two or more areas:
Business/Economics  Geography/Political Science
Education  Psychology
Engineering  Sociology

HUMANITIES ........................................ 12-16
Courses in the fine arts, literature and philosophy should introduce the student to mankind's 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. (No more than 8 quarter hours from any one area will count toward the requirement.)

Fine Arts ...................................... 0-8
Literature ...................................... 0-8
Philosophy ...................................... 0-8

LANGUAGE ARTS ........................................ 12-20
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. ENGL 121, 122, 123 or equivalent is required. Completion of an elementary course in a foreign language (12 credits of the same language) is required of all Bachelor of Arts degree students. This requirement may also be met by the satisfactory completion of two years of the same foreign language in secondary school.

The first course in the communications area must be selected from oral communication courses.

College Writing .............................. 8
Communications ................................ 0-8
Foreign Language ............................ 0-12
MATHEMATICS AND NATURAL SCIENCE .......................... 12-16
Courses in mathematics should introduce the student to mathematical thought and practice and to the relationship of mathematics to other disciplines. Courses in science should introduce the student to 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 science area.)

Mathematics .............................. 4-8
Science .................................. 8-12

RELIGION AND THEOLOGY ................................. 16-20
Courses in religion and theology should emphasize an understanding and application of Biblical knowledge, foster continued spiritual growth and help the student develop a personal religious philosophy and prepare for active witnessing.

Biblical Studies .......................... 6-20
Electives in Religion
or Theology .............................. 0-14

A minimum of 6 quarter hours must be upper division.

Religion requirement for transfer students from non-SDA colleges:

Transfer students will take the equivalent of three hours per quarter in residence, but with the understanding that a student who spends six or more quarters in residence is required to take only the minimum requirement of 16 hours. Students in residence for three or four quarters must include three hours of Biblical studies (three hours of the total religion requirement must be upper division). Students in residence five quarters or more must include six hours in Biblical studies (six hours of the total religion requirement must be upper division).

Students from non-SDA regional accredited colleges may transfer up to six hours of credit toward the general studies religion requirement, subject to the approval of the School of Theology and the Academic Standards Committee. In such cases, however, the student will still be required to take a minimum of nine hours of religion from Walla Walla College.

SPECIFIC COURSES FOR GENERAL STUDIES

The following list of specific courses will satisfy the General Studies Requirements:
(Courses listed in more than one area of general studies may be applied in only one area for an individual student.)

APPLIED ARTS ................................. 0-4
All 100-level courses with the following prefixes: ABOD, AUTO, AVIA, CPTR, DRFT, ENGR, FDNT, FINA, GRPH, MIS, and PRNT.

All 100- and 200-level courses with the following prefixes: ACCT, ART (except 161-163; 244-251); ELCT, HMEC (except 101, 201); INCR, INDS and OFAD (except 161; 255-264).

In addition COMM 231 and LIBR 111.

44
HEALTH and PHYSICAL EDUCATION

Activity Courses: 2-4
ALL PEAC 101-199 Activity Courses

Theory Courses in Health, Health-related, or Nutrition: 0-4

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDNT 220</td>
<td>Wellness for Living</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 110</td>
<td>Drugs and Society</td>
<td>2</td>
</tr>
<tr>
<td>HLSC 208</td>
<td>Principles of Health</td>
<td>3</td>
</tr>
</tbody>
</table>

HISTORY and SOCIAL STUDIES

History: 8

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120, 121, 122</td>
<td>History of Western Civilization</td>
<td>4, 4, 4</td>
</tr>
<tr>
<td>*HIST 131, 132, 133</td>
<td>Western Thought I (Honors)</td>
<td>4, 4, 4</td>
</tr>
<tr>
<td>HIST 221, 222</td>
<td>History of the United States</td>
<td>4, 4</td>
</tr>
<tr>
<td>HIST 225</td>
<td>History of Canada</td>
<td>4</td>
</tr>
<tr>
<td>HIST 274, 275</td>
<td>History of England</td>
<td>4, 4</td>
</tr>
<tr>
<td>HIST 284, 285</td>
<td>History of Latin America</td>
<td>4, 4</td>
</tr>
</tbody>
</table>

*Equivalent to 8 hours HIST 120, 121, 122 and ENGL 207 if complete course is taken.

Social Studies: 4-12

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 225</td>
<td>Cultural Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>COMM 145</td>
<td>Mass Communication Media</td>
<td>4</td>
</tr>
<tr>
<td>ECON 211</td>
<td>Principles of Macroeconomics</td>
<td>4</td>
</tr>
<tr>
<td>ECON 212</td>
<td>Principles of Microeconomics</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 110</td>
<td>Principles and Concepts of Christian Education</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 210</td>
<td>Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>**ENVI 385</td>
<td>The Environment and Man</td>
<td>4</td>
</tr>
<tr>
<td>GBUS 361, 362</td>
<td>Business Law</td>
<td>4, 4</td>
</tr>
<tr>
<td>GEOG 258</td>
<td>World Geography</td>
<td>4</td>
</tr>
<tr>
<td>PLSC 224</td>
<td>American Government</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 130</td>
<td>General Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 230</td>
<td>Systems and Theories in Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 444</td>
<td>Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 204</td>
<td>General Sociology</td>
<td>4</td>
</tr>
<tr>
<td>SOCI 225</td>
<td>Marriage and Family Life</td>
<td>2</td>
</tr>
<tr>
<td>SOCI 349</td>
<td>Religion in a Social Context (Honors)</td>
<td>4</td>
</tr>
<tr>
<td>SOWK 266</td>
<td>Social Welfare as a Social Institution</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 401</td>
<td>Introduction to General Semantics</td>
<td>2</td>
</tr>
</tbody>
</table>

**Only two hours will apply toward the social studies requirement; the other two hours will apply to Natural Science.

HUMANITIES

Fine Arts: 0-8

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 251</td>
<td>Introduction to Art</td>
<td>4</td>
</tr>
<tr>
<td>ART 321, 322, 323</td>
<td>History of Art</td>
<td>2, 2, 2</td>
</tr>
<tr>
<td>**ENGL 311, 312, 313</td>
<td>Western Thought II (Honors)</td>
<td>4, 4, 4</td>
</tr>
<tr>
<td>MUHL 124</td>
<td>Introduction to Music</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 363</td>
<td>History of Dramatic Arts</td>
<td>4</td>
</tr>
</tbody>
</table>
**Literature: 0-8**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 204</td>
<td>Introduction to Literature</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 205</td>
<td>American Literature</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 206</td>
<td>English Literature</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 207</td>
<td>World Literature</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 209</td>
<td>Religious Literature</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 214</td>
<td>Themes in Literature</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 215</td>
<td>Film Literature</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 311, 312, 313</td>
<td>Western Thought II (Honors)</td>
<td>4, 4, 4</td>
</tr>
</tbody>
</table>

***Equivalent to 4 hours each ENGL 204, ART 251, MUHL 124 if complete course is taken.***

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 454</td>
<td>Literature of the Bible</td>
<td>4</td>
</tr>
<tr>
<td>*HIST 131, 132, 133</td>
<td>Western Thought I (Honors)</td>
<td>4, 4, 4</td>
</tr>
<tr>
<td>FREN 301, 302, 303</td>
<td>Survey of French Literature</td>
<td>3, 3, 3</td>
</tr>
<tr>
<td>GRMN 311, 312, 313</td>
<td>Survey of German Literature</td>
<td>3, 3, 3</td>
</tr>
<tr>
<td>SPAN 324, 325, 326</td>
<td>Survey of Spanish Literature</td>
<td>3, 3, 3</td>
</tr>
</tbody>
</table>

*Equivalent to 4 hours of ENGL 207, and 8 hours HIST 120, 121, 122 if complete course is taken.*

**Philosophy: 0-8**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL 205</td>
<td>Introduction to Philosophy</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 206</td>
<td>Introduction to Logic</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 305</td>
<td>Moral Philosophy</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 306</td>
<td>History of Philosophy</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 407</td>
<td>Philosophy of Science</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 412</td>
<td>Philosophy of Religion</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 440</td>
<td>Problems in Philosophy</td>
<td>4</td>
</tr>
</tbody>
</table>

**LANGUAGE ARTS............................................. 12-20**

**English: 8**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 121, 122, 123</td>
<td>College Writing</td>
<td>3, 3, 2</td>
</tr>
<tr>
<td>ENGL 141, 142, 143</td>
<td>College Writing (Honors)</td>
<td>3, 3, 2</td>
</tr>
</tbody>
</table>

**Communications: 0-8**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 324</td>
<td>Advanced Expository Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 325</td>
<td>Advanced Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>JOUR 245</td>
<td>Journalistic Writing</td>
<td>4</td>
</tr>
<tr>
<td>JOUR 341</td>
<td>Magazine Article Writing</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 101</td>
<td>Fundamentals of Speech Comm.</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 207</td>
<td>Small Group Communication</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 443</td>
<td>Persuasive Speaking</td>
<td>4</td>
</tr>
</tbody>
</table>

The first course in the communications area must be selected from oral communication courses.

**Foreign Language: 0-12**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREN 101</td>
<td>Introduction to French</td>
<td>4</td>
</tr>
<tr>
<td>FREN 102, 103</td>
<td>Elementary French</td>
<td>4, 4</td>
</tr>
<tr>
<td>FREN 202, 203</td>
<td>Intermediate French</td>
<td>4, 4</td>
</tr>
<tr>
<td>GRMN 111</td>
<td>Introduction to German</td>
<td>4</td>
</tr>
<tr>
<td>GRMN 112, 113</td>
<td>Elementary German</td>
<td>4, 4</td>
</tr>
<tr>
<td>GRMN 212, 213</td>
<td>Intermediate German</td>
<td>4, 4</td>
</tr>
<tr>
<td>RLANG 121, 122, 123</td>
<td>Greek I</td>
<td>3, 3, 3</td>
</tr>
<tr>
<td>SPAN 121</td>
<td>Introduction to Spanish</td>
<td>4</td>
</tr>
</tbody>
</table>

46
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 122, 123</td>
<td>Elementary Spanish</td>
<td>4, 4</td>
</tr>
<tr>
<td>SPAN 222, 223</td>
<td>Intermediate Spanish</td>
<td>4, 4</td>
</tr>
</tbody>
</table>

**Twelve hours required for the B.A. degree or two years of the same language in secondary school.**

**MATHEMATICS and NATURAL SCIENCE.................................... 12-16**

*Mathematics: 4-8*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 105</td>
<td>Mathematics with Applications</td>
<td>4</td>
</tr>
<tr>
<td>MATH 106</td>
<td>Applied Statistics</td>
<td>4</td>
</tr>
<tr>
<td>MATH 115</td>
<td>Elementary Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>MATH 117</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>MATH 121, 122</td>
<td>Fundamentals of Mathematics</td>
<td>4, 4</td>
</tr>
<tr>
<td>MATH 123</td>
<td>Survey of Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 181, 281</td>
<td>Analytic Geometry/Calculus I, II</td>
<td>4, 4</td>
</tr>
<tr>
<td>MATH 282, 283</td>
<td>Analytic Geometry/Calculus III, IV</td>
<td>4, 4</td>
</tr>
</tbody>
</table>

*Natural Science: 8-12*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTR 141, 142</td>
<td>General Astronomy</td>
<td>4, 4</td>
</tr>
<tr>
<td>BIOL 101, 102, 103</td>
<td>General Biology</td>
<td>4, 4, 4</td>
</tr>
<tr>
<td>BIOL 105, 106</td>
<td>Biology for General Studies</td>
<td>4, 4</td>
</tr>
<tr>
<td>BIOL 201, 202</td>
<td>Anatomy and Physiology</td>
<td>4, 4</td>
</tr>
<tr>
<td>CHEM 101, 102</td>
<td>Introductory Chemistry</td>
<td>4, 4</td>
</tr>
<tr>
<td>CHEM 141, 142, 143</td>
<td>General Chemistry</td>
<td>3, 3, 3</td>
</tr>
<tr>
<td>CHEM 144, 145, 146</td>
<td>General Chemistry Laboratory</td>
<td>1, 1, 1</td>
</tr>
</tbody>
</table>

**ENVI 385** | The Environment and Man                     | 4     |

*Eight hours must be taken from one course sequence.

**RELIGION and THEOLOGY................................................. 16-20**

*Six hours of this 16-20 must be upper division.*

*Religious Studies: 6-20*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELB 101</td>
<td>Bible Survey</td>
<td>4</td>
</tr>
<tr>
<td>RELB 104</td>
<td>The Ministry of Jesus</td>
<td>4</td>
</tr>
<tr>
<td>RELB 105</td>
<td>Sermon on the Mount</td>
<td>2</td>
</tr>
<tr>
<td>RELB 106</td>
<td>Parables of Jesus</td>
<td>2</td>
</tr>
<tr>
<td>RELB 111</td>
<td>Messages of the Old Testament</td>
<td>4</td>
</tr>
<tr>
<td>RELB 216</td>
<td>Messages of Paul</td>
<td>4</td>
</tr>
<tr>
<td>RELB 281, 282, 283</td>
<td>The New Testament and Its Environment (Honors)</td>
<td>2, 2, 2</td>
</tr>
<tr>
<td>RELB 301</td>
<td>Old Testament History</td>
<td>3</td>
</tr>
<tr>
<td>RELB 302</td>
<td>Pentateuch</td>
<td>3</td>
</tr>
<tr>
<td>RELB 303</td>
<td>Writings</td>
<td>3</td>
</tr>
<tr>
<td>RELB 304</td>
<td>Interpreting the Prophets</td>
<td>4</td>
</tr>
<tr>
<td>RELB 305</td>
<td>Hebrew Prophets and Contemporary Issues</td>
<td>4</td>
</tr>
</tbody>
</table>

47
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELB 312</td>
<td>Daniel</td>
<td>3</td>
</tr>
<tr>
<td>RELB 313</td>
<td>Revelation</td>
<td>3</td>
</tr>
<tr>
<td>RELB 333</td>
<td>Biblical Perspectives on Healing</td>
<td>4</td>
</tr>
<tr>
<td>RELB 434, 435, 436</td>
<td>Gospels</td>
<td>3, 3, 3</td>
</tr>
</tbody>
</table>

**Electives in Religion or Theology: 0-14**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELH 349</td>
<td>Religion in a Social Context (Honors)</td>
<td>4</td>
</tr>
<tr>
<td>RELH 402</td>
<td>Modern Denominations</td>
<td>3</td>
</tr>
<tr>
<td>RELH 403</td>
<td>World Religions</td>
<td>3</td>
</tr>
<tr>
<td>RELH 405</td>
<td>Biblical Archaeology</td>
<td>2</td>
</tr>
<tr>
<td>RELH 406</td>
<td>History of the English Bible</td>
<td>2</td>
</tr>
<tr>
<td>RELH 457</td>
<td>History of Adventism</td>
<td>2</td>
</tr>
<tr>
<td>RELM 233</td>
<td>Introduction to Cross-Cultural Ministry</td>
<td>3</td>
</tr>
<tr>
<td>RELT 112</td>
<td>Theology of Christian Witnessing</td>
<td>3</td>
</tr>
<tr>
<td>RELT 201</td>
<td>The Christian Way of Salvation</td>
<td>4</td>
</tr>
<tr>
<td>RELT 202</td>
<td>Basic Christian Beliefs</td>
<td>4</td>
</tr>
<tr>
<td>RELT 204</td>
<td>Contemporary Issues in Adventist Thought</td>
<td>4</td>
</tr>
<tr>
<td>RELT 246</td>
<td>Christian Ethics</td>
<td>4</td>
</tr>
<tr>
<td>RELT 312</td>
<td>Bioethics</td>
<td>4</td>
</tr>
<tr>
<td>RELT 314</td>
<td>Eschatology</td>
<td>3</td>
</tr>
<tr>
<td>RELT 317</td>
<td>Inspiration and Revelation</td>
<td>4</td>
</tr>
<tr>
<td>RELT 330</td>
<td>Discipleship and Mission</td>
<td>4</td>
</tr>
<tr>
<td>RELT 340</td>
<td>Theology of Spiritual Care</td>
<td>4</td>
</tr>
<tr>
<td>RELT 404</td>
<td>A Scientific Approach to Biblical Interpretation</td>
<td>2</td>
</tr>
<tr>
<td>RELT 408</td>
<td>Doctrine of the Sanctuary</td>
<td>3</td>
</tr>
<tr>
<td>RELT 412</td>
<td>Philosophy of Religion</td>
<td>4</td>
</tr>
<tr>
<td>RELT 417, 418</td>
<td>Christian Dynamics</td>
<td>3, 3, 3</td>
</tr>
<tr>
<td>SOCI 449</td>
<td>Sociology of Religion</td>
<td>2</td>
</tr>
</tbody>
</table>

**GENERAL STUDIES HONORS PROGRAM**

The general studies honors program offers a group of interdisciplinary courses stressing independent research, writing and discussion. All honors courses, except HONR 351, 352, 353, will satisfy general studies requirements for the baccalaureate degree. The honors program is a separate track of general studies and not a major or a minor in itself. Students successfully completing the honors program are given a six-quarter hour tuition grant and, if they have an overall grade-point average of 3.25 at the time of graduation, designation as a “General Studies Honor Graduate” upon graduation. Honors 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; they follow an interdisciplinary approach to stress the unity of knowledge; and the classes are more personalized and typically are small.

**Admission Requirements.** The Admissions Committee considers high school grade-point average (generally 3.30 or higher), ACT test scores or equivalent, an essay submitted by the student as part of his application, and, on occasion, personal inter-
views with applicants and recommendations from teachers. Students already enrolled in college may also apply to the program. The Honors Committee will review all applications and supporting data and notify those students who are accepted.

**Program Requirements.** The following requirements must be met for continuation in and completion of the honors program: (1) maintain a grade-point average of 3.00 or better in the honors courses; (2) maintain a grade-point average of 3.00* or better in overall course work required for graduation; (3) complete at least 35 quarter hours of honors courses (listed below) including HONR 351, 352, 353.

The honors courses fulfill the general studies history requirement, the humanities requirement, the natural science requirement, 8 hours of the language arts requirement, and 10 hours of the religion requirement (or 6 if Religion in a Social Context is taken for sociology credit, in which case the 4-hour social studies requirement is fulfilled).

*The tuition grant will be awarded at the time when the 35 quarter hours of honors courses are completed if a grade-point average of 3.00 has been maintained in both honors courses and overall course work. The designation as a "General Studies Honors Graduate" is contingent upon the student's having a minimum grade-point average of 3.25 in all course work at the time of graduation.

**HONORS COURSES:** See appropriate departments for course descriptions. See below for Honors Colloquium description.

**HISTORY and SOCIAL STUDIES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 131, 132, 133</td>
<td>Western Thought I (Honors)</td>
<td>12</td>
</tr>
<tr>
<td>(equivalent to 8 hours of HIST 120, 121, 122 and ENGL 207 if complete course is taken)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOCI 349 (or RELH 349 see under Religion below)</td>
<td>Religion in a Social Context (Honors)</td>
<td>4</td>
</tr>
</tbody>
</table>

**HUMANITIES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 311, 312, 313</td>
<td>Western Thought II (Honors)</td>
<td>12</td>
</tr>
<tr>
<td>(equivalent to MUHL 124, ART 251, and ENGL 204 if complete course is taken)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LANGUAGE ARTS**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 141, 142, 143</td>
<td>College Writing (Honors)</td>
<td>8</td>
</tr>
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</table>

**NATURAL SCIENCE**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 231, 232</td>
<td>Earth Science (Honors)</td>
<td>8</td>
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</table>

**RELIGION**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELB 281, 282, 283</td>
<td>The New Testament and Its Environment (Honors)</td>
<td>6</td>
</tr>
<tr>
<td>RELH 349 (or SOCI 349 see under History and Social Studies above)</td>
<td>Religion in a Social Context (Honors)</td>
<td>4</td>
</tr>
</tbody>
</table>

**COLLOQUIUM**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HONR 351, 352, 353</td>
<td>Honors Colloquium</td>
<td>3</td>
</tr>
</tbody>
</table>
HONORS (HONR)

HONR 351, 352, 353 HONORS COLLOQUIUM

Research course designed to stimulate interdisciplinary independent study. Students share the results of reading and research through formal presentation of papers.
ASSOCIATE DEGREE

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.

GRADUATION REQUIREMENTS FOR THE ASSOCIATE DEGREE

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

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

General Requirements:
1. A minimum of 96 quarter hours for the degree.
2. A cumulative grade-point average of 2.00 (C) must be maintained. A grade lower than C will not apply toward the concentration.
3. The completion of the associate degree concentration as outlined under the respective departments of instruction of this bulletin.
4. The completion of the general studies requirements as outlined below. For a listing of the specific courses which may apply to the requirements, see page 44.
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 by May 15 in order to graduate with the June class. Summer seniors must have all transcripts for correspondence work by July 15 in order to graduate with the August class. A maximum of 12 quarter hours of correspondence credit will be accepted. 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 Dean of Academic Records 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 Dean of Academic Records.

General Studies Requirements for the Associate Degree:

<table>
<thead>
<tr>
<th>Areas</th>
<th>Hours Minimum/Maximum in specific subject areas</th>
<th>Hours Minimum/Maximum in general areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Arts</td>
<td>0-2</td>
<td></td>
</tr>
<tr>
<td>Health and Physical Education</td>
<td>0-2</td>
<td></td>
</tr>
<tr>
<td>Activity Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History and Social Studies</td>
<td>0-8</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>0-8</td>
<td></td>
</tr>
<tr>
<td>Social Studies</td>
<td>0-8</td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>0-8</td>
<td></td>
</tr>
<tr>
<td>Fine Arts</td>
<td>0-4</td>
<td></td>
</tr>
</tbody>
</table>
Associate Degree

Literature ............................................. 0-4
Philosophy ............................................. 0-4
Language Arts ........................................... 8-12
  ENGL 101, 102 or 121, 122, 123 ............. 8
  Communications ........................................ 0-4
  Foreign Language ...................................... 0-4
Mathematics and Natural Science ......................... 0-8
  Mathematics ............................................ 0-8
  Science .................................................. 0-8
Religion and Theology .................................. 6-8
  Biblical Studies .......................................... 4-8
  Electives in Religion or Theology ................. 0-4

Select a minimum of 32 quarter hours for the Associate degree.

CERTIFICATE PROGRAMS

The Certificate programs typically are one-year curricula providing occupational preparation for students desiring immediately marketable skills. For complete descriptions of the Certificate programs, consult the respective departments of instruction in this bulletin.

General Studies Requirements for the Certificate Program:

Language Arts ........................................... 4
  ENGL 101 (Recommended), ENGL 121, SPCH 101
Mathematics, Natural Science, and/or Business .......... 0-4
Religion and Theology .................................. 4-6

Select a minimum of 10 quarter hours for the Certificate program.

PREPROFESSIONAL PROGRAMS

Programs are offered in a wide variety of fields to prepare students for admission to professional schools or to enter upon technical careers. Students wishing to secure admission to such schools should familiarize themselves with the admission requirements of the school of their choice. Most preprofessional curriculums require two units of high school mathematics (algebra and geometry). The following preprofessional curricula are detailed in the Preprofessional Courses of Study section of this bulletin:

  Architecture (2)*
  Chiropractic Medicine (2)
  Dentistry (3)
  Dental Hygiene (2)
  Dietetics (2)
  Law (4)
  Medicine (4)
  Occupational Therapy (2)

  Optometry (2)
  Osteopathy (3)
  Pharmacy (2)
  Public Health (4)
  Physical Therapy (2)
  Radiological Technology (1)
  Respiratory Therapy (1)
  Veterinary Science (2)

*Numbers in parenthesis indicate the years of study normally required on the Walla Walla College campus before acceptance into a professional school.
TRANSITIONAL CURRICULUM

The transitional curriculum is designed for freshman students who have been accepted by the College with an inadequate background for attempting a full academic program. It consists of ENGL 100, MATH 100, and RDNG 100, in addition to courses within the regular college curriculum as approved by the Transitional Curriculum adviser.

Students are registered for courses within this curriculum on the basis of test scores from their entrance examinations and/or secondary school grades. Credit received from the courses in this curriculum do not apply to the 192 quarter hours for graduation.

A transitional curriculum coordinator closely advises and schedules regular academic counseling sessions for all students in this program. This counseling procedure continues throughout the freshman year, although most transitional students are able to carry a full college load by the beginning of the winter quarter.

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:
- 100 Remedial and Experiential courses (credits do not apply toward graduation)
- 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

The third numeral will indicate course sequencing. Courses in which the third numerals are 1, 2, and 3, must be taken in sequence.

The credit indicated in connection with 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 College will make every effort to consistently 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, teacher staffing, etc., so dictate. The Class Schedule should be consulted for personal planning of course loads and schedules.

The College 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.

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 through this bulletin:
100 REMEDIAL COURSES
Courses providing individualized help for students needing to improve basic skills in preparation for college level work. Credit will not apply toward graduation.

100 EXPERIENTIAL PROGRAM
Programs with qualified supervision and structured experience including Student Missionary and Task Force. Credit will not apply toward graduation. Graded S or NC basis.

200; 400 TOPICS
Each academic department may offer topics 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. One to four hours per quarter (except marine-oriented courses taken at the Marine Station).

259; 459 SUPPLEMENTAL STUDIES
Through a directed study program the student may supplement previous course work where it is judged that portions of a required course on the major or minor have been omitted. Ordinarily this 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 course.

274; 474 WORKSHOPS

280; 370; 490 DIRECTED FIELD WORK/PRACTICUM/EXPERIENCE

392 GENERAL SECONDARY METHODS COURSE (see Education)

395; 396 DEPARTMENTAL METHODS COURSES

469 ADVANCED STUDY
Through advanced directed study the student may enhance his major or minor in breadth or depth in topics not covered by the department curriculum. The study proposal must be approved by the departmental faculty and the Academic Standards and should indicate the methods of evaluation. May not be substituted for existing courses in the major or minor.

479 DIRECTED RESEARCH/PROJECT
Allows the student to do research in the literature, and/or the laboratory, 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 departmental faculty with a copy of the proposal sent to the office of Academic Administration. See individual departments for specific course description.

494 COOPERATIVE EDUCATION
Allows students to gain practical experience in their major in an off-campus setting. Requires permission of major adviser and Cooperative Education Director. See individual departments for specific course description.

495 COLLOQUIUM

496; 497; 498 SEMINAR
ART

T. Emmerson, Chair; K. MacKintosh.

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 the 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, as an art teacher or as preprofessional training in allied fields. See Architecture program listed in the preprofessional section of this bulletin.

MAJOR IN ART (Bachelor of Arts)
A student majoring in art must complete the 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.

Core Requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 161, 162, 163</td>
<td>Design</td>
<td>9</td>
</tr>
<tr>
<td>ART 184, 185, 186</td>
<td>Introduction to Drawing</td>
<td>6</td>
</tr>
<tr>
<td>ART 194, 195, 196</td>
<td>Introduction to Painting</td>
<td></td>
</tr>
<tr>
<td>ART 264, 265, 266</td>
<td>Introduction to Sculpture</td>
<td></td>
</tr>
<tr>
<td>ART 284, 285, 286</td>
<td>Introduction to Pottery</td>
<td>14</td>
</tr>
<tr>
<td>ART 294, 295, 296</td>
<td>Introduction to Printmaking</td>
<td></td>
</tr>
<tr>
<td>ART 321, 322, 323</td>
<td>History of Art</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>35</td>
</tr>
</tbody>
</table>

CONCENTRATION: Commercial Art

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 244, 245, 246</td>
<td>Commercial Art</td>
<td>6</td>
</tr>
<tr>
<td>ART 314, 315, 316</td>
<td>Advertising Design</td>
<td>9</td>
</tr>
<tr>
<td>ART 317, 318</td>
<td>Printmaking</td>
<td>4</td>
</tr>
<tr>
<td>ART 201</td>
<td>Calligraphy</td>
<td></td>
</tr>
<tr>
<td>ART 307, 308</td>
<td>Drawing</td>
<td>*6</td>
</tr>
<tr>
<td>ART 319</td>
<td>Printmaking</td>
<td></td>
</tr>
</tbody>
</table>

*2 hours must be upper division.

Cognates: Commercial Art

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRPH 154</td>
<td>Principles of Photography</td>
<td>2</td>
</tr>
<tr>
<td>GRPH 355</td>
<td>Advanced Photography</td>
<td>3</td>
</tr>
<tr>
<td>HIST 121, 122</td>
<td>History of Western Civilization</td>
<td>8</td>
</tr>
</tbody>
</table>

CONCENTRATION: Fine Art

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 304, 305, 306</td>
<td>Fine Arts Design</td>
<td>9</td>
</tr>
</tbody>
</table>

Electives chosen from courses listed below (limited to 5 areas):
ART 201 Calligraphy
ART 264, 265, 266 Introduction to Sculpture
ART 284, 285, 286 Introduction to Pottery
ART 307, 308, 309 Drawing
ART 317, 318, 319 Printmaking
ART 334, 335, 336 Painting
ART 364, 365, 366 Sculpture
ART 374, 375, 376 Pottery and Ceramic Sculpture

*6 hours must be upper division.

Cognates: Fine Art
ENGL 455 Classical Backgrounds  3
HIST 120, 121, 122 History of Western Civilization  8
RELH 405 Biblical Archaeology  2
RELT 246 Christian Ethics  4
or
PHIL 305 Moral Philosophy  

MINOR IN ART
A student minoring in art must complete 33 quarter hours:
ART 161, 162, 163 Design  9
ART 184, 185, 186 Introduction to Drawing  6
ART 321, 322, 323 History of Art  6
Electives  12

Approval of art adviser required.

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  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  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. Offered alternate years.

ART 201 CALLIGRAPHY  2
An 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
An 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. Offered alternate years.

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, printmaking and the minor arts.

ART 264, 265, 266 INTRODUCTION TO SCULPTURE  2, 2, 2
The study and application of three-dimensional forms in space using varied media such as clay, plaster, plasticene and paper. Offered alternate years.

ART 284, 285, 286 INTRODUCTION TO POTTERY  2, 2, 2
An 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.
ART 294, 295, 296 INTRODUCTION TO PRINTMAKING
Introduction to the art of printmaking, emphasizing the relief method — linoleum cut, woodcut and wood engraving. Includes an introduction to the intaglio method. Offered alternate years.

ART 301 ART IN THE ELEMENTARY SCHOOL
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. Mandatory 5 grade.

ART 304, 305, 306 FINE ARTS DESIGN
Application of the basic principles and elements of design to be used in the fine arts field. Prerequisites: ART 161, 162, 163. Offered alternate years.

ART 307, 308, 309 DRAWING
An advanced study using the basic principles of drawing in various experimental approaches and advanced techniques. Prerequisites: ART 184, 185, 186.

ART 314, 315, 316 ADVERTISING DESIGN
Application of the basic principles and elements of design to be used in the commercial field of art. Prerequisites: ART 161, 162, 163; ART 244, 245, 246. Offered alternate years.

ART 317, 318, 319 PRINTMAKING
An 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. Offered alternate years.

ART 321, 322, 323 HISTORY OF ART
A 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. Prerequisites: HIST 121, 122. Offered alternate years.

ART 334, 335, 336 PAINTING
An advanced study of aesthetic enjoyment and understanding. Designed to develop the application of paint, including oil, casein or tempera. Prerequisites: ART 184, 185, 186; or ART 194, 195, 196. Offered alternate years.

ART 364, 365, 366 SCULPTURE
An advanced study of basic three-dimensional design principles, using metal, Fiberglas, wood, and stone, emphasizing experimentation in direction, media and techniques. Prerequisites: ART 264, 265, 266. Offered alternate years.

ART 374, 375, 376 POTTERY AND CERAMIC SCULPTURE
An 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.

ART 494 COOPERATIVE EDUCATION
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. Prerequisites: Approval by department, CDEV 210 or permission of Cooperative Education Director.
Biological Sciences
BIOLOGICAL SCIENCES

R. Carter, Chair; S. Dixon (on leave), J. Galusha, A. Grable, L. McCloskey, D. Rigby.

The objectives of the department are to develop an understanding of the principles of biology which will better acquaint students with the world in which they live; to create an atmosphere which is 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 department of physics, a Bachelor of Science degree with a major in biophysics. A minor is offered in biology. Graduate work leading to the Master of Science degree is also offered. For further information, see the Graduate Bulletin.

Exceptional opportunities for study in the biological sciences are possible during the summer at the Marine Station at Rosario Beach adjoining Deception Pass State Park, Anacortes, Washington. For further information, see the bulletin of the Marine Station.

The Field School of Biology travels to various parts of North America and offers courses in botany and zoology.

MAJOR IN BIOLOGY (Bachelor of Science)
A student majoring in biology must complete 57 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Candidates for this degree who plan on graduate work in biology should counsel with the assigned academic adviser concerning the need of a foreign language. One summer term (10 credits) is required at the WWC Marine Station during which at least one upper-division, marine-oriented course must be taken. The Graduate Record Examination in biology is required.

Major Requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101, 102, 103</td>
<td>General Biology</td>
<td>12</td>
</tr>
<tr>
<td>BIOL 251</td>
<td>Research Methods I</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 261</td>
<td>Genetics</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 266</td>
<td>Developmental Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 350</td>
<td>Biostatistics</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 352, 353, 354</td>
<td>Research Methods II, III, IV</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 392</td>
<td>Cell Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 446</td>
<td>General Ecology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 455</td>
<td>Research Methods V</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 483</td>
<td>Philosophy of Origins and Speciation</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 495</td>
<td>*Colloquium</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Electives (must be upper division)</td>
<td>17</td>
</tr>
</tbody>
</table>

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. One course each in the areas of zoology and botany is required.

*Required each quarter of juniors and seniors while in residence.
Cognates:

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 141, 142, 143</td>
<td>General Chemistry</td>
<td>9</td>
</tr>
<tr>
<td>CHEM 144, 145, 146</td>
<td>General Chemistry Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 321, 322, 323</td>
<td>Organic Chemistry</td>
<td>9</td>
</tr>
<tr>
<td>CHEM 324, 325, 326</td>
<td>Microscale Organic Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>MATH 121, 122</td>
<td>Fundamentals of Mathematics</td>
<td>8</td>
</tr>
<tr>
<td>MATH 181</td>
<td>Analytical Geometry and Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 211, 212, 213</td>
<td>General Physics</td>
<td>9</td>
</tr>
<tr>
<td>PHYS 214, 215, 216</td>
<td>General Physics Laboratory</td>
<td>3</td>
</tr>
</tbody>
</table>

MAJOR IN BIOPHYSICS (Bachelor of Science)
A student majoring in biophysics must complete 33 quarter hours in biology and 36 quarter hours in physics, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. One summer term (10 credits) is required at the WWC Marine Station during which at least one upper-division, marine-oriented course must be taken. Specific course requirements are outlined in the Interdisciplinary section. Graduate Record Examinations in biology and physics are required.

MINOR IN BIOLOGY
A student minoring in biology must complete 27 quarter hours; 8 must be upper division.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101, 102, 103</td>
<td>General Biology</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>One botanical course</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>One zoological course</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>7</td>
</tr>
</tbody>
</table>

Approval of biology adviser required.

27  

BIOLOGY (BIOL)

BIOL 101, 102, 103 GENERAL BIOLOGY
Study of the basic principles of biology. Topics such as anatomy, physiology, cytology, genetics, taxonomy, ecology and embryology are considered with reference to both plants and animals. Must be taken in sequence. One laboratory per week.

BIOL 105, 106 BIOLOGY FOR GENERAL STUDIES
The study of selected biological phenomena to understand the process of science as a way of knowing. The process by which biological ideas develop is examined in a scientific and historical context. The practical and ethical consequences of the development of these ideas are considered. The laboratory emphasizes how the process of science is used. One laboratory per week. Must be taken in sequence. Will not apply to a biology major or minor.

BIOL 201, 202 ANATOMY AND PHYSIOLOGY
Study of human (organ-system) anatomy and physiology with reference to cellular, genetic and developmental relationships. First quarter studies include integumentary, skeletal, muscle, nervous and endocrine systems. Second quarter focuses on circulatory, respiratory, digestive, urinary and reproductive systems. Must be taken in sequence. One laboratory per week. Will not apply to biology major.

BIOL 222 MICROBIOLOGY
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. Two half laboratories per week. Prerequisites: CHEM 101, 102.
BIOL 251 RESEARCH METHODS I
Introduction to the principles of scientific research and the function of the scientific methods. Prerequisites: BIOL 101, 102, 103. Graded S or NC.

BIOL 261 GENETICS
Study of the principles of inheritance in plants and animals. Laboratory work consists of both descriptive and experimental analysis of heredity. One laboratory per week. Prerequisites: BIOL 101, 102, 103.

BIOL 266 DEVELOPMENTAL BIOLOGY
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. Two laboratories per week. Prerequisites: BIOL 101, 102, 103. BIOL 261 recommended.

College Place campus: BIOL 101, 102, 103 is a prerequisite for all upper-division courses.

BIOL 350 BIOSTATISTICS
Practice and theory of statistical methods in quantitative biology. Prerequisites: MATH 121, 122.

BIOL 352 RESEARCH METHODS II
A laboratory course analyzing a broad spectrum of research problems in the biological sciences. Emphasis is placed on modern scientific approaches to, and the solution of, these problems. Prerequisite: BIOL 251. Graded S or NC.

BIOL 353 RESEARCH METHODS III
Preparation for the senior thesis proposal. The student will work with departmental adviser on an independent basis, doing a literature search and sometimes appropriate preliminary experiments leading to the writing and completion of a senior thesis proposal. Prerequisite: BIOL 352 and permission of research adviser.

BIOL 354 RESEARCH METHODS IV
Collection and analysis of data for the senior thesis. Prerequisite: BIOL 353 and permission of research adviser.

BIOL 360 SURVEY OF THE PLANT KINGDOM
Study of the life histories, internal anatomy and physiology of the various members of the plant kingdom. One laboratory per week.

BIOL 374 ANIMAL BEHAVIOR
Introduction to animal behavior with emphasis on the historical perspective and classical experiments. Contributions from diverse disciplines such as neurophysiology, ecology, endocrinology, sociology, anatomy and medicine are drawn together to illustrate the dependence of ethology and animal behavior on the other life sciences. One laboratory per week. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.)

BIOL 389 NATURAL HISTORY OF VERTEBRATES
Study of vertebrates with emphasis on natural history, ecology, and taxonomy. One laboratory per week. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.)

BIOL 392 CELL PHYSIOLOGY
An investigation of the chemical and physical phenomena of plant and animal cells. Integrates function with the various cellular organelles. One laboratory per week. Prerequisites: BIOL 261; BIOL 266 or permission of instructor. Physics and organic chemistry strongly recommended.

BIOL 393 ANIMAL PHYSIOLOGY
Study of animal physiology with emphasis on integration of vertebrate organ systems. One laboratory per week. Prerequisite: BIOL 392. Physics and organic chemistry strongly recommended.

BIOL 395 METHODS OF TEACHING BIOLOGY
Principles of teaching biology in the secondary school. Observation, demonstration and class presentation are required. Will not apply on a major or minor in biology. Taught alternate years.

BIOL 401 PLANT PHYSIOLOGY
A study of the principles of plant physiology. One laboratory per week. Prerequisite: BIOL 392 or permission of instructor. Physics and organic chemistry strongly recommended.

BIOL 403 ORNITHOLOGY
Systematic study of native birds of North America, with emphasis on identification, migration, geographical distribution, habits and life histories. Two laboratories per week.
BIOL 405 GENERAL ENTOMOLOGY
Study of insect morphology, physiology, ecology and classification. One laboratory per week.

BIOL 407 PHILOSOPHY OF SCIENCE
Study of the scientific method as it relates to primary origins and present-day distributions of living things. Evidences from archeology and the physical and biological sciences are examined. Will not apply on biology major. Prerequisite: A completed general education science requirement. Same as PHIL 407.

BIOL 412 PLANT ANATOMY
Study of the microscopic anatomy of plant tissues with emphasis on their origin and development. Emphasizes the vascular plants. Recommended: BIOL 360. One laboratory per week.

BIOL 413 PLANT TISSUE CULTURE
A study of various techniques to establish and to maintain plant tissue cultures. One laboratory per week. Prerequisites: 8 hours of college-level chemistry or biology; CHEM 101, 102, CHEM 141, 142, 143, BIOL 101, 102, 103, BIOL 222, and permission of instructor.

BIOL 424 HERPETOLOGY
Systematic study of amphibians and reptiles with emphasis on natural history and ecology. Two laboratories per week.

BIOL 426 SYSTEMATIC BOTANY
4 or 5
Study of the principles of plant classification, together with a systematic survey of vascular plants, with emphasis on natural history and ecology. Two laboratories per week. One weekend field trip required. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.)

BIOL 429 LIMNOLOGY
Study of the factors responsible for the presence and distribution of animals and plants in fresh water. Field work includes trips to a number of lakes and streams for collection of living specimens as well as habitat analysis. Two laboratories per week.

BIOL 444 MAMMALOLOGY
Systematic study of mammals with emphasis on natural history and ecology. Two laboratories per week.

BIOL 446 GENERAL ECOLOGY
Study of the relationship of plants and animals, both as individuals and assemblages, to their physical and biological environment. Field studies designed to examine ecological principles are part of the laboratory work. Two laboratories per week. Biostatistics, genetics and a minimum of one field natural history course recommended.

BIOL 447 PARASITOLOGY
Systematic study of the morphology, life cycle and host-parasite relationships of protozoan, helminth and arthropod parasites. Two laboratories per week. Prerequisites or corequisites: CHEM 321, 322, 323.

BIOL 448 PLANT ECOLOGY
Study of the factors affecting worldwide abundance and distribution of vascular plants with special emphasis on the Pacific Northwest. One laboratory per week with one weekend field trip.

BIOL 449 VERTEBRATE HISTOLOGY
Study of the microscopic anatomy of vertebrate cells, tissues and organs, including reference to their functions. Two laboratories per week.

BIOL 451 INVERTEBRATE ZOOLOGY
Study of the biology of the invertebrates with emphasis on their ecology, morphology and physiology. Two laboratories per week.

BIOL 455 RESEARCH METHODS V
Methods of writing and orally presenting a scientific paper. Students present the results of their senior thesis in a seminar and submit a written manuscript of their senior thesis (see BIOL 251; BIOL 352; BIOL 353; BIOL 354).

BIOL 458 PSYCOBIOLOGY
Readings in, and discussion of, current concepts of the biological bases of behavior in animals and man. Material is of a comparative nature with emphasis on human behavior. One laboratory per week. Prerequisites: BIOL 101, 102, 103 or BIOL 201, 202 and PSYC 130 or permission of instructor. Recommended: BIOL 374.
BIOLOGICAL SCIENCES

BIOL 465 BACTERIOLOGY 5
Principles of morphology and function of bacteria. Laboratory work, including unknowns, points out techniques employed in their study. Two laboratories per week. Prerequisites or corequisites: CHEM 321, 322, 323.

BIOL 466 IMMUNOLOGY 4
Study of the immune mechanism with reference to applied areas. Emphasizes laboratory techniques used to solve immunological problems. One laboratory per week. Prerequisites: BIOL 392 or BIOL 465 and CHEM 321, 322, 323.

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 490 TECHNIQUES IN FIELD BIOLOGY 1-6
Study of the techniques used in the collection and preservation of biological specimens for museum purposes. Emphasizes the recording and preservation of ecological data obtained with the collections of specimens. Topics vary depending on the instructor; credit will be given at the rate of one quarter hour for each week spent working in the field.

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: CDEV 210 and permission of the Cooperative Education Director and the major adviser.

BIOL 495 COLLOQUIUM 0
A 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 junior, senior and graduate biology majors. Graded S or NC.

MARINE STATION:

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 Botany* 5
Systematic study of plants found in Puget Sound, with a survey of marine plants from other areas.

BIOL 467 INTRODUCTION TO OCEANOGRAPHY* 5
A physical, chemical and geological study of the oceans and ocean basins as a habitat for life, emphasizing the mutual interaction between the oceanic biosphere and its environment.

BIOL 468 COMPARATIVE PHYSIOLOGY 5
Comparative study of the physiology and life processes of animals with emphasis on invertebrates. Prerequisite: BIOL 392.

BIOL 470 MARINE BIOPHYSICS 5
Introduction to the physical aspects of living organisms studied by the experimental and conceptual methods of physics with application to marine life.

BIOL 475 MARINE INVERTEBRATES* 5
A study of the biology of selected groups of marine invertebrates.

*Qualifies as a marine-oriented course.
BUSINESS

R. Schwab, Chair; N. Anderson, J. Aulick, M. Buck, F. Davis, A. Gibson, P. Joice

The courses and programs offered by the department are designed to prepare students for business careers with the church, government and industry.

The objectives of this department are:
1) to provide the student with the basic business skills required for initial job placement;
2) to give the student a broad background of knowledge of the free enterprise system developed through the several disciplines of business;
3) to assist the student in developing a sound Christian philosophy toward our modern political economy and changing business world;
4) to encourage Seventh-day Adventist students to prepare for positions of business leadership and service within organizations sponsored by this denomination.

General Recommendations. For a student to be successful in the cognate mathematics requirement, it is recommended that two years of algebra and one year of geometry be completed in the secondary school program. It would be desirable to complete a course in typewriting so such skill can be used as a functional communication tool. In addition, a course in office machines would prove advantageous in several types of business environments.

Degrees Offered. The department offers a Bachelor of Science in Business Administration degree (BSBA) with opportunity to concentrate in the areas of accounting, economics, management, management information systems, or marketing. No minor is required.

A Bachelor of Arts degree with a major in business administration is also available to the student who wishes a broader liberal arts preparation than that provided by the BSBA. A minor is required for the BA degree.

Associate of Science degrees are also available for those students who, for a variety of reasons, may find it impossible to complete a four-year program without an interruption. Such programs provide opportunity for students to gain the basic knowledge and skills required for initial job placement. Minors are also available in either business or economics.

Students who plan to teach business subjects at the high-school level should consult with the department chair or follow the business education program listed in the Department of Office Administration. Students may emphasize either business or office occupation skills.

Students who anticipate graduate study in business areas or economics should note the specific requirements of the various schools where they intend to apply. In general, it is recommended that a minimum of one quarter of calculus be included in the undergraduate program. Curriculums of a quantitative nature usually require a year of calculus and additional mathematics courses.
BUSINESS (Bachelor of Science in Business Administration)

A student majoring in business must complete the core requirements, the required cognates, one concentration, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

**Core Requirements:**

### Lower Division Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>ACCT 201, 202, 203</td>
<td>Principles of Accounting }</td>
<td>10</td>
</tr>
<tr>
<td>or</td>
<td>ACCT 205, 206</td>
<td></td>
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<tr>
<td>ECON 211</td>
<td>Principles of Macroeconomics</td>
<td>4</td>
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<tr>
<td>ECON 212</td>
<td>Principles of Microeconomics</td>
<td>4</td>
</tr>
<tr>
<td>GBUS 263</td>
<td>Business Statistics</td>
<td>4</td>
</tr>
<tr>
<td>MIS 102</td>
<td>Microcomputer Applications</td>
<td>2</td>
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### Upper Division Courses:

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>FINA 351</td>
<td>Financial Management</td>
<td>4</td>
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<tr>
<td>GBUS 361, 362</td>
<td>Business Law</td>
<td>8</td>
</tr>
<tr>
<td>GBUS 366</td>
<td>Operations Management and Production</td>
<td>4</td>
</tr>
<tr>
<td>GBUS 463</td>
<td>Business Environment and Ethics</td>
<td>3</td>
</tr>
<tr>
<td>GBUS 496</td>
<td>Seminar</td>
<td>2</td>
</tr>
<tr>
<td>MIS 301</td>
<td>Introduction to Management Information \ Systems</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 371</td>
<td>Management and Organizational Behavior</td>
<td>4</td>
</tr>
<tr>
<td>MGMT 479</td>
<td>Business Strategy and Policies</td>
<td>4</td>
</tr>
<tr>
<td>MKTG 381</td>
<td>Principles of Marketing</td>
<td>4</td>
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### Cognates:

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>CPTR 101</td>
<td>Computer Principles</td>
<td>3</td>
</tr>
<tr>
<td>MATH 121</td>
<td>Fundamentals of Mathematics }</td>
<td>8</td>
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<tr>
<td>and</td>
<td>MATH 123</td>
<td></td>
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<tr>
<td>or</td>
<td>MATH 181</td>
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<tr>
<td>or</td>
<td>OFAD 362</td>
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<td>or</td>
<td>ENGL 325</td>
<td></td>
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<td>or</td>
<td>PSYC 130</td>
<td></td>
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<tr>
<td>or</td>
<td>SPCH 101</td>
<td></td>
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<tr>
<td></td>
<td>Survey of Calculus</td>
<td></td>
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<tr>
<td></td>
<td>Analytic Geometry and Calculus I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Business Communications }</td>
<td>3-4</td>
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<tr>
<td></td>
<td>Advanced Technical Writing</td>
<td></td>
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<tr>
<td></td>
<td>General Psychology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Fundamentals of Speech Communication</td>
<td>4</td>
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### CONCENTRATION: Accounting

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ACCT 321, 322, 323</td>
<td>Intermediate Accounting</td>
<td>11</td>
</tr>
<tr>
<td>ACCT 331, 332</td>
<td>Managerial Cost Accounting</td>
<td>6</td>
</tr>
<tr>
<td>ACCT 335</td>
<td>Personal Income Tax</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 421</td>
<td>Advanced Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 430</td>
<td>Auditing Concepts</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 431</td>
<td>Auditing Practices</td>
<td>3</td>
</tr>
<tr>
<td>ACCT</td>
<td>Electives (8 must be upper division)</td>
<td>10</td>
</tr>
</tbody>
</table>

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.
CONCENTRATION: Economics
ECON 341 Managerial Economics 4
ECON 343 Intermediate Macroeconomics 4
ECON 441 Money and Banking 4
Electives (6 must be upper division) 29
Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

CONCENTRATION: Management
ACCT 331, 332 Managerial Cost Accounting 6
ECON 341 Managerial Economics 4
or
ECON 343 Intermediate Macroeconomics 4
MGMT 372 Human Resources Management 4
MGMT 476 Motivation and Leadership 4
MKTG An approved MKTG course 4
Electives 19
Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. The management concentration allows flexibility in creating specific management emphases. Through the careful selection of electives, an emphasis in health care operation, personnel/behavioral management, or quantitative/financial skills can be tailored to the needs of the individual student.

CONCENTRATION: Management Information Systems (MIS)
CPTR 136 File-Oriented Programming (COBOL) 4
CPTR 141 Introduction to Programming (Pascal) 4
CPTR 142 Program and Data Structures 4
CPTR 245 Intermediate COBOL 4
MIS 315 Introduction to Information Systems Analysis 4
MIS 415 Intermediate Information Systems Analysis 4
or
MIS 440 Database and Data Management Issues 4
MIS 470 MIS Administration 4
MIS 490 MIS Projects 4
Electives 9
Students must demonstrate an ability in four computer languages. Electives and computer languages must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

CONCENTRATION: Marketing
ECON 341 Managerial Economics 4
MKTG 383 Advertising and Sales Promotion 4
MKTG 384 Consumer Behavior 3
MKTG 451 Research Methods 4
MKTG 489 Marketing Problems 4
Three of the following courses are required:
MKTG 385 Selling and Sales Management
MKTG 481 Public Relations
MKTG 485 Retail Store Operation and Management
MKTG 486 Marketing for Non-Profit Organizations
MKTG 488 International Marketing

Electives

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

MAJOR IN BUSINESS ADMINISTRATION (Bachelor of Arts)
A student majoring in business must complete 55 quarter hours in the major, the required cognates, a minor, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Core Requirements:

Lower Division Courses:

ACCT 201, 202, 203 Principles of Accounting 10
or
ACCT 205, 206 Principles of Accounting 4
ECON 211 Principles of Macroeconomics 4
ECON 212 Principles of Microeconomics 4
GBUS 263 Business Statistics 4
MIS 102 Microcomputer Applications 2

Upper Division Courses:

FINA 351 Financial Management 4
GBUS 361 Business Law 4
GBUS 496 Seminar 2
MGMT 371 Management and Organizational Behavior 4
MKTG 381 Principles of Marketing 4
Electives (must be upper division) 13

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

Cognates:

CPTR 101 Computer Principles 3
MATH 121 Fundamentals of Mathematics 8
and
Math 123 Survey of Calculus 8
or
MATH 181 Analytic Geometry and Calculus I 4
OFAD 362 Business Communications 3-4
or
ENGL 325 Advanced Technical Writing 4
PSYC 130 General Psychology 4
SPCH 101 Fundamentals of Speech Communication 4

BUSINESS (Associate of Science)
A student specializing in business must complete 46 quarter hours in the area, the required cognates, the general studies program, and all associate degree requirements as outlined in this bulletin. Electives may be chosen in consultation with the academic adviser with emphasis in the area of interest such as Management Information Systems.
Core Requirements:
ACCT 115, 116  Clerical Accounting
and
ACCT 206  Principles of Accounting
or
ACCT 201, 202, 203  Principles of Accounting
or
ACCT 205, 206  Principles of Accounting
MIS 102  Microcomputer Applications 2
ECON 211  Principles of Macroeconomics 4
FINA 101  Personal Finance 2
GBUS 361  Business Law 4
Electives 23-24

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

Cognates:
CPTR 101  Computer Principles 3
MATH 105  Mathematics With Applications
or
MATH 117  Precalculus 4-5
or
MATH 121  Fundamentals of Mathematics

MANAGEMENT INFORMATION SYSTEMS (Associate of Science)
A student specializing in management information systems must complete 46 quarter hours in the area, the required cognates, the general studies program and all associate degree requirements as outlined in this bulletin.

Core Requirements:
ACCT 115, 116  Clerical Accounting
and
ACCT 206  Principles of Accounting
or
ACCT 201, 202, 203  Principles of Accounting
or
ACCT 205, 206  Principles of Accounting
CPTR 136  File-Oriented Programming (COBOL) 4
CPTR 141  Introduction to Programming (Pascal) 4
CPTR 142  Program and Data Structures 4
CPTR 225  Commercial Computer Applications (RPG) 4
ECON 211  Principles of Macroeconomics 4
MGMT 371  Management and Organizational Behavior 4
MIS 301  Introduction to MIS 3
MIS 315  Introduction to Information Systems Analysis 4
MIS 494  Cooperative Education/Internship 2
Electives 2-3

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.
Cognates:
MATH 117 Precalculus
or
MATH 121 Fundamentals of Mathematics

MINOR IN BUSINESS
A student minoring in business must complete 30 quarter hours:
ACCT 201, 202, 203 Principles of Accounting
or
ACCT 205, 206 Principles of Accounting
ECON 211 Principles of Macroeconomics
ECON 212 Principles of Microeconomics
Electives (8 must be upper division)

MINOR IN ECONOMICS
A student minoring in economics must complete 30 quarter hours:
ECON 211 Principles of Macroeconomics
ECON 212 Principles of Microeconomics
ECON 341 Managerial Economics
ECON 343 Intermediate Macroeconomics
Electives (8 must be upper division)

ACCOUNTING (ACCT)

ACCT 115, 116 CLERICAL ACCOUNTING 3, 3
Introduction to accounting theory and practice for office employees or owners of small businesses. Emphasizes cash control and checking account procedures, payroll and special problems related to service and merchandising firms. Credit will not be granted for this course and ACCT 201, 202, 205. Students completing ACCT 116 with a C or better grade may enter ACCT 206.

ACCT 201, 202, 203 or 205, 206 PRINCIPLES OF ACCOUNTING 4, 3, 3, or 5, 5
Study of accounting concepts and procedures required in the accumulation and presentation of data needed by management for decision making. Courses must be taken in sequence. Student may choose a two- or three-quarter sequence; the two-quarter sequence (205, 206) is 5 hours per quarter. Corequisite for 201 and 205; Proficiency on the ten-key electronic calculator or OPAD 236.

ACCT 222 ACCOUNTING PROJECTS 2
Individualized laboratory course in which students will complete extended problems or practice sets. Such projects may be completed using manual accounting systems or computer systems where appropriate. If a computer project is anticipated, CPTR 101 and MIS 102 or equivalent are required prerequisites. Permission of instructor is required. Prerequisite: ACCT 116 or 203 or 206.

ACCT 321, 322, 323 INTERMEDIATE ACCOUNTING 3, 4, 4
Study of the construction, analysis, and interpretation of financial statements and reports prepared from accounting records. Basic accounting procedures employed in balance sheet evaluation and determination of profit. Prerequisite: ACCT 203 or ACCT 206.

ACCT 331, 332 MANAGERIAL COST ACCOUNTING 3, 3
Study of standards and budgets for control, cost-volume-profit relationships, discretionary and committee 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 or ACCT 206.
ACCT 335 PERSONAL INCOME TAX
Study of tax regulations and accounting records necessary for proper tax accounting for individuals.

ACCT 421 ADVANCED ACCOUNTING
Special accounting problems relating to partnership accounting, consolidated corporate financial statements, branch office accounting and trusts and estates; includes other topics related to consolidated statements. Prerequisite: ACCT 323.

ACCT 423 CPA REVIEW
Comprehensive review of problems covering accounting principles, procedures and presentations as found in the practice section of the CPA examination. Prerequisite: ACCT 323; ACCT 421 recommended.

ACCT 427 FUND ACCOUNTING
Study of the application of fund accounting principles to various governmental entities, school, hospital and church accounting systems. Prerequisite: ACCT 203 or ACCT 206. Offered alternate years.

ACCT 430 AUDITING CONCEPTS
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 431 AUDITING PRACTICES
Study of auditing concepts emphasizing the application and operation of auditing. Methods of preparation of audit programs, work papers, internal control evaluations and report writing. Prerequisite: ACCT 430.

ACCT 435 ADVANCED INCOME TAX
Study of partnership and corporation income tax law; includes estate and gift taxes, trust reporting and researching income tax problems. Prerequisite: ACCT 335 or permission of instructor.

ACCT 494 COOPERATIVE EDUCATION/INTERNSHIP
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. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director. Only 2 hours will apply on the Accounting Concentration and no credit will be allowed toward the B.A.

COMPUTER SCIENCE (CPTR)

CPTR 101 COMPUTER PRINCIPLES
A survey of the fundamental concepts of the computer as a tool for the individual and business. Topics include: the history of computers, technology, societal issues, personal purchase and use, programming languages, spread-sheets, word processors and other general purpose software. The concept of an algorithm and the computer as a programmable tool will be emphasized. The student must have a minimum proficiency in keyboarding skills.

CPTR 124 INTRODUCTION TO BASIC
See Computer Science section of this bulletin.

CPTR 134 INTRODUCTION TO COMPUTING (FORTRAN)
See Computer Science section of this bulletin.

CPTR 136 FILE-ORIENTED PROGRAMMING (COBOL)
Program development in the business environment, structured programming techniques, file processing, and the syntax of the language. Prerequisite: CPTR 141.

CPTR 141 INTRODUCTION TO PROGRAMMING (PASCAL)
See Computer Science section of this bulletin.

CPTR 142 PROGRAM AND DATA STRUCTURES
See Computer Science section of this bulletin.

CPTR 225 COMMERCIAL COMPUTER APPLICATIONS (RPG)
Principles of analyzing and solving practical business programming problems applicable to any computer or language; emphasis on standard flow charts peculiar to the problems commonly encountered in business situations; functional use of report program generator (RPG) language; experience in the use of a computer. Recommended: CPTR 101 or CPTR 134 or CPTR 136.
CPT 234 ASSEMBLY LANGUAGE PROGRAMMING II
See Computer Science section of this bulletin.

CPT 245 INTERMEDIATE COBOL
Intermediate and advanced features of the COBOL language. Emphasis is on structured programming techniques, advanced file processing, programming style, and job control languages. Prerequisite: CPT 136.

ECONOMICS (ECON)

ECON 211 PRINCIPLES OF MACROECONOMICS
Basic economic analysis, policy and methodology, with emphasis on economic institutions, the monetary system, and national income determination.

ECON 212 PRINCIPLES OF MICROECONOMICS
Basic analysis of price determination and market structures.

ECON 341 MANAGERIAL ECONOMICS
Study of the structure of markets, the determination of prices, the relations of price and cost, income and its functional distribution in a capitalistic economy. Prerequisite: ECON 212.

ECON 343 INTERMEDIATE MACROECONOMICS
Analysis of the determinants of the aggregate level of employment output and income of an economy. Prerequisite: ECON 211. Offered alternate years.

ECON 345 ECONOMIC HISTORY OF THE UNITED STATES
Study of the economic development of the United States from the colonial period to the present. Recommended: ECON 211, 212 or HIST 221. Offered alternate years.

ECON 441 MONEY AND BANKING
Study of the functional activities of the institutions which comprise the American financial system; emphasizing the nature and functions of money, credit and banking. Prerequisite: ECON 211. Offered alternate years.

ECON 443 COMPARATIVE ECONOMIC SYSTEMS
Study of the theoretical bases of capitalism, socialism and communism; includes a comparison of the modern systems in their response to basic economic problems. Prerequisite: ECON 211, 212. Offered alternate years.

ECON 455 PUBLIC FINANCE
Governmental expenditures, taxation, public data and public financial administration; public policies on expenditures, taxation and debt management and their relation to business fluctuations. Prerequisites: ECON 211, 212.

ECON 494 COOPERATIVE EDUCATION/INTERNSHIP
See ACCT 494 for the course description.

FINANCE (FINA)

FINA 101 PERSONAL FINANCE
Introduction to the techniques of efficiently managing personal finances. Topics include: record keeping, budgeting, insurance, taxes, borrowing and banking, and investments.

FINA 351 FINANCIAL MANAGEMENT
Study of the fundamental principles of financial policy in the organization and management of corporate enterprises. Prerequisites: ACCT 203 or ACCT 206.

FINA 451 INVESTMENTS
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. Recommended: FINA 351. Offered alternate years.

FINA 453 CREDIT ADMINISTRATION
Study of loan and collection problems from the viewpoint of the credit administrator. Offered alternate years. Prerequisite: ACCT 203 or ACCT 206 or permission of the instructor.
GENERAL BUSINESS (GBUS)

GBUS 160 INTRODUCTION TO BUSINESS
An introductory course designed to acquaint students with the varied activities and diverse roles which make up the American business system. Includes glimpses of many business career opportunities. Not open to senior business majors.

GBUS 263 BUSINESS STATISTICS
Study of descriptive and inferential statistics with emphasis on business and economics applications. Prerequisite: MATH 117 or MATH 122.

GBUS 361, 362 BUSINESS LAW
Introduction to the legal system with emphasis on contracts, sales, secured transactions, agency, and related sections of the Uniform Commercial Code. Includes the law of financial instruments, documents of title, securities regulations, and forms of business organization.

GBUS 365 PRINCIPLES OF INSURANCE
Study of insurance contracts, underwriting organizations and insurance representation and procedures. Offered alternate years.

GBUS 366 OPERATIONS MANAGEMENT AND PRODUCTION
The application of management principles and mathematical techniques to production problems and decisions faced in both manufacturing and service organizations. Topics include forecasting, linear programming, network models, queues, transportation and assignment problems, inventory models, production scheduling, quality control, layout and maintenance problems. Prerequisite: GBUS 263.

GBUS 367 REAL ESTATE
Survey of the basic principles and problems of real estate management and appraisal.

GBUS 463 BUSINESS ENVIRONMENT AND ETHICS
Introduces students to the interplay between organizations and their technological, economic, social, and political environments. The impact of a dynamic environment upon the firm is explored, and appropriate organizational responses are assessed. Ethical considerations of business decisions are examined in light of a Christian value system. Case studies. Open to Senior Business majors and minors only.

GBUS 496 SEMINAR
Introduction to business and economics research, problems and trends. Students will conduct independent study and research leading to a formal paper. Open only to majors during senior year.

MANAGEMENT (MGMT)

MGMT 275 MANAGEMENT OF SMALL BUSINESS
Introduction to various concepts peculiar to the small business enterprise. Recommended: ACCT 203 or ACCT 206.

MGMT 371 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR
An introduction to the concepts of effective management in organizational settings from an individual and macro-systems perspective. Primary emphases include the organizational processes necessary for organizational effectiveness (planning, organizing, directing, and controlling), the nature of individual and group behavior, and the role of management in facilitating a mutually satisfying fit between employee needs and organizational requirements.

MGMT 372 HUMAN RESOURCES MANAGEMENT
A survey of the objectives and problems associated with personnel management in organizations. Topics include studies in human resources planning and forecasting, job analysis and evaluation, personnel recruitment, selection and assessment, training and development, performance evaluation, compensation and benefits, grievance procedures and disciplinary actions. Prerequisite: MGMT 371.

MGMT 373 INTRODUCTION TO HEALTH CARE ORGANIZATIONS
Introduction to the history, concepts and activities of health care systems.Focuses on the basic elements, the changing nature of the system and issues confronting the future health care system. Recommended: ACCT 203 or ACCT 206 and MGMT 371.

MGMT 377 LABOR RELATIONS AND COLLECTIVE BARGAINING
An examination of the role of unions in our society. Topics will include union evolution and organization, labor legislation, collective bargaining issues and tactics, dispute resolution, and the future of labor-management relations. Recommended: GBUS 361, 362; MGMT 372.
MGMT 379 COMPENSATION MANAGEMENT
Study of procedures used in job analysis, evaluation, and performance appraisal; determining compensable factors and fringe benefits; legal and ethical considerations; administering the compensation program. Prerequisite: MGMT 371. Recommended MGMT 372. Offered alternate years.

MGMT 473 PRODUCTION MANAGEMENT
A systems-oriented view of the production management field. Analysis and synthesis of elements common to production management. Prerequisites: ACCT 203 or ACCT 206 and MGMT 371.

MGMT 475 HEALTH CARE ORGANIZATION AND MANAGEMENT
Analysis of health care organization with emphasis on organizational functions, structure, financial planning and controls. Prerequisites: ACCT 203 or ACCT 206; MGMT 371; MGMT 373.

MGMT 476 MOTIVATION AND LEADERSHIP
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 479 BUSINESS STRATEGY AND POLICIES
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. Prerequisites: business core requirements completed or concurrently taken.

MGMT 494 COOPERATIVE EDUCATION/INTERNSHIP
See ACCT 494 for the course description.

MANAGEMENT INFORMATION SYSTEMS (MIS)

MIS 102 MICROCOMPUTER APPLICATIONS
The study of spreadsheet, database management programs and related software as general problem-solving tools. A variety of examples from different areas will be studied. Prerequisite or Corequisite: CPTR 101.

MIS 301 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS (MIS)
An overview of Management Information Systems (MIS); structure of information systems which support a wide range of organizational functions from routine processes to managerial decision making. Includes the development, operation, and evaluation of information systems, with examples drawn from application areas. Prerequisites: CPTR 101 and MIS 102 or a programming language. Recommended: ACCT 203 or 206 and MGMT 371.

MIS 315 INTRODUCTION TO INFORMATION SYSTEMS ANALYSIS
Information processing concepts; management of the information system; database concepts; systems analysis, design, evaluation and implementation. Management concepts for incorporating a computer-based system into the organization. Procedures for the development of computer-based information system applications. Prerequisite: CPTR 245. Recommended: MIS 301.

MIS 415 INTERMEDIATE INFORMATION SYSTEMS ANALYSIS
Theoretical and applied approaches to information systems analysis. Characteristics of system's requirements, hardware, data and performance criteria. Prerequisites: CPTR 142; CPTR 245; MIS 315.

MIS 440 DATABASE AND DATA MANAGEMENT ISSUES
Concepts and methods in the management of the organizational data resource. Includes database management objectives, selection, acquisition, design, definition, creation, update, maintenance, revision, and use; role of the database administrator; database integrity, security, and privacy. Prerequisite: CPTR 142. Recommended: MIS 301; MIS 315.

MIS 470 MIS ADMINISTRATION
Theory and practice of planning, controlling and administering management information systems. Focus on the needs and responsibilities of management. Includes project selection, control, staffing, and use of outside services. Prerequisites: MGMT 371; MIS 315; MIS 415 or MIS 440.

MIS 490 MIS PROJECTS
Application of management and technical skills to a real life situation. Students work in teams in the role of consultant and/or systems analyst. Prerequisites: MIS 315; 415 or 440; AND permission from the instructor. Note: The instructor's permission must be obtained one quarter prior to registration.
MIS 494 COOPERATIVE EDUCATION/INTERNSHIP
See ACCT 494 for the course description.

MARKETING (MKTG)

MKTG 381 PRINCIPLES OF MARKETING
Study of the nature and operation of the market structure; methods of marketing agricultural products, raw materials and manufactured goods; considers marketing functions, institutions and costs. Recommended: ECON 212.

MKTG 383 ADVERTISING AND SALES PROMOTION
Study of the principles, functions, forms and techniques of advertising; considers advertising media, personnel and institutions; persuasive mass communications in marketing; includes problem analysis and solution planning, budgeting, research, the use of media and creative techniques. Recommended: MKTG 381.

MKTG 384 CONSUMER BEHAVIOR
A study of the needs and attitudes of people that influence consumption decisions. Prerequisites: MKTG 381; PSYC 130.

MKTG 385 SELLING AND SALES MANAGEMENT
Study of the basic principles and techniques in selling and sales management; considers development of sales manuals and effective sales presentation methods, controlling the sales force. Offered alternate years.

MKTG 451 RESEARCH METHODS
Introduction to the principles of research design; data collection through surveys and other methods; scaling, sampling; and computer assisted statistical analysis. Prerequisites: GBUS 263; MKTG 381. Laboratory required. Same as PLSC 451; SOCI 451.

MKTG 479 DIRECTED PROJECTS: MARKETING
Application of marketing principles to a special project for a local business. Project will usually involve survey research. Prerequisite: Permission of instructor.

MKTG 481 PUBLIC RELATIONS
Introduction to public relations as a promotional activity of the firm; analysis of the techniques used to create and maintain goodwill.

MKTG 485 RETAIL STORE OPERATION AND MANAGEMENT
Study of the various types of retail institutions and their role in the distribution system. Problems of planning and control as they apply to the retail store. Special attention given to Adventist Book Center operation and school bookstores. Prerequisite: MKTG 381. Offered alternate years.

MKTG 486 MARKETING FOR NON-PROFIT ORGANIZATIONS
A detailed study of peculiar marketing needs for non-profit organizations. Recommended: MKTG 381.

MKTG 488 INTERNATIONAL MARKETING
Marketing management problems, techniques, and strategies necessary to incorporate the marketing concept into the framework of the world marketplace. Prerequisites: ECON 212; MKTG 381.

MKTG 489 MARKETING PROBLEMS
Application of marketing and decision-making techniques in solving a variety of marketing problems through case analyses. Must be taken during Senior year. Prerequisites: MKTG 381 and permission of the instructor.

MKTG 494 COOPERATIVE EDUCATION/INTERNSHIP
See ACCT 494 for the course description.

JOUR 465 PROMOTIONAL CAMPAIGNS
See the Communications section of this bulletin.

BUSINESS EDUCATION (BUED)

BUED 474 WORKSHOP IN BUSINESS EDUCATION
Study of a major program or area of business education in terms of plans, procedures, materials, research and individual projects; techniques and methods designed to improve instructional competency. May be repeated.

BUED 491 PRINCIPLES OF BUSINESS EDUCATION
Study of the problems, trends and recent developments in business education.

BUED 496 SEMINAR IN BUSINESS EDUCATION
Study of a specific topic pertinent to business education. Topics may include consumer economic education, school and community relations, tests and measurements in business education, or audio-visual aids for use in business education.
Chemistry
CHEMISTRY

R. Wade, Chair; S. Lee, F. Nyazulu, W. Innis Whitehouse.

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.

MAJOR IN CHEMISTRY (Bachelor of Arts)

A student majoring in chemistry must complete 52 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. The Graduate Record Examination in chemistry is required.

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<th>Major Requirements:</th>
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<td>CHEM 265</td>
<td>Analytical Instrumental Methods I 4</td>
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<td>CHEM 321, 322, 323</td>
<td>Organic Chemistry 9</td>
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<td>CHEM 324, 325, 326</td>
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<td>CHEM 351, 352, 353</td>
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<td>Chemistry Seminar 2</td>
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<td>Electives 4</td>
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Electives must be chosen in consultation with and approved by the academic adviser assigned by the department.

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<tr>
<th>Cognates:</th>
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<td>CPTR 124 or CPTR 134</td>
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<td>Principles of Physics</td>
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<td>PHYS 254, 255, 256</td>
<td>Principles of Physics Laboratory</td>
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MAJOR IN CHEMISTRY (Bachelor of Science)
A student majoring in chemistry must complete 65 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, but minors in both mathematics and physics are recommended. The Graduate Record Examination in chemistry is required.

Major Requirements:
CHEM 141, 142, 143 General Chemistry 9
CHEM 144, 145, 146 General Chemistry Laboratory 3
CHEM 264 Chemical Equilibrium and Analysis 4
CHEM 265 Analytical Instrumental Methods I 4
CHEM 321, 322, 323 Organic Chemistry 9
CHEM 324, 325, 326 Microscale Organic Laboratory 3
CHEM 351, 352, 353 Physical Chemistry 9
CHEM 354, 355, 356 Physical Chemistry Laboratory 3
CHEM 479 Directed Research/Project 3
or CHEM 494 Cooperative Education 2
CHEM 496, 497 Chemistry Seminar 16
Electives

Cognates:
CPTR 124 Introduction to BASIC 2
or CPTR 134 Introduction to Computing (FORTRAN) 4
or CPTR 141 Introduction to Programming (Pascal) 16
MATH 181, 281-283 Analytic Geometry and Calculus, I-IV 2
PHYS 211, 212, 213 General Physics 12
PHYS 214, 215, 216 General Physics Laboratory 12
or PHYS 251, 252, 253 Principles of Physics 8
PHYS 254, 255, 256 Principles of Physics Laboratory 8

MINOR IN CHEMISTRY
A student minoring in chemistry must complete 27 quarter hours; 3 must be upper division. 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 9
CHEM 324, 325, 326 Microscale Organic Laboratory 3
Electives (in addition to General and Organic) 3

Approval of department chair required.

CHEMISTRY (CHEM)
CHEM 101, 102 INTRODUCTORY CHEMISTRY 4, 4
Introduction to chemistry, covering the fields of inorganic, organic, and biochemistry. Meets the general studies requirement for a science sequence, but does not apply toward a major or minor. Must be taken in sequence. One laboratory per week.
CHEM 141, 142, 143 GENERAL CHEMISTRY  
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. One laboratory  
per week. Prerequisites or corequisites: MATH 121, 122 or equivalent. Corequisite: CHEM 144,  
145, 146.

CHEM 144, 145, 146 GENERAL CHEMISTRY LABORATORY  
Laboratory integrated with CHEM 141, 142, 143. Corequisite: CHEM 141, 142, 143.
CHEM 264 CHEMICAL EQUILIBRIUM AND ANALYSIS
Study of chemical equilibrium through a perspective of applications in analytical chemistry. Consideration is given to solubility as affected by competing equilibria, acid-base equilibria in aqueous solutions, complexation equilibria, and an introduction to oxidation reduction equilibria. One laboratory per week. Prerequisite: CHEM 143.

CHEM 265 ANALYTICAL INSTRUMENTAL METHODS I
Primary course content deals with electrochemistry and optical spectroscopies. Consideration is given to both the instrumentation and techniques of interest to the analytical and clinical chemist. Other topics covered include sampling and analysis of complex samples. One laboratory per week. Prerequisite: CHEM 264.

CHEM 321, 322, 323 ORGANIC CHEMISTRY
Principles of organic chemistry; their application to the preparation, properties, and reactions of organic compounds. Spectroscopic analysis of organic compounds. Prerequisite: CHEM 143. Corequisite: CHEM 324, 325, 326.

CHEM 324, 325, 326 MICROSCALE ORGANIC LABORATORY
An introduction to microscale techniques of preparation, purification, and identification of organic compounds. Includes spectroscopic techniques. One laboratory per week. Corequisite: CHEM 321, 322, 323.

CHEM 351, 352, 353 PHYSICAL CHEMISTRY
A 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 PHYS 253; CHEM 265; CPTR 124 or CPTR 134 or CPTR 141.

CHEM 354, 355, 356 PHYSICAL CHEMISTRY LABORATORY
Laboratory integrated with CHEM 351, 352, 353. Corequisite: CHEM 351, 352, 353.

CHEM 395 METHODS OF TEACHING CHEMISTRY
Methods, materials and techniques of teaching chemistry on the secondary-school level. Requires observation, demonstration and class presentations. Will not apply toward a major or minor.

CHEM 427 ORGANIC STRUCTURE AND MECHANISMS
An in-depth study of the structures of organic molecules and the theories of reaction mechanisms. Prerequisite: CHEM 323.

CHEM 428 ORGANIC SYNTHESIS
An analysis of current methods used to synthesize complex organic molecules. One laboratory per week. Prerequisite: CHEM 323.

CHEM 431, 432 BIOCHEMISTRY
Study of the chemistry of carbohydrates, lipids, proteins, nucleic acids, and porphyrins; the nature and mode of action of enzymes; intermediary metabolism. Prerequisite: CHEM 323. BIOL 392 recommended. Corequisite: CHEM 433, 434.

CHEM 433, 434 BIOCHEMISTRY LABORATORY METHODS
An introduction to biochemical methods and preparations including instrumental applications. Corequisite: CHEM 431, 432 or permission of the instructor.

CHEM 442 CHEMISTRY OF MAIN GROUP ELEMENTS
Study of energetics and structures as guides to main group chemistry. Lewis acid-base concepts. Prerequisites: CHEM 143; CHEM 351 or consent of instructor.

CHEM 443 TRANSITION METAL CHEMISTRY
Study of coordination chemistry of first row transition elements, crystal field and Ligand theory, and organometallics. One laboratory per week. Prerequisites: CHEM 143; CHEM 351 or consent of instructor.

CHEM 461 ANALYTICAL INSTRUMENTAL METHODS II
Study of chromatographic separation techniques, nuclear magnetic resonance, and mass spectroscopy as tools for analytical studies. One Laboratory per week. Prerequisite: CHEM 265.
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 EDUCATION 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 CHEMISTRY SEMINAR 1, 1
Formal introduction to fields of current chemical research. Student will prepare and present papers covering various areas of chemical research as well as attend all Chemistry Colloquia. Prerequisites: CHEM 265; CHEM 323 or consent of instructor.
COMMUNICATIONS
L. Dickinson, Chair; D. Bullock, J. Hannum, D. Rigby.

The department's programs are intended to develop articulate Christian communica tors while preparing students in communications-related professions. The department offers two majors, with minors in speech communication, journalism, and broadcast media.

The mass communications major is offered through the cooperation of several departments whose courses include mass communication areas. It trains, primarily, those interested in journalism, broadcasting, audio and visual production, public relations, and promotional work. This major also provides a preprofessional foundation which enables students to take advanced work in a specialized communications area such as advertising or public relations.

The speech communication major emphasizes public, small group and interpersonal communication. It is designed for the student intending to teach oral communication, or is used as an adjunct to other preparations in which interpersonal and public speech communication skills are particularly important.

MAJOR IN MASS COMMUNICATION (Bachelor of Arts)
A student majoring in Mass Communication must complete the core requirements and one concentration totaling 55 hours, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Core Requirements:
COMM 145 Mass Communication Media 4
COMM 231 Broadcast Techniques and Announcing 4
COMM 357 Communication Law and Ethics 3
COMM 495 Senior Project 1
COMM 496, 497 Seminar in Mass Media 3
JOUR 245 Journalistic Writing 4
JOUR 246 Reporting Methods 3
MKTG 481 Public Relations 4
SPCH 101 Fundamentals of Speech Communication 4

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CONCENTRATION: Journalism
JOUR 257 Photojournalism 2
JOUR 341 Magazine Article Writing 4
JOUR 451 Publication Production 4
JOUR 465 Promotional Campaigns 3
Electives (at least 6 must be writing; up to 4 may be COMM courses) 12

25

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

CONCENTRATION: Media
COMM 301 Audio Production 4
COMM 302 Video Production 4
COMM 303 Video Production 4
or
COMM 305 Multi-Image Design and Production 4
COMM 352  Telecommunication Systems 4
Electives (may include courses cited in the
JOUR curriculum with the exception of
ENGL 335, and may include the following
SPCH courses: SPCH 107, SPCH 211,
SPCH 252, SPCH 363, and SPCH 365)
Electives must be chosen in consultation with and approved by the academic adviser
assigned by the department chair.

Cognates:

ART 244 Commercial Art 2-3
or
PRNT 295 Printing Layout and Design
GRPH 154 Principles of Photography 2
GRPH 155 Principles of Photography Laboratory 1
MKTO 381 Principles of Marketing
MKTG 383 Advertising and Sales Promotion 4
or
OFAD 111 Basic Keyboarding (or proficiency) 0-2
or
OFAD 225 Word Processor Keyboarding
PRNT 121 Introduction to Graphic Arts 3

MAJOR IN SPEECH COMMUNICATION (Bachelor of Arts)
A student majoring in speech communication must complete 50 quarter hours in the
major, the general studies program, and all baccalaureate degree requirements
as outlined in this bulletin.

Major Requirements:

SPCH 101 Fundamentals of Speech Communication 4
SPCH 107 Voice and Articulation 4
SPCH 211 Oral Interpretation 3
SPCH 310 Interpersonal and Nonverbal Communication 3
SPCH 341 Argumentation 4

or

SPCH 443 Persuasive Speaking
SPCH 496 Seminar in Speech Communication 2
COMM 145 Mass Communication Media 4
COMM 275 Communication Theory 2
JOUR 245 Journalistic Writing 4
Electives (12 must be upper division; may include up to 8 hours from among courses
with COMM or JOUR prefixes, or courses cited in the SPCH curriculum but offered
by other departments.)
Electives must be chosen in consultation with and approved by the academic adviser
assigned by the department chair.

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COMMUNICATIONS

MINOR IN SPEECH COMMUNICATION
A student minoring in speech communication must complete 27 quarter hours:
SPCH 101 Fundamentals of Speech Communication 4
Electives (9 must be upper division) 23
 Approval of speech communication adviser required. 27

MINOR IN JOURNALISM
A student minoring in journalism must complete 27 quarter hours.
COMM 145 Mass Communication Media 4
JOUR 245 Journalistic Writing 4
JOUR 246 Reporting Methods 3
Electives (9 must be upper division; minimum of one additional writing course) 16
 Approval of journalism adviser required. 27

MINOR IN BROADCAST MEDIA
A student minoring in broadcast media must complete 27 quarter hours.
COMM 145 Mass Communication Media 4
COMM 231 Broadcast Techniques and Announcing 4
JOUR 245 Journalistic Writing 4
Electives (9 must be upper division) 15
 Approval of broadcast media adviser required. 27

COMMUNICATIONS (COMM)
COMM 145 MASS COMMUNICATION MEDIA 4
Introduction to the organization, operation and control of the mass media in America, with emphasis on the social function of mass communication and the characteristics of media audiences.

COMM 231 BROADCASTING TECHNIQUES AND ANNOUNCING 4
Introduction to radio station control room operations and announcing performance for radio and television. Emphasis on vocal delivery and on-camera performance for a variety of program types and broadcast situations including continuity, commercials, music, news, interviews, and talk shows.

COMM 275 COMMUNICATION THEORY 2
Examination of contemporary thought on the nature and process of communication.

COMM 301 AUDIO PRODUCTION 4
Advanced study of the aesthetics of the sound medium and procedures for creative sound production in various media. Covers directing the audio session, studio and remote recording, mixing, production music and sound effects, music recording, and technical quality control. Prerequisite: COMM 231.

COMM 302, 303 VIDEO PRODUCTION 4, 4
Study of video and film production principles and techniques. Includes single and multi-camera operations, directing, video recording, program design, budgeting, lighting, post-production editing and sound sweetening. One laboratory per week. Prerequisites: COMM 231 or equivalent experience.

COMM 305 MULTI-IMAGE DESIGN AND PRODUCTION 4
Study and experience in scripting, budgeting, slide photography, titling, audio production, and synchronization for single and multiprojector slide-sound programs. Prerequisites: COMM 231 or equivalent; GRPH 154.

COMM 352 TELECOMMUNICATION SYSTEMS 4
Study of the organization, operation and programming of stations, networks, cable services and related activities, including religious broadcasting. Also includes an introduction to audience analysis and an overview of world systems of broadcasting.
COMM 357 COMMUNICATION LAW AND ETHICS
Study of the legal and ethical aspects of the news-gathering materials for articles and preparation of manuscripts for publication. Offered alternate years.

COMM 479 DIRECTED MEDIA PRODUCTION
1-4
Refining 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 494 COOPERATIVE EDUCATION IN MASS MEDIA
1-4
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. Evaluated on the S or NC basis. Instructor's permission must be obtained one quarter before registration.

COMM 495 SENIOR PROJECT
A student-selected, department-approved project to demonstrate one's ability to perform in his major field of instruction. Satisfactory completion of this course constitutes the department comprehensive requirement for the bachelor's degree. This course will be evaluated on the S or NC basis.

COMM 496, 497 SEMINAR IN MASS MEDIA
2, 1
An integrating course required of all mass media majors in the senior year. Study includes a review of literature, research, and research methods in media. Experience in writing critical reviews. Individual research projects in areas of special relevance to the student. Group conferences and oral presentation of formal papers.

OFAD 362 BUSINESS COMMUNICATIONS
4
See the Office Administration section of this bulletin.

JOURNALISM (JOUR)

JOUR 245 JOURNALISTIC WRITING
4
Introduction to gathering facts and writing news stories for mass media audiences. Prerequisites: ENGL 121, 122.

JOUR 246 REPORTING METHODS
3
Basic training in the use of interviewing and other social research techniques for the gathering and reporting of news. Prerequisite: JOUR 245.

JOUR 257 PHOTOJOURNALISM
2
Photography for publication; includes composition, cropping, caption writing and picture-page layout. Students are expected to have their own cameras. Prerequisite: GRPH 155 or equivalent.

JOUR 341 MAGAZINE ARTICLE WRITING
4
Analysis of magazine markets, fundamentals of gathering materials for articles and preparation of manuscripts for publication. Offered alternate years.

JOUR 412 SCRIPTWRITING
3
Writing techniques for multimedia, drama, documentary, broadcast (commercials, news, continuity), and instructional media. Prerequisite: ENGL 335 or 336. Offered alternate years.

JOUR 445 DIRECTED MEDIA WRITING
1-3
The refining of writing skills through a program adapted to the student's professional interest. Prerequisites: JOUR 245 and permission of instructor.

JOUR 451 PUBLICATION PRODUCTION
4
Instruction and practice in copy editing, headline writing, and cutline writing; publication design and print production. Each student will plan a project consisting of planning a new publication, with prospectus and dummy copy. Offered alternate years. Permission of instructor required.

JOUR 465 PROMOTIONAL CAMPAIGNS
3
Planning specific campaigns to promote a service or event, change public opinion, or raise funds. Includes introduction to public opinion research. Recommended prerequisites: MKTG 381 or MKTG 383; MKTG 481, or permission of department. Offered alternate years.
ENGL 215 FILM LITERATURE
See the English section of this bulletin.

ENGL 335 CREATIVE WRITING: NARRATIVE
See the English section of this bulletin.

MKTG 381 PRINCIPLES OF MARKETING
See the Business section of this bulletin.

MKTG 383 ADVERTISING AND SALES PROMOTION
See the Business section of this bulletin.

MKTG 481 PUBLIC RELATIONS
See the Business section of this bulletin.

SOCI 451 RESEARCH METHODS
Same as MKTG 451; PLSC 451. See course description under those departments.

SPEECH COMMUNICATION (SPCH)

SPCH 101 FUNDAMENTALS OF SPEECH COMMUNICATIONS
Introduction to the procedure of public speaking. The course places emphasis on acquiring ease, a conversational attitude, and reasonable facility in organizing and delivering content relevant to the audience.

SPCH 107 VOICE AND ARTICULATION
Study of and practice in improving the speaking voice. Emphasizes the structure and function of the speech mechanism, quality and effectiveness of voice, and stresses developing clear enunciation and articulation. As a guide to correct pronunciation, the International Phonetic Alphabet is also included.

SPCH 207 SMALL GROUP COMMUNICATION
Study of the nature of group and interpersonal processes; includes leadership and participation in group discussion.

SPCH 211 ORAL INTERPRETATION
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 reading from the Scriptures.

SPCH 252 PLAY PRODUCTION
Analysis, rehearsal and performance of a play chosen by the instructor. May be taken only by permission of the instructor.

SPCH 310 INTERPERSONAL AND NONVERBAL COMMUNICATION
Examination of both the process and the messages, verbal and non-verbal, that characterize interpersonal communication; employs readings, discussion, and strategies useful in understanding and improving one's interpersonal interactions.

SPCH 341 ARGUMENTATION
Examination of informal logic to develop critical thinking; includes study of evidence, reasoning, and fallacies; application of evidence and logical forms by analyzing current rhetoric and debating contemporary issues.

SPCH 363 HISTORY OF DRAMATIC ARTS
Study of the history and development of the theater from the Greek to the twentieth century.

SPCH 365 PLAY DIRECTION
Fundamentals of play direction; each student produces and directs a one-act play or one act from a longer play for public performance.

SPCH 381, 382, 383 BIBLICAL PREACHING
Preparation and delivery of Biblical sermons for worship, evangelism and special worship occasions. Laboratories and Sabbath speaking appointments included. Prerequisite: SPCH 101.

SPCH 395 METHODS OF TEACHING SPEECH COMMUNICATION
Study of the basic principles and practices of teaching speech on the junior high and secondary levels. Special attention will be given to the contemporary methods of presentation in classroom and therapy situation; includes observations, demonstration and class participation.
SPCH 401 INTRODUCTION TO GENERAL SEMANTICS
Study of the use of language to influence human behavior; language in problem solving and as a means of resolving conflicts.

SPCH 443 PERSUASIVE SPEAKING
Study of motivation in human behavior as applied by the public communicator in the process of persuasion; analysis of persuasive speeches for their emotional, ethical and logical value; practice in composing and delivering speeches to influence choice. Prerequisite: SPCH 101.

SPCH 453 THE RHETORIC OF WESTERN THOUGHT
Study of the principles of rhetoric proposed by Aristotle, Quintillian, Cicero and others; the relationship of the principles of rhetoric to modern contemporary speechmaking. Prerequisite: SPCH 101.

SPCH 496 SEMINAR IN SPEECH COMMUNICATION
An integrating course required of all speech communications majors in the senior year. Includes a review of literature and research methods in speech communication, experience in writing critical reviews and investigating issues in areas of special interest to class members, and oral presentation of reports.

ENGL 484 HISTORY OF THE ENGLISH LANGUAGE
See the English section of this bulletin.

ENGL 485 LINGUISTICS
See the English section of this bulletin.

SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY (SPPA)
These courses are not currently being offered.

SPPA 100 INDIVIDUALIZED SPEECH INSTRUCTION
Appraisals and remedial service for speech and hearing problems; maximum one hour per quarter; by permission of the speech clinic director.

SPPA 210 SURVEY OF SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY
Survey of communication disorders with major emphasis given to the etiologies, symptomatologies, and the recognition of speech, language, voice and hearing disorders.

SPPA 250 BASIC MANUAL COMMUNICATION
Introduction to the basic signs used in communicating with the hearing impaired; includes group practice in signing letters, words, sentences, and songs.

SPPA 275 PHONETICS
Study of the theory, history, development and application of the international phonetic alphabet, its application to speech correction and to adequate pronunciation.

SPPA 291 ANATOMY AND PHYSIOLOGY OF SPEECH AND HEARING
Study of the anatomy, physiology and neuroanatomy of the speech and hearing mechanisms. Recommended: BIOL 201, 202.
SPPA 299 NORMAL LANGUAGE DEVELOPMENT
Study of the normal development of speech and language in children and methods of facilitation. Does not apply to a major in speech-language pathology and audiology.

SPPA 371 INTRODUCTION TO AUDIOLOGY
Study of the history of audiology, rehabilitation of the acoustically handicapped, and basic clinical techniques used in air, bone and impedance audiometry. Prerequisite: SPPA 210.

SPPA 372 AUDIOMETRY
Study of the psychophysical methods of auditory testing, specialized audiometric techniques, theory and practice determining types of hearing abilities, includes the interpretation of test results; hearing aid evaluation and follow-up procedures for the acoustically handicapped. Prerequisite: SPPA 371. Offered alternate years.

SPPA 373 AURAL REHABILITATION
Methods of rehabilitation of hearing impairment; use of amplification, auditory training and speech reading. Prerequisite: SPPA 371. Offered alternate years.

SPPA 383 LANGUAGE ACQUISITION
Study of the acquisition of the linguistic systems of language, includes phonology, morphology, syntax, and semantics; language pragmatics.

SPPA 385 LANGUAGE DISORDERS
Study of etiological theories, evaluation and management of childhood language disorders. Prerequisite: SPPA 210.

SPPA 389 PHONOLOGICAL DISORDERS

SPPA 390 DIRECTED CLINICAL OBSERVATION
Attendance at scheduled sessions to observe clinical management of speech-language disorders and to participate as an assistant to the clinician.

SPPA 391 CLINICAL METHODS IN SPEECH-LANGUAGE PATHOLOGY
Instruction, observation and practice in methods and procedures basic to the development and implementation of a program of remediation for speech-language disorders. Prerequisites: SPPA 385; SPPA 390.

SPPA 393 CLINICAL PRACTICUM
Clinical experience in evaluation and treatment of the various speech, language and hearing disorders. Responsibility commensurate with experience. Maximum 2 hours per quarter. Prerequisites: SPPA 383; SPPA 385; SPPA 391.

SPPA 461 DIAGNOSIS IN SPEECH-LANGUAGE PATHOLOGY
Diagnosis and appraisal procedures of communicative disorders; includes the use of speech and language tests, associated behavior and instrumentation techniques; three lectures and one laboratory per week. Prerequisite: SPPA 210.

SPPA 471 NEUROGENIC COMMUNICATION DISORDERS
Assessment and treatment of speech and language disorders resulting from neurological impairment: aphasia, dysarthria, apraxia. Offered alternate years.

SPPA 473 CLEFT PALATE
Study of the etiology of cleft palate and other oro-facial abnormalities; assessment and treatment.

SPPA 475 VOICE DISORDERS
Study of the etiological, diagnostic and therapeutic approaches to functional and organic disorders of voice; consideration of the acoustic characteristics of aberrant voice and mechanical faults of voice production. Prerequisite: SPPA 210. Offered alternate years.

SPPA 479 STUTTERING
Study of the theories of stuttering and an evaluation of therapeutic techniques employed. Prerequisite: SPPA 210.

SPPA 484 PUBLIC SCHOOL PRACTICUM
Professional laboratory experience for the speech pathology and audiology major. A weekly seminar will be conducted for students working in the Walla Walla area. Application for the autumn quarter must be made during the preceding spring quarter; application for the winter and spring quarters must be made during the first week of the autumn quarter. Prerequisites: SPPA 391; SPPA 393.
COMPUTER SCIENCE

M. Bell, Chair; J. Aulick, J. Klein, G. Rittenbach.

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.

The department offers programs leading to Bachelor of Arts, Bachelor of Science and Associate of Science degrees. 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 data processing. The curriculum follows closely the guidelines of the Association for Computing Machinery and the Institute of Electrical and Electronics Engineers.

For entrance, 20 semester periods of secondary mathematics chosen from algebra, plane and solid geometry, and trigonometry are required.

MAJOR IN COMPUTER SCIENCE (Bachelor of Arts)
A student majoring in computer science must complete 48 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. The Graduate Record Examination (general and subject area) is required.

Major Requirements:
CPTR 141 Introduction to Programming (Pascal) 4
CPTR 142 Program and Data Structures 4
CPTR 136 File-Oriented Programming (COBOL) 4
or
CPTR 211 Directed Study in Programming Languages 4
CPTR 215 Assembly Language Programming I 3
CPTR 224 Scientific Computer Applications 4
or
CPTR 225 Commercial Computer Applications (RPG) 4
CPTR 341 Programming Languages 4
CPTR 343 Advanced Data Structures 4
CPTR 441 Advanced Computer Projects 4
CPTR 454 Design and Analysis of Algorithms 4
Electives (6 must be upper division) 13-15

Electives must be chosen in consultation with and approved by the department chair. Minor should be chosen in an area in which computer science can be applied. Business, mathematics or a science is recommended.

Cognates:
BIOL 350 Biostatistics
or
GBUS 263 Business Statistics 4
or
MATH 315 Probability and Statistics
MATH 181, 281 Analytic Geometry and Calculus I, II 8
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<td>MATH 289</td>
<td>Linear Algebra and Its Applications</td>
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<tr>
<td>OFAD 111</td>
<td>Basic Keyboarding or proficiency</td>
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<tr>
<td>ELCCT 241</td>
<td>Fundamentals of Electronics</td>
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<tr>
<td>ENGR 325</td>
<td>Instrumentation</td>
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</table>

**MAJOR IN COMPUTER SCIENCE (Bachelor of Science)**

A student majoring in computer science must complete 61 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. The Graduate Record Examination (general and subject area) is required.

**Major Requirements:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPTR 141</td>
<td>Introduction to Programming (Pascal)</td>
<td>4</td>
</tr>
<tr>
<td>CPTR 142</td>
<td>Program and Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>CPTR 136</td>
<td>File-Oriented Programming (COBOL)</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPTR 211</td>
<td>Directed Study in Programming Languages</td>
<td>2-4</td>
</tr>
<tr>
<td>CPTR 215</td>
<td>Assembly Language Programming I</td>
<td>3</td>
</tr>
<tr>
<td>CPTR 224</td>
<td>Scientific Computer Applications</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPTR 225</td>
<td>Commercial Computer Applications (RPG)</td>
<td>3</td>
</tr>
<tr>
<td>CPTR 331</td>
<td>Computers in the Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>CPTR 341</td>
<td>Programming Languages</td>
<td>4</td>
</tr>
<tr>
<td>CPTR 343</td>
<td>Advanced Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>CPTR 350</td>
<td>Computer Architecture</td>
<td>4</td>
</tr>
<tr>
<td>CPTR 351</td>
<td>Memory and I/O Systems</td>
<td>3</td>
</tr>
<tr>
<td>CPTR 352</td>
<td>Operating System Design</td>
<td>3</td>
</tr>
<tr>
<td>CPTR 374</td>
<td>Simulation and Modeling</td>
<td>3</td>
</tr>
<tr>
<td>CPTR 441</td>
<td>Advanced Computer Projects</td>
<td>4</td>
</tr>
<tr>
<td>CPTR 454</td>
<td>Design and Analysis of Algorithms</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 354</td>
<td>Digital Logic Circuits</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>6-10</td>
</tr>
</tbody>
</table>

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

**Cognates:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELCCT 241</td>
<td>Fundamentals of Electronics</td>
<td>3-5</td>
</tr>
<tr>
<td>or</td>
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</tr>
<tr>
<td>ENGR 325</td>
<td>Instrumentation</td>
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</tr>
<tr>
<td>MATH 181, 281-283</td>
<td>Analytic Geometry and Calculus I-IV</td>
<td>16</td>
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<tr>
<td>MATH 250</td>
<td>Discrete Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>MATH 289</td>
<td>Linear Algebra and Its Applications</td>
<td>3</td>
</tr>
<tr>
<td>MATH 315</td>
<td>Probability and Statistics</td>
<td>4</td>
</tr>
<tr>
<td>MATH 341</td>
<td>Numerical Analysis</td>
<td>4</td>
</tr>
<tr>
<td>OFAD 111</td>
<td>Basic Keyboarding or proficiency</td>
<td>0-2</td>
</tr>
<tr>
<td>PHYS 251, 252</td>
<td>Principles of Physics</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 254, 255</td>
<td>Principles of Physics Laboratory</td>
<td>2</td>
</tr>
</tbody>
</table>
DATA ENTRY (Associate of Science)
The data entry program is administered jointly by the departments of computer science and office administration. A student completing the data entry program must complete the area requirements, the required cognates, and the general studies program for the associate degree as outlined in this bulletin. See the Office Administration section of this bulletin for a complete list of requirements.

COMPUTER PROGRAMMING (Associate of Science)
A student specializing in computer programming must complete the following quarter hours, the required cognates, the general studies program, and all associate degree requirements as outlined in this bulletin.

<table>
<thead>
<tr>
<th>Area Requirements:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CPTR 101</td>
<td>Computer Principles</td>
</tr>
<tr>
<td>CPTR 136</td>
<td>File-Oriented Programming (COBOL)</td>
</tr>
<tr>
<td>CPTR 141</td>
<td>Introduction to Programming (Pascal)</td>
</tr>
<tr>
<td>CPTR 142</td>
<td>Program and Data Structures</td>
</tr>
<tr>
<td>CPTR 211</td>
<td>Directed Study in Programming Languages</td>
</tr>
<tr>
<td>CPTR 215</td>
<td>Assembly Language Programming I</td>
</tr>
<tr>
<td>CPTR 224</td>
<td>Scientific Computer Applications</td>
</tr>
<tr>
<td>or</td>
<td>Commercial Computer Applications (RPG)</td>
</tr>
<tr>
<td>CPTR 225</td>
<td>Computer Projects</td>
</tr>
<tr>
<td>CPTR 241</td>
<td>Cooperative Education</td>
</tr>
<tr>
<td>CPTR 494</td>
<td>Electives</td>
</tr>
</tbody>
</table>

Electives must be chosen in consultation with and approved by the department chair and will usually have one of the following prefixes ACCT, CPTR, FINA, GBUS, MATH, MGMT, or MIS.

<table>
<thead>
<tr>
<th>Cognates:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>BIOL 350</td>
<td>Biostatistics</td>
</tr>
<tr>
<td>or</td>
<td>Business Statistics</td>
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<tr>
<td>GBUS 263</td>
<td>Applied Statistics</td>
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<tr>
<td>or</td>
<td>Precalculus</td>
</tr>
<tr>
<td>MATH 106</td>
<td>Fundamentals of Mathematics</td>
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<tr>
<td>MATH 117</td>
<td>Discrete Mathematics</td>
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<tr>
<td>or</td>
<td>Linear Algebra and Its Applications</td>
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<tr>
<td>MATH 121, 122</td>
<td>Basic Keyboarding or proficiency</td>
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<tr>
<td>MATH 250</td>
<td>General Psychology</td>
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<td>MATH 289</td>
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<td>OFAD 111</td>
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<tr>
<td>PSYC 130</td>
<td></td>
</tr>
</tbody>
</table>

MINOR IN COMPUTER SCIENCE
A student minoring in computer science must complete 29 quarter hours:

| CPTR 141                   | Introduction to Programming (Pascal) | 4 |
| CPTR 142                   | Program and Data Structures | 4 |
| CPTR 136                   | File-Oriented Programming (COBOL) | 4 |
| or                         | Directed Study in Programming Languages | 2-4 |
| CPTR 211                   | Assembly Language Programming I | 3 |
CPTR 224 Scientific Computer Applications
or
CPTR 225 Commercial Computer Applications (RPG)
CPTR 341 Programming Languages
Electives
Electives must be chosen in consultation with and approved by the department chair.

Cognates:
MATH 181 Analytical Geometry and Calculus I
MATH 289 Linear Algebra and Its Applications

COMPUTER SCIENCE (CPTR)

CPTR 101 COMPUTER PRINCIPLES
A survey of the fundamental concepts of the computer as a tool for the individual and business. Topics include: the history of computers, technology, societal issues, personal purchase and use, programming languages, spreadsheets, word processors and other general purpose software. The concept of an algorithm and the computer as a programmable tool will be emphasized. The student must have a minimum proficiency in keyboarding skills.

CPTR 124 INTRODUCTION TO BASIC
Introduction to computer programming in the BASIC language for the general student. Includes conceptual aspects of programming and applications involving the manipulation of numbers and textual material. Will not apply toward a major or minor in computer science. Prerequisite: Elementary concepts of algebra.

CPTR 134 INTRODUCTION TO COMPUTING (FORTRAN)
Introduction to problem-solving methods and algorithm development, using primarily the FORTRAN language; includes designing, coding, debugging and documenting programs emphasizing good programming style. Prerequisite: MATH 117 or MATH 121 or equivalent.

CPTR 136 FILE-ORIENTED PROGRAMMING (COBOL)
Program development in the business environment, structured programming techniques, file processing and the syntax of the language. Prerequisite: CPTR 141.

CPTR 141 INTRODUCTION TO PROGRAMMING (Pascal)
Introduction to computers and programming; problem analysis, structured design of algorithms and programs, debugging, and documentation.

CPTR 142 PROGRAM AND DATA STRUCTURES
A continuation of the study of the structured design of programs and basic data structures. Issues of style and maintainability will be emphasized. Prerequisite: CPTR 141.

CPTR 211 DIRECTED STUDY IN PROGRAMMING LANGUAGES 1-2
Independent study of a programming language and its applications. Several small programs will be required. A project will be required for those registering for two credits. The selected language must be chosen in consultation with the instructor. Some possible choices are ADA, APL, C, FORTRAN, LISP, Modula-2, PROLOG, SNOBOL, and SQL. May be taken up to three times with different languages for a maximum of five credits. Prerequisite: CPTR 134 or CPTR 141.

CPTR 215 ASSEMBLY LANGUAGE PROGRAMMING I
Introduction to computer architecture, machine language and an assembly language using microprocessors. Laboratory work required. Prerequisite: CPTR 134 or CPTR 141.

OFAD 111 is prerequisite to all courses in computer science numbered above 220.

CPTR 224 SCIENTIFIC COMPUTER APPLICATIONS
Surveys problem-solving techniques applicable to scientific investigation, including symbolic methods, trial and error, simulation, statistics and graphics. Prerequisite: CPTR 134 or CPTR 141.
COMPUTER SCIENCE

CPTR 225 COMMERCIAL COMPUTER APPLICATIONS (RPG) 4
Principles of analyzing and solving practical business programming problems applicable to any computer or language; emphasis on standard flow charts peculiar to the problems commonly encountered in business situations; functional use of report program generator (RPG) language; experience in the use of a computer. Recommended: CPTR 101 or CPTR 134 or CPTR 136.

CPTR 234 ASSEMBLY LANGUAGE PROGRAMMING II 3
Further study of machine and assembly languages with emphasis on the DEC VAX-II architecture. Prerequisite: CPTR 215.

CPTR 241 COMPUTER PROJECTS 2; 4
Experience in programming a major software project. Usually a single project will be chosen in consultation with the instructor, or several students may work on a large project using team programming techniques. May be repeated once. Candidates for a bachelor's degree should take CPTR 441. Prerequisite: CPTR 136 or 142.

CPTR 245 INTERMEDIATE COBOL 4
Intermediate and advanced features of the COBOL language. Emphasis is on structured programming techniques, advanced file processing, programming style, and job control languages. Prerequisite: CPTR 136.

CPTR 255 COMPUTER GRAPHICS 2
Introduction to the production of graphical representations of two- and three-dimensional objects using the computer. Theory and application of matrix transform methods to manipulate two- and three-dimensional data structures. Graphical operations include scaling, translation, rotation, and reflection; orthographic, axonometric, perspective, and stereographic projections. Surveys applications of computer plotting software for the production of graphs. Prerequisites: CPTR 134 or CPTR 141; MATH 117 or equivalent.

CPTR 331 COMPUTERS IN THE LABORATORY 3
Study of the application of computers in the control of laboratory equipment and the acquisition of data. Considers the choice of hardware for specific applications. Prerequisites: CPTR 134 or CPTR 141; CPTR 215 recommended; ELCT 241 or ENGR 325.
CPTR 341 PROGRAMMING LANGUAGES
Analysis of programming languages, including techniques of formal specification and analysis such as Backus-Naur form and syntax diagrams, lexical analysis and parsing. Analysis of several specific languages including both compiled and interpreted languages. The study of run-time behavior or program features. Prerequisite: CPTR 142; CPTR 211 recommended.

CPTR 343 ADVANCED DATA STRUCTURES
Study of specialized data structures with emphasis on the data structures used in databases; how these are used to build databases with general purpose languages and to design special purpose database languages. Prerequisites: CPTR 142 and CPTR 341.

CPTR 350 COMPUTER ARCHITECTURE
Study of the organization and architecture of computer systems with emphasis on the classical von Neumann architecture. Topics include instruction processing, addressing, interrupt structures, memory management, microprogramming, procedure call implementations, and multiprocessing.

CPTR 351 MEMORY AND I/O SYSTEMS
Study of interfacing techniques used in computer systems. Topics include random, semirandom, sequential, and direct-access methods; caching; synchronous and asynchronous transfer; and characteristics of I/O devices. Lab work is required. Prerequisites: CPTR 142 and CPTR 215.

CPTR 352 OPERATING SYSTEM DESIGN
Introduction to the design and operation of computer operating systems. Topics include multiprogramming, multiprocessing, concurrency, mutual exclusion, process models, synchronization, I/O handling, and user interfaces.

CPTR 374 SIMULATION AND MODELING
Study of contemporary methods of simulation and modeling of deterministic and probabilistic systems using conventional programming languages as well as specialized simulation languages. Scientific and business applications are included. Prerequisites: CPTR 134 or CPTR 141; MATH 181 and MATH 289 or equivalent; BIOL 350 or GBUS 263 or MATH 315 or equivalent.

CPTR 441 ADVANCED COMPUTER PROJECTS
Experience on a large-scale programming project of a practical nature. Usually a single project will be chosen in consultation with the instructor, or several students may work together on a larger project using team programming methods. May be repeated once. Prerequisites: CPTR 341.

CPTR 454 DESIGN AND ANALYSIS OF ALGORITHMS
Techniques using asymptotic notations, unit costs, and recurrence relations are applied to the analysis of algorithms. Basic design strategies are covered by studying the various kinds of classical algorithms. Proof-of-correctness methods are presented. Examples of NP-complete and NP-hard problems are discussed. Prerequisites: CPTR 142 and MATH 250.

CPTR 464 COMPILER DESIGN
Study of the techniques of translating conventional programming language source into executable machine codes. Topics include lexical analysis, syntactic analysis and parsing, static and run-time storage management, and code generation. Prerequisite: CPTR 343.

CPTR 494 COOPERATIVE EDUCATION
Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in an off-campus setting. Prerequisites: CPTR 142; CDEV 210 or permission of the Cooperative Education Director; approval of major advisor one quarter in advance of registration.

MANAGEMENT INFORMATION SYSTEMS (MIS)

MIS 102 MICROCOMPUTER APPLICATIONS
See the Business section of this bulletin.

MIS 301 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS (MIS)
See the Business section of this bulletin.

MIS 315 INTRODUCTION TO INFORMATION SYSTEMS ANALYSIS
See the Business section of this bulletin.

MIS 415 INTERMEDIATE INFORMATION SYSTEMS ANALYSIS
See the Business section of this bulletin.
COMPUTER SCIENCE

MIS 440 DATABASE AND DATA MANAGEMENT ISSUES
See the Business section of this bulletin.

MIS 470 MIS ADMINISTRATION
See the Business section of this bulletin.

MIS 490 MIS PROJECTS
See the Business section of this bulletin.

MIS 494 COOPERATIVE EDUCATION/INTERNSHIP
See the Business section of this bulletin.
Education and Psychology
EDUCATION AND PSYCHOLOGY


The department offers programs leading to a Bachelor of Science degree with a major in elementary education or psychology and an Associate of Science degree in early childhood education. Minors are available in either education or psychology, and preparation is provided for state and denominational certification in elementary and/or secondary teaching. With careful planning, a bachelor’s degree and the first teaching certificate may be earned in four years of study.

For work leading to a Master’s degree in education, see the Graduate Bulletin.

A teaching endorsement in special education is available in postgraduate or graduate study.

MAJOR IN ELEMENTARY EDUCATION (Bachelor of Science)

A student majoring in elementary education must complete 58 quarter hours in the major, the required cognates, as well as complete (1) a primary endorsement in an approved second major; or (2) two supporting endorsements in approved minors; or (3) one supporting endorsement in an approved minor plus 27 hours in approved academic content. A grade-point average of not less than 2.50 is required in the endorsement areas and in the academic support area. Any course graded lower than a C cannot apply. To be accepted in the elementary education program, a student must have received an acceptable score on the Test for Entrance into Teacher Education Program or on a state-approved alternate examination. Program approval must be obtained from the academic adviser assigned by the department chair.

Major Requirements:

Phase I

Phase I must be completed with a minimum grade-point average of 2.50 before a student may proceed to Phase II. Students may request permission to begin Phase II during the last quarter of Phase I.

EDUC 110  Principles and Concepts of Christian Education  2
EDUC 210  Foundations of Education  3
EDUC 227  Orientation to Elementary Teaching  1
EDUC 247  Elementary School Exploratory  1
PSYC 130  General Psychology  4
PSYC 215  Psychology of Childhood and Adolescence  4
PSYC 220  Educational Psychology  3

Additional requirements for admission to Phase II include:

1. Speech and hearing clearance.
2. English competency requirements (minimum grade-point average of 2.50 in College Writing; or a C or better in ENGL 338 or another approved writing class.)

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Phase II
Formal acceptance into Phase II of the elementary education major is required before registering for the following courses. A grade-point average of not less than 2.50 in the major and endorsement areas is required.

EDUC 361 Elementary Curriculum and Instruction: Language Arts 3
EDUC 362 Elementary Curriculum and Instruction: Reading 4
EDUC 373 Elementary Curriculum and Instruction: Mathematics 4
EDUC 375 Classroom Management 2
EDUC 382 Elementary Curriculum and Instruction: Social Studies 2
EDUC 383 Elementary Curriculum and Instruction: Science 2
EDUC 390 Educational Evaluation 3
EDUC 428 Exceptional Students in the Classroom 3
EDUC 478 Elementary Microteaching 3
EDUC 480 Student Teaching in the Elementary School 14

Students seeking denominational certification should refer to that section under certification.

Cognates:
ART 301 Art in the Elementary School 3
HLSC 395 Methods of School Health Instruction 3
MATH 115 Elementary Mathematics 4
MUED 395 Elementary Music Methods 3
PETH 473 Physical Education in the Elementary School 3

Approved Primary and Supporting Endorsements
Endorsements require a methods class appropriate for secondary teaching (4-12) and the specified courses. See an adviser in the department offering the endorsement or in the department of education and psychology. Effective July 1, 1988, teachers shall be required to hold two endorsements in order to obtain a continuing certificate.

Primary endorsements (a major including specified courses):
Biology Mathematics
Chemistry Modern Language (only one)
English Music Education
Health Physical Education
History Sociology
Home Economics

Supporting endorsements (a minor including specified courses):
Art Mathematics
Biology Modern Language (only one)
Chemistry Teaching of Elementary Music
English Physical Education
Health Religion (denominational certificate)
History Sociology
Home Economics

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CERTIFICATION

Denominational Certification
For elementary and secondary certification candidates seeking denominational certification, the following course work is required in addition to the courses required for Washington State certification:

EDUC 381 Elementary Curriculum and Instruction: 2
   Religion (elementary certification only)

One course chosen from the following:
HLSC 110 Wellness for Living 3
HLSC 238 Health Behavior Change 2
HLSC 353 Principles of Health 3
HLSC 384 School Health Programs 3

Eighteen hours of religion courses, including the following:
RELH 457 History of Adventism 2
RELT 202 Basic Christian Beliefs 4
RELT 317 Inspiration and Revelation 4

Washington State Certification
The department attempts to provide current information in this bulletin on certification requirements. Because of frequent changes in those requirements, however, the candidate must consult the department's certification officer periodically for updated information that might affect his/her certification status.

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

To be accepted into either the elementary or secondary teacher certification sequence, a student must have received an acceptable score on the Test for Entrance into Teacher Education Program or on a state-approved alternate examination.

Elementary Certification
United States citizens satisfactorily completing the Bachelor of Science degree with a major in elementary education will have completed the requirements for a Washington state initial teaching credential.

The required 2.50 grade-point average must be maintained in the elementary education major and in the required endorsements and academic support areas.

Secondary Certification
The following certification program requires the completion of an approved primary endorsement (major) and the professional courses as specified. To be recommended for certification, the candidate must maintain a grade-point average of not less than 2.50 in professional education/psychology course work and in all areas of endorsement. No grade lower than C will apply. To be accepted into the secondary teacher education sequence, a student must have received an acceptable score on the Test for Entrance into Teacher Education Program or on a state-approved alternate examination.
Phase I
Phase I must be completed with a minimum grade-point average of 2.50 before a student may proceed to Phase II. Students may request permission to begin Phase II during the last quarter of Phase I.

EDUC 110 Principles and Concepts of Christian Education 2
EDUC 210 Foundations of Education 3
EDUC 267 Secondary Tutoring 1
PSYC 130 General Psychology 4
PSYC 215 Psychology of Childhood and Adolescence 4
PSYC 220 Educational Psychology 3

Additional requirement for admission to Phase II:
Speech and hearing clearance.

Phase II
Formal acceptance into the teacher education program is required before registering for the following courses. A grade-point average of not less than 2.50 in professional education/psychology course work and in endorsement(s) is required.

+EDUC 390 Educational Evaluation 3
+EDUC 392 General Secondary Methods 2
 *395 Methods course in major or minor academic field of study 3
EDUC 428 Exceptional Students in the Classroom 3
EDUC 362 Elementary Curriculum and Instruction: Reading 3

or
EDUC 475 Teaching Reading Skills in Content Areas 3
EDUC 479 Secondary Microteaching 3
EDUC 481 Student Teaching in the Secondary School 14

Not required but highly recommended:
PSYC 360 Small Group Procedures 3
or
SPCH 207 Small Group Communication 3
SPCH 310 Interpersonal and Nonverbal Communication 3

+These courses should precede departmental methods courses.
*Secondary methods courses are listed under respective departments as course number 395 with the appropriate prefix. Consult the appropriate department for details.

Approved primary and supporting endorsements
Endorsements require a methods class appropriate for secondary teaching (4-12) and the specified courses. See an advisor in the department offering the endorsement or in the department of education and psychology.

Effective July 1, 1988, teachers shall be required to hold two endorsements in order to obtain a continuing certificate.
Primary endorsement (major including specified courses):
Biology  Industrial Arts
Business & Office Education  Mathematics
Chemistry  Music
English  Physical Education
French  Physics
German  Sociology
Health Education  Spanish
History  Speech
Home Economics

Supporting endorsement (minor including specified courses):
Biology  Industrial Arts
Chemistry  Mathematics
English  Music
French  Physical Education
German  Physics
Health Education  Sociology
History  Spanish
Home Economics  Speech

Students seeking denominational certification should refer to that section above.

Religious studies (Bible) is no longer an approved Washington state endorsement. It remains, however, essential for those desiring to teach Bible in denominational schools and seeking a denominational endorsement in Bible.

MAJOR IN PSYCHOLOGY (Bachelor of Science)
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. More emphasis is placed on the applied dynamics of human behavior and relationships 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 his 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 college careers.

A student majoring in psychology must complete 50 quarter hours in the major, the required cognates, the general studies program and all baccalaureate degree requirements as outlined in this bulletin.
Major Requirements:

PSYC 130  General Psychology  4
PSYC 215  Psychology of Childhood and Adolescence  4
PSYC 230  Systems and Theories in Psychology  4
PSYC 350  Elementary Statistics  4
PSYC 375  Experimental Problems  3
PSYC 444  Social Psychology  3
PSYC 446  Psychology of Personality  3
PSYC 495  Analysis of Psychological Experiments  2
  Electives (15 must be upper division)  23

Electives must be chosen in consultation with and approved by the department chair. Maximum of 9 credits may be approved from BIOL, CPTR.

Cognates:
A minimum of 20 quarter hours must be completed. An entire course sequence must be taken in at least one area. Courses should be chosen from the following with approval of department adviser (advanced courses may be substituted):

BIOL 101, 102, 103  General Biology  12
BIOL 201, 202  Anatomy and Physiology  8
BIOL 261  Genetics  4
CHEM 101, 102  Introductory Chemistry  8
CPTR 124  Introduction to BASIC
                     and/or
CPTR 134  Introduction to Computing (FORTRAN)  2-3
MATH 121, 122  Fundamentals of Mathematics  8
PHYS 211, 212, 213  General Physics  9
PHYS 214, 215, 216  General Physics Laboratory  3

EARLY CHILDHOOD EDUCATION (Associate of Science)
A student specializing in early childhood education must complete 50 quarter hours in the area, the required cognates, the general studies program, and all associate degree requirements as outlined in this bulletin. This program is offered cooperatively between the departments of education and home economics.

The purpose of the degree is to prepare the student for employment in child care centers, parent cooperatives, Head Start programs, and in other early childhood education programs. The degree is designed to be completed in two years.

Area Requirements:

CFSC 282  Child Development  3
EDUC 110  Principles and Concepts of
           Christian Education  2
EDUC 195  Creative Activities for Children  2
EDUC 196  Learning Activities for Children  2
EDUC 251  Laboratory Experiences in
           Preschool Education  10
EDUC 294  Planning Learning Environments for Children  2
EDUC 296  Administration in Early Childhood Education  2
EDUC 297  Head Teacher Practicum  4

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EDUCATION AND PSYCHOLOGY

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 130</td>
<td>General Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 215</td>
<td>Psychology of Childhood and Adolescence</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 431</td>
<td>Psychology of the Exceptional Individual</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
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<td></td>
</tr>
<tr>
<td>PSYC 460</td>
<td>Childhood Learning Disorders</td>
<td></td>
</tr>
<tr>
<td>Electives (from home economics and/or education and psychology; may include up to six hours from sociology/social work and health education)</td>
<td>12</td>
<td></td>
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</table>

Electives must be chosen in consultation with and approved by the adviser assigned by the department chair. 50

Cognates:

<table>
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<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENGL 374</td>
<td>Literature in the Elementary School</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
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<tr>
<td>LIBR 374</td>
<td>Library Materials for Children</td>
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<tr>
<td>SOCI 204</td>
<td>General Sociology</td>
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<tr>
<td>SOCI 325</td>
<td>Social Psychology of Family Life</td>
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</tr>
<tr>
<td>SPPA 299</td>
<td>Normal Language Development</td>
<td>2</td>
</tr>
</tbody>
</table>

MINOR IN EDUCATION

A student minoring in education must complete 30 quarter hours in education-prefixed courses.

Electives (3 must be upper division) 30

Approval of education adviser required.

MINOR IN PSYCHOLOGY

A student minoring in psychology must complete 28 quarter hours:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>PSYC 130</td>
<td>General Psychology</td>
<td>4</td>
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<tr>
<td>PSYC 215</td>
<td>Psychology of Childhood and Adolescence</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 230</td>
<td>Systems and Theories in Psychology</td>
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<td>PSYC 444</td>
<td>Social Psychology</td>
<td>3</td>
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<td>Electives (3 must be upper division)</td>
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</table>

Approval of psychology adviser required.

EDUCATION (EDUC)

EDUC 110 PRINCIPLES AND CONCEPTS OF CHRISTIAN EDUCATION 2
Study of the ideals and principles of Christian education, especially as interpreted by the Seventh-day Adventist Church.

EDUC 195 CREATIVE ACTIVITIES FOR CHILDREN 2
Study of the theory for planning activities involving art, music, poetry, storytelling and dramatic play in early childhood education.

EDUC 196 LEARNING ACTIVITIES FOR CHILDREN 2
Survey and planning of appropriate activities to acquaint children with their world. Includes personal health, nutrition and safety practices, natural science observation and simple quantification concepts.

EDUC 210 FOUNDATIONS OF EDUCATION 3
Study of social and philosophical foundations underlying the current organization and objectives of American education.
EDUC 227 ORIENTATION TO ELEMENTARY TEACHING
Examination of current educational thought regarding the role of the teacher and the purpose of the school.

EDUC 247 ELEMENTARY SCHOOL EXPLORATORY
Participation in multigrade classroom situations. Focus is on organization and planning at the beginning of the elementary school year. Preparation and placement for this course occur during a preceding quarter in EDUC 227. Time involved: two weeks. Prerequisite: EDUC 227. (S or NC only)

EDUC 248 SECONDARY SCHOOL EXPLORATORY
Opportunity to participate in professionally structured experiences prepared for secondary school faculties prior to the opening activities of the school year. Time involved: one to two weeks full time. (S or NC only)

EDUC 251 LABORATORY EXPERIENCES IN PRESCHOOL EDUCATION 2, 4; 10
Application of preschool education theory to teaching situations. Emphasis on participation as a team member in planning and teaching a distinct area of the curriculum each quarter. Two or four hours each quarter; maximum ten.

EDUC 266 ELEMENTARY TUTORING 1; 3
Supervised experiences in the elementary school classroom designed to acquaint the tutor with students of the grade level assigned, teacher responsibilities, and class routine. (S or NC only)

EDUC 267 SECONDARY TUTORING 1; 3
Supervised experiences in the secondary school classroom designed to acquaint the tutor with students of the grade level assigned, teacher responsibilities, and class routine. (S or NC only)

EDUC 294 PLANNING LEARNING ENVIRONMENTS FOR CHILDREN 2
Study of building and playground design, materials selection and room arrangement to provide optimal learning environments for young children.

EDUC 296 ADMINISTRATION IN EARLY CHILDHOOD EDUCATION 2
Administration of programs providing services to children and families including program goal setting, budget preparation, personnel management and program evaluation for program directors.

EDUC 297 HEAD TEACHER PRACTICUM 4
Integration of theories and skills developed in the early childhood education program. Emphasis on team leader skills, parent education participation and Child Development Associate portfolio preparation.

ART 301 ART IN THE ELEMENTARY SCHOOL 3
See Art section of this bulletin.

MUED 344 ELEMENTARY SCHOOL MUSIC MATERIALS 2
See Music section of this bulletin.

EDUC 361 ELEMENTARY CURRICULUM AND INSTRUCTION; LANGUAGE ARTS 3
Study of the development of language skills. Speaking, thinking, listening, reading and writing skills are studied. Attention will be given to materials and instructional resources. Involvement in elementary classrooms will be required. Prerequisite: Acceptance into Phase II.

EDUC 362 ELEMENTARY CURRICULUM AND INSTRUCTION; READING 4
Study of current theory relating to the nature of reading and effective instructional procedures and resources. Activities in the elementary school will include administration of Informal Reading Inventories. Prerequisite: Acceptance into Phase II.

EDUC 373 ELEMENTARY CURRICULUM AND INSTRUCTION; MATHEMATICS 4
Survey of the content, media, and approaches used in teaching mathematics in the elementary school, including software evaluation for CAI; emphasis on research-based strategies. Prerequisites: Acceptance into Phase II; MATH 115 OR 121.

ENGL 374 LITERATURE IN THE ELEMENTARY SCHOOL 3
See the English section of this bulletin. Same as LIBR 374.

LIBR 374 LIBRARY MATERIALS FOR CHILDREN 3
See the Library Science section of this bulletin. Same as ENGL 374.
ENGL 375 LITERATURE IN THE SECONDARY SCHOOL  
See the English section of this bulletin.

EDUC 375 CLASSROOM MANAGEMENT  
Study of discipline strategies and organization and management skills that promote learning within the school. Included within the course will be techniques for maintaining open communication with the entire school community. Prerequisite: Acceptance into Phase II.

EDUC 381 ELEMENTARY CURRICULUM AND INSTRUCTION; RELIGION  
Study of materials, strategies and relationships that provide effective Bible instruction in the elementary school. Prerequisite: Acceptance into Phase II.

EDUC 382 ELEMENTARY CURRICULUM AND INSTRUCTION; SOCIAL STUDIES  
Study of strategies for the implementation of the social studies curriculum in the elementary school. Instruction will be given in appropriate uses of resources and materials. Prerequisite: Acceptance into Phase II.

EDUC 383 ELEMENTARY CURRICULUM AND INSTRUCTION; SCIENCE  
A study of teaching of science in the elementary school with emphasis on the nature of science as a process of inquiry. Prerequisite: Acceptance into Phase II.

EDUC 390 EDUCATIONAL EVALUATION  
Introduction to principles and techniques of evaluating classroom activities in elementary and secondary schools.

EDUC 392 GENERAL SECONDARY METHODS  
Study of the role of the secondary teacher in the classroom, school, and community. Topics examined include: methods of instruction, planning, ethics, legal aspects, professional growth, educational technology, small group communication, and general principles for success. Prerequisite: Acceptance into Phase II.

EDUC 404 HISTORY OF EDUCATION  
Survey of the history of education.

EDUC 426 PRINCIPLES AND PROCEDURES OF GUIDANCE  
Introduction to the philosophy, functions, organization and evaluation of guidance programs.

EDUC 428 EXCEPTIONAL STUDENTS IN THE CLASSROOM  
Survey of current special education laws; materials and techniques for teaching exceptional children within the educational mainstream. Prerequisite: PSYC 220 or permission of instructor.

INDS 428 HANDWORK ACTIVITIES  
See the Industrial Technology section of this bulletin.

SOCI 444 SOCIOLOGY OF EDUCATION  
See the Sociology and Social Work section of this bulletin.

PETH 473 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL  
See the Health, Physical Education and Recreation section of this bulletin.

EDUC 475 TEACHING READING SKILLS IN CONTENT AREAS  
Introduction to diagnosis, vocabulary, comprehension skills, rate variation, management and study skills in junior high and secondary reading.

EDUC 478 ELEMENTARY MICROTEACHING  
A teaching laboratory to prepare elementary teachers in skills necessary to effective teaching. Students present brief demonstration lessons to a small class of children. Self-evaluation is supplemented by evaluation of supervisors, practicing teachers and peers, along with video recordings. Prerequisites: Admission into Phase II and two methods courses.

EDUC 479 SECONDARY MICROTEACHING  
Teaching procedures which are applicable at any level are considered. Laboratory practice in certain teaching skills will be provided following the microteaching model. The class will meet one night each week, and each student will participate weekly in an afternoon teaching laboratory. Prerequisites: Admission into Phase II and one methods course in the student’s major or minor area of study.

EDUC 480 STUDENT TEACHING IN THE ELEMENTARY SCHOOL  
Provides supervised teaching as required for certification. Includes observation and participation in the classroom teacher's role in the school. Conferences will be conducted for the stu-
dent teacher by the supervising teacher and college supervisor. Prerequisites: EDUC 361; EDUC 362; EDUC 373; EDUC 478; by permission of the Professional Education Committee. (S or NC only)

EDUC 481 STUDENT TEACHING IN THE SECONDARY SCHOOL 14
Provides supervised teaching as required for certification. Includes observation and participation in the classroom teacher's role in the school. Conferences will be conducted for the student teacher by the supervising teacher and college supervisor. Prerequisites: EDUC 479; by permission of the Professional Education Committee. (S or NC only)

EDUC 492 EDUCATION OF THE GIFTED 3
Introduction to the design of learning opportunities for gifted children in the light of their psychological characteristics.

EDUC 493 SYSTEMS OF THOUGHT 3
Intensive study of various aspects of philosophical thinking and their bearing upon education. Emphasizes current writing in education.

EDUC 494 COOPERATIVE EDUCATION 0-3
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. Prerequisites: Approval by department; CDEV 210 or permission of Cooperative Education Director.

EDUC 495 ELEMENTARY SCHOOL GUIDANCE 3
Study of the rationale for elementary school guidance with emphasis upon current research and issues. Focuses on the tools and techniques of both classroom and out-of-class guidance functions and services.

Please see the Graduate Bulletin for a listing of graduate courses in education, special education and psychology.

PSYCHOLOGY (PSYC)

PSYC 130 is a prerequisite to all other courses in psychology.

PSYC 130 GENERAL PSYCHOLOGY 4
Survey of the major areas of psychology emphasizing the scientific bases of psychological investigation. Introduction to the fundamental vocabulary, methodologies, established facts, and sound principles of psychology.

PSYC 210 LEISURE COUNSELING 3
Study of the basic theoretical foundations of leisure counseling; includes the practice of individual and group processes of leisure counseling.

PSYC 215 PSYCHOLOGY OF CHILDHOOD AND ADOLESCENCE 4
Study of the development of the individual from infancy through early adulthood including the physical, psychological, cognitive, social, and moral components.

PSYC 220 EDUCATIONAL PSYCHOLOGY 3
Application of psychological principles to teaching. Includes introduction to principles of motivation and classroom discipline; humanistic, behavioral, and cognitive approaches to instruction; and study of underlying sociological and psychological theories.

PSYC 230 SYSTEMS AND THEORIES IN PSYCHOLOGY 4
Introduction to the historical development of the various systems and theories in psychology with emphasis on learning theory.

PSYC 350 ELEMENTARY STATISTICS 4
Introduction to fundamental procedures for summarizing and interpreting quantitative data from tests and research in the social sciences.

PSYC 360 SMALL GROUP PROCEDURES 3
Study of small group process by the use of simulations, confrontation techniques, and role playing. Especially useful for teachers, ministers, nurses, and social workers.

PSYC 375 EXPERIMENTAL PROBLEMS 3
Advanced study of experimental design with application to an individual research project. Prerequisite: PSYC 350 or equivalent.
PSYC 405 PSYCHOLOGY OF ORGANIZATIONAL CHANGE 3
Exploration of the characteristics of social organizations, their structure and systems of communication with particular emphasis on the problems of bringing about change within social organizations (i.e., churches, communities, schools, businesses, etc.).

PSYC 410 BEHAVIOR MODIFICATION 3
Study of the principles and processes of learning with special emphasis on the shaping and changing of human behavior.

PSYC 415 DYNAMICS OF BEHAVIOR 3
Introduction to the dynamic mechanisms of human adjustment and behavior.

PSYC 420 INTRODUCTION TO CLINICAL PSYCHOLOGY 3
Introduction to the application of psychological theories and techniques as used in the clinical setting. Surveys various approaches to treatment of emotional problems in clinical practice, hospital, and community settings.

PSYC 425 PSYCHOLOGY AND RELIGION 3
Examination of psychological concepts and human behavior from a biblical and theological perspective.

PSYC 430 PSYCHOLOGICAL TESTING 3
Study of the principles of test selection, administration, and interpretation; consideration of the contributions and limitations of the major types of standardized tests and inventories used in the behavioral sciences.

PSYC 431 PSYCHOLOGY OF THE EXCEPTIONAL INDIVIDUAL 3
Study of the characteristics, development and problems of the exceptional individual. Emphasis will be given to the years these individuals are in elementary and secondary school.

PSYC 442 MOTIVATION 3
Study of basic drives and causes of behavior in organisms with emphasis upon human behavior.

PSYC 444 SOCIAL PSYCHOLOGY 3
Study of the dynamics of social interaction and interpersonal behavior with application to contemporary society.

PSYC 445 SOCIAL PSYCHOLOGY LABORATORY 1
Corequisite: PSYC 444

PSYC 446 PSYCHOLOGY OF PERSONALITY 3
Study of theories concerning personality development, assessment, and adjustment.

PSYC 449 MENTAL HEALTH 3
Study of physiological and psychological factors related to emotional maturity; topics included are individual mental health, classroom climate, patterns of acceptance and rejection.

PSYC 460 CHILDHOOD LEARNING DISORDERS 3
Introduction to play therapy and psychoeducational programs with emphasis on perceptual, sensory, and motor areas. Designed for teachers and counselors of young children in both early childhood and elementary school levels. Prerequisite: PSYC 215.

PSYC 464 COUNSELING RELATIONSHIPS 3
Introduction to psychological theory and skills essential for developing effective, helping relationships with individuals and groups.

PSYC 465 COUNSELING SEMINAR 1; 3
Group discussions of counseling experiences for students planning on counseling careers. Prerequisite: PSYC 464 or permission of the instructor.

PSYC 489 VOCATIONAL DEVELOPMENT THEORY 3
Study of theories of vocational choice and methods of studying occupations and occupational information as they relate to educational and vocational guidance.

PSYC 490 ABNORMAL PSYCHOLOGY 3
Study of behavioral disturbances, therapeutic measures, and theories.

PSYC 494 COOPERATIVE EDUCATION 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. Prerequisites: Approval by department; CDEV 210 or permission of the Cooperative Education Director.

PSYC 495 ANALYSIS OF PSYCHOLOGICAL EXPERIMENTS 2
Experience in the analysis of psychological research.

Please see the Graduate Bulletin for a listing of graduate courses in education, special education, and psychology.
ENGINEERING

Engineering is the profession in which the principles of mathematics, science, economics, ethics and humanistic-social relationships are applied with judgment to utilize the materials and forces of nature for the benefit of mankind. The fundamental objective of the School of Engineering is to provide its students with an engineering education of the highest possible caliber that will qualify them to enter directly the professional practice of engineering or advanced studies in engineering or other professional areas. Within its efforts to achieve this objective, the faculty is inherently dedicated to encouraging its students to develop a commitment to Christian principles of conduct in their personal and professional activities.

Degrees Offered. The 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, also, to provide undergraduate instruction which will serve as an adequate foundation for graduate studies. This curriculum, which includes elective concentrations in civil, electrical and mechanical engineering, is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc. (formerly Engineers' Council for Professional Development).

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.

For Architectural studies see the Preprofessional Programs: Architecture in this bulletin.

Admission Requirements. Requirements for admission to the School of Engineering are 40 semester periods of English, 10 semester periods of laboratory science, 30 semester periods of mathematics (beyond general mathematics) and 20 semester periods of history. The mathematics background should include algebra, geometry and trigonometry. 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 College under a program which provides the opportunity for students to complete the first one or two years of engineering instruction at any participating institution. After the conclusion of these initial studies, students complete degree requirements at Walla Walla College. Each affiliated campus has an engineering coordinator who has been appointed to provide the necessary guidance to insure a smooth transition from the affiliated campus to Walla Walla College. 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 at Walla Walla College emphasizes those subject areas which are common to the broad field of engineering while allowing for the development of professional competence within one of three 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 which emphasize fundamental knowledge, techniques and processes. Specific professional competence is assured by the completion of a coherent group of courses chosen from civil, 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, computer engineering, highway engineering, sanitary 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 is contingent upon the maintenance of 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 D grades on his current scholastic record will automatically have his performance reviewed by the School of Engineering. The school may require that some of the courses be repeated or it may establish alternative requirements.

Students enrolled in the professional curriculum must complete a total of 200 quarter hours including the engineering general studies requirements, the core requirements, the mathematics and science requirements, and one engineering concentration. In addition, during the senior year, all students are required to participate in the Senior Engineering Tour and sit for the Graduate Record (general and subject portions) and the Engineer-In-Training examinations.
ENGINEERING GENERAL STUDIES REQUIREMENTS (44 credits)
Although the general studies content within the engineering curriculum is similar to the standard General Studies requirements for the baccalaureate degree at Walla Walla College, there are important differences which must be observed. Engineering students must take ENGL 323 in place of ENGL 123. ENGL 323 is normally taken at the time the student is taking other third-year engineering courses. Engineering students may take upper division classes after completing ENGL 121, 122 and 48 quarter hours of course work.

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
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<tr>
<td>Physical Education</td>
<td>2-3</td>
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<tr>
<td>Religion</td>
<td>16-18</td>
</tr>
<tr>
<td>Approved Electives</td>
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</tr>
<tr>
<td>Social Studies</td>
<td>4-14</td>
</tr>
<tr>
<td>Humanities</td>
<td>4-14</td>
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<td></td>
<td>12-18</td>
</tr>
<tr>
<td>Total General Studies Requirements</td>
<td>44</td>
</tr>
</tbody>
</table>

*(must include one upper division course in humanities or social studies; 6 upper division religion; 11 credits (excluding ENGL 323) of the 44 must be upper division)*

Complete details of the general studies program for engineering students including specific course requirements are available from the School of Engineering.

ENGINEERING CORE REQUIREMENTS (47 to 59 credits)
The engineering core consists of a group of studies which 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 59 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, EE, and ME indicate the core organization for the civil, 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, and the letter (a) indicates that the marked course may be used to fulfill the engineering science elective.

<table>
<thead>
<tr>
<th>Functional Techniques</th>
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<td>ENGR 496, 497, 498</td>
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<td>Introduction to Computing (FORTRAN)</td>
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<td>Computer Graphics</td>
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<td>Architectural Drawing</td>
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<td>Engineering Economy</td>
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### Electrical Fundamentals

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Minimum Requirements: 7 12 15

### Engineering Mechanics

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<td>ENGR 221, 222, 223</td>
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<tr>
<td>or ENGR 224, 225</td>
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<tr>
<td>ENGR 321</td>
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Minimum Requirements: 13 9 13

### Materials Science

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<td>ENGR 322</td>
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<td>PHYS 312, 315</td>
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Minimum Requirements: 4 4 4

### Transport Phenomena

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Minimum Requirements: 8 8 12

### Engineering Science Elective

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Minimum Requirements: 0 4 0

Total Minimum Core Requirements: 47 52 59

### MATHEMATICS (27 to 31 credits)

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<tr>
<th>Course</th>
<th>Credits</th>
<th>CE</th>
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<tr>
<td>MATH 181, 281</td>
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<td>r</td>
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<td>MATH 282, 283</td>
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<td>MATH 289</td>
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<td>MATH 312</td>
<td>4</td>
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<tr>
<td>MATH 315</td>
<td>4</td>
<td>r</td>
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</tbody>
</table>
ENGINEERING

MATH 341 or MATH 423
Numerical Analysis
Introduction to Complex Variables
Minimum Mathematics Requirements

SCIENCE (28 credits)
CHEM 141, 142, 143 General Chemistry
CHEM 144, 145, 146 General Chemistry Laboratory
PHYS 251, 252, 253 Principles of Physics
PHYS 254, 255, 256 Principles of Physics Laboratory
PHYS 311, 314 Modern Physics and Laboratory
BIOL, CHEM or PHYS Approved Science Elective

Minimum Science Requirements

Credits CE EE ME
CHEM 141, 142, 143 9 r r r
CHEM 144, 145, 146 3 r r r
PHYS 251, 252, 253 9 r r r
PHYS 254, 255, 256 3 r r r
PHYS 311, 314 4 e r r
BIOL, CHEM or PHYS 4 e

CONCENTRATION: Civil Engineering
ENGR 341 Geology and Soil Mechanics
ENGR 342 Hydrology
ENGR 343 Hydroenvironmental Engineering Analysis
ENGR 345 Contracts and Specifications
ENGR 346 Surveying
ENGR 348 Structural Analysis
ENGR 364 Fluid Mechanics Laboratory
ENGR 441, 442 Structures I, II
ENGR 445, 446 Hydroenvironmental Engineering I, II
ENGR 449 Transportation Engineering
Technical Electives
A minimum of 3 courses must be chosen from Civil Engineering Electives. The other may be chosen from approved BIOL, CHEM, CPTR, ENGR, MATH or PHYS.

Electives, approved by the department, must be chosen in consultation with the academic adviser.

CONCENTRATION: Electrical Engineering
CPTR 215 Assembly Language Programming I
ENGR 352 Feedback and Control Systems
ENGR 354 Digital Logic Circuits
ENGR 356, 357, 358 Engineering Electronics
ENGR 451 Electromagnetic Fields
ENGR 455 Signals and Systems
ENGR 456 Energy Conversion and Power Systems Laboratory
ENGR 458 Energy Conversion and Power Systems

116
ENGR Approved EE Electives 8
CPTR, ENGR Technical Elective 4
or
MATH, PHYS Electives, approved by the department, must be chosen in consultation with the academic adviser.

CONCENTRATION: Mechanical Engineering
ENGR 324 Mechanical Engineering Materials 2
ENGR 333 Thermodynamics and Thermal Systems 4
ENGR 352 Feedback and Control Systems 4
ENGR 364 Fluid Mechanics Laboratory 1
ENGR 365 Mechanical Systems Laboratory 1
ENGR 366 Vibrations 3
ENGR 461 Kinematics 4
ENGR 462, 463 Machine Design 8
ENGR 466 Mechanical Design 4
ENGR 467 Robotics 4
or
ENGR 468 Mechanical Engineering
Finite Element Methods 4

CPTR, ENGR or Technical Electives 7
MATH

Electives, approved by the department, must be chosen in consultation with the academic adviser.

MAJOR IN BIOENGINEERING (Bachelor of Science)
Students majoring in bioengineering will take courses designed to insure a broad preparation in engineering fundamentals, mathematics, and the 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 advisory 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 primarily 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.

Students majoring in bioengineering must complete a minimum of 69 quarter hours in the major, the required cognates and the general studies program for the baccalaureate degree as outlined beginning on page 39 in this bulletin. Writing for Engineers, ENGL 323, which is normally taken concurrently with third-year engineering courses, is required in place of the third quarter of College Writing, ENGL 123.

Major Requirements:
Core Subjects: 28-30
BIOL 101, 102, 103 General Biology 12
ENGR 221, 222, 223 Engineering Mechanics 9
or
ENGR 224, 225 Engineering Mechanics
ENGR 228 Circuit Analysis 4
<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>BIOL 495</td>
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<td>ENGR 495</td>
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<tr>
<td>ENGR 496, 497, 498</td>
<td>*Colloquium (2-4 Quarters)</td>
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<td>or</td>
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<tr>
<td>BIOL 251, 352, 353, 354, 455</td>
<td>Research Methods</td>
<td>3 or 5</td>
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<td><strong>Electrical Fundamentals</strong></td>
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<td>ENGR 325</td>
<td>Instrumentation</td>
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<td>ENGR 351</td>
<td>Linear Network Analysis</td>
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<td><strong>Mechanics and Materials</strong></td>
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<tr>
<td>BIOL 261</td>
<td>Genetics</td>
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<td>BIOL 393</td>
<td>Animal Physiology</td>
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<tr>
<td>BIOL 470</td>
<td>Marine Biophysics</td>
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<tr>
<td>CHEM 351, 354</td>
<td>Physical Chemistry and Laboratory</td>
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<tr>
<td>ENGR 321</td>
<td>Mechanics of Materials</td>
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<td>ENGR 322</td>
<td>Engineering Materials</td>
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<tr>
<td>PHYS 312, 315</td>
<td>Physical Electronics and Laboratory</td>
<td>4</td>
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<tr>
<td><strong>Transport Phenomena</strong></td>
<td></td>
<td>4.9</td>
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<tr>
<td>BIOL 392</td>
<td>Cell Physiology</td>
<td>4</td>
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<td>BIOL 401</td>
<td>Plant Physiology</td>
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<tr>
<td>CHEM 352, 355</td>
<td>Physical Chemistry and Laboratory</td>
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<tr>
<td>CHEM 431, 433</td>
<td>Biochemistry and Laboratory</td>
<td>4</td>
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<tr>
<td>ENGR 331, 364</td>
<td>Fluid Mechanics and Laboratory</td>
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<tr>
<td>ENGR 332</td>
<td>Thermodynamics</td>
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<td>ENGR 465</td>
<td>Heat Transfer</td>
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<td>PHYS 313</td>
<td>Thermodynamics</td>
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<td>12-21</td>
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<td>Technical Electives</td>
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<td>Selected courses from MATH, PHYS, CHEM, CPTR, or INDS (21 must be upper division)</td>
<td>69</td>
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</table>

Electives must be approved by the Bioengineering Advisory Committee after consideration of the total student program.

*Six Quarters of Colloquium are Required.

**Cognates:**

- **CPTR 134**
- or
- **CPTR 141**
- CHEM 141, 142, 143
- CHEM 144, 145, 146
- CHEM 321, 322, 323
- CHEM 324, 325, 326

<table>
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<tr>
<th>Course</th>
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<tr>
<td></td>
<td>Introduction to Computing (FORTRAN)</td>
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<td>Introduction to Programming (Pascal)</td>
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<td>General Chemistry</td>
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<td>General Chemistry Laboratory</td>
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<tr>
<td></td>
<td>Organic Chemistry</td>
<td>9</td>
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<tr>
<td></td>
<td>Microscale Organic Laboratory</td>
<td>3</td>
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</table>
MATH 181, 281 Analytic Geometry and Calculus I, II 8
MATH 282, 283 Analytic Geometry and Calculus III, IV 8
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

COMPUTER SCIENCE (CPTR)

C PTR 134 INTRODUCTION TO COMPUTING (FORTRAN) 3
See the Computer Science section of this bulletin.

C PTR 215 ASSEMBLY LANGUAGE PROGRAMMING I 3
See the Computer Science section of this bulletin.

C PTR 255 COMPUTER GRAPHICS 2
See the Computer Science section of this bulletin.
ENGR 121, 122, 123 INTRODUCTION TO ENGINEERING
Introduction to the design process and elements of professional engineering. Engineering communications, with emphasis on sketching, conventional engineering drafting practices, Computer Aided Design and Computer Aided Engineering (CAD/CAE), pictorial representations; principles of descriptive geometry, computer-based engineering calculations. Laboratory work required.

ENGR 221, 222, 223 or 224, 225 ENGINEERING MECHANICS
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 kinetcs 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. May be taken as a 3, 3, 3, sequence Autumn, Winter, Spring or a 4, 5 sequence Winter and Spring. Corequisite for 221 and 224: MATH 282; Corequisite for 222 and 225: MATH 283.

ENGR 228 CIRCUIT ANALYSIS
Study of circuit variables and parameters; Kirchoff'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. Prerequisites: MATH 282; PHYS 252.

ENGR 321 MECHANICS OF MATERIALS
Study of stresses and strains, deformations and deflections of posts, shafts, beams, columns; combined stresses; elasticity. Computational and demonstrational laboratory required. Prerequisite: ENGR 222 or 224.

ENGR 322 ENGINEERING MATERIALS
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: CHEM 143 or equivalent.

ENGR 323 CIVIL ENGINEERING MATERIALS
Study of molecular phases, ceramic materials, concrete, wood, welding processes and welding effects on metals; asphalt; asphalitic concretes and highway base materials. Laboratory work required. Prerequisite: ENGR 322 or permission of instructor.

ENGR 324 MECHANICAL ENGINEERING MATERIALS
Study of molecular phases, ceramic materials, concrete, wood, welding processes and welding effects on metals. Laboratory work required. Prerequisite: ENGR 322 or permission of instructor.

ENGR 325 INSTRUMENTATION
Study of theory and application of modern instrumentation; validation of experimental data. Laboratory work required. Prerequisite: ENGR 228 or permission of instructor.

ENGR 326 ENGINEERING ECONOMY
Study of business, economic and ethical aspects of engineering practice. Introduction to engineering organization and program management techniques. Prerequisite: junior standing in engineering.

ENGR 331 FLUID MECHANICS
Introduction to fluid statics and the dynamics of fluid motion; transport phenomena as represented by the conservation of mass, momentum and energy in laminar and turbulent flowing systems using the control volume formulations; dimensional analysis and similarity; inviscid and viscous flow in pipes and an introductory analysis of boundary layer flow. Prerequisites: ENGR 223 or ENGR 225; CPTFR 134; MATH 283; MATH 289. Recommended: PHYS 251, 252, 253.

ENGR 332 THERMODYNAMICS
Introduction to the nature of energy and study of energy transport conservation in closed and flowing systems; properties of and states of solids, liquids, vapor and gases; enthalpy; meaning and production of entropy and introduction to cyclic systems. Prerequisite: PHYS 253. Corequisite: MATH 312. Recommended: ENGR 331.

ENGR 333 THERMODYNAMICS AND THERMAL SYSTEMS
Study of thermodynamics of state for complex systems, detailed analysis of power and reversed cycle systems, thermodynamics and equilibrium principles of nonreacting and reacting mix-
Engineering

ENGR 341 GEOLOGY AND SOIL MECHANICS 3
Introduction to geological structure, process and weathering; soils properties, classification and interpretation; subsurface investigation; flow of water through soils. Prerequisite: CHEM 143. Corequisite: ENGR 331.

ENGR 342 HYDROLOGY 3
Introduction to precipitation; occurrence, measurement, transport and storage of ground and surface waters; statistical models. Laboratory work required. Prerequisites: CPTR 134; ENGR 331; ENGR 341; MATH 315.

ENGR 343 HYDROENVIRONMENTAL ENGINEERING ANALYSIS 4
Study of characteristics of water and wastewater; analysis of physical, chemical and biological treatment processes; equilibrium and dynamic systems. Prerequisites: ENGR 342; ENGR 364; MATH 312.

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: CPTR 134; ENGR 122.

ENGR 348 STRUCTURAL ANALYSIS 5
Study of graphical, algebraic and matrixical analyses of determinate and indeterminate foundations and structures; basic concepts of soils, interactions with loads and structures; load-stress parameters for beams, girders, columns, trusses, connections and frames. Computation laboratory required. Prerequisites: CPTR 134; ENGR 321; ENGR 322.

ENGR 351 LINEAR NETWORK ANALYSIS 4
Application of Laplace transform techniques to the analysis of linear networks. Fourier analysis of periodic signals. Prerequisites: ENGR 228; MATH 283.

ENGR 352 FEEDBACK AND CONTROL SYSTEMS 4
Introduction to classical feedback and control analysis and design; signal flow graphs, root locus and classical frequency response techniques. Prerequisite: ENGR 351 or permission of instructor. Prerequisite or corequisite: MATH 312.

ENGR 354 DIGITAL LOGIC CIRCUITS 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 356, 357, 358 ENGINEERING ELECTRONICS 3, 4, 4
Study of characteristics and applications of discrete solid-state electronic devices and circuits; large signal analysis, biasing; small signal analysis, low and high frequency models, feedback amplifiers, theory and applications of operational amplifiers, integrated circuit electronics, analog-to-digital conversion, modulation, multiplexing, and digital logic families. Laboratory work required Winter and Spring. Corequisite for ENGR 356: ENGR 351. Corequisite for ENGR 358: ENGR 354.

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 MECHANICAL SYSTEMS LABORATORY 1
Laboratory instruction in thermodynamics, heat transfer and mechanical vibrations. Applications selected from heat transfer, combustion phenomena, steam power plants, internal combustion in compressible fluid flows, and dynamics of structures. Corequisite: ENGR 333.

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 or 225; ENGR 351; ENGR 352; MATH 289; MATH 312.
ENGR 431 ELECTROMECHANICAL ENERGY CONVERSION  
Study of the electromechanical energy conversion principles and their application to electrical machinery; magnetic circuits, force and torque; solenoids, transformers, AC and DC excitation of energy conversion devices; DC machines, control and applications. Laboratory work. Prerequisite: ENGR 228.

ENGR 441, 442 STRUCTURES I, II  
Study of timber, basic concrete, reinforced concrete and steel, elastic design concepts for determinate and indeterminate structures; industrial and multistory buildings, bridges, rigid frames and arches. Computation laboratory required. Prerequisite: ENGR 348.
ENGR 443 STRUCTURES III
Study of elastic designs of timber, concrete and steel determinate and indeterminate structures; applications to foundation and soils problems; general and matrix analyses; total building layout and design problems. Computation laboratory required. Prerequisite: ENGR 442.

ENGR 444 STRUCTURAL DESIGN
Study of design concepts as applied to structural systems from roof framing to foundations. Design examples are chosen to illustrate the use of different materials, analysis techniques and methods of production. Computation laboratory required. Corequisite: ENGR 443.

ENGR 445 HYDROENVIRONMENTAL ENGINEERING I
Analysis and design of water distribution systems, sewage and stormwater collection systems. Computation laboratory required. Prerequisites: CPTR 134; ENGR 343.

ENGR 446 HYDROENVIRONMENTAL ENGINEERING II
Design of physical, chemical and biological treatment processes of water and wastewater treatment. Laboratory work required. Prerequisites: CHEM 143; ENGR 445.

ENGR 447 RECEIVING WATER ANALYSIS
Design of facilities for disposal of wastewaters to land and water systems; analysis of surface waters receiving wastewater effluents. Laboratory work required. Prerequisite: ENGR 446.

ENGR 448 HYDROENVIRONMENTAL DESIGN
Study of advanced water and wastewater treatment processes and practices. Emphasis will be placed upon current literature and recent developments in the state-of-the-art. Prerequisite: ENGR 446.

ENGR 449 TRANSPORTATION ENGINEERING
Use of soils and construction materials in the design of highways, waterways, airway terminals and railways; introduction to traffic engineering. Prerequisites: ENGR 342; ENGR 442; ENGR 445.

ENGR 450 GEOTECHNICAL ENGINEERING
Stress distribution and deformation of soils; applications to foundation and slope stability. Laboratory work required. Prerequisites: ENGR 321; ENGR 341.

ENGR 451 ELECTROMAGNETIC FIELDS
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, and Faraday induction. Prerequisites: MATH 312; PHYS 253.

ENGR 452 ELECTROMAGNETIC PROPAGATION AND RADIATION
Study of the propagation of electromagnetic energy; plane waves, transmission lines, and wave guides. Radiation from dipole antennas; introduction to arrays. Laboratory work required. Prerequisite: ENGR 451.

ENGR 454 DIGITAL CONTROL SYSTEMS
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. Prerequisites: ENGR 455; ENGR 352. Recommended: MATH 315; CPTR 215.

ENGR 455 SIGNALS AND SYSTEMS
Introduction to continuous and discrete signal and system analysis; Fourier series, convolution, Fourier transforms, and discrete Fourier transforms. Prerequisites: ENGR 351; MATH 312.

ENGR 456 ENERGY CONVERSION AND POWER SYSTEMS LAB
Laboratory investigation of energy conversion in three-phase induction and synchronous machinery, three-phase transformer systems, and three-phase system operation. Corequisite: ENGR 458.

ENGR 457 LINEAR NETWORK DESIGN
Introduction to the synthesis of linear networks. Active filter design; approximation theory, active realization, sensitivity. Introduction to digital filters; description of discrete-time systems, recursive and non-recursive filters, impulse invariance and bilinear transformation, digital filter realization. Prerequisites: ENGR 351; ENGR 358; ENGR 455.
ENGR 458 ENERGY CONVERSION AND POWER SYSTEMS
Direct energy conversion modes with emphasis on photovoltaics; three-phase power system and energy conversion in induction and synchronous machines, operation of transformers in three-phase systems; power electronics and control. Prerequisite: ENGR 431.

ENGR 459 COMMUNICATIONS SYSTEMS
An 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. Prerequisites: ENGR 455; MATH 315.

ENGR 461 KINEMATICS
Introduction to three-dimensional dynamics; 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 or ENGR 225; MATH 289; MATH 312.

ENGR 462, 463 MACHINE DESIGN
Study of analytical dynamics; balancing of rotating machinery; practical application of materials, mechanics and mechanical processes to the design of machines and machine elements; calculations, layouts and detail drawings required. Must be taken in sequence. Laboratory work required in ENGR 463. Prerequisites: MATH 315; ENGR 324; ENGR 461.

ENGR 465 HEAT TRANSFER
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. Prerequisite: MATH 312. Recommended: ENGR 464.

ENGR 466 MECHANICAL DESIGN
Study of design of mechanical systems and controls, particularly related to buildings and power generation. Prerequisites: ENGR 333; ENGR 364; ENGR 365; ENGR 465.

ENGR 467 ROBOTICS
Introduction to the kinematics, dynamics, and computer control of robot manipulators, with applications of robotic systems to modern automated manufacturing methods. Prerequisites: ENGR 215; ENGR 352.

ENGR 468 MECHANICAL ENGINEERING FINITE ELEMENT METHODS
An introduction to the Mechanical Engineering applications of the finite element method to the solution of problems in structures, solid mechanics, heat transfer, and fluid mechanics. Will focus on the use of computers for the solution of practical engineering problems with complicated geometric configurations, boundary conditions, loadings, or material properties. Prerequisite: ENGR 321; ENGR 331; ENGR 465.

ENGR 494 COOPERATIVE EDUCATION
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.

ENGR 495 COLLOQUIUM
Lectures on current engineering practice and other selected topics related to the engineering profession. Engineering degree candidates must satisfactorily complete four quarters; at least one must be during the senior year. Graded S or NC.

ENGR 496, 497, 498 SEMINAR
Presentation and discussion of current topics of interest within professional engineering. Each student is required to conduct an approved engineering design project from conception to final oral and written reports. Prerequisite: senior standing in engineering.

ENVIRONMENTAL STUDIES (ENVI)

ENVI 385 THE ENVIRONMENT AND MAN
Interdisciplinary consideration of current topics involving the interrelations between man and his environment.
ENGLISH


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, journalism, and pre-professional preparation for law, business, and medicine. Such professions place a high value on the ability to read intelligently, to write clearly, and to have an insight into the 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 flexibility of the minor allows the student to design it according to individual tastes.

MAJOR IN ENGLISH (Bachelor of Arts)

A student majoring in English must complete 48 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. The Graduate Record Examination in English is required.

Major Requirements:

ENGL 234          Literary Analysis and Criticism 3
ENGL 235          Literary History and Research 3
ENGL 324 to 336   Writing 6
ENGL 344 to 356   English Literature 12
ENGL 364 to 366   American Literature 4
ENGL 444 to 466   Special Area 6-7
ENGL 484 to 485   Language 3
ENGL 496, 497     Seminar 3
Electives 7-8

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

Cognates:

HIST 274, 275     History of England 8
SPCH 211          Oral Interpretation 3

Teacher Certification:

Students wishing teacher certification must take the following courses and fulfill certification requirements as listed by the Education Department.

ENGL 284          Advanced English Grammars 3
ENGL 329          Writing Theory 3
ENGL 374          Literature in the Elementary School 3
or
ENGL 375          Literature in the Secondary School
ENGL 395          Methods of Teaching High School English 3
MINOR IN ENGLISH
A student minoring in English must complete 30 quarter hours; 12 must be upper
division:
ENGL 234  Literary Analysis and Criticism  3
ENGL 235  Literary History and Research  3
ENGL 344 to 356  English Literature  4
ENGL 344 to 366  English or American Literature  4
Electives (8 may be General Studies literature; 3 may be ENGL 374 or 375)  16

Approval of English adviser required.

GENERAL STUDIES WRITING (ENGL)
The following courses do not apply toward an English major or minor.

ENGL 100 BASIC COMMUNICATION SKILLS  4
Study of basic grammar, usage and punctuation; includes writing practice. Required of students
who do not place in College Writing 101, 121 or 141. Corequisite: RDNG 100. Credit does
not apply toward graduation.

ENGL 101, 102 TECHNICAL AND BUSINESS WRITING  4, 4
Study and practice in the basic writing skills necessary for associate degree programs. In the
first quarter, basic grammar, mechanics, business letters and informal technical reports; in the
second quarter, formal, technical and business reports. Completion of ENGL 102 is equivalent
to ENGL 122.

ENGL 111, 112 ENGLISH AS SECOND LANGUAGE  3, 3
Study and practice of English in its written form, designed for students whose native language
is not English. In the first quarter, intensive grammar review; in the second quarter, the basic
modes of expository writing and argument with further emphasis on grammar. The student
who reaches an adequate performance level in ENGL 112 may be granted permission by the
department to enter ENGL 122. Language laboratory may be required.
ENGLISH

ENGL 121, 122, 123 COLLEGE WRITING 3, 3, 2
Study and practice in the forms of writing necessary for all college writing. In the first quarter, personal and expository writing forms with emphasis on understanding the writing process; in the second quarter, expository and persuasive writing techniques, analysis, argument, and an introduction to the library and research techniques, with emphasis on developing a clear writing style; in the third quarter, research and information-gathering techniques and writing with emphasis on the research paper. Must be taken in sequence. Prerequisite: satisfactory scores on placement tests.

ENGL 141, 142, 143 COLLEGE WRITING (HONORS) 3, 3, 2
Advanced college writing designed to integrate reading and writing assignments with the requirements of the honors courses.

ENGL 229 WRITING PROJECTS 2
Intensive, guided writing in a workshop environment adapted to the individual needs and projects of the student. Limited enrollment; admission by departmental approval. Prerequisites: ENGL 121, 122, 123 or equivalent.

GENERAL STUDIES LITERATURE (ENGL)
The following courses do 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.

ENGL 205 AMERICAN LITERATURE 4
Study of literary masterpieces selected from representative American authors.

ENGL 206 ENGLISH LITERATURE 4
Study of selected English literary masterpieces of poetry, prose and drama.

ENGL 207 WORLD LITERATURE 4
Study of selected literary masterpieces from classical times to the present, emphasizing the literature of the Western world.

ENGL 209 RELIGIOUS LITERATURE 4
Study of the works of major Christian writers.

ENGL 214 THEMES IN LITERATURE 4
Study of selected works that develop a particular literary theme. Specific themes to be studied vary from quarter to quarter; see Class Schedule.

ENGL 215 FILM LITERATURE 4
History of film development and introduction to the basic techniques of film expression leading to a study of film genres. Intended to broaden the students' critical appreciation of literature and to encourage responsible, mature criteria for judging film literature.

ENGL 311, 312, 313 WESTERN THOUGHT II (HONORS) 4, 4, 4
Study of the relationship between major philosophical, religious, and aesthetic ideas and their influence on western culture from Greek antiquity to the present; includes study of architecture, the visual arts, music, and literature. Equivalent to MUHL 124; ART 251 and ENGL 204 if complete course is taken. Must be taken in sequence. Prerequisites: HIST 131, 132, 133.

WRITING (ENGL)
ENGL 101, 102; 121, 122, 123; or 141, 142, 143 are prerequisites to all other writing courses.

ENGL 224 RESEARCH WRITING IN RELIGION 3
Study of research and writing skills in religion, including the use of library resources; instruction in the preparation and writing of papers for academic, professional, and popular audiences. This course is prerequisite to all upper-division theology seminars. Same as RELG 224.

ENGL 234 LITERARY ANALYSIS AND CRITICISM 3
Instruction and practice in close analysis, interpretation, and evaluation of literature in the major genres; includes an introduction to various critical approaches and practice in writing critical essays. Intended to prepare the student for upper-division literature courses.
ENGL 235 LITERARY HISTORY AND RESEARCH
Introduction to the study of literary history, including theories concerning, and characteristics of, English and American literary periods. Includes methods and practice of research in literary history as preparation for upper-division courses in literary periods. Prerequisite: ENGL 234.

ENGL 323 WRITING FOR ENGINEERS
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 designated by the School of Engineering. Prerequisites: ENGL 122 or 142 or equivalent.

ENGL 324 ADVANCED EXPOSITORY WRITING
Techniques of writing expository prose in a range of styles for a variety of audiences. Emphasizes intensive revision and the development of critical writing and thinking.

ENGL 325 ADVANCED TECHNICAL WRITING
Techniques of researching, organizing and writing technical proposals and reports. Designed to aid students in writing papers in their major fields and in their professional careers.

ENGL 329 WRITING THEORY
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.

ENGL 334, 335, 336 CREATIVE WRITING
Techniques of writing in several creative forms, with analysis and discussion of student work. Designed to develop a critical appreciation of the art of writing. Poetry (334), narrative (335), drama (336).

ENGL 338 DIRECTED WRITING
Development and refinement of writing skills through an individualized program of writing projects to be chosen in consultation with the instructor. Limited enrollment; admission by approval of instructor.

LITERATURE AND LANGUAGE (ENGL)
Unless otherwise stated, ENGL 234 and ENGL 235 or permission of instructor is prerequisite to all literature courses.

ENGL 284 ADVANCED ENGLISH GRAMMARS
Study of traditional and transformational grammars; taught especially for prospective teachers and writers. Prerequisites: ENGL 121, 122, 123; or ENGL 141, 142, 143.

ENGL 344 MEDIEVAL LITERATURE
Study of English 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.

ENGL 345 RENAISSANCE LITERATURE
Study of the major authors and literary movements of the English Renaissance.

ENGL 346 RESTORATION AND NEOCLASSIC LITERATURE
Study of selected works of important seventeenth- and eighteenth-century English authors, including Dryden, Swift, Pope and Johnson.

ENGL 354 ROMANTIC ENGLISH LITERATURE
Study of major romantic English authors, including Wordsworth, Coleridge, Byron, Shelley and Keats.

ENGL 355 VICTORIAN LITERATURE
Study of representative works of major nineteenth-century British poets and prose writers (1830-1870), including Tennyson, Browning, Hopkins, Carlyle, Arnold, Newman, Ruskin. Also includes one or two Victorian novels.

ENGL 356 TWENTIETH-CENTURY ENGLISH LITERATURE
Study of English literature since 1914; significant works studied in relation to intellectual and historical developments.

ENGL 364 ROMANTIC AMERICAN LITERATURE
Study of major romantic American authors, including Emerson, Thoreau, Hawthorne and Melville.

ENGL 365 AMERICAN REALISM AND NATURALISM
Study of major American authors who typify nineteenth-century realism and naturalism.
ENGL 366 TWENTIETH-CENTURY AMERICAN LITERATURE
Study of American literature since 1900; significant works studied in relation to intellectual and historical developments.

ENGL 394 DIRECTED READING
Independent reading for upper-division students who wish to continue broadening their knowledge of literature in a particular area by extensive reading to be chosen in consultation with the instructor. Prerequisite: General studies literature or ENGL 234, 235; admission by approval of instructor.

ENGL 444 MAJOR AUTHOR
Advanced study of the work of a major author or group of authors of English, American and world literature. Specific authors to be studied vary from quarter to quarter.

ENGL 445 SHAKESPEARE
Advanced study of selected plays and poems of Shakespeare.

ENGL 454 LITERATURE OF THE BIBLE
Study of biblical poetry and prose from a literary perspective. Prerequisites: General studies literature or ENGL 234, 235.

ENGL 455 CLASSICAL BACKGROUNDS
Introduction to classical legend and thought as developed in major Greek, Roman and medieval literary works. Intended as background for the study of Renaissance and modern literature and art. Prerequisites: General studies literature, ENGL 234, 235 or ART 321, 322, 323.

ENGL 464 DEVELOPMENT OF ENGLISH DRAMA
Survey of the development of English drama from the medieval mystery plays to the twentieth century.

ENGL 465 DEVELOPMENT OF THE ENGLISH NOVEL
Survey of major English novels from the eighteenth and nineteenth centuries, concentrating on the nineteenth century. Authors generally represented include Fielding; Smollett or Goldsmith, Scott, Austen, the Brontës, Dickens, Eliot, Hardy.

ENGL 466 LITERARY AND CRITICAL THEORY
Study of the theory and practice of literary criticism, surveying the classical sources and major critics up to the present.

ENGL 484 HISTORY OF THE ENGLISH LANGUAGE
Study of premodern and early modern English, with reference to Indo-European antecedents. Intended to illuminate major trends in English language history.

ENGL 485 LINGUISTICS
Survey of approaches to modern linguistic science, with emphasis on the materials and methods of descriptive linguistics in phonology, morphology, syntax and semantics.

ENGL 496, 497 SEMINAR
An integrating course required of English majors in the senior year. The study includes practice in bibliography and research methods, problems in areas of special interest to class members, group conferences and reports.

ENGLISH EDUCATION (ENGL)
The following courses do not apply toward an English major.

ENGL 276 TEACHING ENGLISH AS A FOREIGN LANGUAGE
Specialized approaches and materials useful for teaching oral and written English to speakers of other languages. Prerequisites: ENGL 101, 102 or ENGL 121, 122, 123, or ENGL 141, 142, 143. Will not apply on an English minor.

ENGL 374 LITERATURE IN THE ELEMENTARY SCHOOL
The philosophy of the selection and study of literature on the elementary school level, emphasizing appropriate content, good style and suitability for various age groups. Extensive reading and sharing of children's literature are required. Same as LIBR 374. Applies toward an English minor.

ENGL 375 LITERATURE IN THE SECONDARY SCHOOL
The philosophy of the selection of study of literature on the secondary level, emphasizing choosing literature related to student problems and goals as well as literature appreciation. Extensive reading of literature for adolescents is required. Applies toward an English minor.

ENGL 395 METHODS OF TEACHING HIGH SCHOOL ENGLISH
A study of objectives for and methods of teaching grammar, composition and literature in grades seven through twelve. Students prepare and present lessons, evaluate student work, and collect and organize a file of teaching materials. Prerequisites: ENGL 284; ENGL 329; ENGL 375. Will not apply on an English minor.
Health, Physical Education and Recreation
HEALTH, PHYSICAL EDUCATION AND RECREATION

G. Hamburch, Chair; C. Kuhlman, R. Perrin, T. Windemuth

Walla Walla College is one of the church's pioneers in the field of health, physical education and recreation. 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 and health educators.

The department offers a major in health science or physical education with minors in health, physical education and recreation. These programs seek to develop the qualities of leadership and professional skills which will enable the individual to promote a healthier lifestyle for others.

The program in health science helps prepare students to meet the increasing demands for health professionals who are trained in promoting wellness. Career opportunities for those with baccalaureate degrees in health are available in school health teaching, public health work, corporate health and fitness, and hospital or medical group health education.

The programs in physical education and recreation aim to prepare professionals who will promote activities that stimulate habits of regular exercise and develop skills and interests for participation throughout life. The curriculum contains five concentrations: certification in elementary physical education, certification in secondary physical education, fitness management, and preparation for graduate research in biomechanical or physiological bases of physical education.

MAJOR IN HEALTH SCIENCE (Bachelor of Science)
A student majoring in health must complete 66 quarter hours of interdisciplinary courses as listed below, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Major Requirements:

FDNT 220        Human Nutrition        4
FDNT 437        Community Nutrition   3
HLSC 110        Wellness for Living    3
HLSC 208        Drugs and Society      2
HLSC 238        Health Behavior Change 2
HLSC 331        Consumer Health       3
HLSC 353        Principles of Health   3
HLSC 372        Health Promotion Planning and Evaluation 3
HLSC 475        Programs in Health Promotion 3
HLSC 481        Internship in Health Science 3 or 12
HLSC 491        Seminar                1
PETH 323        Measurements and Evaluation 3
PETH 426        Physiology of Exercise   4
PSYC 449        Mental Health          3
Electives chosen from HLSC or the following (approval of health adviser required): 17-26

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVI 385</td>
<td>Environment and Man</td>
<td>4</td>
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<tr>
<td>FDNT 441</td>
<td>Advanced Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>FDNT 443</td>
<td>Diet in Disease</td>
<td>4</td>
</tr>
<tr>
<td>MGMT 373</td>
<td>Introduction to Health Care Organizations</td>
<td>2</td>
</tr>
<tr>
<td>PEAC 123</td>
<td>Conditioning: Weight Training</td>
<td>1</td>
</tr>
<tr>
<td>PEAC 128</td>
<td>Jogging</td>
<td>1</td>
</tr>
<tr>
<td>PEAC 133</td>
<td>Aerobic Rhythm</td>
<td>1</td>
</tr>
<tr>
<td>PETH 324</td>
<td>Adapted Physical Education and Recreation</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 442</td>
<td>Motivation</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 446</td>
<td>Psychology of Personality</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 464</td>
<td>Counseling Relationships</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 465</td>
<td>Counseling Seminar</td>
<td>1; 3</td>
</tr>
<tr>
<td>OFAD 457</td>
<td>Medical Terminology</td>
<td>3</td>
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<tr>
<td>SOCI 435</td>
<td>Social Gerontology</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 437</td>
<td>Death and Dying</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 447</td>
<td>Sociology of Health and Illness</td>
<td>3</td>
</tr>
<tr>
<td>SOWK 377</td>
<td>Introduction to Alcoholism and Addiction</td>
<td>3</td>
</tr>
<tr>
<td>SOWK 471</td>
<td>Human Sexuality</td>
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Cognates:

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<th>Credits</th>
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<tr>
<td>BIOL 201, 202</td>
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<td>General Biology</td>
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<tr>
<td>BIOL 101, 102, 103</td>
<td>Microbiology</td>
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<tr>
<td>BIOL 222</td>
<td>Introductory Chemistry</td>
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<tr>
<td>CHEM 101, 102</td>
<td>General Chemistry</td>
<td>8-12</td>
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<tr>
<td>or</td>
<td>General Chemistry Laboratory</td>
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</tr>
<tr>
<td>CHEM 141, 142, 143</td>
<td>Applied Statistics</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 144, 145, 146</td>
<td>Principles of Marketing</td>
<td>4</td>
</tr>
<tr>
<td>MATH 106</td>
<td></td>
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<tr>
<td>MKTG 381</td>
<td>Advertising and Sales Promotion</td>
<td>4</td>
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<tr>
<td>or</td>
<td>General Psychology</td>
<td></td>
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<tr>
<td>MKTG 383</td>
<td>Bioethics</td>
<td>4</td>
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<tr>
<td>PSYC 130</td>
<td>Fundamentals of Speech Communication</td>
<td>4</td>
</tr>
<tr>
<td>RELT 312</td>
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</tbody>
</table>

**MAJOR IN PHYSICAL EDUCATION (Bachelor of Science)**

A student majoring in physical education must complete the 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 concentrations physical education for elementary schools and physical education for secondary schools must also complete the certification requirements as listed in the education section of this bulletin.
# Core Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PETH 214</td>
<td>Introduction to Physical Education and Recreation</td>
<td>2</td>
</tr>
<tr>
<td>PETH 225</td>
<td>Prevention of Injuries</td>
<td>2</td>
</tr>
<tr>
<td>PETH 323</td>
<td>Measurements and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>PETH 324</td>
<td>Adapted Physical Education and Recreation</td>
<td>3</td>
</tr>
<tr>
<td>PETH 325</td>
<td>Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>PETH 425</td>
<td>Motor Learning</td>
<td>3</td>
</tr>
<tr>
<td>PETH 426</td>
<td>Physiology of Exercise</td>
<td>4</td>
</tr>
<tr>
<td>PETH 493</td>
<td>History and Philosophy of Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>PETH 496</td>
<td>Seminar</td>
<td>1</td>
</tr>
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</table>

## 24

# Concentration: Physical Education for Elementary Schools

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLSC 110</td>
<td>Wellness for Living</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 208</td>
<td>Drugs and Society</td>
<td>2</td>
</tr>
<tr>
<td>HLSC 238</td>
<td>Health Behavior Change</td>
<td>2</td>
</tr>
<tr>
<td>HLSC 384</td>
<td>School Health Programs</td>
<td>3</td>
</tr>
<tr>
<td>PEAC 101-277</td>
<td>Physical Activity Courses</td>
<td>10</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PETH 473</td>
<td>Physical Education in the Elementary School</td>
<td>3</td>
</tr>
<tr>
<td>RECR 278</td>
<td>Programming Intramurals and Recreational Activities</td>
<td>2</td>
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<tr>
<td></td>
<td>Electives</td>
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Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

## 35

# Cognates:

<table>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 201, 202</td>
<td>Anatomy and Physiology</td>
<td>8</td>
</tr>
<tr>
<td>MATH 105</td>
<td>Mathematics With Applications</td>
<td>4</td>
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<td>or</td>
<td>MATH 106</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Applied Statistics</td>
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## 12

# Concentration: Physical Education for Secondary Schools

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<td>HLSC 110</td>
<td>Wellness for Living</td>
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<tr>
<td>PEAC 101-277</td>
<td>Physical Activity Courses</td>
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Physical activity courses must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>PETH 205</td>
<td>Water Safety Instructor’s Course</td>
<td>2</td>
</tr>
<tr>
<td>PETH 261, 262, 263</td>
<td>Officiating of Sports Activities</td>
<td>6</td>
</tr>
<tr>
<td>PETH 363, 364, 365</td>
<td>Coaching of Team Activities</td>
<td>9</td>
</tr>
<tr>
<td>PETH 395</td>
<td>Methods of Teaching Secondary Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>PETH 484</td>
<td>Administration of Health, Physical Education and Recreation</td>
<td>3</td>
</tr>
<tr>
<td>RECR 278</td>
<td>Programming Intramural and Recreational Activities</td>
<td>2</td>
</tr>
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</table>

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

## 43
Cognates:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
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<tbody>
<tr>
<td>BIOL 201, 202</td>
<td>Anatomy and Physiology</td>
<td>8</td>
</tr>
<tr>
<td>MATH 105</td>
<td>Mathematics With Applications</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td>Applied Statistics</td>
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CONCENTRATION: Biomechanics

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
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<tbody>
<tr>
<td>BIOL 201, 202</td>
<td>Anatomy and Physiology</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 350</td>
<td>Biostatistics</td>
<td>4</td>
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<td>or</td>
<td>Elementary Statistics</td>
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<tr>
<td>PSYC 350</td>
<td>Professional Activities</td>
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Activities must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Units</th>
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<tr>
<td>PETH 479</td>
<td>Directed Research/Project</td>
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<tr>
<td>PETH 484</td>
<td>Administration of Health, Physical Education and Recreation</td>
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Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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<tbody>
<tr>
<td>CHEM 141, 142, 143</td>
<td>General Chemistry</td>
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<tr>
<td>CHEM 144, 145, 146</td>
<td>General Chemistry Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>CPTR 141</td>
<td>Introduction to Programming (Pascal)</td>
<td>4</td>
</tr>
<tr>
<td>CPTR 224</td>
<td>Scientific Computer Applications</td>
<td>4</td>
</tr>
<tr>
<td>MATH 117</td>
<td>Precalculus</td>
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<tr>
<td>or</td>
<td>Fundamentals of Mathematics</td>
<td>5-8</td>
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<tr>
<td>MATH 121, 122</td>
<td>Analytical Geometry and Calculus I, II</td>
<td>8</td>
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<tr>
<td>MATH 211, 212, 213</td>
<td>General Physics</td>
<td>9</td>
</tr>
<tr>
<td>PHYS 214, 215, 216</td>
<td>General Physics Laboratory</td>
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CONCENTRATION: Fitness Management

<table>
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<th>Course</th>
<th>Description</th>
<th>Units</th>
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<tr>
<td>HLSC 110</td>
<td>Wellness for Living</td>
<td>3</td>
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<tr>
<td>HLSC 238</td>
<td>Health Behavior Change</td>
<td>2</td>
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<tr>
<td>PEAC 101-277</td>
<td>Physical Activities Courses</td>
<td>3</td>
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</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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<tbody>
<tr>
<td>PEAC 123</td>
<td>Conditioning</td>
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<td>PEAC 128</td>
<td>Jogging</td>
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<tr>
<td>PEAC 133</td>
<td>Aerobic Rhythms</td>
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<tr>
<td>PEAC 151</td>
<td>Racquetball I</td>
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</tr>
<tr>
<td>PEAC 246</td>
<td>Pro Act Tennis</td>
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<tr>
<td>PETH 205</td>
<td>Water Safety Instructor's Course</td>
<td>2</td>
</tr>
<tr>
<td>PETH 484</td>
<td>Administration of Health, Physical Education, and Recreation</td>
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HEALTH, PHYSICAL EDUCATION AND RECREATION

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<tr>
<td>PETH 490</td>
<td>Internship in Fitness Management</td>
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<td>RECR 278</td>
<td>Programming Intramurals and Recreational Activities</td>
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Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.

**Cognates:**

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<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201, 202, 203</td>
<td>Principles of Accounting</td>
<td>10</td>
</tr>
<tr>
<td>or</td>
<td>ACCT 205, 206</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 201, 202</td>
<td>Anatomy and Physiology</td>
<td>4</td>
</tr>
<tr>
<td>CPTR 101</td>
<td>Computer Principles</td>
<td>3</td>
</tr>
<tr>
<td>FDNT 220</td>
<td>Human Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>MGMT 275</td>
<td>Management of Small Business</td>
<td>3</td>
</tr>
<tr>
<td>MIS 102</td>
<td>Microcomputer Applications</td>
<td>2</td>
</tr>
<tr>
<td>MKTG 383</td>
<td>Advertising and Sales Promotion</td>
<td>4</td>
</tr>
</tbody>
</table>

**CONCENTRATION:** Physiological Basis

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 201, 202</td>
<td>Anatomy and Physiology</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 393</td>
<td>Animal Physiology</td>
<td>4</td>
</tr>
<tr>
<td>FDNT 220</td>
<td>Human Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>HLSC 110</td>
<td>Wellness for Living</td>
<td>3</td>
</tr>
<tr>
<td>PEAC 101-277</td>
<td>Physical Activity Courses</td>
<td>5</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PETH 479</td>
<td>Directed Research/Project</td>
<td>3</td>
</tr>
<tr>
<td>PETH 484</td>
<td>Administration of Health, Physical Education</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Education and Recreation</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

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

**Cognates:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101, 102, 103</td>
<td>General Biology</td>
<td>12</td>
</tr>
<tr>
<td>BIOL 392</td>
<td>Cell Physiology</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td>CHEM 431</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 433</td>
<td>Biochemistry Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 350</td>
<td>Biostatistics</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td>PSYC 350</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 141, 142, 143</td>
<td>General Chemistry</td>
<td>9</td>
</tr>
<tr>
<td>CHEM 144, 145, 146</td>
<td>General Chemistry Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 321, 322, 323</td>
<td>Organic Chemistry</td>
<td>9</td>
</tr>
<tr>
<td>CHEM 324, 325, 326</td>
<td>Microscale Organic Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>CPTR 101</td>
<td>Computer Principles</td>
<td>3</td>
</tr>
<tr>
<td>MATH 117</td>
<td>Precalculus</td>
<td>5-8</td>
</tr>
<tr>
<td>or</td>
<td>MATH 121, 122</td>
<td>5-8</td>
</tr>
<tr>
<td>MIS 102</td>
<td>Fundamentals of Mathematics</td>
<td>2</td>
</tr>
</tbody>
</table>
### MINOR IN HEALTH
A student minoring in health must complete 27 quarter hours.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLSC 110</td>
<td>Wellness for Living</td>
<td>3</td>
</tr>
<tr>
<td>HLSC 353</td>
<td>Principles of Health</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>21</td>
</tr>
</tbody>
</table>

Up to 10 hours may be selected from non-HLSC 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.

Approval of health adviser required.

### MINOR IN PHYSICAL EDUCATION
A student minoring in physical education must complete 30 quarter hours:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PETH 214</td>
<td>Introduction to Physical Education</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>and Recreation</td>
<td></td>
</tr>
<tr>
<td>PETH 261, 262, 263</td>
<td>Officiating of Sports Activities</td>
<td>6</td>
</tr>
<tr>
<td>PETH 484</td>
<td>Administration of Health, Physical Education</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>and Recreation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>19</td>
</tr>
</tbody>
</table>

Approval of physical education adviser required.

### MINOR IN RECREATION
A student minoring in recreation must complete 27 quarter hours.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PETH 214</td>
<td>Introduction to Physical Education and</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Recreation</td>
<td></td>
</tr>
<tr>
<td>PETH 484</td>
<td>Administration of Health, Physical Education</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>and Recreation</td>
<td></td>
</tr>
<tr>
<td>RECR 278</td>
<td>Programming Intramural and Recreational</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Activities</td>
<td></td>
</tr>
<tr>
<td>RECR 356</td>
<td>Recreation, Leisure and Society</td>
<td>3</td>
</tr>
<tr>
<td>RECR 484</td>
<td>Leadership in Recreation</td>
<td>2</td>
</tr>
<tr>
<td>RECR 490</td>
<td>Practicum in Recreation</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

Approval of recreation adviser required.

### HEALTH SCIENCE (HLSC)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLSC 110</td>
<td>WELLNESS FOR LIVING</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>A survey course covering current health issues; emphasizes the promotion of personal well-being.</td>
<td></td>
</tr>
<tr>
<td>HLSC 208</td>
<td>DRUGS AND SOCIETY</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Study of the use and abuse of all classes of drugs including alcohol and tobacco. Emphases will be placed on the physiological, sociological and psychological factors which may lead to drug experimentation and heavy drug use. Prerequisite: BIOL 201, 202 or consent of the instructor.</td>
<td></td>
</tr>
<tr>
<td>HLSC 217</td>
<td>FIRST AID</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Leads to 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.</td>
<td></td>
</tr>
<tr>
<td>HLSC 238</td>
<td>HEALTH BEHAVIOR CHANGE</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Study of behavioral change in health practices; utilization of group processes and basic behavioral science concepts, relating them to learning and motivation in the health field.</td>
<td></td>
</tr>
</tbody>
</table>
HLSC 266 SAFETY EDUCATION
The study of safety at work, home and school with emphasis on personal and community responsibility. Offered alternate years.

HLSC 308 COMMUNITY HEALTH EDUCATION
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 alternate years.

HLSC 328 BASIC THERAPY
Study of simple, non-drug therapeutic health practices; includes legal implications. Offered alternate years.

HLSC 331 CONSUMER HEALTH
A 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 alternate years.

HLSC 353 PRINCIPLES OF HEALTH
Analyzes the epidemiology of various chronic and degenerative diseases. Emphasizes prevention techniques and the promotion of healthful living.

HLSC 372 HEALTH PROMOTION PLANNING AND EVALUATION
Methods of determining health needs, organizing community service skills, planning techniques, and program evaluation. Prerequisite: HLSC 353.

HLSC 384 SCHOOL HEALTH PROGRAMS
Analysis of the philosophical, organizational and legal aspects of school health programs. Offered alternate years.

HLSC 395 METHODS OF SCHOOL HEALTH INSTRUCTION
Concepts of unit planning, methods, techniques, sources and evaluation of instruction materials; students are required to read widely and collect material pertinent to the course. Offered alternate years.

HLSC 475 PROGRAMS IN HEALTH PROMOTION
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: HLSC 372.

HLSC 481 INTERNSHIP IN HEALTH SCIENCE
Supervised field experience in an approved health care agency. Practical experience and application of responsibilities and competencies necessary for practicing health education. Prerequisite: HLSC 475 or consent of the instructor.

HLSC 491 SEMINAR
Presentation and discussion of current topics in health science. Prerequisite: Senior standing in Health Science or consent of the instructor.

HLSC 494 COOPERATIVE EDUCATION
Individual contract arrangement involving students, faculty and cooperating businesses, schools or agencies to gain practical experience in off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department; CDEV 210 or permission of Cooperative Education Director.
PHYSICAL ACTIVITY COURSES (PEAC)

PEAC 101-197 PHYSICAL EDUCATION ACTIVITY COURSES

Motor skills are physiological development; adaptive programs as needed.

*PEAC 101 Canoeing I
*PEAC 102 Canoeing II
*PEAC 103 Springboard Diving I
*PEAC 104 Springboard Diving II
*PEAC 105 Kayaking and Rafting I
PEAC 106 Lifesaving
*PEAC 107 Lifeguard Training
*PEAC 108 Sailing I
*PEAC 109 Sailing II
†*PEAC 110 Scuba I
*PEAC 111 Scuba II
*PEAC 112 Introductory Swimming
PEAC 113 Beginning Swimming
PEAC 114 Intermediate Swimming
PEAC 115 Competitive Swimming and Conditioning
PEAC 116 Synchronized Swimming I
PEAC 117 Synchronized Swimming II
*PEAC 118 Water Skiing
PEAC 121 Adaptive
PEAC 122 Body Mechanics
PEAC 123 Conditioning
PEAC 124 Gymnastics I
PEAC 125 Gymnastics II
PEAC 126 Modern Gymnastics
PEAC 127 Tumbling
PEAC 128 Jogging
PEAC 129 Weight Control
PEAC 131 Movement Skill
PEAC 132 Developmental Movement
PEAC 133 Aerobic Rhythm
PEAC 134 Rhythms
†*PEAC 135 Singing Games
†*PEAC 136 Ice Skating I
†*PEAC 137 Ice Skating II
*PEAC 138 Roller Skating I
*PEAC 139 Roller Skating II
PEAC 141 Archery
PEAC 142 Badminton I
PEAC 143 Badminton II
*PEAC 144 Golf I
*PEAC 145 Golf II
PEAC 146 Tennis I
PEAC 147 Tennis II
PEAC 148 Tennis III
PEAC 149 Handball I
PEAC 150 Handball II
PEAC 151 Racquetball I
PEAC 152 Racquetball II
*PEAC 153 Western Horsemanship I
*PEAC 154 Western Horsemanship II
*PEAC 155 Backpacking
*PEAC 156 Cycling
*PEAC 160 Cycle Touring
*PEAC 161 Orienteering
*PEAC 162 Mountaineering
*PEAC 163 Rock Climbing
†*PEAC 164 Downhill Skiing I
†*PEAC 165 Downhill Skiing II
*PEAC 166 Cross-Country Skiing I
*PEAC 167 Cross-Country Skiing II
PEAC 170 Baseball
PEAC 171 Basketball
PEAC 172 Field Hockey
PEAC 173 Flagball
PEAC 174 Soccer
PEAC 175 Softball
PEAC 176 Track and Field
PEAC 177 Volleyball I
PEAC 178 Volleyball II
PEAC 179 Team Handball
PEAC 180 Water Polo
PEAC 181 Fencing I
PEAC 182 Fencing II
PEAC 187 Self-Defense
PEAC 190 Independent Activity
PEAC 195 Gymnastics Team
PEAC 197 Modern Gymnastics Team

PROFESSIONAL ACTIVITIES (Individual)

PEAC 223 Pro Act Conditioning
PEAC 224 Pro Act Gymnastics I
PEAC 225 Pro Act Gymnastics II
PEAC 241 Pro Act Archery

PROFESSIONAL ACTIVITIES (Team)

PEAC 270 Pro Act Baseball
PEAC 271 Pro Act Basketball
PEAC 272 Pro Act Field Hockey
PEAC 273 Pro Act Flagball

PEAC 242 Pro Act Badminton I
*PEAC 244 Pro Act Golf
PEAC 246 Pro Act Tennis
PEAC 276 Pro Act Track and Field

PEAC 274 Pro Act Soccer
PEAC 275 Pro Act Softball
PEAC 277 Pro Act Volleyball

*Special fee required. See Financial Information.
†Graded S or NC.
PHYSICAL EDUCATION THEORY (PETH)

PETH 205 WATER SAFETY INSTRUCTOR'S COURSE
Preparation to meet the requirements of the National Red Cross Certificate to instruct swimming and supervise swimming areas. Prerequisite: Lifesaving.

PETH 214 INTRODUCTION TO PHYSICAL EDUCATION AND RECREATION
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
Methods of prevention, evaluation, recognition and immediate care and rehabilitation of injuries. Lecture and laboratory.

PETH 261, 262, 263 OFFICIATING OF SPORTS ACTIVITIES
Introduction to officiating in a variety of activities covered in the service areas; students required to act as officials in the intramural activities sponsored by the department. Lecture and laboratory.

PETH 268 SKI INSTRUCTOR'S COURSE
Introduction for the advanced skiing student to the methods and skills of skiing instruction; students required to assist in ski classes. Lecture and laboratory.

PETH 323 MEASUREMENTS AND EVALUATION
Study of the tests used in health, physical education, and recreation; includes application of tests in the evaluation process of motor performance and other areas of physical fitness. Two lectures per week. Laboratory arranged. Prerequisite: MATH 105 or 106.

PETH 324 ADAPTED PHYSICAL EDUCATION AND RECREATION
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
Study of joint and muscular mechanism action of muscles involved in fundamental movements; effect of gravity and other forces on motion. Prerequisites: BIOL 201, 202; PETH 323. Lecture and laboratory.

PETH 363, 364, 365 COACHING OF TEAM ACTIVITIES
Materials, methods, strategy and teaching progressions; autumn, flagball and soccer; winter, basketball and volleyball; spring, track and field and softball. Two lectures and one laboratory per week.

PETH 395 METHODS OF TEACHING SECONDARY PHYSICAL EDUCATION
Study of the methods and techniques of teaching physical education in the secondary school, indoors and outdoors; includes individual as well as group activities; students are required to observe and demonstrate in class. Lecture and laboratory.

PETH 425 MOTOR LEARNING
Analysis of selected variables which influence the learning of motor skills. Prerequisite: PETH 323. Lecture and laboratory.

PETH 426 PHYSIOLOGY OF EXERCISE
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. Prerequisites: BIOL 201, 202; PETH 323 or permission of instructor. Lecture and laboratory.

PETH 473 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL
Introduction to the planning of the curriculum in the elementary school and the organization of a balanced activities program; requires participation in the elementary school physical education program.

PETH 479 DIRECTED RESEARCH/PROJECT
Additional research or study carried out under the direction of an assigned faculty member.
PETH 484 ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION AND RECREATION
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 the entire health and physical education program; related to either the elementary or secondary school depending on the need of the student.

PETH 490 INTERNSHIP IN FITNESS MANAGEMENT
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
Study of Physical Education and Recreation from the earliest time to the present. Emphasis is given to the social and religious conditions which determine the character of physical education in a given society.

PETH 494 COOPERATIVE EDUCATION
Individual contract arrangement involving students, faculty and cooperating businesses, schools or agencies to gain practical experience in off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department; CDEV 210 or permission of Cooperative Education Director.

PETH 496 SEMINAR
Study of the modern trends in physical and recreational education; group discussion and presentation of current material in the field. Prerequisite: senior standing.
RECREATION (RECR)

RECR 234 YOUTH CAMP LEADERSHIP
Introduction to the principles and techniques of camp counseling involving campers, counselors, cabin groups, and understanding problems of discipline and morale. Lecture and laboratory.

RECR 278 PROGRAMMING INTRAMURAL AND RECREATIONAL ACTIVITIES
Study of the mechanics of programming the intramural and recreational activities in the school and community.

RECR 356 RECREATION, LEISURE AND SOCIETY
Study of concepts promoting the most effective and widespread education for the worthy and creative use of leisure.

RECR 364 RECREATIONAL PROGRAMS
Methods of planning a balanced recreational program in the church or community for all age groups. Lecture and laboratory.

RECR 375 CAMPING, SURVIVAL AND WILDERNESS LIVING
Study of survival and wilderness living as preparation for summer camp leaders. Two lectures per week and a four-day camping experience.

RECR 387 YOUTH SERVICES LEADERSHIP
Introduction to youth leadership service for the community, youth agencies and the church; emphasizes understanding youth social problems.

RECR 389 CAMP ADMINISTRATION
Study of organizational and administrative procedures in organized camping, including committee work, budget, campsites, building, equipment, insurance, nutrition, health and safety.

RECR 484 LEADERSHIP IN RECREATION
Study of leadership and group work as techniques for meeting program objectives, individual and group needs, individual development, human relations and the learning process of recreational leadership.

RECR 490 PRACTICUM IN RECREATION
Field work at various private and public recreation agencies under supervision of qualified leadership and approved agencies. Application must be completed two months prior to placement, and all students will be screened by the department. Prerequisites: PETH 214; PETH 484; RECR 278; RECR 356; RECR 484.
History and Political Science
HISTORY AND POLITICAL SCIENCE

R. Blaich, Chair; T. Gottschall, R. Henderson.

The purpose of the work in history is fourfold: to promote a better understanding of the past and an appreciation of the present; to broaden the cultural outlook and formulate a constructive philosophy of history of life; to train in skills of research and evaluation; to prepare students for teaching, graduate and professional schools and government service.

The objectives of the courses in political science are to present techniques and materials with which to analyze governmental systems, diplomacy and international relations and theories of political power. Students are prepared for further study in teaching, law, government and church service. The department offers a major in history as well as minors in history and political science.

MAJOR IN HISTORY (Bachelor of Arts)
A student majoring in history must complete 54 quarter hours in the major, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. The Graduate Record Examination in history is required.

Major Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120, 121, 122</td>
<td>History of Western Civilization</td>
<td>12</td>
</tr>
<tr>
<td>HIST 221, 222</td>
<td>History of the United States</td>
<td>8</td>
</tr>
<tr>
<td>HIST 396</td>
<td>Introduction to Historical Research</td>
<td>1</td>
</tr>
<tr>
<td>HIST 397</td>
<td>Historiography</td>
<td>2</td>
</tr>
<tr>
<td>HIST 496, 497</td>
<td>Seminar</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electives (20 must be upper division)</td>
<td>28</td>
</tr>
</tbody>
</table>

8 quarter hours must be European; 8 quarter hours must be American; electives to be chosen in consultation with and approved by the academic adviser assigned by the department chair.

MINOR IN HISTORY
A student minoring in history must complete 28 quarter hours:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 120, 121, 122</td>
<td>History of Western Civilization</td>
<td>8-12</td>
</tr>
<tr>
<td>HIST 221, 222</td>
<td>History of the United States</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Electives (4 must be upper division)</td>
<td>8-12</td>
</tr>
</tbody>
</table>

Approval of history adviser required.

MINOR IN POLITICAL SCIENCE
A student minoring in political science must complete 28 quarter hours:

Electives (4 must be upper division) | 28

Approval of political science adviser required.

HISTORY (HIST)
HIST 120, 121, 122 HISTORY OF WESTERN CIVILIZATION | 4, 4, 4
A survey of 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 1815; and the third quarter, modern Europe from 1815 to the present.
HIST 131, 132, 133 WESTERN THOUGHT I (HONORS) 4, 4, 4
Integration of Western Civilization and World Literature with added emphasis on philosophical concepts and their relationships to events. Corollary reading will emphasize the history and philosophy of science. (8 quarter hours are considered to be equivalent to HIST 120, 121, 122; 4 quarter hours are considered to be equivalent to ENGL 207 if complete course is taken.)

HIST 221, 222 HISTORY OF THE UNITED STATES 4, 4
Survey of the colonial period, followed by a more detailed study of the national period.

HIST 396 INTRODUCTION TO HISTORICAL RESEARCH 1
Introduction to the methods, materials and problems of historical research; students choose the topic for their senior papers and commence research.

HIST 397 HISTORIOGRAPHY 2
A survey of selected historians and historical writing from classical Greece to the present. Must be taken concurrently with HIST 396.

HIST 494 COOPERATIVE EDUCATION 0
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. Prerequisites: Approval by department; CDEV 210 or permission of Cooperative Education Director.

HIST 496, 497 SEMINAR 0, 3
Preparation of the senior thesis. Open only to senior history majors. Prerequisite: HIST 396.

EUROPEAN HISTORY (HIST)

HIST 274, 275 HISTORY OF ENGLAND 4, 4
Development and expansion of the English nation from the earliest times to the present.

HIST 335 HISTORY OF WORLD WAR II 4
Study of the military, political and diplomatic events from the late 1930s through 1945; covers both the European and the Pacific theaters.

HIST 435 HISTORY OF MODERN GERMANY 4
Survey of German history since 1870; diplomatic, political, socio-economic and ideological developments in Imperial, Weimar, Nazi and post-World War II Germany, with special emphasis on the German Question resulting from World War II. Prerequisites: HIST 121, 122. Offered alternate years.

HIST 456 MEDIEVAL AND MODERN CHURCH HISTORY 4
A survey of the Christian Church from the Council of Chalcedon to the Enlightenment. Prerequisite: HIST 121 or RELH 455.

HIST 463 THE MIDDLE AGES 4
Survey of the main institutions and ideas in European civilization from the decline of the Roman Empire to the Italian Renaissance, 300-1500. Prerequisites: HIST 120, 121.

HIST 465 RENAISSANCE AND REFORMATION 4
Study of the transformation of Europe from a medieval to a modern society, 1300-1648, with special emphasis on the artistic, intellectual and religious sector. Prerequisite: HIST 121.

HIST 466 ENLIGHTENMENT AND REVOLUTION 4
Study of the influence of the Enlightenment on the French Revolution and the Napoleonic Imperium. Prerequisites: HIST 121. Offered alternate years.

HIST 467 THE MODERN TRANSITION, 1815-1919 4
Study of Europe against the backdrop of nineteenth century industrialization. Prerequisites: HIST 121, 122. Offered alternate years.

HIST 468 CONTEMPORARY EUROPE, 1918 TO THE PRESENT 4
Study of Europe from division to proposed unity. Prerequisites: HIST 122. Offered alternate years.

AMERICAN HISTORY (HIST)

HIST 225 HISTORY OF CANADA 4
Survey of Canadian development from the beginnings of the French regime to the present. Offered alternate years.
HIST 284, 285 HISTORY OF LATIN AMERICA
Survey of the colonial period, followed by a more detailed study of the development of the individual Latin American nations and their world relationship.

HIST 424 THE AMERICAN FRONTIER
Study of the exploration, settlement and development of the American west; considers economic, social, cultural and political factors. Offered alternate years.

HIST 443 COLONIAL AND REVOLUTIONARY AMERICA
Study of the American colonies in their religious, social, and political contexts; examines the transition from colonial status to independence. Prerequisite: HIST 221.

HIST 445 THE CIVIL WAR AND THE RISE OF INDUSTRIAL AMERICA, 1850-1900
Study of the sectional crisis, war and its impact on postwar political, economic and social developments; emphasizes industrialism and the development of the American labor movement. Prerequisites: HIST 221, 222.

HIST 448 TWENTIETH CENTURY AMERICA
Study of maturing America from 1900 to the present; emphasizes the problems of prosperity, depression and the role of the United States in world affairs. Prerequisites: HIST 221, 222.

HIST 457 SOCIAL AND INTELLECTUAL HISTORY OF THE UNITED STATES
Analysis of the major social and intellectual trends in United States history, including Puritanism, the Enlightenment, Transcendentalism, Social Darwinism and Pragmatism. Prerequisites: HIST 221, 222. Offered alternate years.

GENERAL

GEOG 258 WORLD GEOGRAPHY
Survey of the major groups of natural regions; emphasizes human geography, but gives adequate attention to economic and physical aspects. Will not apply to a history minor. Offered alternate years.

HIST 394 DIRECTED READING
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
Methods and techniques of teaching social studies on the secondary school level; requires observation, demonstration and class presentation. Will not apply on a major or minor in history or political sciences.

POLITICAL SCIENCE (PLSC)

PLSC 224 AMERICAN GOVERNMENT
Study of the principles, organization and development of American national, state and local government.

PLSC 324 COMPARATIVE GOVERNMENT
Comparative study of political institutions, ideologies and processes in modern and developing areas; includes intensive analytical and critical study of theories of authority; emphasizes problems of values in the political thought of communist, fascist, Catholic, socialist and democratic theories. Offered alternate years.

PLSC 426 AMERICAN POLITICAL THOUGHT
Study of the genesis and development of political thought in the United States. Applies to history as well as political science. Prerequisite: HIST 221. Offered alternate years.

PLSC 427 AMERICAN DIPLOMATIC HISTORY
Study of the relation of the United States to world politics; analysis of problems involved in the formulation of foreign policies from colonial times to the present. Applies to history as well as political science. Offered alternate years.
PLSC 434 INTERNATIONAL RELATIONS
Analysis of the nature of international society and of the motivating and conditioning factors which explain interaction among states and other international entities. Offered alternate years.

PLSC 451 RESEARCH METHODS
Introduction to the principles of research design; data collection through surveys and other methods; scaling, sampling; and computer assisted statistical analysis. Statistics highly recommended. One laboratory per week. Same as MKTG 451 and SOCI 451.

PLSC 454 WESTERN POLITICAL AND SOCIAL THOUGHT
A survey of political and social thought from classical Greece to the Enlightenment. May also apply to history. Same as PHIL 454; SOCI 454. Offered alternate years.

PLSC 455 WESTERN POLITICAL AND SOCIAL THEORY
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. Same as SOCI 455.

PLSC 475 CONSTITUTIONAL HISTORY
Theory and practice of constitutional government in the United States. Formation of the constitution, federal court system, separation of powers. May apply in history as well as in political science. Prerequisite: PLSC 224. Not offered every year. Consult the department chair.
HOME ECONOMICS
M. Olmsted, Chair; C. Bazzy, N. Cornelison.

Home Economics is the study of the human and material forces affecting homes and families and the use of this knowledge for the benefit of mankind. Home Economics as a discipline synthesizes knowledge obtained from the natural sciences, social sciences, and the arts and humanities and applies this knowledge toward the optimum functioning of the Christian individual, the family, and society.

The objectives of the department are to develop concepts and to promote knowledge in five major areas. One area includes human nutritional needs and ways to meet these needs, as well as developing techniques for evaluating nutrients in food. A second area studies scientific principles in the selection, use, and care of textile and household products. A third area includes the aesthetic and social-psychological factors related to the home, family, housing, and interior furnishings. A fourth area is the effective management of human and material resources. And the fifth area is the family and its commitment to its members, especially in promoting satisfying relationships. Developing an awareness of these five areas and of the interactions among them leads to criteria which can be used in making and implementing decisions affecting the individual, the family and their needs.

The purpose of the department is to enhance the quality of life through a program designed to develop an understanding of individuals within their environments, as well as to prepare students for professional careers.

The major in home economics leading to a Bachelor of Arts degree is designed for the general college student and for those preparing to teach. Students who wish to teach should also plan to meet certification requirements.

An interdisciplinary Bachelor of Science major, Interiors and Apparel Marketing and Management is also offered by the department. In this major students will acquire expertise in coordinating complex economic, aesthetic, and sociological factors in dress and interiors as they prepare to work as Home Economists in business (HEIB) professions and careers. The program provides for a one-quarter internship in a business. (No minor is required).

The program in early childhood education is offered cooperatively by the departments of education and psychology and home economics. It leads to an Associate of Science degree and is designed to prepare the student for employment in nursery schools, day care centers, government child care programs, parent cooperatives and other early education facilities. For a complete listing of requirements, see the Education and Psychology section of this bulletin.

The department offers minors in home economics and interior design. The department also offers the first two years of a pre-dietetics program.

MAJOR IN HOME ECONOMICS (Bachelor of Arts)
A student majoring in home economics must complete 53 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.
Major Requirements:

CFSC 282  Child Development  3
FDNT 101, 102  Principles of Food Science  8
FDNT 103  Meal Management and Table Service  3
FDNT 220  Human Nutrition  4
HMEC 101  Introduction to Home Economics  2
HMEC 215  Fabric Constructions for Interiors  3
HMEC 216  Clothing Selection and Construction  4
HMEC 222  Art in Everyday Living  3
HMEC 223  Introduction to Interior Design  3
HMEC 301  Consumer Education  4
HMEC 346  Home Management and Family Decision-Making  3
HMEC 369  Textiles  4
HMEC 496  Seminar  1

Electives (must be upper division)  8

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.  53

Cognates:

CHEM 101, 102  Introductory Chemistry  8
SOCI 325  The Social Psychology of Family Life  3

The student desiring teaching certification in home economics must take HMEC 395, Methods of Teaching Home Economics, and meet the certification requirements as listed in the education section of this bulletin.

MAJOR IN INTERIORS AND APPAREL MARKETING AND MANAGEMENT (Bachelor of Science)

A student majoring in interiors and apparel marketing and management must complete a minimum of 90 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

HMEC 101  Introduction to Home Economics  2
HMEC 215  Fabric Constructions for Interiors  3
HMEC 216  Clothing Selection and Construction  4
HMEC 222  Art in Everyday Living  3
HMEC 223  Introduction to Interior Design  3
HMEC 301  Consumer Education  4
HMEC 302  Weaving  3
HMEC 350  Orientation to Field Study  1
HMEC 369  Textiles  4
HMEC 424  Housing and Interiors  3
HMEC 425  Problems in Interiors  3
HMEC 451  Clothing Design  3
HMEC 461  Tailoring  3
HMEC 494  Cooperative Education/Field Experience  12
HMEC 496  Seminar  1
HOME ECONOMICS

ACCT 115, 116 and ACCT 206 or ACCT 201, 202, 203 or ACCT 205, 206
Principles of Accounting
Principles of Accounting
Principles of Accounting

Clerical Accounting

Computer Principles
Principles of Macroeconomics
Management and Organizational Behavior
Microcomputer Applications
Principles of Marketing
Electives from the list below

10-11
3
4
4
2
4
90

Electives:
GBUS 361
MGMT 275
MGMT 372
MGMT 476
MKTG 383
MKTG 384
MKTG 385
Business Law
Management of Small Business
Human Resources Management
Motivation and Leadership
Advertising and Sales Promotion
Consumer Behavior
Selling and Sales Management

4
3
4
4
4
3
4

Cognates:
ART 161, 162
ART 184, 185
ART 321, 322, 323
DRFT 226
Design
Introduction to Drawing
History of Art
Architectural Drawing

6
4
6
3

Dietetics
Merlene Olmsted, Academic Adviser

Students pursuing careers in therapeutic or administrative dietetics must meet requirements as specified by the American Dietetics Association (ADA). The first two years or 96 quarter hours are to be completed on the Walla Walla College campus. The remaining two years are to be completed in a coordinated Undergraduate Program approved by ADA. Consult with the academic adviser for a complete course outline. The degree is not awarded by Walla Walla College.

Early Childhood Education (Associate of Science)
This program is offered cooperatively between the departments of education and psychology and home economics. See the Education and Psychology section of this bulletin for a complete list of requirements.

Minor in Home Economics
A student minoring in home economics must complete 30 quarter hours:

CFSC 282
FDNT 101, 102
FDNT 220
HMEC 101
HMEC 215
HMEC 216
Child Development
Principles of Food Science
Human Nutrition
Introduction to Home Economics
Fabric Constructions for Interiors
Clothing Selection and Construction

3
8
4
2
3
4
MINOR IN INTERIOR DESIGN
A student minoring in interior design must complete 30 quarter hours:
HMEC 215 Fabric Constructions for Interiors 3
HMEC 216 Clothing Selection and Construction 4
HMEC 222 Art in Everyday Living 3
HMEC 223 Introduction to Interior Design 3
HMEC 301 Consumer Education 4
HMEC 369 Textiles 4
HMEC 424 Housing and Interiors 3
HMEC 425 Problems in Interiors 3
Electives 3

Approval of interior design adviser required.

FOODS AND NUTRITION (FDNT)
FDNT 101, 102 PRINCIPLES OF FOOD SCIENCE 4, 4
Basic principles and techniques of food preparation, purchasing and selection, with emphasis on nutrition, economic values and food quality. Sanitary handling and storage in food preparation. Laboratory required.

FDNT 103 MEAL MANAGEMENT AND TABLE SERVICE 3
Managerial aspects of planning, preparing and serving food for family meals and special occasions. Prerequisite: FDNT 101 or 102 or permission of instructor. Laboratory required.

FDNT 220 HUMAN NUTRITION 4
Emphasizes fundamental principles and basic vocabulary of nutritional science and assists the student in the interpretation and application of those principles through practical experiences. The student will be encouraged to study the many factors associated with food and the digestion of food and to evaluate current nutrition controversies.

FDNT 412 FOOD IN CULTURES OF THE WORLD 3
Study and preparation of food and beverages common to and characterizing family foods in other regions and countries. Interrelationships of food behavior and nutrition. Prerequisite: adequate background in food preparation. Laboratory required. Offered alternate years.

FDNT 422 EXPERIMENTAL COOKERY 3
Development of experimental methods, their application of investigations in cookery and the skills involved; acquaintance with the literature in this field; preparation of the student for independent investigations in foods. Prerequisites: FDNT 101, 102; FDNT 103; and CHEM 101, 102 or CHEM 141, 142, 143 or equivalent. Offered alternate years. Laboratory required.

FDNT 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: FDNT 220 or permission of instructor. Offered alternate years.

FDNT 441 ADVANCED NUTRITION 3
Study of nutrition involving digestion and metabolic processes and products; selection of an optimum diet for health; review of current nutritional literature and preparation of the student for independent investigations in nutrition research. Prerequisites: FDNT 220; CHEM 101, 102 or CHEM 141, 142, 143. Laboratory required.

FDNT 443 DIET IN DISEASE 4
Study of recent development in the dietary treatment of disease in which nutrition plays a major role; experience in independent use of journal literature in the field; class presentation of research project in the field. Laboratory experience in dietary care of patients in hospital setting. Prerequisite: FDNT 220 or equivalent. Laboratory required. Offered alternate years.
HOME ECONOMICS (HMEC)

HMEC 101 INTRODUCTION TO HOME ECONOMICS
Understanding attitudes, interests, and goals relating to careers in home economics. Basic information for making wise professional choices; meaning and scope of home economics.

HMEC 201 HOUSEHOLD EQUIPMENT
Introduction to the selection, operation and care of household appliances; includes study of electricity in the home and kitchen planning. Offered alternate years.

HMEC 215 FABRIC CONSTRUCTIONS FOR INTERIORS
Construction techniques, including hand stitching, seam finishes and special fabrics used for such items as slipcovers, curtains, draperies, throw pillows, applique and quilts. Evaluation of construction quality. Laboratory required.

HMEC 216 CLOTHING SELECTION AND CONSTRUCTION
Garment construction techniques, fit and style, behavioral aspects of clothing, forecasting, pattern grading. Laboratory required. Prerequisite: HMEC 215.

HMEC 222 ART IN EVERYDAY LIVING
Introduction to the use of art elements giving consideration to line, form and color as applied in the fundamental principles of design and the various aspects of the home, clothing and everyday living; problems in selecting and designing.

HMEC 223 INTRODUCTION TO INTERIOR DESIGN
The study of contemporary housing styles; background treatments (windows, walls, floors, ceilings, and doors); lighting and color. Budget decorating and finishing touches. Prerequisite: HMEC 222 or permission of instructor.

HMEC 301 CONSUMER EDUCATION
Interaction of consumers, government and market; evaluation of consumer information and protection; money management and consumer skills in the market place; includes savings, insurances, taxes and investments; analysis of consumer buying practices.

HMEC 302 WEAVING
The study of the principles, techniques and development of weaving, both handwoven and commercial. Basic weaves and common variations; comparison of woven to knitted structures. Calculation of needed yarns; construction of handwoven articles. Laboratory required. Offered alternate years.

HMEC 346 HOME MANAGEMENT AND FAMILY DECISION-MAKING
Principles of organization and management; use of resources; decision making; work simplification; application of management principles to planning, executing and evaluating problems in home management.

HMEC 350 ORIENTATION TO FIELD STUDY
Prepares students for responsible participation in a field setting; studies the complex of enterprises involved in fashion design, production, and distribution.

HMEC 369 TEXTILES
Study of basic fibers, weaves and textile fabrics including characteristics, construction, use, selection and care of fabrics used in clothing and home furnishings. Laboratory required. Offered alternate years.

HMEC 395 METHODS OF TEACHING HOME ECONOMICS
Study of objectives, methods, materials, student demonstrations, observations, lesson plans and problems involved in teaching home economics. Prerequisites: EDUC 390; EDUC 392. Offered alternate years.

HMEC 403 ADVANCED WEAVING
Application of basic principles of weaving to original designs through the use of hand spinning, dyeing and weaving. Prerequisite: HMEC 302 or equivalent. Laboratory required. Offered alternate years.

HMEC 424 HOUSING AND INTERIORS
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HMEC 425</td>
<td>PROBLEMS IN INTERIORS</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Planning and furnishing residential spaces to</td>
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<td></td>
<td>meet individual family needs. Evaluation and</td>
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<td></td>
<td>organization of space use in dwellings;</td>
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<td></td>
<td>preparation of floor plans; interpretation of</td>
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<td></td>
<td>blueprints. Includes experience working with</td>
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<td></td>
<td>clients. Laboratory required. Prerequisites:</td>
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<td>DRFT 226; HMEC 424.</td>
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<tr>
<td>HMEC 451</td>
<td>CLOTHING DESIGN</td>
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<tr>
<td></td>
<td>Study of the history and theory of clothing</td>
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<td>design; development of original clothing designs</td>
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<td></td>
<td>by flat pattern techniques. Prerequisite: HMEC</td>
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<td></td>
<td>216. Laboratory required. Offered alternate</td>
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<td></td>
<td>years.</td>
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<tr>
<td>HMEC 461</td>
<td>TAILORING</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Custom and unstructured tailoring techniques</td>
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</tr>
<tr>
<td></td>
<td>applied to the construction of suits and</td>
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<tr>
<td></td>
<td>coats. Fitting. Laboratory required. Prerequisite:</td>
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<tr>
<td></td>
<td>HMEC 216 or permission of instructor. Offered</td>
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<td></td>
<td>alternate years.</td>
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<tr>
<td>HMEC 494</td>
<td>COOPERATIVE EDUCATION/FIELD EXPERIENCE</td>
<td>12</td>
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<tr>
<td></td>
<td>Individual contract arrangement involving</td>
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<td></td>
<td>student, faculty and cooperating businesses to</td>
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<td></td>
<td>gain practical experience in a cooperating</td>
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<td></td>
<td>retail firm, design studio, museum, manufacturing</td>
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<td>plant, or cooperative extension. Allows the</td>
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<td></td>
<td>student to apply advanced classroom learning.</td>
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<td></td>
<td>This class will be evaluated on the S or NC</td>
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<td>basis. Prerequisites: Approval by department;</td>
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<td></td>
<td>CDEV 210 or permission of Cooperative Education</td>
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<td></td>
<td>Director.</td>
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<td>HMEC 496</td>
<td>SEMINAR</td>
<td>1</td>
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<tr>
<td></td>
<td>Study of recent literature, research and</td>
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<td></td>
<td>professional ethics in areas of home economics.</td>
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</tbody>
</table>

**CHILD AND FAMILY SCIENCES (CFSC)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFSC 282</td>
<td>CHILD DEVELOPMENT</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Study of the child's physical, emotional,</td>
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<tr>
<td></td>
<td>intellectual and social growth in a family</td>
<td></td>
</tr>
<tr>
<td></td>
<td>context.</td>
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<tr>
<td>SOCI 225</td>
<td>MARRIAGE AND FAMILY LIFE</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>See the Sociology and Social Work section of</td>
<td></td>
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<tr>
<td></td>
<td>this bulletin.</td>
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<tr>
<td>SOCI 325</td>
<td>SOCIAL PSYCHOLOGY OF FAMILY LIFE</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>See the Sociology and Social Work section of</td>
<td></td>
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<td>this bulletin.</td>
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</tbody>
</table>
Industrial Technology
INDUSTRIAL TECHNOLOGY


The industrial technology department provides quality technological instruction in a Christian environment. Various fields of technology are presented with the express purpose of preparing students as teachers of technology education or for careers in industry as industrial technologists.

The four-year industrial technology college graduate is associated with the managerial, engineering, scientific and supervisory activities of the industrial world. A broad preparation is given for manufacturing management in industry which enables the graduate to work with and contribute to the ideas of professional engineers and scientists, as well as supervise and manage the use of materials and machines for producing, distributing and servicing industrial products.

The teacher of technology education possesses a broad background in the products and processes of industry. A degree of skill is developed in several areas of industrial technology to equip the teacher with the ability to pass on to students the benefits of America's industrial heritage.

Courses in industrial technology also provide nonmajors with the opportunity of developing occupational skills in a second field or strengthening their background in the applied arts to better fit them for life in today's highly technologically oriented society.

Programs leading to the Bachelor of Science degree are technology education, automotive technology, biomedical electronics technology, electronics technology, graphics technology, industrial technology and plant maintenance technology.

The industrial technology department also offers majors leading to the Associate of Science degree and a number of certificate programs.

Associate of Science degrees are offered in automotive technology, aviation technology, construction technology, electronics technology, graphics technology and plant maintenance technology. Each curriculum is designed to prepare graduates for employment in that particular field. In each case, a broad technical background is offered balancing theory with laboratory experience. These programs are especially designed to serve the student who wishes to complete his technical training in a Christian environment with minimal general studies and time requirements. The programs are planned in such a way that continuance in the baccalaureate program may occur with minimal loss of credit. The Associate of Science degree requires the completion of 96 quarter hours.

The certificate programs are designed for completion in one year with almost total emphasis on the technical specialty. The following programs offer the opportunity of quality short-term technical training in a Christian environment: auto mechanics, aviation, carpentry, offset copy preparation, plant maintenance, and printing.

These programs are planned in such a way that continuance in a degree program may occur with minimal loss of credit. To qualify for a certificate, the student must maintain a cumulative grade-point average of 2.00. The certificate program requires the completion of 48 quarter hours.
MAJOR IN AUTOMOTIVE TECHNOLOGY (Bachelor of Science)
A student majoring in automotive technology must complete 63 quarter hours in
the major, the required cognates, the general studies program, and all baccalaureate
degree requirements as outlined in this bulletin.

Major Requirements:
AUTO 134  Internal Combustion Engine Theory  2
AUTO 135  Internal Combustion Engine Laboratory  2
AUTO 145  Power Train Theory  2
AUTO 146  Power Train Laboratory  2
AUTO 156  Fuel and Electrical Systems Theory  2
AUTO 157  Fuel and Electrical Systems Laboratory  2
AUTO 286  Engine Rebuilding Laboratory  2
AUTO 314  Engine Diagnosis and Tune-up  2
AUTO 315  Engine Diagnosis and Tune-up Laboratory  2
AUTO 345, 346  Automotive Service  4
AUTO 347, 348  Automotive Service Laboratory  4
AUTO 365  Diesel Engines  3
AUTO 366  Computerized Engine Controls  3
ELCT 241  Fundamentals of Electronics  5
ELCT 252  Solid State Devices and Circuits  4
INDS 124  Introduction to Technology  3
INDS 364  Industrial Safety  2
INDS 376  Technical Facility Planning  3
INDS 386  Oil Hydraulics  3
INDS 480  Advanced Practicum in Industrial  3
   Technology (in automotive)
INDS 499  Senior Problem  1
   Electives  7

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

Cognates:
ACCT 201, 202, 203  Principles of Accounting  10
CPTR 101  Computer Principles  3
MGMT 275  Management of Small Business  3
   or
MGMT 371  Management and Organizational Behavior  3
MIS 102  Microcomputer Applications  2
   Business Electives  6

Business electives must be chosen from the following prefixes in consultation with and
approved by the academic advisor assigned by the department chair: ACCT, GBUS,
MGMT, MKTG.

MAJOR IN BIOMEDICAL ELECTRONICS TECHNOLOGY (Bachelor of
Science)
A student majoring in biomedical electronics technology must complete 84 quarter
hours in the major, the required cognates, the general studies program, and all bac-
calaureate degree requirements as outlined in this bulletin.
## Major Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DRFT 236</td>
<td>Electrical and Electronic Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 241</td>
<td>Fundamentals of Electronics</td>
<td>5</td>
</tr>
<tr>
<td>ELCT 242</td>
<td>Electronics Circuit Analysis</td>
<td>5</td>
</tr>
<tr>
<td>ELCT 252, 253</td>
<td>Solid State Devices and Circuits</td>
<td>8</td>
</tr>
<tr>
<td>ELCT 263</td>
<td>Communication Circuits</td>
<td>4</td>
</tr>
<tr>
<td>ELCT 297, 298</td>
<td>Electronics Fabrication</td>
<td>2</td>
</tr>
<tr>
<td>ELCT 326</td>
<td>Hospital Safety</td>
<td>2</td>
</tr>
<tr>
<td>ELCT 331, 332</td>
<td>Medical Electronics</td>
<td>10</td>
</tr>
<tr>
<td>ELCT 361</td>
<td>Linear Integrated Circuits</td>
<td>5</td>
</tr>
<tr>
<td>ELCT 362</td>
<td>Digital Integrated Circuits</td>
<td>5</td>
</tr>
<tr>
<td>ELCT 372</td>
<td>Computer Circuits and Systems</td>
<td>4</td>
</tr>
<tr>
<td>ELCT 381, 382</td>
<td>TV Systems and Circuits</td>
<td>8</td>
</tr>
<tr>
<td>ELCT 490</td>
<td>Directed Hospital Experience</td>
<td>16</td>
</tr>
<tr>
<td>INDS 124</td>
<td>Introduction to Technology</td>
<td>3</td>
</tr>
<tr>
<td>INDS 280</td>
<td>Practicum in Industrial Technology (in medical electronics)</td>
<td>3</td>
</tr>
<tr>
<td>INDS 499</td>
<td>Senior Problem</td>
<td>1</td>
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<td></td>
<td><strong>Total</strong></td>
<td><strong>84</strong></td>
</tr>
</tbody>
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## Cognates:

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 201, 202</td>
<td>Anatomy and Physiology</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 101, 102</td>
<td>Introductory Chemistry</td>
<td>8</td>
</tr>
<tr>
<td>CPTR 124</td>
<td>Introduction to BASIC</td>
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</tr>
<tr>
<td>CPTR 134</td>
<td>Introduction to Computing (FORTRAN)</td>
<td>2.4</td>
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<tr>
<td>or CPTR 141</td>
<td>Introduction to Programming (Pascal)</td>
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<tr>
<td>or MATH 117</td>
<td>Precalculus</td>
<td></td>
</tr>
<tr>
<td>or MATH 121, 122</td>
<td>Fundamentals of Mathematics</td>
<td>5-8</td>
</tr>
<tr>
<td>PHYS 211, 212, 213</td>
<td>General Physics</td>
<td>9</td>
</tr>
<tr>
<td>PHYS 214, 215, 216</td>
<td>General Physics Laboratory</td>
<td>3</td>
</tr>
</tbody>
</table>

### MAJOR IN COMPUTER TECHNOLOGY (Bachelor of Science)

A student majoring in computer technology must complete 66 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

## Major Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRFT 236</td>
<td>Electrical and Electronic Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ELCT 241</td>
<td>Fundamentals of Electronics</td>
<td>5</td>
</tr>
<tr>
<td>ELCT 242</td>
<td>Electronic Circuit Analysis</td>
<td>5</td>
</tr>
<tr>
<td>ELCT 252, 253</td>
<td>Solid State Devices and Circuits</td>
<td>8</td>
</tr>
<tr>
<td>ELCT 297, 298</td>
<td>Electronics Fabrication</td>
<td>2</td>
</tr>
<tr>
<td>ELCT 361</td>
<td>Linear Integrated Circuits</td>
<td>5</td>
</tr>
<tr>
<td>ELCT 362</td>
<td>Digital Integrated Circuits</td>
<td>5</td>
</tr>
<tr>
<td>ELCT 372</td>
<td>Computer Circuits and Systems</td>
<td>4</td>
</tr>
<tr>
<td>ELCT 381, 382</td>
<td>TV Systems and Circuits</td>
<td>8</td>
</tr>
<tr>
<td>ELCT 393</td>
<td>Computer Troubleshooting</td>
<td>4</td>
</tr>
<tr>
<td>ELCT 421</td>
<td>Microprocessor Interfacing</td>
<td>4</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Units</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>ELCT 472</td>
<td>Application of Robotics</td>
<td>3</td>
</tr>
<tr>
<td>INDS 124</td>
<td>Introduction to Technology</td>
<td>3</td>
</tr>
<tr>
<td>INDS 280</td>
<td>Practicum in Industrial Technology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(in electronics)</td>
<td></td>
</tr>
<tr>
<td>INDS 499</td>
<td>Senior Problem</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

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

**Cognates:**

- **CPTR 124**
  - Introduction to BASIC

- **CPTR 134**
  - Introduction to Computing (FORTRAN) 2.4

- **CPTR 141**
  - Introduction to Programming (Pascal)

- **CPTR 215**
  - Assembly Language Programming I 3

- **CPTR 331**
  - Computers in the Laboratory 3

- **MATH 117**
  - Precalculus 5

- **MATH 121, 122**
  - Fundamentals of Mathematics 5.8

**MAJOR IN ELECTRONICS TECHNOLOGY (Bachelor of Science)**

A student majoring in electronics technology must complete 63 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. It is recommended that a minor in Business, Communications, Computer Science or Mathematics be chosen.

**Major Requirements:**

- **DRFT 236**
  - Electrical and Electronic Drawing 3

- **ELCT 241**
  - Fundamentals of Electronics 5

- **ELCT 242**
  - Electronic Circuit Analysis 5

- **ELCT 252, 253**
  - Solid State Devices and Circuits 8

- **ELCT 263**
  - Communication Circuits 4

- **ELCT 297, 298**
  - Electronics Fabrication 2

- **ELCT 361**
  - Linear Integrated Circuits 5

- **ELCT 362**
  - Digital Integrated Circuits 5

- **ELCT 363**
  - Radio Communications 4

- **ELCT 372**
  - Computer Circuits and Systems 4

- **ELCT 381, 382**
  - TV Systems and Circuits 8

- **INDS 124**
  - Introduction to Technology 3

- **INDS 480**
  - Advanced Practicum in Industrial Technology (in electronics) 3

- **INDS 499**
  - Senior Problem 1

- **Electives** 3

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

**Cognates:**

- **CPTR 124**
  - Introduction to BASIC 2

- **CPTR 215**
  - Assembly Language Programming I 3
INDUSTRIAL TECHNOLOGY

MATH 117  Precalculus  5-8
or
MATH 121, 122  Fundamentals of Mathematics
MATH 181  Analytic Geometry and Calculus I  4

MAJOR IN GRAPHICS TECHNOLOGY (Bachelor of Science)
A student majoring in graphics technology must complete 63 quarter hours in the major, the required cognates (choose either the commercial art or business emphasis), the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Major Requirements:
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRPH 154</td>
<td>Principles of Photography</td>
<td>2</td>
</tr>
<tr>
<td>GRPH 155</td>
<td>Principles of Photography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>INDS 124</td>
<td>Introduction to Technology</td>
<td>3</td>
</tr>
<tr>
<td>INDS 364</td>
<td>Industrial Safety</td>
<td>2</td>
</tr>
<tr>
<td>INDS 376</td>
<td>Technical Facility Planning</td>
<td>3</td>
</tr>
<tr>
<td>INDS 480</td>
<td>Advanced Practicum in Industrial Technology (in graphics)</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDS 494</td>
<td>Cooperative Education</td>
<td>12</td>
</tr>
<tr>
<td>INDS 499</td>
<td>Senior Problem</td>
<td>1</td>
</tr>
<tr>
<td>PRNT 121</td>
<td>Introduction to Graphic Arts</td>
<td>4</td>
</tr>
<tr>
<td>PRNT 221, 222, 223</td>
<td>Offset Lithography</td>
<td>9</td>
</tr>
<tr>
<td>PRNT 271, 272, 273</td>
<td>Computer Composition</td>
<td>6</td>
</tr>
<tr>
<td>PRNT 295</td>
<td>Printing Layout and Design</td>
<td>3</td>
</tr>
<tr>
<td>PRNT 326</td>
<td>Printing Estimating</td>
<td>3</td>
</tr>
<tr>
<td>PRNT 331</td>
<td>Advanced Halftone Photography</td>
<td>2</td>
</tr>
<tr>
<td>PRNT 421, 422</td>
<td>Color Separations</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>2</td>
</tr>
</tbody>
</table>

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. 63

Cognates: (choose business or commercial art emphasis)

Business Emphasis:
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201, 202, 203</td>
<td>Principles of Accounting</td>
<td>10</td>
</tr>
<tr>
<td>CPTR 101</td>
<td>Computer Principles</td>
<td>3</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 275</td>
<td>Management of Small Business</td>
<td>3-4</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>MGMT 371</td>
<td>Management and Organizational Behavior</td>
<td>2</td>
</tr>
<tr>
<td>MIS 102</td>
<td>Microcomputer Applications</td>
<td>6</td>
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</tbody>
</table>

Business electives must be chosen from the following prefixes in consultation with and approved by the academic adviser assigned by the department chair: ACCT, GBUS, MGMT, MKTG.

Commercial Art Emphasis:
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 161, 162, 163</td>
<td>Design</td>
<td>9</td>
</tr>
<tr>
<td>ART 184, 185, 186</td>
<td>Introduction to Drawing</td>
<td>6</td>
</tr>
<tr>
<td>ART 244, 245, 246</td>
<td>Introduction to Commercial Art</td>
<td>6</td>
</tr>
<tr>
<td>ART 314, 315, 316</td>
<td>Advertising Design</td>
<td>9</td>
</tr>
</tbody>
</table>
MAJOR IN INDUSTRIAL TECHNOLOGY (Bachelor of Science)

A student majoring in industrial technology must complete 63 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. This program offers considerable latitude in selection of courses or concentrations and is designed to provide the student with a broad background in industry and business.

Core Requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRFT 121</td>
<td>Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>INDS 124</td>
<td>Introduction to Technology</td>
<td>3</td>
</tr>
<tr>
<td>INDS 221, 222, 223</td>
<td>Wood Products and Processes</td>
<td></td>
</tr>
<tr>
<td>or</td>
<td>Fabrication and Machining of Metals</td>
<td>6</td>
</tr>
<tr>
<td>INDS 241, 242, 243</td>
<td>Production Processes</td>
<td></td>
</tr>
<tr>
<td>INDS 324</td>
<td>Industrial Design</td>
<td>3</td>
</tr>
<tr>
<td>INDS 364</td>
<td>Industrial Safety</td>
<td>2</td>
</tr>
<tr>
<td>INDS 436</td>
<td>Production Processes</td>
<td>3</td>
</tr>
<tr>
<td>INDS 499</td>
<td>Senior Problem</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Industrial Technology Electives</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>(12 must be upper division)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Choose one of the following concentrations:</td>
<td></td>
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</tbody>
</table>

CONCENTRATION: Aviation

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVIA 124</td>
<td>Introduction to Aviation</td>
<td>2</td>
</tr>
<tr>
<td>AVIA 234</td>
<td>Meterology and Commercial Pilot Lectures</td>
<td>5</td>
</tr>
<tr>
<td>AVIA 256</td>
<td>Principles of Aircraft Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>AVIA 260</td>
<td>Pre-Instrument Pilot Flight Training</td>
<td>4</td>
</tr>
<tr>
<td>AVIA 261</td>
<td>Instrument Pilot Lectures</td>
<td>5</td>
</tr>
<tr>
<td>AVIA 262</td>
<td>Instrument Pilot Flight Training</td>
<td>3</td>
</tr>
<tr>
<td>AVIA 263</td>
<td>Advanced Instrument Pilot Flight Training</td>
<td>3</td>
</tr>
<tr>
<td>AVIA 335</td>
<td>Commercial Pilot Flight Training</td>
<td>4</td>
</tr>
<tr>
<td>AVIA 336</td>
<td>Advanced Commercial Pilot Flight Training</td>
<td>5</td>
</tr>
<tr>
<td>AVIA 357</td>
<td>Flight Instructor — Airplane Lectures</td>
<td>3</td>
</tr>
<tr>
<td>AVIA 358</td>
<td>Flight Instructor — Airplane Flight Training</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>2</td>
</tr>
</tbody>
</table>

CONCENTRATION: Construction

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRFT 226</td>
<td>Architectural Drawing</td>
<td>3</td>
</tr>
<tr>
<td>INDS 151</td>
<td>Foundations and Framing</td>
<td>6</td>
</tr>
<tr>
<td>INDS 152</td>
<td>Building Materials and Mechanical Systems</td>
<td>6</td>
</tr>
<tr>
<td>INDS 153</td>
<td>Finish Carpentry</td>
<td>6</td>
</tr>
<tr>
<td>INDS 254</td>
<td>Energy Efficient Construction</td>
<td>5</td>
</tr>
<tr>
<td>INDS 264</td>
<td>Construction Codes and Specifications</td>
<td>2</td>
</tr>
</tbody>
</table>
INDUSTRIAL TECHNOLOGY

INDS 345 Finishing Materials and Methods 3
INDS 351 Advanced Wood Processes 3
INDS 356 Construction Management 3
Electives (3 must be upper division) 5

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. 42

Cognates:
ACCT 201, 202, 203 Principles of Accounting 10
CPTR 101 Computer Principles 3
MGMT 275 Management of Small Business 3-4
or
MGMT 371 Management and Organizational Behavior
MIS 102 Microcomputer Applications 2
Business Electives 6

Business electives must be chosen from the following prefixes in consultation with and approved by the academic adviser assigned by the department chair: ACCT, OBUS, MGMT, MKTG.

MAJOR IN PLANT MAINTENANCE TECHNOLOGY (Bachelor of Science)
A student majoring in plant maintenance technology must complete 63 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Major Requirements:
AUTO 134 Internal Combustion Engine Theory 2
AUTO 135 Internal Combustion Engine Laboratory 1
AUTO 156 Fuel and Electrical Systems Theory 2
AUTO 157 Fuel and Electrical Systems Laboratory 1
DRFT 121 Technical Drawing 3
DRFT 226 Architectural Drawing 3
ELCT 241 Fundamentals of Electronics 5
INDS 124 Introduction to Technology 3
INDS 134 Gas Welding Laboratory 1
INDS 135 Arc Welding Laboratory 1
INDS 137 Gas Welding Theory 1
INDS 138 Arc Welding Theory 1
INDS 151 Foundations and Framing 3
INDS 152 Building Materials and Mechanical Systems 3
INDS 153 Finish Carpentry 3
INDS 221, 222 Wood Products and Processes 4
INDS 241, 243 Fabrication and Machining of Metals 4
INDS 324 Industrial Design 3
INDS 328 Applied Maintenance 6
INDS 376 Technical Facility Planning 3
INDS 386 Oil Hydraulics 3
INDS 398 Machine and Tool Maintenance 2

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<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IND S 499</td>
<td>Senior Problem</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Electives (3 must be upper division)</td>
<td>4</td>
</tr>
</tbody>
</table>

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

**Cognates:**

- ACCT 201, 202, 203 Principles of Accounting 10
- CPT R 101 Computer Principles 3
- MGMT 275 Management of Small Business 3
- MGMT 371 Management and Organizational Behavior 4
- MIS 102 Microcomputer Applications 2
- Business Electives 6

Business electives must be chosen from the following prefixes in consultation with and approved by the academic adviser assigned by the department chair: ACCT, GBUS, MGMT, MKTG.

**MAJOR IN TECHNOLOGY EDUCATION (Bachelor of Science)**

A student majoring in technology education must complete 63 quarter hours in the major, certification requirements as listed in the education section of this bulletin for the initial Washington state secondary teaching certificate, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. If planning on teaching in the state of Oregon, please check with the department adviser for specific certification requirements. It is recommended that a minor be chosen from instructional areas taught on the secondary level.

**Major Requirements:**

- DRFT 121, 122 Technical Drawing 6
- DRFT 226 Architectural Drawing 3
- DRFT 236 Electrical and Electronics Drawing 5
- ELCT 241 Fundamentals of Electronics 5
- ELCT 252 Solid State Devices and Circuits 4
- IND S 124 Introduction to Technology 3
- IND S 221, 222, 223 Wood Products and Processes 6

Technical choice minimum of eight quarter hours in one of the following technical areas: Automotive, Construction, Graphic Arts, Industrial Crafts, and Metals (Machining and/or Welding)

- IND S 324 Industrial Design 3
- IND S 364 Industrial Safety 2
- IND S 374 Foundations of Technology Education 2
- IND S 376 Technical Facility Planning 3
- IND S 395 Methods of Teaching Technology 4
- IND S 398 Machine and Tool Maintenance 1
- IND S 480 Advanced Practicum in Industrial Technology (in supervision) 1
- IND S 499 Senior Problem 1
- Electives (4 must be upper division) 11

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. Six quarter hours must be in one of the following areas: Electronics, Woods, or in the technical choice selected above.
INDUSTRIAL TECHNOLOGY

Cognates:
CPTR 124  Introduction to BASIC  2
HLSC 217  First Aid  2
(must also gain and maintain current certification in cardiopulmonary resuscitation)

AUTOMOTIVE TECHNOLOGY (Associate of Science)
A student specializing in automotive technology must complete the following 55 quarter hours, the general studies program, and all associate degree requirements as outlined in this bulletin.

Area Requirements:
AUTO 134  Internal Combustion Engine Theory  2
AUTO 135  Internal Combustion Engine Laboratory  2
AUTO 145  Power Train Theory  2
AUTO 146  Power Train Laboratory  2
AUTO 156  Fuel and Electrical Systems Theory  2
AUTO 157  Fuel and Electrical Systems Laboratory  2
AUTO 286  Engine Rebuilding Laboratory  2
AUTO 314  Engine Diagnosis and Tune-up  2
AUTO 315  Engine Diagnosis and Tune-up Laboratory  2
AUTO 345, 346  Automotive Service  4
AUTO 347, 348  Automotive Service Laboratory  4
AUTO 365  Diesel Engines  3
AUTO 366  Computerized Engine Controls  3
ELCT 241  Fundamentals of Electronics  5
ELCT 252  Solid State Devices and Circuits  4
INDS 124  Introduction to Technology  3
INDS 280  Practicum in Industrial Technology  2
  (in automotive)
INDS 364  Industrial Safety  2
INDS 386  Oil Hydraulics  3
Electives  4

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  6-7
ACCT 115, 116  Clerical Accounting  
MGMT 275  Management of Small Business  3

AVIATION TECHNOLOGY (Associate of Science)
A student specializing in aviation technology must complete the following 55 quarter hours, the general studies program, and all associate degree requirements as outlined in this bulletin.

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### INDUSTRIAL TECHNOLOGY

**Area Requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVIA 124</td>
<td>Introduction to Aviation</td>
<td>2</td>
</tr>
<tr>
<td>AVIA 141</td>
<td>Private Pilot Lectures</td>
<td>5</td>
</tr>
<tr>
<td>AVIA 142</td>
<td>Private Pilot Flight Training</td>
<td>3</td>
</tr>
<tr>
<td>AVIA 143</td>
<td>Advanced Private Pilot Flight Training</td>
<td>3</td>
</tr>
<tr>
<td>AVIA 234</td>
<td>Meteorology and Commercial Pilot Lectures</td>
<td>5</td>
</tr>
<tr>
<td>AVIA 256</td>
<td>Principles of Aircraft Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>AVIA 260</td>
<td>Pre-Instrument Pilot Flight Training</td>
<td>4</td>
</tr>
<tr>
<td>AVIA 261</td>
<td>Instrument Pilot Lectures</td>
<td>5</td>
</tr>
<tr>
<td>AVIA 262</td>
<td>Instrument Pilot Flight Training</td>
<td>3</td>
</tr>
<tr>
<td>AVIA 263</td>
<td>Advanced Instrument Pilot Flight Training</td>
<td>3</td>
</tr>
<tr>
<td>AVIA 335</td>
<td>Commercial Pilot Flight Training</td>
<td>4</td>
</tr>
<tr>
<td>AVIA 336</td>
<td>Advanced Commercial Pilot Flight Training</td>
<td>5</td>
</tr>
<tr>
<td>AVIA 357</td>
<td>Flight Instructor — Airplane Lectures</td>
<td>3</td>
</tr>
<tr>
<td>AVIA 358</td>
<td>Flight Instructor — Airplane Flight Training</td>
<td>3</td>
</tr>
<tr>
<td>INDS 124</td>
<td>Introduction to Technology</td>
<td>3</td>
</tr>
<tr>
<td>INDS 280</td>
<td>Practicum in Industrial Technology</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(in aviation)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>55</td>
</tr>
</tbody>
</table>

### CONSTRUCTION TECHNOLOGY (Associate of Science)

A student specializing in construction technology must complete the following 55 quarter hours, the general studies program, and all associate degree requirements as outlined in this bulletin.

**Area Requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DRFT 121</td>
<td>Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>DRFT 226</td>
<td>Architectural Drawing</td>
<td>3</td>
</tr>
<tr>
<td>INDS 124</td>
<td>Introduction to Technology</td>
<td>3</td>
</tr>
<tr>
<td>INDS 151</td>
<td>Foundations and Framing</td>
<td>6</td>
</tr>
<tr>
<td>INDS 152</td>
<td>Building Materials and Mechanical Systems</td>
<td>6</td>
</tr>
<tr>
<td>INDS 153</td>
<td>Finish Carpentry</td>
<td>6</td>
</tr>
<tr>
<td>INDS 221, 222</td>
<td>Wood Products and Processes</td>
<td>4</td>
</tr>
<tr>
<td>INDS 254</td>
<td>Energy Efficient Construction</td>
<td>5</td>
</tr>
<tr>
<td>INDS 264</td>
<td>Construction Codes and Specifications</td>
<td>2</td>
</tr>
<tr>
<td>INDS 324</td>
<td>Industrial Design</td>
<td>3</td>
</tr>
<tr>
<td>INDS 345</td>
<td>Finishing Materials and Methods</td>
<td>3</td>
</tr>
<tr>
<td>INDS 351</td>
<td>Advanced Wood Processes</td>
<td>3</td>
</tr>
<tr>
<td>INDS 356</td>
<td>Construction Management</td>
<td>3</td>
</tr>
<tr>
<td>INDS 364</td>
<td>Industrial Safety</td>
<td>2</td>
</tr>
<tr>
<td>INDS 398</td>
<td>Machine and Tool Maintenance</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>2</td>
</tr>
</tbody>
</table>

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

Cognates:
ACCT 115, 116        Clerical Accounting
or
ACCT 201,202        Principles of Accounting
MGMT 275        Management of Small Business

6-7

ELECTRONICS TECHNOLOGY (Associate of Science)
A student specializing in electronics technology must complete the following 58 quarter hours, the required cognates, the general studies program, and all associate degree requirements as outlined in this bulletin.

Area Requirements:
DRFT 236        Electrical and Electronic Drawing
ELCT 241        Fundamentals of Electronics
ELCT 242        Electronic Circuit Analysis
ELCT 252, 253        Solid State Devices and Circuits
ELCT 263        Communication Circuits
ELCT 297, 298        Electronics Fabrication
ELCT 361        Linear Integrated Circuits
ELCT 362        Digital Integrated Circuits
ELCT 372        Computer Circuits and Systems
ELCT 381, 382        TV Systems and Circuits
INDS 124        Introduction to Technology
INDS 280        Practicum in Industrial Technology
        (in electronics)
Electives
3

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

Cognates:
CPTR 124        Introduction to BASIC

2

GRAPHICS TECHNOLOGY (Associate of Science)
A student specializing in graphics technology must complete the following 55 quarter hours, the general studies program, and all associate degree requirements as outlined in this bulletin.

Area Requirements:
GRPH 154        Principles of Photography
GRPH 155        Principles of Photography Laboratory
INDS 124        Introduction to Technology
INDS 280        Practicum in Industrial Technology
        (in graphics)
INDS 364        Industrial Safety
INDS 494        Cooperative Education
PRNT 121        Introduction to Graphic Arts
PRNT 221, 222, 223        Offset Lithography
PRNT 271, 272, 273        Computer Composition
PRNT 295        Printing Layout and Design
PRNT 331        Advanced Halftone Photography
Electives

55

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.
PLANT MAINTENANCE TECHNOLOGY (Associate of Science)
A student specializing in plant maintenance technology must complete the following 55 quarter hours, the general studies program, and all associate degree requirements as outlined in this bulletin.

Area Requirements:
AUTO 134  Internal Combustion Engine Theory  2
AUTO 135  Internal Combustion Engine Laboratory  1
DRFT 121  Technical Drawing  3
DRFT 226  Architectural Drawing  3
ELCT 241  Fundamentals of Electronics  5
INDS 124  Introduction to Technology  3
INDS 134  Gas Welding Laboratory  1
INDS 135  Arc Welding Laboratory  1
INDS 137  Gas Welding Theory  1
INDS 138  Arc Welding Theory  1
INDS 151  Foundations and Framing  3
INDS 152  Building Materials and Mechanical Systems  3
INDS 153  Finish Carpentry  3
INDS 221, 222  Wood Products and Processes  4
INDS 241, 243  Fabrication and Machining of Metals  4
INDS 324  Industrial Design  3
INDS 328  Applied Maintenance  6
INDS 386  Oil Hydraulics  3
Electives  5

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

AUTO MECHANICS (Certificate)
A student taking auto mechanics must complete the following 38 quarter hours and the general studies courses for the certificate program as outlined in this bulletin.

Area Requirements:
AUTO 134  Internal Combustion Engine Theory  2
AUTO 135  Internal Combustion Engine Laboratory  2
AUTO 145  Power Train Theory  2
AUTO 146  Power Train Laboratory  2
AUTO 156  Fuel and Electrical Systems Theory  2
AUTO 157  Fuel and Electrical Systems Laboratory  2
AUTO 286  Engine Rebuilding Laboratory  2
ELCT 241  Fundamentals of Electronics  5
INDS 124  Introduction to Technology  3
INDS 134  Gas Welding Laboratory  1
INDS 135  Arc Welding Laboratory  1
INDS 137  Gas Welding Theory  1
INDS 138  Arc Welding Theory  1
Electives  12

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.
AVIATION (Certificate)
A student taking aviation must complete the following 38 quarter hours and the general studies courses for the certificate program as outlined in this bulletin.

Area Requirements
AVIA 141 Private Pilot Lectures 5
AVIA 142 Private Pilot Flight Training 3
AVIA 143 Advanced Private Pilot Flight Training 3
AVIA 260 Pre-Instrument Pilot Flight Training 4
AVIA 261 Instrument Pilot Lectures 5
AVIA 262 Instrument Pilot Flight Training 3
AVIA 263 Advanced Instrument Pilot Flight Training 3
AVIA 335 Commercial Pilot Flight Training 4
AVIA 336 Advanced Commercial Pilot Flight Training 5
INDS 124 Introduction to Technology 3

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CARPENTRY (Certificate)
A student taking carpentry must complete the following 38 quarter hours and the general studies courses for the certificate program as outlined in this bulletin.

Area Requirements:
DRFT 226 Architectural Drawing 3
INDS 124 Introduction to Technology 3
INDS 151 Foundations and Framing 6
INDS 152 Building Materials and Mechanical Systems 6
INDS 153 Finish Carpentry 6
INDS 221 Wood Products and Processes 2
INDS 398 Machine and Tool Maintenance 1
Electives 11

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

OFFSET COPY PREPARATION (Certificate)
A student taking offset copy preparation must complete the following 38 quarter hours and the general studies courses for the certificate program as outlined in this bulletin.

Area Requirements:
GRPH 154 Principles of Photography 2
GRPH 155 Principles of Photography Laboratory 1
INDS 124 Introduction to Technology 3
PRNT 121 Introduction to Graphic Arts 4
PRNT 221, 222 Offset Lithography 6
PRNT 271, 272, 273 Computer Composition 9
PRNT 295 Printing Layout and Design 3
Electives 10

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.
### PLANT MAINTENANCE (Certificate)

A student taking plant maintenance must complete the following 38 quarter hours and the general studies courses for the certificate program as outlined in this bulletin.

**Area Requirements:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO 134</td>
<td>Internal Combustion Engine Theory</td>
<td>2</td>
</tr>
<tr>
<td>AUTO 135</td>
<td>Internal Combustion Engine Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>DRFT 121</td>
<td>Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>DRFT 226</td>
<td>Architectural Drawing</td>
<td>3</td>
</tr>
<tr>
<td>INDS 124</td>
<td>Introduction to Technology</td>
<td>3</td>
</tr>
<tr>
<td>INDS 134</td>
<td>Gas Welding Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>INDS 135</td>
<td>Arc Welding Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>INDS 137</td>
<td>Gas Welding Theory</td>
<td>1</td>
</tr>
<tr>
<td>INDS 138</td>
<td>Arc Welding Theory</td>
<td>1</td>
</tr>
<tr>
<td>INDS 151</td>
<td>Foundations and Framing</td>
<td>3</td>
</tr>
<tr>
<td>INDS 152</td>
<td>Building Materials and Mechanical Systems</td>
<td>3</td>
</tr>
<tr>
<td>INDS 153</td>
<td>Finish Carpentry</td>
<td>3</td>
</tr>
<tr>
<td>INDS 221, 222</td>
<td>Wood Products and Processes</td>
<td>4</td>
</tr>
<tr>
<td>INDS 241, 243</td>
<td>Fabrication and Machining of Metals</td>
<td>4</td>
</tr>
<tr>
<td>INDS 328</td>
<td>Applied Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

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

### PRINTING (Certificate)

A student taking printing must complete the following 38 quarter hours and the general studies for the certificate program as outlined in this bulletin.

**Area Requirements:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDS 124</td>
<td>Introduction to Technology</td>
<td>3</td>
</tr>
<tr>
<td>PRNT 121</td>
<td>Introduction to Graphic Arts</td>
<td>4</td>
</tr>
<tr>
<td>PRNT 221, 222, 223</td>
<td>Offset Lithography</td>
<td>12</td>
</tr>
<tr>
<td>PRNT 272, 273</td>
<td>Computer Composition</td>
<td>4</td>
</tr>
<tr>
<td>PRNT 295</td>
<td>Printing Layout and Design</td>
<td>3</td>
</tr>
<tr>
<td>PRNT 331</td>
<td>Advanced Halftone Photography</td>
<td>2</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

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

### MINOR IN AVIATION

A student minoring in aviation must complete 30 quarter hours:

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVIA 124</td>
<td>Introduction to Aviation</td>
<td>2</td>
</tr>
<tr>
<td>AVIA 141</td>
<td>Private Pilot Lectures</td>
<td>5</td>
</tr>
<tr>
<td>AVIA 142</td>
<td>Private Pilot Flight Training</td>
<td>3</td>
</tr>
<tr>
<td>AVIA 143</td>
<td>Advanced Private Pilot Flight Training</td>
<td>3</td>
</tr>
<tr>
<td>Electives (3 must be upper division)</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

Approval of aviation adviser required.

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# INDUSTRIAL TECHNOLOGY

## MINOR IN GRAPHIC ARTS
A student minoring in graphic arts must complete 30 quarter hours:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDS 124</td>
<td>Introduction to Technology</td>
<td>3</td>
</tr>
<tr>
<td>GRPH 154</td>
<td>Principles of Photography</td>
<td>2</td>
</tr>
<tr>
<td>GRPH 155</td>
<td>Principles of Photography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>PRNT 221</td>
<td>Introduction to Graphic Arts</td>
<td>3</td>
</tr>
<tr>
<td>PRNT 221, 222, 223</td>
<td>Offset Lithography</td>
<td>9</td>
</tr>
<tr>
<td>PRNT 331</td>
<td>Advanced Halftone Photography</td>
<td>2</td>
</tr>
<tr>
<td>Electives (must have PRNT or GRPH prefix. 1 credit must be upper division.)</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Approval of graphics technology adviser required. 30

## MINOR IN TECHNOLOGY EDUCATION
A student minoring in technology education must complete 30 quarter hours:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRFT 121, 122</td>
<td>Technical Drawing</td>
<td>6</td>
</tr>
<tr>
<td>INDS 124</td>
<td>Introduction to Technology</td>
<td>3</td>
</tr>
<tr>
<td>INDS 221, 222, 223</td>
<td>Wood Products and Processes</td>
<td>6</td>
</tr>
<tr>
<td>INDS 374</td>
<td>Foundations of Technology Education (secondary)</td>
<td>2-3</td>
</tr>
<tr>
<td>INDS 428</td>
<td>Handwork Activities (elementary)</td>
<td>1</td>
</tr>
<tr>
<td>INDS 395</td>
<td>Methods of Teaching Technology</td>
<td>4</td>
</tr>
<tr>
<td>INDS 480</td>
<td>Advanced Practicum in Industrial Technology</td>
<td>1-3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-10</td>
<td></td>
</tr>
</tbody>
</table>

Approval of technology education adviser required. 30

## MINOR IN INDUSTRIAL TECHNOLOGY
A student minoring in industrial technology must complete 30 quarter hours:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRFT 121</td>
<td>Technical Drawing</td>
<td>3</td>
</tr>
<tr>
<td>INDS 124</td>
<td>Introduction to Technology</td>
<td>3</td>
</tr>
<tr>
<td>Electives (3 must be upper division)</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

Approval of industrial technology adviser required. 30

# AUTOMOTIVE (ABOD, AUTO)

## ABOD 164 BASIC BODY REPAIR
Introduction to auto body repair; includes use of basic hand tools, sheet metal design, collision analysis, sheet metal straightening techniques, roughing, bumping and metal finishing operations, techniques in the use of body solder, plastic and Fiberglas; study of the process of heat distortion and metal shrinking. Two lectures per week.

## ABOD 165 BASIC BODY REPAIR LABORATORY
Laboratory study and application of body repair techniques. One laboratory per week or three laboratories per week. Designed primarily for auto body majors. Corequisite: ABOD 164.

## ABOD 175 AUTO BODY REFINISHING
Study of cleaning, surface preparation, masking and priming; includes paint mixing, finish types, spraying techniques, spot painting and complete refinishing. Three lectures per week. Prerequisite: ABOD 164.

## ABOD 176 AUTO BODY REFINISHING LABORATORY
Laboratory study and application of body refinishing techniques. One laboratory per week or three laboratories per week. Prerequisite: ABOD 165. Corequisite: ABOD 175.
ABOD 186 COLLISION REPAIR
Study of the use of tension and power equipment for body straightening and alignment; includes body alignment, sectioning and panel replacement, mechanical and electrical system repairs. Three lectures per week. Prerequisite: ABOD 175.

ABOD 187 COLLISION REPAIR LABORATORY
Laboratory study and application of collision repair techniques. One laboratory per week or three laboratories per week. Prerequisite: ABOD 176. Corequisite: ABOD 186.

ABOD 221 UNIBODY REPAIR
Study and experience in unibody construction and repair techniques using universal and dedicated frame repair equipment. One lecture and three 3-hour laboratories per week. Corequisite or prerequisite: ABOD 165.

ABOD 222 FRAME AND SUSPENSION
Experience in analyzing, gauging and repairing conventional frame and suspension damage. One lecture and three 3-hour laboratories per week. Prerequisite or corequisite: ABOD 176; ABOD 221.

ABOD 223 SALVAGE REBUILDING
Study of buying, rebuilding and selling wrecked vehicles. One lecture per week. Prerequisite or corequisite: ABOD 187, ABOD 222.

ABOD 324 BODY-SHOP OPERATION AND ESTIMATING
Study of procedure for evaluating damage and writing collision damage estimates; includes methods of shop operation and management and dealing with insurance adjustments. Three lectures per week. Prerequisite: AUTO 186. Recommended: MGMT 275.

ABOD 328 APPLIED AUTO BODY
A work contract providing experience in bidding, managing, and body repair operations. Corequisite: ABOD 324.

AUTO 114 INTRODUCTION TO AUTO MECHANICS
Study of the automobile with emphasis on general maintenance and service procedures. Specifically designed for the individual 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
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.

AUTO 135 INTERNAL COMBUSTION ENGINE LABORATORY
Laboratory study of engine components through disassembly, inspection, measurement, servicing and reassembly of engines. Corequisite: AUTO 134.

AUTO 145 POWER TRAIN THEORY
Study of the automotive power train system with emphasis on proper procedures in diagnosis, servicing and repair. Two lectures per week.

AUTO 146 POWER TRAIN LABORATORY
Laboratory study and application of technical information and skills required to diagnose, service, adjust and perform test procedures on hydraulic brakes, air brakes, clutch assemblies, bearings, transmissions, auxiliary units, transfer cases, drive lines, universal joints and final drive assemblies. Corequisite: AUTO 145.

AUTO 156 FUEL AND ELECTRICAL SYSTEMS THEORY
Study of principles of fuel metering and induction/injection for spark-ignited and compression-ignited engines; electrical systems topics include the study of the operating principles, diagnosis, service, adjustment and test procedures for automotive charging, cranking and ignition systems. Two lectures per week.

AUTO 157 FUEL AND ELECTRICAL SYSTEM LABORATORY
Laboratory study and application of technical information and skills required to diagnose, service and adjust carburetion and injection fuel systems, automotive charging, cranking and ignition systems. Corequisite: AUTO 156.

AUTO 286 ENGINE REBUILDING LABORATORY
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; AUTO 135.
AUTO 314 ENGINE DIAGNOSIS AND TUNE-UP
Study of logical diagnosis and troubleshooting techniques as applied to engine repair and tune-up. Theory and operation of emission control systems. Emphasizes use of electronic instrumentation as a diagnostic tool. Two lectures per week. Prerequisites: AUTO 134; AUTO 135; AUTO 156; AUTO 157. Corequisite: AUTO 315.

AUTO 315 ENGINE DIAGNOSIS AND TUNE-UP LABORATORY
1, 2; 2 Laboratory study and application of diagnostic principles in troubleshooting repairs and tune-up automotive engines; includes experience with the Sun Road-A-Matic (a computerized dynamometer) and the Sun Model 1115 Performance Analyzer. Corequisite: AUTO 314.

AUTO 345, 346 AUTOMOTIVE SERVICE
2, 2 Study of automotive service operation as related to auto air conditioning, the power train, brake systems, suspension and wheel alignment and general services. Two lectures per week. Prerequisites: AUTO 145; AUTO 146 or equivalent. Corequisites: AUTO 347, 348.

AUTO 347, 348 AUTOMOTIVE SERVICE LABORATORY
1-2; 2, 1-2; 2 Laboratory study and application of automotive service techniques; includes a broad range of "live" service experiences. Corequisites: AUTO 345, 346.

AUTO 365 DIESEL ENGINES
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; AUTO 157. AUTO 286 recommended.

AUTO 366 COMPUTERIZED ENGINE CONTROLS
3 A study of microprocessor engine control systems used on late model GM, Ford, Chrysler, and American Motors gasoline engines. Prerequisite: AUTO 315 or permission of instructor.

AVIATION (AVIA)

AVIA 124 INTRODUCTION TO AVIATION
2 Study of aviation history and the development into the National Air Transportation System. Seventh-day Adventist uses and needs in the field of aviation with an introduction to the mission flying program of the church.

AVIA 141 PRIVATE PILOT LECTURES
5 Study of basic concepts of aircraft performance, navigation, principles of flight and meteorology; includes interpretation and application of Federal Aviation Regulations, uses of airman's publications and services.

AVIA 142 PRIVATE PILOT FLIGHT TRAINING
3 Study of flight and ground procedures to prepare the student through solo flight to pre-cross country flight maneuvers.

AVIA 143 ADVANCED PRIVATE PILOT FLIGHT TRAINING
3 Study of and directed solo practice in advanced private pilot maneuvers, night flying and cross country flight; preparation to meet the requirements of the Private Pilot flight test and to qualify for the private certificate.

AVIA 234 METEOROLOGY AND COMMERCIAL PILOT LECTURES
5 Study of the atmosphere, winds, moisture, temperature, air masses and fronts, and weather forecasting with emphasis on aviation weather; includes advanced navigation procedures, commercial pilot maneuvers, airports and charts and advanced aircraft systems; prepares the student to take the FAA Commercial Airplane written examination.

AVIA 256 PRINCIPLES OF AIRCRAFT MAINTENANCE
3 Study of the routine maintenance and inspections that can be performed by the pilot.

AVIA 260 PRE-INSTRUMENT PILOT FLIGHT TRAINING
4 Study of advanced piloting techniques in cross-country flying and navigation, advanced aircraft systems, and operations.

AVIA 261 INSTRUMENT PILOT LECTURES
5 Study of aerodynamics, performance, weight and balance, meteorology and computer usage especially as they apply to instrument flight; detailed study of IFR charts, regulations and procedures.
AVIA 262 INSTRUMENT PILOT FLIGHT TRAINING
Study of the fundamentals of basic instrument flight, navigation and approach procedures.

AVIA 263 ADVANCED INSTRUMENT PILOT FLIGHT TRAINING
Study of advanced instrument maneuvers, cross-country procedures, and composite instrument operations; prepares the student to meet the requirements of the instrument flight test.

AVIA 335 COMMERCIAL PILOT FLIGHT TRAINING
Study of procedures in cross-country flying and night operations.

AVIA 336 ADVANCED COMMERCIAL PILOT FLIGHT TRAINING
Training to develop a superior pilot by perfecting coordination, judgment and flying ability. Prepares student for the commercial flight test.

AVIA 357 FLIGHT INSTRUCTOR — AIRPLANE LECTURES
Study of the fundamentals of instructing and the analysis and performance of maneuvers; concepts of aircraft performance and the interpretation and application of pertinent FAA regulations; prepares the student to pass the Federal Aviation Administration (FAA) Flight Instructor written examination.

AVIA 358 FLIGHT INSTRUCTOR — AIRPLANE FLIGHT TRAINING
Study of the standards for acceptable performance for the Federal Aviation Administration Flight Instructor.

AVIA 457 FLIGHT INSTRUCTOR — INSTRUMENT LECTURES
Study of the fundamentals of instrument instruction; prepares the student to pass the Federal Aviation Administration (FAA) Flight Instructor Instrument written examination.

AVIA 458 FLIGHT INSTRUCTORS — INSTRUMENT FLIGHT TRAINING
Study of the standards for acceptable performance for the FAA Flight Instructor Certificate (instrument rating).

DRAFTING (DRFT)

DRFT 121, 122 TECHNICAL DRAWING
Introduction to technical drawing; includes care and use of instruments, technical sketching, geometry, orthographic, auxiliary and sectional views, production drawings, pictorial views and developments and intersections; application to practical problems with emphasis on visualization and analysis. Must be taken in sequence. One lecture and six laboratory hours per week.

DRFT 226 ARCHITECTURAL DRAWING
Study of the fundamentals of designing and drawing house plans including architectural drafting techniques, area planning, floor plans, elevations, sections, schedules and specifications. One lecture and six laboratory hours per week.

DRFT 236 ELECTRICAL AND ELECTRONIC DRAWING
Study of the basic concepts and techniques of delineation of electrical and electronic circuits; includes schematics, assembly drawings, production illustrations, printed circuitry, interconnection diagrams, graphs and charts. One lecture and six laboratory hours per week. Offered alternate years.

ELECTRONICS (ELCT)

ELCT 241 FUNDAMENTALS OF ELECTRONICS
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. Four lectures and one laboratory per week.

ELCT 242 ELECTRONIC CIRCUIT ANALYSIS
Study of complex AC and DC circuits including RC and RL time constants, reactance, impedance, thevenins, and Norton's theorems, with an introduction to resonant and filter circuits. Four lectures and one laboratory per week. Prerequisite: ELCT 241.

ELCT 252, 253 SOLID STATE DEVICES AND CIRCUITS
Introduction to solid-state devices, analytical and graphical analysis of diode characteristics and diode circuit applications; includes three-terminal solid-state devices, concept of amplifica-
tion, switching, biasing and graphical analysis; analysis of AC small and large signal conditions, bias stability, use of load lines in amplifier analysis and design; introduction to integrated circuits. Three lectures and one laboratory per week. Prerequisite: ELCT 241. Prerequisite or corequisite: ELCT 242.

ELCT 263 COMMUNICATION CIRCUITS 4
Study of AM, FM and single-sideband receiver systems, including resonant circuits, power supplies, A.F. and R.F. amplifiers, oscillators, and demodulators with an introduction to AM and FM transmitters. Three lectures and one laboratory per week. Prerequisite: ELCT 253.

ELCT 297, 298 ELECTRONICS FABRICATION 1, 1
Individualized study in the techniques of electronics fabrication including chassis construction, printed circuit board construction and electronic packaging. One laboratory per week. May enroll in ELCT 297 and ELCT 298 concurrently. Prerequisite: ELCT 241.

ELCT 326 HOSPITAL SAFETY 2
Study of codes and regulations pertaining to hospital safety; equipment and techniques involved in leakage current test, conductivity testing in operating rooms, testing of pressure safety devices, radiation safety devices, radiation safety checks and the correct handling of explosive gases. Prerequisites: ELCT 253; ELCT 332.

ELCT 331, 332 MEDICAL ELECTRONICS 5, 5
Study of the use, calibration and maintenance of electromechanical equipment used in the diagnostic and therapeutic phases of medicine and the clinical laboratory; includes patient care and monitoring equipment, cardiovascular measurements, measurements of physical variables, biotelemetry and computer applications in medicine. Four lectures and one laboratory per week. Prerequisites: ELCT 253; BIOL 202.

ELCT 361 LINEAR INTEGRATED CIRCUITS 5
Applications of linear integrated circuits including I.C. fabrication, differential amplifiers, operational amplifiers, voltage regulators, and special purpose linear I.C. devices. Four lectures and one laboratory per week. Prerequisite: ELCT 253.

ELCT 362 DIGITAL INTEGRATED CIRCUITS 5
Study of basic principles and applications of digital I.C.'s; includes characteristics of logic families, and application of I.C. gates, clocks, counter, registers, displays and memories. Laboratory emphasizes application of I.C. devices commonly used in industry. Four lectures and one laboratory per week. Prerequisite: ELCT 253.

ELCT 363 RADIO COMMUNICATIONS 4
Study of AM and FM transmitting systems including antennas, wave propagation, AM and FM modulations with an introduction to microwave and radar systems. Special emphasis will be placed on preparing the student to obtain the FCC general radio telephone operator's license. Three lectures and one laboratory per week. Prerequisite: ELCT 263. Offered alternate years.

ELCT 372 COMPUTER CIRCUITS AND SYSTEMS 4
Study of theory and application of digital and analog systems; includes computer circuitry, interface devices and physical systems control. Laboratory emphasizes construction and troubleshooting techniques. Four lectures and one laboratory per week. Prerequisite: ELCT 362.

ELCT 381, 382 TELEVISION SYSTEMS AND CIRCUITS 4, 4
Study of television transmission principles, the theory and operation of monochrome and color television receiver circuits, community antenna television systems and closed-circuit television systems; emphasizes the use of logical systems and circuit analysis techniques in troubleshooting. Must be taken in sequence. Two lectures and one laboratory per week. Prerequisite: ELCT 253.

ELCT 393 COMPUTER TROUBLESHOOTING 4
Study of computer troubleshooting techniques and tools including probes and current tracers, logic analyzers, signature analyzers, and in-circuit emulators. Three lectures and one laboratory per week. Prerequisite: CPTR 215; ELCT 372. Offered alternate years.

ELCT 421 MICROPROCESSOR INTERFACING 4
Study of techniques and devices used to interface microprocessors to memory and input output devices. Includes serial and parallel interfaces and A to D and D to A conversion. Three lectures and one laboratory per week. Prerequisite: ELCT 363. Offered alternated years.

ELCT 472 APPLICATION OF ROBOTICS 3
Introduction to the application of robotics; includes industrial applications, robot anatomy, arm geometry, end-of-arm tooling, drive mechanisms, feedback systems, electronic sensors and
MICROPROCESSORS FOR CONTROL AND SENSING. TWO LECTURES AND ONE LABORATORY PER WEEK. PREREQUISITE: ELCT 372.

ELCT 490 DIRECTED HOSPITAL EXPERIENCE 16
FULL-TIME WORK EXPERIENCE WITH SUPPLEMENTARY TRAINING IN THE BIOMEDICAL ELECTRONICS DEPARTMENT OF AN APPROVED HOSPITAL; TAKEN ONLY AFTER COMPLETION OF ALL COURSE WORK REQUIRED FOR THE BIOMEDICAL ELECTRONICS PROGRAM. APPLICATION MUST BE MADE DURING THE FIRST TWO WEEKS OF THE QUARTER PRIOR TO THE ACTUAL FIELD EXPERIENCE.

GRAPHICS (GRPH)

GRPH 154 PRINCIPLES OF PHOTOGRAPHY 2
STUDY OF THE BASIC PRINCIPLES OF COLOR AND BLACK-AND-WHITE PHOTOGRAPHY; INCLUDES THEORY AND PRACTICE OF EXPOSURE, DEVELOPMENT, CONTACT PRINTING AND ENLARGING AND STUDY OF VARIOUS TYPES OF EQUIPMENT.

GRPH 155 PRINCIPLES OF PHOTOGRAPHY LABORATORY 1
LABORATORY EXPERIENCE WITH PHOTO COMPOSITION, CAMERA OPERATION, PRINTING, ENLARGING AND PROCESSING OF MONOCHROMATIC MEDIUMS. LIMITED ENROLLMENT. 35MM. CAMERA REQUIRED. PREREQUISITE OR COREQUISITE: GRPH 154.

GRPH 355 ADVANCED PHOTOGRAPHY 3
STUDY OF ADVANCED TECHNIQUES IN PHOTOGRAPHY; INCLUDES LIGHTING, PHOTO-CHEMISTRY, OPTICS, PHOTO ACCESSORIES, PRINTING, ENLARGING AND PROCESSING OF CHROMATIC AND MONOCHROMATIC MEDIUMS, IN-CAMERA MANIPULATIONS, DARKROOM MANIPULATION, FINISHING PRESENTATION TECHNIQUES. TWO LECTURES AND ONE LABORATORY PER WEEK. PREREQUISITES: GRPH 154; GRPH 155.

GRPH 358 PHOTO ASSIGNMENTS 1
INDIVIDUALIZED ASSIGNMENTS TO PROVIDE A VARIETY OF EXPERIENCE IN COMMERCIAL AND PUBLICATION PHOTOGRAPHY, EMBODYING SHOOTING, PROCESSING AND FINISHING BLACK AND WHITE PRINTS. ONE LABORATORY PER WEEK. PREREQUISITE: GRPH 355 OR EQUIVALENT.

INDUSTRIAL CRAFTS (INCR)

INCR 126 BOOKBINDING 2
INTRODUCTION TO THE ART AND CRAFT OF BOOKBINDING; PROVIDES A COMPREHENSIVE KNOWLEDGE OF THE STEPS IN THE PROCESS OF REBINDING BOOKS AND ALLIED CRAFTS. ONE LECTURE AND ONE LABORATORY PER WEEK.

INCR 224 ART METALS 2
INTRODUCTION TO THE USE OF SEMIPRECIOUS METALS TO DEVELOP SKILLS IN METAL SPINNING AND CRAFT WORK IN COPPER, BRASS, ALUMINUM AND PEWTER WITH PROCESSES APPLIED TO PROJECTS OF PRACTICAL VALUE AND ARTISTIC MERIT. ONE LECTURE AND ONE LABORATORY PER WEEK.

INCR 225 PLASTICS 2
INTRODUCTION TO A VARIETY OF OPERATIONS IN PLASTICS INVOLVING TECHNICAL INFORMATION AND EXPERIMENTATION IN FUNDAMENTAL MANUFACTURING PROCESSES. ONE LECTURE AND ONE LABORATORY PER WEEK.

INCR 226 LEATHERS 2
INTRODUCTION TO LEATHER WORKING INCLUDING TOOLING, CARVING, STAMPING, LACING, MODELING, FORMING AND FINISHING. ONE LECTURE AND ONE LABORATORY PER WEEK.

INCR 227 CERAMICS 2
INTRODUCTION TO RECREATIONAL CERAMICS INVOLVING HANDBUILDING, SLIP CASTING, CLEANING AND FINISHING GREENWARE, AND LOADING AND FIRING KILNS. W OR S

INCR 264 SCREEN PRINTING 2
INTRODUCTION TO SCREEN PRINTING INCLUDING VARIOUS METHODS OF STENCIL PREPARATION, TYPES OF MATERIALS USED AND PREPARATION OF EQUIPMENT. ONE LECTURE AND ONE LABORATORY PER WEEK.
INDS 386 OIL HYDRAULICS
Study of the principles of pressure and flow; includes operation of basic hydraulic components, how the various components perform, fundamental hydraulic equipment design, and use and maintenance.

INDS 395 METHODS OF TEACHING TECHNOLOGY
Methods of systematic course preparation including analysis of course of study outline, relation of lesson units, and methods unique to technology education.

INDS 398 MACHINE AND TOOL MAINTENANCE
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.

INDS 428 HANDWORK ACTIVITIES
Study of handwork activities as applied to the elementary grades and recreational activities; emphasizes methods of application, materials and processes.

INDS 436 PRODUCTION PROCESSES
Study of quantitative decision-making techniques and management functions, especially planning and control, in repetitive manufacturing operations. Setting labor and material standards, methods-time analysis, scheduling, materials handling, inventory and quality control. Prerequisite: IND 124.

INDS 480 ADVANCED PRACTICUM IN INDUSTRIAL TECHNOLOGY
Laboratory work in a technology area or laboratory supervision experience chosen in consultation with the supervising laboratory instructor. Six credits maximum. One 3-hour laboratory per week per credit. Prerequisite: Lower division work in chosen area.

INDS 490 COOPERATIVE STUDY PROGRAM
Open to students who have completed courses in industrial technology and wish to develop proficiency beyond the scope of the laboratory experience. The course will consist of a systematic study contract with periodic job-site visits by the departmental supervisor. Admission only by permission of the department chair. Application must be made during the first two weeks of the quarter immediately preceding the cooperative study program.

INDS 494 COOPERATIVE EDUCATION
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; CDEV 210 or permission of Cooperative Education Director.

INDS 499 SENIOR PROBLEM
A departmental comprehensive experience consisting of a written and performance examination, or an appropriate experiment requiring research and a technical report, or a special project. The type of experience is selected by the student in consultation with the adviser and approved by the department chair. A proposal contract must be presented by the time the senior outline is submitted. Required of all Bachelor of Science majors.

PRINTING (PRNT)

PRNT 121 INTRODUCTION TO GRAPHIC ARTS
Introduction to the principal methods of printing. Provides a background in composition, typographical design, camera work, plate production and simple presswork. Two lectures and one or two laboratories per week. (The second laboratory involves industrial observation.)

PRNT 221, 222, 223 OFFSET LITHOGRAPHY
Introduction to copy preparation, offset photography, image assembly, plate making and presswork. Two lectures and one laboratory per week. Two lectures and two laboratories per week intended primarily for certificate programs. Prerequisite or corequisite: PRNT 121.

PRNT 271, 272, 273 COMPUTER COMPOSITION
Study of the operation of computerized phototypesetting machines. One lecture and one laboratory per week. One lecture and two laboratories per week intended primarily for certificate programs. Prerequisite or corequisite: PRNT 121 or equivalent. Also must be able to demonstrate a typing proficiency of at least 40 words per minute.
PRNT 295 PRINTING LAYOUT AND DESIGN  3
Study of the basic principles of design as applied to composition, layout and arrangement in printing. Lectures, demonstrations and assigned individual and group projects. Prerequisite: PRNT 121.

PRNT 326 PRINTING ESTIMATING  3
Study of supplies, inventory control, pricing and estimating as applied to a commercial printing plant. Both manual and computer-based methods are used. Prerequisite: PRNT 271. Offered alternate years.

PRNT 331 ADVANCED HALFTONE PHOTOGRAPHY  2
Study of special techniques of making quality halftones; emphasizes such variables as picture type, quality and printing paper; includes techniques of posterization and the making of duotones. One lecture and one laboratory per week. Prerequisite: PRNT 223.

PRNT 421, 422 COLOR SEPARATIONS  3, 3
Advanced study in lithographic printing with emphasis on fake color and process color separations and color press work. Two lectures and one laboratory per week. Prerequisite: PRNT 223 or equivalent. Offered alternate years.
Interdisciplinary Programs
INTERDISCIPLINARY PROGRAMS

BIOPHYSICS
C. Barnett (Physics), R. Carter (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.

MAJOR IN BIOPHYSICS (Bachelor of Science)
A student majoring in biophysics must complete 33 quarter hours in biology and 36 quarter hours in physics, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Graduate Record Examination in physics and biology is required. One summer term at the Marine Station is required.

<table>
<thead>
<tr>
<th>Biology Requirements:</th>
<th>General Biology</th>
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<tbody>
<tr>
<td>BIOL 101, 102, 103</td>
<td>Research Methods I</td>
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<tr>
<td>BIOL 251</td>
<td>Genetics</td>
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<td>or</td>
<td>Developmental Biology</td>
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<tr>
<td>BIOL 266</td>
<td>Cell Physiology</td>
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<td>Animal Physiology</td>
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<td>or</td>
<td>Plant Physiology</td>
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<td>BIOL 401</td>
<td>Comparative Physiology</td>
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<td>BIOL 468</td>
<td>Research Methods II, III, IV</td>
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<td>BIOL 352, 353, 354</td>
<td>General Ecology</td>
<td>4</td>
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<tr>
<td>BIOL 455</td>
<td>Research Methods V</td>
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<td>BIOL 495</td>
<td>Colloquium*</td>
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*Required each quarter of juniors and seniors while in residence. 33-34

<table>
<thead>
<tr>
<th>Physics Requirements:</th>
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<tr>
<td>PHYS 114</td>
<td>Introduction to Experimentation</td>
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<td>PHYS 115, 116</td>
<td>Principles of Physics</td>
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<td>PHYS 251, 252, 253</td>
<td>Principles of Physics Laboratory</td>
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<td>PHYS 254, 255, 256</td>
<td>Modern Physics</td>
<td>3</td>
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<tr>
<td>PHYS 311</td>
<td>Thermodynamics</td>
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<tr>
<td>PHYS 313</td>
<td>Modern Physics Laboratory</td>
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<td>PHYS 316</td>
<td>Optics Laboratory</td>
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<td>PHYS 317, 318, 319</td>
<td>Physics Seminar I</td>
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<td>PHYS 321, 322</td>
<td>Optics</td>
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<td>PHYS 417, 418, 419</td>
<td>Physics Seminar II</td>
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</table>
INTERDISCIPLINARY PROGRAMS

Cognates:
CHEM 141, 142, 143 General Chemistry 9
CHEM 144, 145, 146 General Chemistry Laboratory 3
CHEM 321, 322, 323 Organic Chemistry 12
CHEM 324, 325, 326 Microscale Organic Laboratory

or
CHEM 351, 352, 353 Physical Chemistry
CHEM 354, 355, 356 Physical Chemistry Laboratory

CPTR 124 Introduction to BASIC 2-4

or
CPTR 134 Introduction to Computing (FORTRAN)

or
CPTR 141 Introduction to Programming (Pascal) 3

and

CPTR 374 Simulation and Modeling 5-7

and

ENGR 228 Circuit Analysis

or

ENGR 325 Instrumentation

and

ENGR 228 Circuit Analysis 16

or

CPTR 331 Computers in the Laboratory 4

or

BIOL 470 Marine Biophysics
MATH 181, 281-283 Analytic Geometry and Calculus I-IV 4
MATH 315 Probability and Statistics

COOPERATIVE EDUCATION
S. Hernandez, Director

In selected programs, students may blend their academic study with career-related, paid, productive employment in business, industry, government, or social agencies. Field placements in various cities of the Northwest are arranged through the Director of Cooperative Education. Placements are for either full or part-time work; duration of appointments is typically for one quarter. Pay rates vary. Supervision and evaluation are the joint responsibility of a professor from the student’s major field of study, the Director of Cooperative Education, and the employment supervisor.

Participants in the Cooperative Education Program may also enjoy a significant financial advantage. Many of the usual costs of education cease or are reduced during the cooperative education experience, and the rates of pay often are quite attractive. Students wanting further information about placement in cooperative education should get in touch with the Director of the Career Development Center. Further information is also available from chairs of participating academic departments.

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.
INTERDISCIPLINARY PROGRAMS

CAREER DEVELOPMENT (CDEV)

CDEV 210 CAREER PREPARATION
Development of appropriate work skills and attitudes required for success in the work place. Includes resume writing, interviewing techniques, job search skills, and development of positive work habits and attitudes.

HUMANITIES

Chair, B. Beem (English), R. Czeratzki (Modern Languages), R. Blaich (History), D. Shultz (Music).

The humanities major is an interdisciplinary program designed for those who especially enjoy the themes and values of the humanities — in history, the visual arts, music, philosophy and literature — and who wish to tailor their major to meet their interests. It provides a content area for those interested in teaching at the secondary level and a second major for those wanting to teach in elementary school. The humanities major also is an excellent major for preprofessional students, especially those planning to study business, medicine or law.

MAJOR IN HUMANITIES (Bachelor of Arts)
A student majoring in humanities must complete the core requirements, the required cognates, one concentration which must be chosen in consultation with the humanities adviser and the chair of the specific area, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Core Requirements:
- ART 251: Introduction to Art
- ENGL 205: American Literature
- ENGL 206: English Literature
- ENGL 207: World Literature
- ENGL: One upper-division literature course
- HIST 120, 121, 122: History of Western Civilization
- HIST 465: Renaissance and Reformation
- HMNT 496: Seminar in Humanities
- MUHL 124: Introduction to Music
- PHIL 205: Introduction to Philosophy

Cognates:
- ANTH 225: Cultural Anthropology

or
- SOCI 454 (PLSC 454; PHIL 454): Western Political and Social Thought
- BIOL 407: Philosophy of Science

or
- ENVI 385: Environment and Man
- PSYC 444: Social Psychology

or
- PSYC 446: Psychology of Personality

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RELH 403  World Religions    
or
RELT 412  Philosophy of Religion

CONCENTRATION: English
ENGL 234  Literary Analysis and Criticism  3
ENGL 235  Literary History and Research  3
ENGL 445  Shakespeare  3
ENGL 455  Classical Backgrounds  3
ENGL  Upper-division literature  8

CONCENTRATION: Fine Arts (8 quarter hours must be upper division)
ART 321, 322, 323  History of Art (recommended)
or
MUHL 321, 322, 323  History of Music  20
(Four quarter hours may be taken in music performance and studio art)

CONCENTRATION: History (12 quarter hours must be upper division)
HIST 221, 222  History of the United States  8
HIST 457  Social and Intellectual History of the United States (recommended)
PLSC 454  Western Political and Social Thought (recommended)  4
PLSC 455  Western Political and Social Theory (recommended)  4

CONCENTRATION: Modern Languages
FREN 301, 302, 303  Survey of French Literature
FREN 407  17th and 18th Century French Literature
FREN 408  19th Century French Literature
FREN 409  20th Century French Literature
or
GRMN 311, 312, 313  Survey of German Literature  15-20
GRMN 421  18th Century German Literature
GRMN 422  19th Century German Literature
GRMN 423  20th Century German Literature
or
SPAN 324, 325, 326  Survey of Spanish Literature
SPAN 424, 425, 426  Contemporary Spanish Literature
SPAN 431, 432, 433  Survey of Latin-American Literature
FREN 307  French Culture and Civilization
or
GRMN 314, 315  German Civilization  0-6
or
SPAN 331  Spanish-American Culture and Civilization
INTERDISCIPLINARY PROGRAMS

CONCENTRATION: Philosophy
PHIL 206 Introduction to Logic
PHIL 305 Moral Philosophy
PHIL 306, 307 History of Philosophy
PHIL 407 Philosophy of Science
PHIL 412 Philosophy of Religion
PHIL 440 Problems in Philosophy
PHIL 454 Western Political and Social Thought

HUMANITIES (HMNT)

HMNT 496 SEMINAR IN HUMANITIES 3
Study of interdisciplinary topics in humanities; includes problems in areas of special interest to class members and group conferences and reports.

MEDICAL TECHNOLOGY
W. Innis Whitehouse, Academic Adviser.

The major in medical technology involves three years of preclinical education on the Walla Walla College campus and 12 months of additional education in an accredited clinical laboratory. Upon completion of the fourth year, the student may receive a Bachelor of Science degree from Walla Walla College. Presently, Walla Walla College does not have a specific affiliation with an accredited clinical training program. Students may apply to programs of their choice in the United States and Canada.

Applicants to schools of medical technology are selected on the basis of such qualities as scholarship, integrity, dependability and motivation for medical technology. To be competitive, an applicant for the clinical program should have a minimum grade-point average of 2.70. Above-average academic achievement in preclinical chemistry courses is especially significant.

MAJOR IN MEDICAL TECHNOLOGY (Bachelor of Science)

A student majoring in medical technology must complete 144 quarter hours of interdisciplinary courses including the general studies requirements for the baccalaureate degree as outlined in this bulletin (30 quarter hours must be upper division), in addition to a 12-month (48 quarter hours) clinical experience.

BIOL 101, 102, 103 General Biology 12
BIOL 222 Microbiology 5
or
*BIOI 465 Bacteriology 5
BIOL 201, 202 Anatomy and Physiology 8
or
*BIOI 392 Cell Physiology 5
and
*BIOI 393 Animal Physiology 5
CHEM 141, 142, 143 General Chemistry 9
CHEM 144, 145, 146 General Chemistry Laboratory 3
CHEM 264 Chemical Equilibrium and Analysis 4
CHEM 265 Analytical Instrumental Methods 1
INTERDISCIPLINARY PROGRAMS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHEM 321, 322, 323</td>
<td>Organic Chemistry</td>
<td>9</td>
</tr>
<tr>
<td>CHEM 324, 325, 326</td>
<td>Microscale Organic Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>MATH 121, 122</td>
<td>Fundamentals of Mathematics</td>
<td>4-8</td>
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<tr>
<td>or MATH 181</td>
<td>Analytic Geometry and Calculus I</td>
<td>9</td>
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<tr>
<td>PHYS 211, 212, 213</td>
<td>General Physics</td>
<td>3</td>
</tr>
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<td>PHYS 214, 215, 216</td>
<td>General Physics Laboratory</td>
<td>4</td>
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<tr>
<td>PSYC 130</td>
<td>General Psychology</td>
<td>4</td>
</tr>
</tbody>
</table>

*Prerequisites for the upper division courses are described in the Biology section of this bulletin.

The following course is highly recommended:
BIOL 466 Immunology 4

MEDICAL TECHNOLOGY AND CLINICAL CHEMISTRY
W. Innis Whitehouse, Academic Adviser.

MAJOR IN MEDICAL TECHNOLOGY and CLINICAL CHEMISTRY
(Bachelor of Science)

A student majoring in clinical chemistry and medical technology must complete 144 quarter hours of interdisciplinary courses (30 quarter hours must be upper division). Students will share the results of reading and research through formal courses as listed below, and the general studies program for the baccalaureate degree as outlined in this bulletin in addition to a 12-month (48 quarter hours) clinical experience.

<table>
<thead>
<tr>
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<td>and *BIOL 393</td>
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<td>General Chemistry</td>
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<td>CHEM 264</td>
<td>Chemical Equilibrium and Analysis</td>
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<td>CHEM 265</td>
<td>Analytical Instrumental Methods I</td>
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<td>CHEM 321, 322, 323</td>
<td>Organic Chemistry</td>
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<td>CHEM 324, 325, 326</td>
<td>Microscale Organic Laboratory</td>
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<td>CHEM 351, 352, 353</td>
<td>Physical Chemistry</td>
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<td>CHEM 354, 355, 356</td>
<td>Physical Chemistry Laboratory</td>
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<td>MATH 121, 122</td>
<td>Fundamentals of Mathematics</td>
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<td>MATH 181, 281</td>
<td>Analytic Geometry and Calculus I, II</td>
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<td>PHYS 211, 212, 213</td>
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<td>PHYS 214, 215, 216</td>
<td>General Physics Laboratory</td>
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</tr>
</tbody>
</table>

*Prerequisites for the upper division courses are described in the Biology section of this bulletin.
PHILOSOPHY

H. Phillips, Chair; C. Barnett, G. Greenwalt, G. Schoepflin.

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.

MINOR IN PHILOSOPHY

A student minoring in philosophy must complete 28 quarter hours.

PHIL 205 Introduction to Philosophy 4
Electives (4 must be upper division) 24

Approval of philosophy adviser required.

28

PHILOSOPHY (PHIL)

PHIL 205 INTRODUCTION TO PHILOSOPHY 4
Nature and place of philosophy in human thought; its traditional as well as its more recent concerns and approaches. (Readings from selected writings classical — and other — and practice in language analysis).

PHIL 206 INTRODUCTION TO LOGIC 4
Inquiry into the nature of argument, inference, proof, etc., and practice with formal and symbolic structures.

PHIL 305 MORAL PHILOSOPHY 4
A philosophical investigation of major moral concepts such as duty, the good, the right, the just and their application to problems concerning the individual and society. Readings will include the works of moral philosophers, both ancient and modern. Prerequisites: PHIL 205 or 206 or permission of instructor.

PHIL 306, 307 HISTORY OF PHILOSOPHY 4, 4
Fall quarter: historical study of major philosophers and philosophical movements from the Pre-Socratics to Modern Philosophy. Winter quarter: modern philosophers since Descartes. Prerequisite: PHIL 205.

PHIL 407 PHILOSOPHY OF SCIENCE (or BIOL 407) 4
See the Biology section of this bulletin.

PHIL 412 PHILOSOPHY OF RELIGION (or RELT 412) 4
See the Religion section of this bulletin.

PHIL 440 PROBLEMS IN PHILOSOPHY 4
A critical study of selected philosophers and their distinctive contributions to philosophical thought. Prerequisite: PHIL 205, 206.

PHIL 454 WESTERN POLITICAL AND SOCIAL THOUGHT (or PLSC 454; SOCI 454) 4
See the History section of this bulletin.

TEACHING LEARNING CENTER

__________, Director.

The Teaching Learning Center offers tutoring to all students enrolled in Walla Walla College. It offers free help in its business, math, modern languages, reading, science and writing centers. The business center offers help to students enrolled in accounting. The math center helps students enrolled in math classes and students needing to improve their skills before enrolling in math and science courses. The modern languages center helps students enrolled in French, German and Spanish. It also offers practical advice and conversation practice to students who will be enrolling in a foreign college. The reading center offers help with reading speed and comprehen-
sion, spelling, and study skills. The science center offers help to biology, chemistry, physics and computer science students. And the writing center offers help to all college students in developing grammar and writing skills and in research and essay writing. Private tutoring is available in all areas for a small fee.

READING (RDNG)

RDNG 100 DEVELOPMENTAL READING 2, 2, 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.
LIBRARY SCIENCE

E. Mabley, Chair; M. Copsey, C. Gaskell, V. Hassell, L. Johnston.

The minor in library science is designed to provide the knowledge basic to the organization and management of learning resource centers in elementary and secondary schools, to provide training preparatory to employment as a library technician, or to provide a preprofessional curriculum as preparation for graduate work in library science.

MINOR IN LIBRARY SCIENCE
A student minoring in library science must complete 30 quarter hours:

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<td>Introduction to Library Resources</td>
<td>2</td>
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<td>LIBR 232</td>
<td>Information Resources</td>
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<tr>
<td>LIBR 261</td>
<td>Cataloging and Classification</td>
<td>4</td>
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<td>LIBR 385</td>
<td>Selection and Acquisition of Library Materials</td>
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In addition to courses from the department, electives may be selected from the following:

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<tbody>
<tr>
<td>ENGL 375</td>
<td>Literature in the Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>INCR 126</td>
<td>Bookbinding</td>
<td>2</td>
</tr>
<tr>
<td>SPCH 211</td>
<td>Oral Interpretation</td>
<td>3</td>
</tr>
</tbody>
</table>

LIBRARY SCIENCE (LIBR)

LIBR 111  INTRODUCTION TO LIBRARY RESOURCES  2
Introduction to libraries and how to use their resources effectively for research purposes; a survey of procedures for the systematic search for information; provides opportunity for students to emphasize the bibliography of their major or minor.

LIBR 232  INFORMATION RESOURCES  3
Introduction to the evaluation and use of formal resource materials in meeting the information and educational needs of a library clientele; analysis of concepts and principles of bibliographic organization and control. Prerequisite: LIBR 111.

LIBR 261  CATALOGING AND CLASSIFICATION  4
Introduction to principles, techniques and practices of cataloging and classifying materials for use in instructional materials centers. Laboratory required.

LIBR 288  STORYTELLING  2
Study of the place of storytelling in the educational process; selection, preparation and presentation of diversified materials.

LIBR 374  LIBRARY MATERIALS FOR CHILDREN  3
An overview study of library materials for children; designed to develop the ability to choose library materials according to the child's needs, interests and abilities; includes extensive reading/listening/viewing and sharing of children’s learning resources from numerous subject areas. Same as ENGL 374.

LIBR 385  SELECTION AND ACQUISITION OF LIBRARY MATERIALS  3
Study of materials selection criteria and policies, overview of the process of building and maintaining library collections, appraisal of current and retrospective selection tools and review media, survey of current publishing world, study of library acquisition procedures, and techniques of handling censorship.

194
LIBR 395 METHODS OF LIBRARY INSTRUCTION  
Techniques of library orientation designed for teachers who plan to instruct students in the use of the school library; demonstration and class presentation are required.

LIBR 456 ADMINISTRATION OF SCHOOL LIBRARIES  
Study of the general principles of administration; application of techniques to the organization and management of the school library.

LIBR 490 DIRECTED LIBRARY EXPERIENCE  
Practical experience in elementary or secondary school libraries under the supervision of qualified librarians. Application must be made during the first two weeks of the quarter prior to the actual library practice. Four to six hours any quarter except summer; maximum, six.

LIBR 496 SEMINAR IN SCHOOL LIBRARY PROBLEMS  
Study of problems and responsibilities in the selection and use of instruction materials, finances, buildings and equipment, personnel, public relations and legal structure.
LIBRARY SCIENCE

LIBRARY SCIENCE (LIBR)
LIBR 311 INTRODUCTION TO LIBRARY RESOURCES
Introduction to library work and how to use resources effectively for research purposes; a survey of procedures for the efficient, accurate, and economical use of libraries. Prerequisites: LIBR 111.

LIBR 312 INFORMATION RESOURCES
Introduction to the scope and use of standard resource materials in meeting the information needs of a library clientele. Analysis of concepts and principles of library resources. Prerequisite: LIBR 111.

LIBR 262 CATALOGING AND CLASSIFICATION
Introduction to the organization and procedure of cataloging and classifying materials in the institutional library system. Laboratory required.

LIBR 288 STORYTELLING
Study of the process of storytelling in the educational process: selection, preparation and presentation of storytelling materials.

LIBR 374 LIBRARY MATERIALS FOR CHILDREN
An intensive study of library materials for children, prepared to develop the ability to procure necessary library materials according to the needs of the clientele. Elements include the selection and preparation of books, magazines, and other learning materials and training in children learning resources from home and school. Prerequisites: ENGL 118.

LIBR 385 SELECTION AND ACQUISITION OF LIBRARY MATERIALS
Study of materials selection, cataloging, and preparation of the parent of a public and institutional library; the interrelation of book and magazine surveys, plans, and techniques that will meet the needs of selecting and acquiring library materials.
Mathematics
MATHMATICS

M. Lang, Chair; G. Hare, W. Soper, T. Thompson, K. Wiggins.

The department of mathematics offers programs leading to the Bachelor of Arts and Bachelor of Science degrees. The mathematics entrance requirements are two years of high school algebra and a year of Euclidean geometry. It is highly recommended that students have a fourth year of mathematics.

MAJOR IN MATHEMATICS (Bachelor of Arts)
A student majoring in mathematics must complete 45 quarter hours in the major, required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. The Graduate Record Examination in mathematics is required.

Major Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 181, 281-283</td>
<td>Analytic Geometry and Calculus I-IV</td>
<td>16</td>
</tr>
<tr>
<td>MATH 289</td>
<td>Linear Algebra and Its Applications</td>
<td>3</td>
</tr>
<tr>
<td>MATH 451, 452</td>
<td>Advanced Calculus</td>
<td>6</td>
</tr>
<tr>
<td>MATH 461</td>
<td>Modern Algebra</td>
<td>4</td>
</tr>
<tr>
<td>Electives (must include at least one of MATH 442, 453 or 462; 11 must be upper division; a maximum of 4 hours of MATH 117, 121 or 122)</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

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

Cognate:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPTR 134</td>
<td>Introduction to Computing (FORTRAN)</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>CPTR 141</td>
<td>Introduction to Programming (Pascal)</td>
</tr>
</tbody>
</table>

3-4

MAJOR IN MATHEMATICS (Bachelor of Science)
A student majoring in mathematics must complete the core requirements plus one option, 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. The Graduate Record Examination in mathematics is required.

Core Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 181, 281-283</td>
<td>Analytic Geometry and Calculus I-IV</td>
<td>16</td>
</tr>
<tr>
<td>MATH 289</td>
<td>Linear Algebra and Its Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

19

OPTION: Preparation for Graduate Study

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 451, 452, 453</td>
<td>Advanced Calculus</td>
<td>9</td>
</tr>
<tr>
<td>MATH 461, 462</td>
<td>Modern Algebra</td>
<td>8</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

33
OPTION: Preparation for Secondary Teaching*

MATH 315 Probability and Statistics 4
MATH 321 Geometry 4
MATH 451, 452 Advanced Calculus 6
MATH 461 Modern Algebra 4
Electives 15

*Because there are grade-point requirements and other restrictions for certification, students are urged to consult with the certification officer in the Education and Psychology Department for updated information regarding certification.

OPTION: Applied Mathematics

MATH 312 Ordinary Differential Equations 4
MATH 315 Probability and Statistics 4
MATH 341 Numerical Analysis 4
MATH 442 Advanced Numerical Analysis 4
MATH 451 Advanced Calculus

or

MATH 461 Modern Algebra
Electives
Mathematics 13-14

or

Selected courses from MATH, CPTR or ENGR (Courses not in mathematics must be chosen from CPTR 142, 211, 215, 234, 341, 343, 350, 352, 374, 454, or ENGR 454, 455)

Electives must be chosen in consultation with and approved by academic adviser assigned by the department chair. 32-42

Cognates:

CPTR 134 Introduction to Computing (FORTRAN) 3-4

or

CPTR 141 Introduction to Programming (Pascal)
BIOL 101, 102, 103 General Biology

or

CHEM 141, 142, 143 General Chemistry
CHEM 144, 145, 146 General Chemistry Laboratory

or

(Three additional CPTR classes)

CPTR 134 Introduction to Computing (FORTRAN)
CPTR 141 Introduction to Programming (Pascal)
CPTR 215 Assembly Language Programming I
CPTR 224 Scientific Computer Applications
PHYS 251, 252, 253 Principles of Physics 9
PHYS 254, 255, 256 Principles of Physics Lab 3

MINOR IN MATHEMATICS

A student minoring in mathematics must complete 28 quarter hours:

Electives (4 must be upper division) 28

Approval of mathematics adviser required.
A student seeking a teaching endorsement must meet additional requirements.
MATH 100 INTERMEDIATE ALGEBRA
Review of intermediate algebra including topics such as sets, numbers, exponents, polynomials, factoring rational algebraic expressions, graphs, and first and second degree equations, and inequalities. Credit does not apply for graduation.

MATH 105 MATHEMATICS WITH APPLICATIONS
Introduction to mathematics including algebraic concepts, systems of equations, permutations, combinations, probability, descriptive statistics, and computer applications. Designed to meet the general studies requirement for the baccalaureate degree but will not apply toward a major or minor in mathematics.

MATH 106 APPLIED STATISTICS
Study of applied statistics including distributions, sampling, confidence intervals, hypothesis testing, nonparametric statistics, and analysis of variance; relevant examples from various disciplines. Designed to meet the general studies requirement for the baccalaureate degree but will not apply toward a major or minor in mathematics. Prerequisite: MATH 100 or 105 or 117 or 121 or a satisfactory score on ACT.

MATH 115 ELEMENTARY MATHEMATICS
Study of mathematics including number theory, geometry, numeration, number systems, graphs, algebra, probability, measurements, and computer programming. Designed to meet the general studies requirement for the baccalaureate degree but will not apply toward a major or minor in mathematics.

MATH 117 PRECALCULUS
Introduction to college algebra and trigonometry including topics such as equations inequalities, functions and their graphs, logarithmic, exponential and trigonometric functions and complex numbers. Placement examination required. Algebra II strongly recommended. Credit will not be allowed for both MATH 117 and MATH 121, 122.

MATH 121, 122 FUNDAMENTALS OF MATHEMATICS
Study of college algebra and trigonometry including integers, rational, real and complex numbers, equations and inequalities, polynomials, functions, relations and their graphs, exponential and logarithmic functions, trigonometry, the binomial theorem, matrices and determinants, progressions and mathematical induction. Placement examination required. Algebra II strongly recommended. Credit will not be allowed for both MATH 117 and MATH 121, 122.

MATH 123 SURVEY OF CALCULUS
Introduction to calculus including topics such as functions, limits, derivatives, and integration in one or more variables. Applications from business and social sciences are included. Prerequisite: MATH 117 or 121 or a satisfactory score on a departmental qualifying examination.

MATH 181, 281, 282, 283 ANALYTIC GEOMETRY AND CALCULUS I, II, III, IV
Study of calculus integrating topics of analytic geometry as needed. Prerequisite: MATH 117 or MATH 122 or a satisfactory score on a departmental qualifying examination.

MATH 250 DISCRETE MATHEMATICS
Introduction to discrete mathematical structures with computer applications. Topics include combinatorics, sets, recursion, Boolean Algebra, graph theory, and numerical methods. Prerequisite: MATH 181; knowledge of a programming language.

MATH 289 LINEAR ALGEBRA AND ITS APPLICATIONS
Study of vector spaces, linear transformations, matrices and determinants; emphasizes applications. Prerequisite: MATH 117 or MATH 122.

MATH 312 ORDINARY DIFFERENTIAL EQUATIONS
Study and application of first order differential equations, linear differential equations of order n, power series methods, the Laplace transform and linear systems. Prerequisite: MATH 283.

MATH 315 PROBABILITY AND STATISTICS
Study of probability, discrete and continuous probability density functions, moments, sampling, correlation, regression, confidence intervals, and hypothesis testing. Prerequisites: CPTR 134 or CPTR 141; MATH 283
MATH 316 STATISTICS
Study of multiple linear regression, analysis of variance, contingency tables, goodness-of-fit, nonparametric statistics, and Bayesian decision-making. Prerequisite: MATH 315. Offered alternate years.

MATH 321 GEOMETRY
Study of geometries, concentrating on Euclidean, non-Euclidean, finite, and projective geometries; examination of axiomatic foundations and qualitative study of the geometries; considers briefly Mohr-Mascheroni constructions and impossible constructions. Prerequisite: MATH 281 and permission of instructor. Offered alternate years.

MATH 341 NUMERICAL ANALYSIS
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: CPTR 134 or CPTR 141; MATH 289. Corequisite: MATH 312.

MATH 351 OPERATIONS RESEARCH
Introduction to deterministic models in operations research; includes linear programming, network analysis, dynamic programming, and game theory. Prerequisites: CPTR 134 or 141; MATH 283; MATH 289 or permission of instructor. Offered alternate years.

MATH 395 METHODS OF TEACHING MATHEMATICS
Methods, materials and techniques of teaching mathematics on the secondary school level; requires observation, demonstration and class presentation. Will not apply on a major or minor in mathematics. Offered alternate years.

MATH 423 INTRODUCTION TO THE THEORY OF COMPLEX VARIABLES
Study of the functions of a complex variable, the geometry of elementary functions, integration, power series, calculus of residues, and conformal mapping. Prerequisite: MATH 283. Offered alternate years.

MATH 442 ADVANCED NUMERICAL ANALYSIS
Study of error analysis, boundary value problems, partial differential equations, and curve fitting; additional topics chosen from approximation theory, smoothing techniques, and multiple linear regression. Prerequisites: MATH 315; MATH 341; or permission of the instructor. Offered alternate years.

MATH 451, 452, 453 ADVANCED CALCULUS
Study of functions of one and several variables including continuity, differentiation, integration, infinite series, uniform convergence, and selected topics. Prerequisite: MATH 283. Offered alternate years.

MATH 461, 462, 463 MODERN ALGEBRA
Study of groups, rings, fields, vector spaces, linear transformations, and selected topics. Prerequisite: MATH 289. Offered alternate years.
MATH 104 INTERMEDIATE ALGEBRA

MATH 105 MATHEMATICAL ANALYSIS

MATH 106 APPLIED STATISTICS

MATH 107 METHODS OF TEACHING MATHEMATICS

MATH 108 FUNDAMENTALS OF MATHEMATICS

MATH 109 Survey of Calculus

MATH 110, 111, 112, 113, 114 ANALYTIC GEOMETRY AND CALCULUS I, II, III, IV

MATH 201 DISCRETE MATHEMATICS

MATH 202 ORDINARY DIFFERENTIAL EQUATIONS

MATH 203 PROBABILITY AND STATISTICS

MATH 204 ADVANCED CALCULUS

MATH 205 LINEAR ALGEBRA AND APPLICATIONS

MATH 206 PHYSICS

MATH 207 ABSTRACT ALGEBRA

MATH 208 ADVANCED MATHEMATICS

MATH 209 TOPICS IN MATHEMATICS
Modern Languages
MODERN LANGUAGES

R. Czeratzki, Chair; S. Henderson.

The objectives of the department are to develop competence in the ability to understand, speak, read and write a foreign language and to provide through the knowledge of foreign languages a deepened understanding and appreciation of the literature and culture of other people.

Walla Walla College is a member of the Adventist Colleges Abroad consortium. Foreign language majors and minors who have not had residence in a country in which their language is spoken are urged to spend their sophomore or junior year in this way. Academic credit will be granted for these studies so that a student will be able to complete a full college year abroad. Prospective students must have completed one year of college French, German or Spanish or the equivalent with a grade-point average of 3.00. It is recommended that students desiring to participate do so during their sophomore year. Applicants should consult with their major professors, the modern language department, and the Dean of Academic Records prior to enrollment.

Majors and minors are offered in French, German and Spanish.

A student planning to teach should confer with his assigned academic adviser and with the department of education and psychology in regard to certification and teaching credentials.

MAJOR IN FRENCH, GERMAN or SPANISH (Bachelor of Arts)

A student majoring in French, German or Spanish must complete 45 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. The Modern Language Association Cooperative Foreign Language Proficiency Test is required.

Major Requirements:

FREN 202, 203 Intermediate French
or
GRMN 212, 213 Intermediate German
or
SPAN 222, 223 Intermediate Spanish
Electives (21 must be upper division) 37

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

Students in the Adventist Colleges Abroad program must take a minimum of nine credit hours of upper-division Modern Language literature courses at Walla Walla College.

Cognates:

ENGL 284 Advanced English Grammars
or
ENGL 485 Linguistics
or
MDLG 395 Methods of Teaching Modern Languages

3
MINOR IN FRENCH, GERMAN or SPANISH

A student minoring in French, German or Spanish must complete 28 quarter hours beyond FREN 101; GRMN 111; or SPAN 121; 8 quarter hours must be upper division. Approval of the language adviser required.
FRENCH (FREN)

FREN 101  INTRODUCTION TO FRENCH  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. Language laboratory required.

FREN 102, 103  ELEMENTARY FRENCH  4, 4
Elementary study of French, including listening, speaking, reading and writing skills; emphasizes grammatical structures and vocabulary building. Language laboratory required. Prerequisite: FREN 101 or equivalent.

FREN 202, 203  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. Prerequisite: FREN 103 or equivalent.

FREN 301, 302, 303  SURVEY OF FRENCH LITERATURE  3, 3, 3
Survey of French masterworks from La Chanson de Roland to the present. Introduction to literary analysis; lectures, reports, required library reading. Prerequisite: FREN 203 or equivalent.

FREN 304, 305, 306  ADVANCED FRENCH  3, 3, 3
Intensive training in oral and written French; includes review of grammar and extensive prose reading and exercises in composition and conversation. Laboratory required. Conducted in French. Must be taken in sequence. Prerequisite: FREN 203 or equivalent.

FREN 307  FRENCH CIVILIZATION  4
A historical overview of French culture as seen in its art, architecture, science, literature and politics; culminating in a study of French life in the 20th century. Prerequisite: FREN 203 or permission of instructor.

FREN 404  FRENCH DIRECTED READING  1-3; 6
Assigned reading and reports in French. Prerequisites: FREN 304, 305, 306. One to three hours per quarter, maximum, six.

FREN 407  17TH AND 18TH CENTURY FRENCH LITERATURE  4
Study of French classical writers such as Racine, Moliere and Corneille and of philosophers such as Voltaire, Montesquieu and Rousseau.

FREN 408  19TH CENTURY FRENCH LITERATURE  4
Study of French literature from the end of the Revolution to World War I; includes Romanticism, Realism, Naturalism and the Parnasse.

FREN 409  20TH CENTURY FRENCH LITERATURE  4
Study of French literature from World War I to the present.

GERMAN (GRMN)

GRMN 111  INTRODUCTION TO GERMAN  4
Introduction to descriptive grammatical terminology, the German sound system, basic grammar and everyday vocabulary; provides elementary practice in the skills of understanding, speaking, reading and writing. Language laboratory required.

GRMN 112, 113  ELEMENTARY GERMAN  4, 4
Elementary study of German, including listening, speaking, reading and writing skills; emphasizes grammatical structures and vocabulary building. Language laboratory required. Prerequisite: GRMN 111 or equivalent.

GRMN 212, 213  INTERMEDIATE GERMAN  4, 4
Intermediate study of German, based on readings in German literature and civilization, combined with a review of grammar and the development of speaking and writing skills. Prerequisite: GRMN 113 or equivalent.

GRMN 311, 312, 313  SURVEY OF GERMAN LITERATURE  3, 3, 3
Survey of German literature from the eighth century to the present, supplemented by readings from representative masterpieces of the language.
GRMN 314, 315 GERMAN CIVILIZATION
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, reports.

GRMN 317, 318, 319 ADVANCED GERMAN
Intensive practice in oral and written German; includes reading, analysis and discussion of selected prose. Prerequisite: GRMN 213 or equivalent.

GRMN 411 GERMAN DIRECTED READING
Individual supervision of readings selected for each student separately; includes written and oral reports and quarter examination. Approval of instructor required. Prerequisites: GRMN 311, 312, 313. One to three hours per quarter; maximum, six.

GRMN 421 18TH CENTURY GERMAN LITERATURE
Study of German literature, emphasizing Lessing and the Enlightenment, the period of "Storm and Stress" and the rise of Weimar Classicism (Goethe, Schiller).

GRMN 422 19TH CENTURY GERMAN LITERATURE
Study of poetic theory and its application to Romantic lyric and prose; includes the transition from Romanticism to Realism and the reading of representative works.

GRMN 423 20TH CENTURY GERMAN LITERATURE
Introduction to major authors and literary movements from 1880 to the present; includes Naturalism, Expressionism, Symbolism, and recent trends in postwar East- and West-German literature.

SPANISH (SPAN)

SPAN 121 INTRODUCTION TO SPANISH
Introduction to Spanish, providing the foundation for oral, written and reading communication; includes basic Spanish grammar, as well as phonetics and phonology. Language laboratory required.

SPAN 122, 123 ELEMENTARY SPANISH
Elementary study of Spanish, developing oral, writing and reading skills. Language laboratory required. Prerequisite: SPAN 121 or equivalent.

SPAN 222, 223 INTERMEDIATE SPANISH
Intermediate study of Spanish emphasizing oral, writing, reading skills, and mastering the grammar; designed to prepare students to use Spanish as a research and cultural tool. Prerequisite: SPAN 123 or equivalent.

SPAN 324, 325, 326 SURVEY OF SPANISH LITERATURE
Study of the development of Spanish literature from the 12th century to the present; includes a survey of the various genres of Spanish literature; supplemented by reading certain works in their entirety. Conducted in Spanish. Offered alternate years. Prerequisite: SPAN 223 or equivalent.

SPAN 330 IBERIAN CULTURE AND CIVILIZATION
Study of the development of the cultural, social and political life of the Iberian peoples, from Greek and Roman times to the present, as reflected in art, architecture, history, literature, music and philosophy. Conducted in Spanish. Offered alternate years.

SPAN 331 SPANISH-AMERICAN CULTURE AND CIVILIZATION
Study of the development of the cultural, social and political life of Spanish America from the pre-Columbian period to the present, as reflected in art, architecture, history, literature, music and philosophy. Offered alternate years.

SPAN 341, 342, 343 ADVANCED SPANISH GRAMMAR
Intensive training in oral and written Spanish; includes review of grammar and extensive prose reading, exercises in composition and conversation. Conducted in Spanish. Prerequisite: SPAN 223 or equivalent.

SPAN 414 SPANISH DIRECTED READING
Assigned readings and reports in Spanish. Prerequisites: SPAN 341, 342, 343. One to three hours per quarter; maximum, six.
MODERN LANGUAGES

SPAN 424, 425, 426 CONTEMPORARY SPANISH LITERATURE 2, 2, 2
Study and analysis of Spanish literature from about 1898 to the latest writers who have achieved critical acclaim; emphasizes development of literary critical ability and evaluation of modern Spanish literature from historical and social points of view.

SPAN 431, 432, 433 SURVEY OF LATIN-AMERICAN LITERATURE 3, 3, 3
Study of the development of Latin American literature from pre-Columbian Indian literature to the present; includes various genres of Latin American literature, supplemented by reading certain works in their entirety. Conducted in Spanish. Offered alternate years.

GENERAL (MDLG)

MDLG 395 METHODS OF TEACHING MODERN LANGUAGES 3
Principles and methods of teaching modern languages in the secondary school. Observation, demonstration and class presentation are required. Will not apply on a major or minor in modern languages.
MUSIC

D. Shultz, Chair; J. Brooks, R. Coupland, L. Richter, K. Scott, G. Spring.

Instruction and experiences in music are provided for the purpose of preparing students for careers in music; guiding in the development of performance skills; increasing aesthetic sensitivities; and enhancing the cultural setting of both campus and community.

This department offers the Bachelor of Arts and Bachelor of Music degrees. These provide opportunity for the development of a conceptual understanding of historical and theoretical perspectives in music and their interrelationships as they form a cognitive affective basis for 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 degree also offers a choice of two majors: Applied Music or Music Theory. The Bachelor of Arts is not intended to prepare students for a career in music but to serve as a preliminary to graduate study in some fields. An audition with the music faculty is required before enrollment in an applied field.

All students pursuing music degree programs will participate in a departmental music organization during each quarter in residence. Students whose performance area is voice will sing in a choir. Those whose performance area is instrumental will play in either the band or orchestra. Keyboard majors may elect up to six quarter hours in approved small ensemble activities toward the fulfillment of this requirement.

The department lists a number of requirements for its majors which must be met without credit. These include minimum piano proficiency, concert and recital attendance, and performance classes. Detailed information regarding these requirements is included in A Guidebook for Students and Teachers, available at the music office.

Transfer students majoring in music must take a minimum of six quarter hours in applied music at Walla Walla College. All majors must continue study in their primary applied area until completion of the Senior Recital.

MUSIC EDUCATION (Bachelor of Music)
A student majoring in music education must complete 192 quarter hours including general studies as outlined below and core and certification requirements as listed. The student will also choose a concentration in either elementary or secondary school music or both. This curriculum provides for denominational and state teaching certification. The Graduate Record Examination in music is required.

General Studies Requirements:
ENGL 121, 122, 123 College Writing 8
HIST 120, 121, 122 History of Western Civilization 8
HLSC *Health 2
PEAC Physical Activity Courses 2
PSYC 130 General Psychology 4
Mathematics and Natural Science 12
(as required by general studies)
RELH, RELH, RELT  *Religion and Theology  18
*Denominational Certification requires specific classes. See Education and Psychology section of this bulletin.

**Core Requirements:**
- MUCT 121, 122, 123  Theory I  12
- MUCT 221, 222, 223  Theory II  12
- MUCT 424  Form and Analysis  3
- MUCT 425  Orchestration  3
- MUCT 426  Counterpoint  3
- MUHL 134  The Art of Listening  3
- MUHL 321, 322, 323  History of Music  12
- MUPF 361  Basic Conducting  2
- MUPF  Organizations  11
- MU 65  Total  61

**Certification Requirements: Music Education**
Because there are grade-point requirements and other restrictions for certification, students are urged to consult with the certification officer in the Education and Psychology Department for updated information regarding certification.

**Phase I**
- EDUC 110  Principles and Concepts of Christian Education  2
- EDUC 210  Foundations of Education  3
- EDUC 266/267  Tutoring Elementary/Secondary  1
- PSYC 130  General Psychology  4
- PSYC 215  Psychology of Childhood and Adolescence  4
- PSYC 220  Educational Psychology  3
  Competencies as required
  Application for acceptance into the
  teacher education program

**Phase II**
- EDUC 390  Educational Evaluation  3
- EDUC 392  General Secondary Methods  2
- EDUC 428  Exceptional Students in the Classroom  3
- EDUC 475  Teaching Reading Skills in Content Areas  3
- EDUC 478/479  Microteaching—Elementary/Secondary  3
- EDUC 480/481  Student Teaching—Elementary/Secondary  14

Not required but highly recommended:
- SPCH 310  Interpersonal and Nonverbal Communication  3
- PSYC 360  Small Group Procedures  3
- SPCH 207  Small Group Communications

Choose one of the following concentrations:
Elementary School Music
- MUED 344  Elementary School Music Materials  2
- MUED 395  Elementary Music Methods  3
- MUPF 487  Recital 1
Secondary School Music
MUED 396  Secondary Music Methods  3
MUPF 487  Recital

Choose one of the following three emphases:

**Instrumental**
- MUPF  Performance Studies  20
  - Instrumental Techniques and Methods  8
  - Classes
- MUED  Voice Performance Studies  1
- MUPF  Conducting  6

**Choral**
- MUED 251, 252, 253  Singer's Diction  3
- MUED 354  Vocal Techniques and Methods  3
- MUPF  Performance Studies  20
- MUPF  Keyboard Performance Studies  6
- MUPF  Conducting  6

**Keyboard**
- MUED 324  Organ Pedagogy and Literature  3
- MUED 334  Piano Pedagogy and Literature  3
- MUPF  Performance Studies  20
- MUPF  Additional Keyboard Performance Studies  6
  (Students whose major area is organ will take piano and/or harpsichord; those whose major area is piano will take organ.)
- MUPF 351, 352, 353  Advanced Keyboard Skills  3
- MUPF  Voice Performance Studies  1

1A conducting or research project as approved by the music faculty may be substituted for the senior recital.

2The student will choose these hours in one applied field, eight of which must be upper division. A maximum of 3 hours of MUPF 127 may apply on 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 less than 15 quarter hours in one applied field.

3Three of these hours must be in area of emphasis.

**MUSIC PERFORMANCE (Bachelor of Music)**
A student majoring in music performance must complete 192 quarter hours including general studies and major requirements as listed below: (This curriculum does not result in denominational or state teaching certification.) The Graduate Record Examination in music is required.

**General Studies Requirements:**
ENGL 121, 122, 123  College Writing  8
FREN 101, 102, 103 or GRMN 111, 112, 113

French
German

HIST 120, 121, 122

History of Western Civilization
Humanities (non-music)
Mathematics and General Science (as required by general studies)

PEAC

Physical Activity Courses

RELB, RELH, RELT

Religion and Theology

Major Requirements:

MUCT 121, 122, 123
MUCT 221, 222, 223
MUCT 335
MUCT 424
MUCT 425
MUCT 426
MUHL 134
MUHL 321, 322, 323
MUPF 361
MUPF
MUPF 487

Theory I
Theory II
Composition
Form and Analysis
Orchestration
Counterpoint
The Art of Listening
History of Music
Basic Conducting
Conducting (other)
Organizations
*Performance Studies (one area)
Recital (junior and senior year)

12
12
3
3
3
3
3
12
2
2
12
48

*Twenty hours in the major performance area must be upper division. A maximum of 3 hours of MUPF 127 may apply on the major. Keyboard majors will complete MUPF 351, 352, 353. Piano majors will complete MUED 334. Organ majors will complete MUED 324. Voice majors will complete MUED 251, 252, 253; MUED 354. Instrumental majors will complete the techniques and materials class related to their performance area.

APPLIED MUSIC (Bachelor of Arts)

A student majoring in applied music must complete 66 quarter hours in the major and the general studies program for the baccalaureate degree as outlined in this bulletin. The Graduate Record Examination in music is required.

Major Requirements:

MUCT 121, 122, 123
MUCT 221, 222, 223
MUCT 424
MUCT 426
MUED 251, 252, 253
MUPF 351, 352, 353
MUPF

Theory I
Theory II
Form and Analysis
Counterpoint
Singer's Diction (voice majors)
Advanced Keyboard Skills (keyboard majors)

Music Electives1 (instrumental majors)

or

MUHL 134
MUHL 321, 322, 323

The Art of Listening
History of Music

3
12
MUSIC

MUPF Performance Studies\(^2\) (8 must be upper division in major performance area) 18
MUPF 487 Recital 0
\(^1\)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 on the major.

MUSIC THEORY (Bachelor of Arts)
A student majoring in music theory must complete 66 quarter hours in the major, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. The music theory major will present a senior project which must be approved by the music faculty. The Graduate Record Examination in music is required.

Major Requirements:
- MUCT 121, 122, 123 Theory I 12
- MUCT 221, 222, 223 Theory II 12
- MUCT 335 Composition 3
- MUCT 424 Form and Analysis 3
- MUCT 425 Orchestration 3
- MUCT 426 Counterpoint 3
- MUHL 134 The Art of Listening 3
- MUHL 321, 322, 323 History of Music 12
- MUPF Performance Studies 10
- MUPF Organizations 5

66

MINOR IN MUSIC
A student minoring in music must complete 30 quarter hours:
- MUCT 121, 122, 123 Theory I 12
- MUHL 124 Introduction to Music 3-4
- MUHL 134 The Art of Listening

*Performance Studies (2 must be upper division);
Electives (3 must be upper division;
3 may be music organization credit; a solo recital is required.) 6-7

*A maximum of 3 hours of MUPF 127 may apply on the minor.

MINOR IN THE TEACHING OF ELEMENTARY MUSIC
A student minoring in the teaching of music must complete 30 quarter hours:
- MUCT 121, 122, 123 Theory I 12
- MUED 395 Elementary Music Methods 3
- MUHL 124 Introduction to Music 3-4
- MUHL 134 The Art of Listening
- MUPF 361 Basic Conducting 2

30
COMPOSITION AND THEORY (MUCT)

MUCT 101 FUNDAMENTALS OF MUSIC 2
Introduction to the notation of music, emphasizing the development of reading skills. Does not apply toward a major or minor.

MUCT 121, 122, 123 THEORY I 4, 4, 4
Comprehensive review of the elements of notation, rhythm, scales, key signatures and terms; includes intensive study of traditional harmonic concepts through secondary dominants. Aural skills (sight-singing and ear training) are integrated throughout. Prerequisite: passing of entrance examination.

MUCT 221, 222, 223 THEORY II 4, 4, 4
Study of music theory emphasizing melodic and harmonic developments of the late nineteenth and twentieth centuries. Aural skills (sight-singing and ear training) are integrated throughout. Prerequisites: MUCT 121, 122, 123; MUHL 134.

MUCT 234 INTRODUCTION TO ELECTRONIC MUSIC 2
Introduction to electronic music, including lectures, demonstrations and practical experience in the use of tape recorders and synthesizers for the production of electronic music. On demand only.

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.

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. Prerequisite: MUCT 424.

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 alternate years.

MUCT 434 ADVANCED COMPOSITION 1-3; 3
Advanced composition in the larger forms. Prerequisite: MUCT 335 and/or permission of instructor.

MUSIC EDUCATION (MUED)

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.

MUED 261, 262 BRASS TECHNIQUES AND METHODS 1, 1
Class instruction in the performance and teaching of brass instruments. Prerequisite: fundamental ability on at least one brass instrument and permission of the instructor. Offered alternate years.

MUED 271, 272 WOODWIND TECHNIQUES AND METHODS 1, 1
Class instruction in the performance and teaching of woodwind instruments. Prerequisite: fundamental ability on at least one woodwind instrument and permission of the instructor. Offered alternate years.

MUED 281, 282 STRING TECHNIQUES AND METHODS 1, 1
Class instruction in the performance and teaching of string instruments. Prerequisite: fundamental ability on at least one string instrument and permission of the instructor. Offered alternate years.
MUED 291, 292 PERCUSSION TECHNIQUES AND METHODS 1, 1
Class instruction in the performance and teaching of percussion instruments. Offered alternate years.

MUED 324 ORGAN PEDAGOGY AND LITERATURE 3
Study in the teaching of organ including a survey of materials, repertoire and techniques. Offered alternate years.

MUED 334 PIANO PEDAGOGY AND LITERATURE 3
Study of the teaching of piano including a survey of materials, repertoire and techniques. Offered alternate years. By permission only.

MUED 344 ELEMENTARY SCHOOL MUSIC MATERIALS 2
Study of the materials for classroom presentation and children's voices in grades one to eight. Offered as needed.

MUED 354 VOCAL TECHNIQUES AND METHODS 3
Study of vocal production and instruction including a survey of materials. Offered alternate years.

MUED 364 MINISTRY OF MUSIC 4
Study of music and its relationship to the pastoral and evangelical ministry of the church; representative service music and hymnody. On demand only.

MUED 395 ELEMENTARY MUSIC METHODS 3
Study of objectives, procedures and materials in music education for kindergarten through grade six. Open to nonmusic majors who have prior musical experience. By permission of the instructor only. Offered alternate years.

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.

MUSIC HISTORY AND LITERATURE (MUHL)

MUHL 124 INTRODUCTION TO MUSIC 4
Introduction to music; includes perception of its elements, recognition of its forms and an awareness of historical perspective. May not apply toward a music major.

MUHL 134 THE ART OF LISTENING 3
Development of listening skills for the study of various elements of music as used in selected works from the standard repertoire. Required laboratory.

MUHL 321, 322, 323 HISTORY OF MUSIC 4, 4, 4
The history and literature of music from antiquity through the twentieth century. Prerequisite: MUHL 134.
MUSIC PERFORMANCE (MUPF)

ENSEMBLES
Membership in the performance groups listed below is by audition or invitation. These may be repeated for additional credit.

MUPF 215 CHORAL UNION
A large choir which performs major choral works and sings for church services.

MUPF 245 1 CANTORI
A select choral group which specializes in music of the Renaissance and other works suitable for chamber groups.

MUPF 255 CONCERT BAND
A symphonic band. Local performances only.

MUPF 256 BAND (WIND ENSEMBLE)
A select touring concert band. Participation in Concert Band, MUPF 255, required.

MUPF 265 BRASS CHOIR
A select group of brass and percussion players emphasizing literature of 8-15 parts with and without percussion.

MUPF 266 ORCHESTRA
An organization which performs representative orchestral literature from the Baroque era to the present. Graded S or NC.

MUPF 275 WALLA WALLA SYMPHONY ORCHESTRA
A community symphonic orchestra open to members of the college orchestra. Graded S or NC.

MUPF 285 ENSEMBLE
Vocal or instrumental duos, trios, quartets or larger groups under the direction of a music department staff member.

CONDUCTING

MUPF 361 BASIC CONDUCTING
Study of basic techniques and the art of conducting musical ensembles of all kinds.

MUPF 362 INSTRUMENTAL CONDUCTING TECHNIQUES AND MATERIALS
Study of advanced techniques, rehearsal procedures, repertoire, program building and administration. Prerequisite: MUPF 361 or permission of instructor.

MUPF 363 CHORAL CONDUCTING TECHNIQUES AND MATERIALS
Study of advanced techniques, rehearsal procedures, repertoire, program building and administration. Prerequisite: MUPF 361 or permission of instructor.

MUPF 364 INSTRUMENTAL CONDUCTING
Application of conducting techniques through practical experience with instrumental ensembles. Orchestral conducting is emphasized. Prerequisite: MUPF 361 and permission of instructor.

MUPF 365 CONDUCTING PRACTICUM
1, 2
Conducting activities and projects as approved by staff member in consultation with music faculty. Can be repeated for additional credit. Prerequisites: MUPF 361 and permission of instructor.

PERFORMANCE STUDIES (Lessons)
One to four hours of performance studies may be earned each quarter. Nine 30-minute lessons per quarter and daily practice amounting to five clock hours a week will yield one quarter hour of credit. May be repeated for additional credit.

MUPF 117 CLASS INSTRUCTION
Class instruction in general or special areas of interest.

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MUSIC

MUPF 127 APPLIED MUSIC 1-2
Introductory study in 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 227 APPLIED MUSIC 1-4
Introductory study in instrument or voice; satisfies credit requirement for major and minor performance studies. Prerequisite: Approval by music faculty through examination.

MUPF 327 APPLIED MUSIC 1-2
Advanced study in instrument or voice; does not satisfy credit requirements for major performance studies. Prerequisite: Four quarter hours of MUPF 227 and approval of music faculty through examination.

MUPF 351, 352, 353 ADVANCED KEYBOARD SKILLS 1, 1, 1
Development of certain practical skills which keyboard persons may be called upon to exhibit in professional life such as transposition, score reading, reading from a figured bass and simple improvisation. Required of keyboard majors. Prerequisite: Permission of instructor.

MUPF 427 APPLIED MUSIC 1-4
Advanced study in instrument or voice; satisfies credit requirements for major and minor performance studies. Prerequisites: MUPF 227 and approval of music faculty through examination.

MUPF 487 SENIOR RECITAL 0
Preparation of materials for recital in consultation with music staff member. Graded S or NC.
NURSING


The School of Nursing offers a four-year program leading to a baccalaureate degree 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. Courses are primarily nursing.

The Portland campus is located adjacent to the Portland 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 Portland Adventist Medical Center, Woodland Park Hospital, Clackamas and Multnomah County Health Departments, Walla Walla General Hospital, Walla Walla Veterans Administration Hospital, and several home-care and extended care facilities, and schools.

Upon completion of the program, graduates are eligible to write the National Council Licensure Examination for Registered Nurses (NCLEX-RN) in the jurisdiction of choice.

ACCREDITATION

The School is an agency member of the Council of Baccalaureate and Higher Degree Programs of the National League for Nursing and is fully accredited by the Board of Review of that body. The program is approved by the Washington State Board of Professional Nursing and by the Oregon Educational Coordinating Commission.

ADMISSION

Applicants for the nursing major will apply for admission through the Admissions Office of the College. (See Bulletin, p. 22) The procedure is the same for nursing majors as for all other majors in the college.

Transfer Registered Nurse Students. Graduates of nursing from accredited diploma and community college programs who hold a current registered nurse license are admitted to the program. Placement in the program is individual and determined by transfer credits and/or by successful completion of optional validation examinations. Requirements for the admission of the registered nurse student include:

1. Copies of official transcripts from high school and all colleges attended.
2. A grade-point average of 2.50, both cumulative and in the nursing courses.
3. Oregon licensure as a registered nurse. A photocopy of the current license must be on file in the student folder at the School of Nursing.
4. A letter of recommendation from the director of the school of nursing from which the applicant graduated.
5. Completion of prerequisite courses, general studies and cognate courses as planned with the academic adviser.
6. Completion of all validation examinations is necessary for clinical placement.

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Transfer Courses: The School of Nursing reviews each transcript and determines eligibility for nursing credit.

Credit by Examination: The College has provision for establishing credit by challenge, by CLEP, and by validation examinations. (See Bulletin, p. 32) Junior level nursing courses may be validated by successful completion of the National League for Nursing’s Nursing Mobility Profile II exam.

PROGRAM INFORMATION
The dean of the School of Nursing maintains offices in College Place, Washington, and in Portland, Oregon. Students who need special information or assistance with program planning may correspond with the Dean at 10345 S.E. Market, Portland, OR 97216.

PROGRESSION IN THE PROGRAM

Admission to Clinical Nursing Courses. Admission to NRSG 211, 212, and 213 is subject to approval of the School of Nursing. Criteria for admission to clinical courses include:
1. Admission to the college as a student in good standing.
2. Cumulative grade-point average of 2.50.
3. Students with a cumulative grade-point average of less than 2.50, but more than 2.25, may be admitted to NRSG 211 on a probationary basis.

Continuation in the Program. Student must maintain a grade-point average of 2.50, both cumulative and in nursing courses in order to progress as a nursing major. Those students who take a “W” or who receive a grade lower than “C” in any nursing course or in any required cognate course are required to repeat that course. Permission to continue as a nursing major after the second “W” or second grade lower than a “C” is granted at the discretion of the faculty in response to student petition.

To receive a passing grade in clinical nursing courses, the student must successfully complete both the theory and clinical portions of the course. A grade lower than “C” in either the theory or clinical portion of the course requires repeating both the theory and clinical portions of the course.

Students who are judged to be unsafe practitioners may be removed from the clinical area with potential for dismissal as a nursing major.

Upper Division Courses. All 300 and 400 level nursing courses are offered on the Portland campus. Students should plan their course of study in order to come to the Portland campus in the Autumn quarter.

The following criteria must be fulfilled prior to coming to the Portland campus and registering for any 300 level nursing course:
1. Grade-point average of 2.50 in nursing and 2.50 cumulative.
2. Completion of all the following:

<table>
<thead>
<tr>
<th>Nursing Courses</th>
<th>3</th>
<th>4</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRSG 210</td>
<td>Introduction to Nursing</td>
<td></td>
<td></td>
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<tr>
<td>NRSG 211</td>
<td>Fundamentals of Nursing</td>
<td></td>
<td></td>
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<tr>
<td>NRSG 212</td>
<td>Health Assessment and the Nursing Process</td>
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<tr>
<td>NRSG 213</td>
<td>Pharmacology in Nursing</td>
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</table>

221
Required Cognates:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 201</td>
<td>Anatomy and Physiology</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 222</td>
<td>Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 101</td>
<td>Introductory Chemistry</td>
<td>8</td>
</tr>
<tr>
<td>CPTR 101</td>
<td>Computer Principles</td>
<td>3</td>
</tr>
<tr>
<td>FDNT 220</td>
<td>Human Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>MATH 106</td>
<td>Applied Statistics</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 130</td>
<td>General Psychology</td>
<td>4</td>
</tr>
<tr>
<td>SOCI 204</td>
<td>General Sociology</td>
<td>4</td>
</tr>
<tr>
<td>SOCI 224</td>
<td>Human Development and Family</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 101</td>
<td>Fundamentals of Speech Commun.</td>
<td>4</td>
</tr>
</tbody>
</table>

General Studies:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>*Health and Physical Education (activity courses)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>*History</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>*Humanities (fine art, literature, philosophy)</td>
<td>12</td>
</tr>
<tr>
<td>ENGL 121, 122, 123</td>
<td>College Writing</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>*Religion and Theology (minimum of 4</td>
<td>4-16</td>
</tr>
<tr>
<td></td>
<td>quarter hours in Biblical Studies)</td>
<td></td>
</tr>
</tbody>
</table>

*See the General Studies section, p. 41.

TRANSPORTATION

The student is responsible for personal transportation to agencies and institutions used for educational experience. Because public transportation is not always available, the student needs access to a car during the sophomore and junior years. The use of an automobile is mandatory during the senior quarter in which the student has community health nursing. Students are responsible for maintaining a current, valid driver's license and at least the minimum state required automobile insurance. Transportation costs will vary from quarter to quarter.

STUDENT HANDBOOK

The School of Nursing provides each student with a copy of its Handbook. Students have the responsibility to acquaint themselves with its contents and are held accountable for all policies therein.

MAJOR IN NURSING (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 as outlined in this bulletin.

Major Requirements: A minimum grade-point average of 2.50 is required. No grade lower than a C will apply.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NRSG 210</td>
<td>Introduction to Nursing</td>
<td>3</td>
</tr>
<tr>
<td>NRSG 211</td>
<td>Fundamentals of Nursing</td>
<td>4</td>
</tr>
<tr>
<td>NRSG 212</td>
<td>Health Assessment and the Nursing Process</td>
<td>4</td>
</tr>
<tr>
<td>NRSG 213</td>
<td>Pharmacology in Nursing</td>
<td>4</td>
</tr>
<tr>
<td>NRSG 321</td>
<td>Nursing of the Acutely Ill Adult</td>
<td>8</td>
</tr>
<tr>
<td>NRSG 325</td>
<td>Research in Nursing</td>
<td>3</td>
</tr>
<tr>
<td>NRSG 331</td>
<td>Mental Health Nursing</td>
<td>8</td>
</tr>
</tbody>
</table>
NRSG 341 Nursing of the Emerging and Expanding Family 8
NRSG 351 Pathophysiology I 2
NRSG 352 Pathophysiology II 2
NRSG 353 Pathophysiology III 2
NRSG 421 Nursing of the Chronically Ill Adult 8
NRSG 425 Gerontology in Nursing 2
NRSG 431 Nursing Management 4
NRSG 433 Topics in Nursing 2, 2, 2
NRSG 435 Critical Care Nursing 4
NRSG 441 Community Health Nursing 8
NRSG 445 Issues and Trends in Nursing 3

Cognates: A minimum grade-point average of 2.50 is required. No grade lower than a C will apply.
ANTH 225 Cultural Anthropology 3
BIOL 201, 202 Anatomy and Physiology 8
BIOL 222 Microbiology 5
CHEM 101, 102 Introductory Chemistry 8
CPTR 101 Computer Principles 3
FDNT 220 Human Nutrition 4
MATH 106 Applied Statistics 4
PSYC 130 General Psychology 4
SOCI 204 General Sociology 4
SOCI 224 Human Development and Family 4
SPCH 101 Fundamentals of Speech Communications 4

NURSING (NRSG)

NRSG 210 INTRODUCTION TO NURSING
Introduction to professional nursing practice, education and health maintenance. Includes concepts on historical perspectives, current trends, human needs, nursing process, lifestyle practices necessary to prevent illness. Provides basis for developing effective communication skills and helping relationships. Prerequisites: BIOL 201, 202; PSYC 130; SOCI 204.

NRSG 211 FUNDAMENTALS OF NURSING
Emphasis is placed on developing beginning skills and knowledge of the nursing process. Learning experiences in an adult acute or chronic health care facility. Prerequisites: CHEM 101, 102. Prerequisites or corequisites: BIOL 222; FDNT 220; NRSG 210; SOCI 224.

NRSG 212 HEALTH ASSESSMENT AND THE NURSING PROCESS
Emphasis is placed on the nursing process and physical assessment of children and adults. Includes introduction to psychosocial, spiritual, developmental and nutritional assessment. Learning experiences in a health care facility. Prerequisite: NRSG 211.

NRSG 213 PHARMACOLOGY IN NURSING
Introduction to the major classifications of therapeutic drugs. Clinical experience includes the administration of drugs to clients in a chronic or acute care setting. Prerequisite: NRSG 211. Prerequisite or corequisite: NRSG 212.

NRSG 321 NURSING OF THE ACUTELY ILL ADULT
Nursing care of clients experiencing alterations in cardiovascular, respiratory, renal, gastrointestinal and biliary function in an acute care facility with emphasis on use of the nursing process. Prerequisite: NRSG 213. Corequisite: NRSG 351.
NRSG 325 RESEARCH IN NURSING
The research process as applied to nursing including critiques of published nursing research, methodology and statistical analysis. Development of a research proposal is required. Prerequisites: MATH 106 or equivalent; ENGL 123.

NRSG 331 MENTAL HEALTH NURSING
Nursing care of clients within the context of the family experiencing alterations in psychosocial behavior. Practicum included. Prerequisite: NRSG 213. Corequisite: NRSG 352.

NRSG 341 NURSING OF THE EMERGING AND EXPANDING FAMILY
Stresses a holistic approach to nursing practice for care of prospective and new parents, the fetus, infant and child. Practicum included. Prerequisite: NRSG 213. Corequisite: NRSG 353.

NRSG 351 PATHOPHYSIOLOGY I
The study of functional changes of the cardiovascular, respiratory, renal, gastrointestinal and biliary systems which accompany illness. Prerequisite: NRSG 213. Corequisite: NRSG 321.

NRSG 352 PATHOPHYSIOLOGY II
The study of the various effects of neuropathology, endocrine disorders, and psychopathology on the human system. Prerequisite: NRSG 213. Corequisite: NRSG 331.

NRSG 353 PATHOPHYSIOLOGY III
Study of the common pathophysiological problems of obstetrics, gynecology, and pediatrics. Prerequisite: NRSG 213. Corequisite: NRSG 341.

NRSG 421 NURSING OF THE CHRONICALLY ILL ADULT
Nursing care of adult and aging clients experiencing long term alterations in health status with emphasis on use of the nursing process. Practicum included. Prerequisites: NRSG 321; NRSG 331; NRSG 341. Corequisite: NRSG 425.

NRSG 425 GERONTOLOGY IN NURSING
Focus on the aging client within the context of the family. Uses nursing concepts related to health promotion, illness prevention, and provision of care.

NRSG 431 NURSING MANAGEMENT
Principles of management in the health care system and the relationship to leadership. Practicum included. Prerequisites: NRSG 321; NRSG 331; NRSG 341.

NRSG 433 TOPICS IN NURSING
Study of current topics of interest in professional nursing. May include papers or other projects.

NRSG 435 CRITICAL CARE NURSING
Nursing care of clients experiencing life threatening alterations in body systems. Practicum included. Prerequisites: NRSG 321; NRSG 331; NRSG 341.

NRSG 441 COMMUNITY HEALTH NURSING
The body of knowledge from nursing, public health sciences and organizational theories is applied through the nursing process to individuals, families and groups within the community. Practicum included. Prerequisites: NRSG 321; NRSG 331; NRSG 341.

NRSG 445 ISSUES AND TRENDS IN NURSING
Discussion of issues and trends affecting the practice of professional nursing and health care delivery.
Office Administration
OFFICE ADMINISTRATION

Chair: J. Wiggins.

The Office Administration programs focus on development of the mental and technical skills required of Christian support personnel in today's offices. In addition, prospective teachers and office managers receive training and guidance in the art of developing these skills in others.

The Bachelor of Science degree is offered in Office Administration or Business Education. The four-year Office Administration program prepares students to assume responsible supervisory and office management positions in the business and professional world. Knowledge of the concepts of office organization, systems design and management, and the changing trends in office operations, as well as the qualifications for and requirements of office workers, are included in the coursework for this major. The business education program is designed to prepare competent secretarial teachers to serve in secondary schools. Along with the major requirements, students should complete the courses for certification as outlined in the Education and Psychology section of this bulletin.

An Associate of Science degree is offered in legal, medical, administrative, accounting, or data entry areas. Specialization is achieved through specific terminology and office systems courses addressing the particular needs of each area. Applied office work in the student's specialty blends education with on-the-job experience during the second year of the program. After successful completion of the two-year program, students wishing to continue a B.S. degree in Office Administration or Business Education may do so without loss of credit.

MAJOR IN OFFICE ADMINISTRATION (Bachelor of Science)

A student majoring in office administration must complete 52 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Major Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>OFAD 221, 222</td>
<td>Advanced Keyboarding</td>
<td>4</td>
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<tr>
<td>OFAD 224</td>
<td>Electronic Keyboarding</td>
<td>1</td>
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<tr>
<td>OFAD 225</td>
<td>Word Processor Keyboarding</td>
<td>1</td>
</tr>
<tr>
<td>OFAD 228</td>
<td>Automated Office Applications</td>
<td>4</td>
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<tr>
<td>OFAD 230</td>
<td>Data Entry</td>
<td>1</td>
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<tr>
<td>OFAD 234</td>
<td>Machine Transcription</td>
<td>2</td>
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<tr>
<td>OFAD 236</td>
<td>Business Machines</td>
<td>2</td>
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<tr>
<td>OFAD 241, 242</td>
<td>Advanced Shorthand and Transcription</td>
<td>4</td>
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<tr>
<td>OFAD 255</td>
<td>Information Processing Support Skills</td>
<td>2</td>
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<td>OFAD 256</td>
<td>Information Resource Management</td>
<td>2</td>
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<tr>
<td>OFAD 320, 321</td>
<td>Electronic Office Procedures</td>
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<td>OFAD 322</td>
<td>Electronic Office Administration</td>
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<tr>
<td>OFAD 362</td>
<td>Business Communications</td>
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<tr>
<td>OFAD 370</td>
<td>Applied Office Administration</td>
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<tr>
<td>OFAD 459</td>
<td>The Administrative Assistant</td>
<td>4</td>
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<tr>
<td>OFAD 466</td>
<td>Office Ethics and Relations</td>
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<tr>
<td>OFAD 496</td>
<td>Office Administration Seminar</td>
<td>1</td>
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</tbody>
</table>
Electives (must be upper division) 7

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Cognates:

ACCT 201, 202, 203 Principles of Accounting 10

ACCT 205, 206 Computer Principles 3

CPTR 101 Principles of Macroeconomics 4

ECON 211 Business Law 4

GBUS 361 Management and Organizational Behavior 4

MGMT 371

Students preparing for medical secretarial work should complete the following:

BIOL 201, 202 Anatomy and Physiology 8

BIOL 222 Microbiology 5

OFAD 456 Medical Office Procedures 4

OFAD 457 Medical Terminology and Transcription 5

MAJOR IN BUSINESS EDUCATION (Bachelor of Science)
A student majoring in business education must complete 57 quarter hours in the major, the required cognates, the education certification requirements, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Major Requirements:

OFAD 221, 222 Advanced Keyboarding 4

OFAD 224 Electronic Keyboarding 1

OFAD 225 Word Processor Keyboarding 1

OFAD 228 Automated Office Applications 4

OFAD 230 Data Entry 1

OFAD 234 Machine Transcription 2

OFAD 236 Business Machines 2

OFAD 241, 242 Advanced Shorthand and Transcription 4

OFAD 255 Information Processing Support Skills 2

OFAD 256 Information Resource Management 2

OFAD 320, 321 Electronic Office Procedures 6

OFAD 322 Electronic Office Administration 3

OFAD 362 Business Communications 4

OFAD 370 Applied Office Administration 1

OFAD 395 Methods of Teaching Business Education 4

Subjects

OFAD 459

The Administrative Assistant 4

Electives (must be upper division; eight may be taken from the Business Department.) 12

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

Cognates:
ACCT 201, 202, 203  Principles of Accounting  10
or
ACCT 205, 206  Principles of Accounting  3
CPTR 101  Computer Principles  4
ECON 211  Principles of Macroeconomics  4
ECON 212  Principles of Microeconomics  4
GBUS 361, 362  Business Law  8
MATH 106  Applied Statistics  4
MGMT 371  Management and Organizational Behavior  4

The following course is highly recommended:
PSYC 489  Vocational Development Theory  3

DATA ENTRY (Associate of Science)
The Data Entry program is administered jointly by Computer Science and Office Administration. A student completing the Data Entry program 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 101  Computer Principles  3
MIS 102  Microcomputer Applications  2
OFAD 161  Mathematics of Business  2
OFAD 221, 222  Advanced Keyboarding  4
OFAD 224  Electronic Keyboarding  1
OFAD 225  Word Processor Keyboarding  1
OFAD 228  Automated Office Applications  4
OFAD 230  Data Entry  2
OFAD 236  Business Machines  2
OFAD 255  Information Processing Support Skills  2
OFAD 256  Information Resource Management  2
OFAD 280  Practicum in Office Administration  2
OFAD 320, 321  Electronic Office Procedures  6
OFAD 322  Electronic Office Administration  3
Electives  7

Electives must be chosen in consultation with and approved by the academic adviser and will usually have one of the following prefixes ACCT, CPTR, FINA, GBUS, MGMT or OFAD.

Cognates:
ACCT 115, 116  Clerical Accounting  43
or
ACCT 201, 202, 203  Principles of Accounting  6-10
or
ACCT 205, 206  Principles of Accounting  4
MATH 105  Mathematics With Applications  4
MGMT 371  Management and Organizational Behavior  4
PSYC 130  General Psychology  4
TWO-YEAR SECRETARIAL PROGRAM (Associate of Science)

A student specializing in this program must complete 32 quarter hours in the core, one area of concentration, the required cognates for that area, the general studies program, and all associate degree requirements as outlined in this bulletin.

### Core Requirements:
- OFAD 161 Mathematics of Business 2
- OFAD 221, 222 Advanced Keyboarding 4
- OFAD 225 Word Processor Keyboarding 1
- OFAD 228 Automated Office Applications 4
- OFAD 236 Business Machines 2
- OFAD 255 Information Processing Support Skills 2
- OFAD 256 Information Resource Management 2
- OFAD 264 Traditions and Practices of Business 3
- OFAD 362 Business Communications 4
- OFAD 370 Applied Office Administration 1
- OFAD 459 The Administrative Assistant 4
- OFAD 466 Office Ethics and Relations 3

**Total Core Requirements: 32**

### Area Requirements: Accounting Assistant
- ACCT 201, 202, 203 Principles of Accounting 10
- ACCT 222 Accounting Projects 2
- OFAD 230 Data Entry 1
- OFAD 234 Machine Transcription 2
- OFAD 320, 321 Electronic Office Procedures 6

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

**Total Area Requirements: 25**

### Cognates: Accounting Assistant
- CPTR 101 Computer Principles 3
- FINA 101 Personal Finance 2
- MIS 102 Microcomputer Applications 2

### Area Requirements: Administrative Assistant
- OFAD 234 Machine Transcription 2
- OFAD 241, 242 Advanced Shorthand and Transcription 4
- OFAD 320, 321 Electronic Office Procedures 6
- OFAD 322 Electronic Office Administration 3

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

**Total Area Requirements: 21**

### Cognates: Administrative Assistant
- ACCT 115, 116 Clerical Accounting 6
- CPTR 101 Computer Principles 3
- FINA 101 Personal Finance 2
Area Requirements: Legal Office Assistant

- GBUS 361, 362 Business Law 8
- OFAD 241, 242 Advanced Shorthand and Transcription 4
- OFAD 454 Legal Office Procedures 4
- OFAD 455 Legal Terminology and Transcription 3
- Electives 7

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

Cognates: Legal Office Assistant

- ACCT 115, 116 Clerical Accounting 6
- CPTR 101 Computer Principles 3
- FINA 101 Personal Finance 2

Area Requirements: Medical Office Assistant

- OFAD 241, 242 Advanced Shorthand and Transcription 4
- OFAD 456 Medical Office Procedures 4
- OFAD 457 Medical Terminology and Transcription 5
- Electives 7

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

Cognates: Medical Office Assistant

- ACCT 115, 116 Clerical Accounting 6
- BIOL 201, 202 Anatomy and Physiology 8
- CPTR 101 Computer Principles 3
- FINA 101 Personal Finance 2

MINOR IN OFFICE ADMINISTRATION

A student minoring in office administration must complete 30 quarter hours:

- OFAD 221, 222 Advanced Keyboarding 4
- OFAD 225 Word Processor Keyboarding 1
- OFAD 228 Automated Office Applications 4
- OFAD 234 Machine Transcription 2
- OFAD 236 Business Machines 2
- OFAD 255 Information Processing Support Skills 2
- OFAD 256 Information Resource Management 2
- OFAD 320 Electronic Office Procedures 3
- OFAD 362 Business Communications 4
- OFAD 459 The Administrative Assistant 4
- Electives 2

Approval of office administration adviser required.

OFFICE ADMINISTRATION (OFAD)

OFAD 111, 112, 113 BASIC KEYBOARDING 2, 2, 2
Introduction to touch typewriting with emphasis on basic theory, speed, accuracy. Not open to challenge examination. Does not apply toward a major or minor for the Bachelor of Science degree or as an elective for the Associate of Science degree.
OFAD 141, 142, 143 SHORTHAND THEORY 3, 3, 3
Principles of Gregg shorthand, emphasizing correct writing and transcribing of shorthand notes. One hour laboratory per week.

OFAD 161 MATHEMATICS OF BUSINESS 2
Study of fractions, decimals, percentages, algebraic equations, simple interest, compound interest, banking transactions, depreciations, payroll, graphs and statistics.

OFAD 221, 222 ADVANCED KEYBOARDING 2, 2
Advanced typewriting emphasizing increase of speed, accuracy and skill in the production of business papers; course work is arranged to provide for individual skill levels.

OFAD 224 ELECTRONIC KEYBOARDING 1
Gives students basic knowledge and skill in electronic keyboarding. Supervised experience on the IBM Word Processor and the Wheelwriter 5 Typewriter.

OFAD 225 WORD PROCESSOR KEYBOARDING 1
Student develops proficiency in basic word processing skills including concepts and terminology. Recommended: Minimum typing skills.

OFAD 228 AUTOMATED OFFICE APPLICATIONS 4
The development of advanced word processing skills and experience in current office procedures and applications using the microcomputer. Prerequisite: OFAD 225.

OFAD 230 DATA ENTRY 1-2
Instruction and practice in the use of off-line data entry and storage devices, especially those using diskette storage.

OFAD 234 MACHINE TRANSCRIPTION 2
Laboratory practice in dictating letters and reports and in transcribing from machine dictation; emphasizes progressively higher transcription rates with mailability of copy dealing with technical and increasingly difficult materials.

OFAD 236 BUSINESS MACHINES 2
A laboratory designed to develop proficiency using electronic calculators with emphasis on basic business calculations.

OFAD 241, 242 ADVANCED SHORTHAND AND TRANSCRIPTION 2, 2
Review of the principles of Gregg shorthand; emphasizes speed in taking and transcribing business dictation.

OFAD 255 INFORMATION PROCESSING SUPPORT SKILLS 2
Development of the basic support skills for office work including spelling, proofreading, and editing.

OFAD 256 INFORMATION RESOURCE MANAGEMENT 2
Study of the organization of records management systems including procedures, equipment, personnel, and control.

OFAD 264 TRADITIONS AND PRACTICES OF BUSINESS 3
Study of business law topics that have been recommended by the United States Office of Education for secretaries and related office workers; emphasizes contracts and negotiable instruments. Designed for associate degree students.

OFAD 280 PRACTICUM IN OFFICE ADMINISTRATION 1-8
Laboratory work in a specialized area chosen in counsel with the laboratory instructor. Thirty laboratory hours per credit.

OFAD 320, 321 ELECTRONIC OFFICE PROCEDURES 3, 3
Study of office procedures with emphasis on the tasks performed by support staff with electronic equipment, new technologies, and the organizational styles used in today's office. Prerequisites: OFAD 255, 256.

OFAD 322 ELECTRONIC OFFICE ADMINISTRATION 3
Study of the role of the office manager in relation to office trends, technology, systems, and operations. Emphases will be given to the responsibilities of support staff management including forms design and control, office design and environment, office productivity and time management. Prerequisites: OFAD 320, 321 or permission of instructor.
OFFICE ADMINISTRATION

OFAD 362 BUSINESS COMMUNICATIONS 4
Study of the principles basic to effective communication with emphasis on the business writer as a communication strategist.

OFAD 370 APPLIED OFFICE ADMINISTRATION 1-3
Supervised work experience in an office for actual on-the-job training. A minimum of 30 hours of satisfactory work for each credit hour.

OFAD 395 METHODS OF TEACHING BUSINESS EDUCATION SUBJECTS 4
Survey of the objectives, methods and techniques of teaching business education subjects in the secondary school; requires observation, demonstration and class presentations.

OFAD 454 LEGAL OFFICE PROCEDURES 4
Study of the specialized duties of a legal office; emphasizes the preparation of legal documents, court procedures and management of the legal office.

OFAD 455 LEGAL TERMINOLOGY AND TRANSCRIPTION 3
Study of legal terminology and development of skills in the formatting and transcription of legal documents.

OFAD 456 MEDICAL OFFICE PROCEDURES 4
Study of the specialized duties of a medical office; emphasizes the preparation of medical office records.

OFAD 457 MEDICAL TERMINOLOGY AND TRANSCRIPTION 3, 5; 5
Study of the development of the basic medical vocabulary; includes practice in the transcription of medical reports from voicecription machines. One laboratory per week. Prerequisites: BIOL 201, 202 or equivalent substitution with consent of department chair. Medical secretary majors must take 5 hours.

OFAD 459 THE ADMINISTRATIVE ASSISTANT 4
Study of the organization and planning of work, setting priorities, making decisions, analyzing problems and providing solutions.

OFAD 466 OFFICE ETHICS AND RELATIONS 3
Study of the present and future problems facing the professional secretary; emphasizes psychological principles that influence the behavior of people in the social and business worlds.

OFAD 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. Prerequisites: Approval by department; CDEV 210 or permission of Cooperative Education Director.

OFAD 496 OFFICE ADMINISTRATION SEMINAR 1-3
Discussion, research, special problems, analysis of new trends in the field and study of the major areas in office administration. For majors only.
Physics
PHYSICS

G. Johnson, Chair; C. Barnett, G. Schoepflin.

The department offers a Bachelor of Arts degree and a Bachelor of Science degree with a major in physics, and jointly with the department of biology, a major in biophysics. The physics major who is preparing for secondary teaching will normally choose the Bachelor of Arts degree, including the certification requirements as outlined in the education and psychology section of this bulletin. The Bachelor of Science degree is designed to prepare the student for graduate study and a career in applied or basic research and college teaching. The interdisciplinary major in biophysics should best fill 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 periods of secondary mathematics chosen from algebra, plane and solid geometry, and trigonometry are required.

MAJOR IN PHYSICS (Bachelor of Arts)

A student majoring in physics must complete 48 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. The Graduate Record Examination in physics (general and subject portions) is required.

<table>
<thead>
<tr>
<th>Major Requirements:</th>
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<tbody>
<tr>
<td>PHYS 114</td>
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<tr>
<td>PHYS 115, 116</td>
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<tr>
<td>PHYS 251, 252, 253</td>
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<td>PHYS 254, 255, 256</td>
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<td>PHYS 311</td>
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<td>PHYS 321, 322</td>
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<td>PHYS 401, 402</td>
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<tr>
<td>PHYS 421</td>
<td>Classical Mechanics 8</td>
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<tr>
<td>and</td>
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<tr>
<td>PHYS 422</td>
<td>Quantum Mechanics</td>
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<tr>
<td>PHYS 417, 418, 419</td>
<td>Physics Seminar II 3</td>
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*Students who have completed PHYS 211, 212, 213 may meet the PHYS 251, 252, 253 requirement by passing a department examination.

Cognates:

<table>
<thead>
<tr>
<th>Cognates:</th>
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<tr>
<td>CHEM 141, 142, 143</td>
<td>General Chemistry 9</td>
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<td>CHEM 144, 145, 146</td>
<td>General Chemistry Laboratory 3</td>
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<tr>
<td>CPTR 124</td>
<td>Introduction to BASIC</td>
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<td>or</td>
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<tr>
<td>CPTR 134</td>
<td>Introduction to Computing (FORTRAN) 2.4</td>
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<td>or</td>
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<tr>
<td>CPTR 141</td>
<td>Introduction to Programming (Pascal)</td>
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</table>

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MAJOR IN PHYSICS (Bachelor of Science)
A student majoring in physics must complete 63 quarter hours in the major, the
required cognates, the general studies program, and all baccalaureate degree re-
quirements as outlined in this bulletin. The Graduate Record Examination in physics
(general and subject portions) is required.

<table>
<thead>
<tr>
<th>Major Requirements:</th>
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<tbody>
<tr>
<td>PHYS 114</td>
<td>Perspectives in Physics</td>
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<tr>
<td>PHYS 115, 116</td>
<td>Introduction to Experimentation</td>
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<td>PHYS 251, 252, 253 *</td>
<td>Principles of Physics</td>
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<tr>
<td>PHYS 254, 255, 256</td>
<td>Principles of Physics Laboratory</td>
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<tr>
<td>PHYS 311</td>
<td>Modern Physics</td>
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<td>PHYS 312</td>
<td>Physical Electronics</td>
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<td>PHYS 313</td>
<td>Thermodynamics</td>
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<tr>
<td>PHYS 314</td>
<td>Modern Physics Laboratory</td>
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<tr>
<td>PHYS 315</td>
<td>Physical Electronics Laboratory</td>
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<tr>
<td>PHYS 316</td>
<td>Optics Laboratory</td>
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<tr>
<td>PHYS 317, 318, 319</td>
<td>Physics Seminar I</td>
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<td>PHYS 321, 322</td>
<td>Optics</td>
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<td>PHYS 401, 402</td>
<td>Electricity and Magnetism</td>
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<td>PHYS 414, 415, 416</td>
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<td>PHYS 417, 418, 419</td>
<td>Physics Seminar II</td>
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<td>PHYS 421</td>
<td>Classical Mechanics</td>
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<tr>
<td>PHYS 422, 423</td>
<td>Quantum Mechanics</td>
</tr>
</tbody>
</table>

*Students who have completed PHYS 211, 212, 213 may meet the
PHYS 251, 252, 253 requirement by passing a department examination.

Cognates:

| CHEM 141, 142, 143        | General Chemistry       |
| CHEM 144, 145, 146        | General Chemistry Laboratoy |
| CPTR 124 or CPTR 134      | Introduction to BASIC |
| or                         | Introduction to Computing (FORTRAN) 2-4 |
| or                         | Introduction to Programming (Pascal) |
| ENGR 228 or ENGR 325      | Circuit Analysis        |
| or                         | Instrumentation         |
| or                         | Digital Logic Circuits   |
| or                         | Computers in the Laboratory |
| ENGR 354 or CPTR 331      | Vibration (Recommended; not required) |
| or                         | Analytic Geometry and Calculus I-IV |
| or                         | Linear Algebra and Its Applications 3 |

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MATH 312  Ordinary Differential Equations  4
MATH 315  Probability and Statistics  4
MATH 341  Numerical Analysis  4
or
MATH 423  Introduction to the Theory of Complex Variables

MAJOR IN BIOPHYSICS (Bachelor of Science)
A student majoring in biophysics must complete 33 quarter hours in biology and 36 quarter hours in physics, the required cognates, the general studies program and all baccalaureate degree requirements as outlined in this bulletin. Graduate Record Examinations in physics and biology (general and subject portions) are required. One summer term at the Marine Station is required. Specific course requirements are outlined in the Interdisciplinary section of this bulletin.

MINOR IN PHYSICS
A student minoring in physics must complete 27 quarter hours:

- Electives (3 must be upper division) 27

Approval of physics adviser required.
PHYSICS (PHYS)

ASTR 141, 142 GENERAL ASTRONOMY 4, 4
Introduction to modern astronomy with emphasis on the place of astronomy in man's cultural and scientific thought and experience; includes study of planets, moons, comets, meteoros, the solar system as a unit; the sun, stars, galaxies and the sidereal universe. Laboratory or night observation once a week. Prerequisite: Completion of general studies mathematics requirement.

GEOL 231, 232 EARTH SCIENCE (HONORS) 4, 4
Study of the earth, its composition and structure, and the processes and forces in operation; emphasizes the interdisciplinary nature of earth science by including such topics as earthquake seismology, plate tectonics, the nature of science, its development, methods and philosophical basis. Three class hours per week and one laboratory session or field trip per week. Must be taken in sequence.

PHYS 114 PERSPECTIVES IN PHYSICS 1
Study of the historical and philosophical development of contemporary ideas in the physical sciences. Examples of various historical experiments will be performed and discussed. Some time will be devoted to exploring careers in physics and related fields.

PHYS 115, 116 INTRODUCTION TO EXPERIMENTATION 1, 1
Introduction to the principles and practice of hypothesis testing including physical measurement, experiment design and data analysis; emphasizes the use of the computer for data acquisition, graphical presentation and analysis of data and simple simulation. Prerequisite: CPTR 124 or CPTR 134 or CPTR 141 or equivalent.

PHYS 201, 202 INVITATION TO 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. Prerequisite: Completion of general studies mathematics requirement. Corequisites: PHYS 204, 205.

PHYS 204, 205 INVITATION TO PHYSICS LABORATORY 1, 1
Laboratory work integrated with PHYS 201, 202.

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 the nonphysics major to acquaint him 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.

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, MATH 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.

PHYS 251, 252, 253 or equivalent and MATH 181, MATH 281, 282, 283 are prerequisites for all courses numbered PHYS 300 or above except PHYS 352; PHYS 353; PHYS 395.

PHYS 311 MODERN PHYSICS 3
Study of the basic principles of relativity, quantum theory, atomic and nuclear structure. Corequisites: PHYS 314; MATH 315.

PHYS 312 PHYSICAL ELECTRONICS 3
Study of the physical principles of solid state electronics devices. Prerequisite: PHYS 311; PHYS 313 is recommended. Corequisite: PHYS 315.

PHYS 313 THERMODYNAMICS 4
Introduction to the physical theories of equilibrium thermostatcs and irreversible thermodynamics based on elementary statistical mechanics. Prerequisites: PHYS 311; MATH 315.
PHYS 314 MODERN PHYSICS LABORATORY
Experimental study of the characteristics of alpha, beta and gamma radiation, interaction of radiation with matter, neutron activation. Corequisite: PHYS 311.

PHYS 315 PHYSICAL ELECTRONICS LABORATORY
Experiments in crystal and semiconductor physics, properties of ionized gases, measurement of fundamental physical constants. Corequisite: PHYS 312.

PHYS 316 OPTICS LABORATORY
Experimental study of geometrical and physical optics.

PHYS 317, 318, 319 PHYSICS SEMINAR I
Discussion of contemporary and classical topics, with emphasis placed on underlying principles and the interrelation of physical concepts. A term project is required.

PHYS 321, 322 OPTICS

PHYS 352, 353 RADIOISOTOPE TECHNIQUES
Laboratory work accompanied by lectures appropriate to the techniques studied in the laboratory; includes radiation detection, instrumentation, radiological safety, interaction of radiation with matter, ionization chambers, proportional counters, Geiger counters, scintillation counters, spectrometers, monitoring and survey instruments, activation analysis, selected biological and chemical studies. Prerequisites: PHYS 211, 212, 213 or CHEM 141, 142, 143.

PHYS 395 METHODS OF TEACHING PHYSICAL SCIENCE
Materials, techniques and methods of teaching the physical sciences on the secondary level. Requires observation, demonstration and class presentations. Special attention is given to newer methods of teaching science to the secondary student. Will not apply on a major or minor in physics.

PHYS 401, 402 ELECTRICITY AND MAGNETISM
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.

PHYS 414, 415, 416 EXPERIMENTAL PHYSICS
Experimental investigations in classical and modern physics.

PHYS 417, 418, 419 PHYSICS SEMINAR II
Discussion of contemporary and classical topics in physics, with emphasis placed on underlying principles and the interrelation of physical concepts. A term project is required.

PHYS 421 CLASSICAL MECHANICS
Study of kinematics and dynamics of particles and rigid bodies, harmonic and orbital motion, using the methods of Newton, Lagrange, and Hamilton.

PHYS 422, 423 QUANTUM MECHANICS
Study of the experimental and theoretical foundations of modern atomic and sub-atomic physics. Topics include special relativity, wave mechanics, matrix mechanics, perturbation theory, and particle physics. Prerequisite: PHYS 421.

PHYS 494 COOPERATIVE EDUCATION
An 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 10 credit hours of upper division physics courses; departmental approval.
Preprofessional Programs
PREPROFESSIONAL PROGRAMS

The College offers courses which are prerequisite for admission to professional or technical schools. Students wishing to secure admission to such schools should familiarize themselves with the admission requirements of the school of their choice. Most preprofessional curriculums require two units of high school mathematics (algebra and geometry). Preprofessional courses of study are offered for the professions hereinafter listed.

All programs should be planned in consultation with and approved by the assigned academic adviser.

ARCHITECTURE

F. Bennett, T. Emmerson, Academic Advisers.

Professional schools of architecture usually require a minimum of two or three years of preprofessional study prior to admission. Final acceptance for professional studies is determined competitively and the level of expected preprofessional achievement varies considerably among schools.

The following typical two-year program will satisfy the basic entrance requirements of many professional schools of architecture. However, admission requirements vary between programs and students should reconcile their preprofessional study plans with the requirements of the particular institutions to which they intend to apply.

Students who are interested in completing the preprofessional architecture requirements at Walla Walla College and who are also interested in transferring to Andrews University for the architecture program should consult with the preprofessional architecture advisers for the recommended course of study.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>ART 161, 162, 163</td>
<td>Design</td>
<td>9</td>
</tr>
<tr>
<td>ART 184, 185</td>
<td>Introduction to Drawing</td>
<td>4</td>
</tr>
<tr>
<td>ART 251</td>
<td>Introduction to Art</td>
<td>4</td>
</tr>
<tr>
<td>ART 321, 322, 323</td>
<td>History of Art</td>
<td>6</td>
</tr>
<tr>
<td>CFTTR 134</td>
<td>Introduction to Computing (FORTRAN)</td>
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<tr>
<td>ENGL 121, 122, 123</td>
<td>College Writing</td>
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<tr>
<td>ENGR 121, 122, 123</td>
<td>Introduction to Engineering</td>
<td>6</td>
</tr>
<tr>
<td>HIST 120, 121, 122</td>
<td>History of Western Civilization</td>
<td>8</td>
</tr>
<tr>
<td>MATH 121, 122</td>
<td>Fundamentals of Mathematics</td>
<td>8</td>
</tr>
<tr>
<td>MATH 181</td>
<td>Analytic Geometry and Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 281</td>
<td>*Analytic Geometry and Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>PEAC</td>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 211, 212, 213</td>
<td>General Physics</td>
<td>9</td>
</tr>
<tr>
<td>PHYS 214, 215, 216</td>
<td>General Physics Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 130</td>
<td>*General Psychology</td>
<td>4</td>
</tr>
<tr>
<td>RELB, RELH, RELT</td>
<td>Electives</td>
<td>8</td>
</tr>
<tr>
<td>SPCH 101</td>
<td>Fundamentals of Speech Communication</td>
<td>4</td>
</tr>
</tbody>
</table>

*Suggested courses: other courses in this same field may also be appropriate.
CHIROPRACTIC

R. Carter, Academic Adviser

Two years of college preparation are generally required, including one year of biology and at least one year of chemistry. The student should obtain a bulletin from each chiropractic college to which he wishes to apply for information on entrance requirements. State requirements also vary, and such information is available from the chiropractic college. 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.

DENTISTRY

J. Galusha, Academic Adviser

The minimum requirement for admission to the study of dentistry is 96 quarter hours. However, most dental schools expect candidates for admission to have completed a bachelor's degree in an area of the student's choice. The following courses are basic requirements:

- **BIOL 101, 102, 103**: General Biology (or Zoology) ~ 12
- **CHEM 141, 142, 143**: General Chemistry ~ 9
- **CHEM 144, 145, 146**: General Chemistry Laboratory ~ 3
- **CHEM 321, 322, 323**: Organic Chemistry ~ 9
- **CHEM 324, 325, 326**: Microscale Organic Laboratory ~ 3
- **ENGL 121, 122, 123**: College Writing ~ 8
- **MATH 121, 122**: Fundamentals of Mathematics ~ 8
  (or equivalent)
- **MGMT 371**: Management and Organizational Behavior ~ 4
- **PHYS 211, 212, 213**: General Physics ~ 9
- **PHYS 214, 215, 216**: General Physics Laboratory ~ 3
- **Religion**: one course per year

Loma Linda University also recommends the following:

- **FDNT 220**: Human Nutrition ~ 4
- Two psychology courses

DENTAL HYGIENE

J. Galusha, Academic Adviser

Students planning for careers in dental hygiene must complete 48 or 96 quarter hours with a cumulative grade-point average of 2.75 or above before seeking admission to the various dental hygiene programs.

Loma Linda University

Experience has indicated that a minimum average of 2.75 is needed to compete for admission to the program at Loma Linda University. The following courses are required in preparation for advanced studies there:
PREPROFESSIONAL PROGRAMS

- BIOL 201, 202 Anatomy and Physiology 8
- BIOL 222 Microbiology 5
- CHEM 101, 102 Introductory Chemistry 8
- ENGL 121, 122, 123 College Writing 8
- PSYC 130 General Psychology 4
- SPCH 101 Fundamentals of Speech Communication 4
- SOCI 204 General Sociology 4
- History, Economics or Anthropology 8
- Literature, Fine Arts, Philosophy and/or Foreign Language (choose at least two) 12
- Religion 8
- Additional Sociology, History, Economics or Psychology 4
- Electives 23

The Bachelor of Science degree is awarded by Loma Linda University. See adviser.

DIETETICS
M. Olmsted, Academic Adviser

Students pursuing careers in therapeutic or administrative dietetics must meet requirements as specified by the American Dietetics Association (ADA). The first two years or 96 quarter hours are to be completed on the Walla Walla College campus. The remaining two years are to be completed in a Coordinated Undergraduate Program approved by ADA. Consult with the academic adviser for a complete course outline. The degree is not awarded by Walla Walla College.

LAW
T. 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.

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
R. Carter, Academic Adviser

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 101, 102, 103  General Biology  12
CHEM 141, 142, 143  General Chemistry  9
CHEM 144, 145, 146  General Chemistry Laboratory  3
CHEM 321, 322, 323  Organic Chemistry  9
CHEM 324, 325, 326  Microscale Organic Laboratory  3
MATH 121, 122  Fundamentals of Mathematics
or
MATH 117  Precalculus  4-8
or
MATH 181  Analytical Geometry and Calculus I
PHYS 211, 212, 213  General Physics
PHYS 214, 215, 216  General Physics Laboratory
or
PHYS 251, 252, 253  Principles of Physics
PHYS 254, 255, 256  Principles of Physics Laboratory
Religon  16

Also recommended are:
BIOL 266  Developmental Biology  4
CHEM 431  Biochemistry  3
CHEM 433  Biochemical Laboratory Methods  1
MATH 181  Analytical Geometry and Calculus I  4
RELT 312  Bioethics  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

See Interdisciplinary section of this Bulletin.

NURSING

F. Fickess, W. Anderson, Academic Advisers

For details about courses, etc., in nursing, please see the Nursing section of this bulletin. Candidates who plan to enter other schools should write to the director of the nursing school of their choice and ask for specific requirements.

OCCUPATIONAL THERAPY

C. Kuhlman, Academic Adviser

Students who are preparing for the Bachelor of Science degree in occupational therapy should plan to complete 96 quarter hours before entering the professional training. The curriculum requirements of Loma Linda University include:

BIOL 201, 202  Anatomy and Physiology  8
BIOL 222  Microbiology  5
ENGL 121, 122, 123  College Writing  8
PSYC 130  General Psychology  4
PREPROFESSIONAL PROGRAMS

SOCI 224  Human Development and the Family  4
SPCH 101  Fundamentals of Speech Communication  4
Anthropology or Sociology  8
Select an additional behavioral science course:
Chemistry, Physics or
Physical Science  12
Select at least one science sequence. Science must include laboratory.
Ceramics, INCR 227 or ART 284
Woodworking, INDS 221, 222, 223
General Crafts
Select one additional class from Industrial Technology listings.

Humanities
Select one additional course from: fine arts, foreign language, literature, philosophy. (History of Civilization may be counted either in humanities or social sciences.)
Math (or three years high school math)
Religion
Electives  23

To meet the minimum of 90 quarter hours. Courses in applied art and behavior science are recommended.

In addition to the above Loma Linda University requires: 1. A documented minimum of 80 hours of volunteer or employee work experience in an occupational therapy department before acceptance. 2. The completion of the Allied Health Professions Admission Test (AHPAT) before admission.

OPTOMETRY
Gary Schoepflin, Academic Adviser
Two years of college preparation are the minimum requirements for admission to most optometry schools, and this is generally followed by four years of training for the Doctor of Optometry degree. In some cases the Bachelor of Science degree may also be awarded by the optometry school.

The preprofessional curriculum should include as a minimum the following courses:

BIOL 101, 102, 103  General Biology  12
CHEM 141, 142, 143  General Chemistry  9
CHEM 144, 145, 146  General Chemistry Laboratory  3
ENGL 121, 122, 123  College Writing  8
MATH 121, 122  *Fundamentals of Mathematics  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

*Fundamentals of Mathematics should be taken the first year.

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It is important that the student obtain a catalog from each college of optometry he may wish to enter, since these schools differ widely in their recommendations of other courses for the preoptometry program. Other commonly required courses include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 321, 322, 323</td>
<td>Organic Chemistry</td>
</tr>
<tr>
<td>CHEM 324, 325, 326</td>
<td>Microscale Organic Laboratory</td>
</tr>
<tr>
<td>PSYC 495</td>
<td>Analysis of Psychological Experiments</td>
</tr>
</tbody>
</table>

The student may also wish to request the booklet *Information for Applicants to Schools and Colleges of Optometry*, available from the American Optometric Association, 243 N. Lindbergh Blvd., St. Louis, MO 63141.

Competition for admission to some optometry schools is rigorous and unless the student achieves a very strong academic record, he would do well to complete a third year of college taking advanced courses in chemistry and biology.

**OSTEOPATHY**

R. Carter, 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**

R. Wade, Academic Adviser

At least two years of general college work are required. Students should consult with the college of pharmacy of their choice about course requirements. The following courses should be included:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101, 102, 103</td>
<td>General Biology (or Zoology)</td>
</tr>
<tr>
<td>BIOL 222</td>
<td>Microbiology</td>
</tr>
<tr>
<td>CHEM 141, 142, 143</td>
<td>General Chemistry</td>
</tr>
<tr>
<td>CHEM 144, 145, 146</td>
<td>General Chemistry Laboratory</td>
</tr>
<tr>
<td>CHEM 321, 322, 323</td>
<td>Organic Chemistry</td>
</tr>
<tr>
<td>CHEM 324, 325, 326</td>
<td>Microscale Organic Laboratory</td>
</tr>
<tr>
<td>ENGL 121, 122, 123</td>
<td>College Writing</td>
</tr>
<tr>
<td>MATH 181, 281</td>
<td>Analytical Geometry and Calculus I, II</td>
</tr>
<tr>
<td>PHYS 211, 212, 213</td>
<td>General Physics</td>
</tr>
<tr>
<td>PHYS 214, 215, 216</td>
<td>General Physics Laboratory</td>
</tr>
</tbody>
</table>

All pharmaceutical colleges require three years in residency beyond the two years of prepharmacy; some require four years.

**PHYSICAL THERAPY**

A. Grable, Academic Adviser

The various programs offering the degree in physical therapy are in transition to a
mandatory master's program with a bachelor's degree given after the fourth year. Requirements are changing so check with the adviser. Both Loma Linda and Andrews University will offer the master's degree. Courses at Walla Walla College that meet entry requirements are as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101, 102, 103</td>
<td>General Biology (or allowed for Andrews University)</td>
<td>8-12</td>
</tr>
<tr>
<td>BIOL 201, 202</td>
<td>Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 222</td>
<td>Microbiology</td>
<td>9</td>
</tr>
<tr>
<td>CHEM 141, 142, 143</td>
<td>General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 144, 145, 146</td>
<td>General Chemistry Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>CPTR 101</td>
<td>Computer Principles</td>
<td>8</td>
</tr>
<tr>
<td>ENGL 121, 122, 123</td>
<td>College Writing</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 201, 202</td>
<td>Invitation to Physics</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 204, 205</td>
<td>Invitation to Physics Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>PSYC 130</td>
<td>General Psychology</td>
<td>4</td>
</tr>
<tr>
<td>SOCI 204</td>
<td>General Sociology</td>
<td>4</td>
</tr>
<tr>
<td>SOCI 224</td>
<td>Human Development and the Family</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 101</td>
<td>Fundamentals of Speech</td>
<td>8-12</td>
</tr>
<tr>
<td>MATH 121</td>
<td>Fundamentals of Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>9-12</td>
<td>Religion</td>
<td>4</td>
</tr>
<tr>
<td>314</td>
<td>RELT 202 or 314 required for AU Electives</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Select from at least two fields: fine arts (4 quarter hours of applied music or arts may be included for LLU), language, literature, philosophy. Fine arts is required for AU.

Both programs require for acceptance: (1) A documented minimum of 80 hours of volunteer or employee work experience in a physical therapy department, (2) The completion of the Allied Health Professions Admission Test (AHPAT). Loma Linda University requires a minimum of 3.20 grade-point average; Andrews University has a minimum of 2.50.

PUBLIC HEALTH

R. Perrin, Academic Adviser

Loma Linda University School of Health is a fully accredited graduate school of public health, offering degree programs specifically tailored to the demands of today's career market. Since the field of public health includes such a wide variety of career disciplines, the training opportunities offered by the School of 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 in-
cluded in his undergraduate preparation courses in general statistics, epidemiology, public health administration, environmental health and behavioral science will benefit from advanced standing and/or course waivers for these requirements once accepted into the graduate program.

RADIOLOGICAL TECHNOLOGY
C. Kuhlman, Academic Adviser

The minimum requirement for admission to the study of radiological technology is 48 quarter hours. The following courses are to be included for the Associate of Science degree from Loma Linda University:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 201, 202</td>
<td>Anatomy and Physiology</td>
<td>8</td>
</tr>
<tr>
<td>ENGL 121, 122</td>
<td>College Writing</td>
<td>6</td>
</tr>
<tr>
<td>PHYS 201, 202</td>
<td>Invitation to Physics</td>
<td></td>
</tr>
<tr>
<td>and</td>
<td>Invitation to Physics Laboratory</td>
<td>8</td>
</tr>
<tr>
<td>PHYS 204, 205</td>
<td>General Physics</td>
<td></td>
</tr>
<tr>
<td>or PHYS 211, 212</td>
<td>General Physics Laboratory</td>
<td></td>
</tr>
<tr>
<td>or PHYS 214, 215</td>
<td>General Psychology</td>
<td></td>
</tr>
<tr>
<td>PSYC 130</td>
<td>General Sociology</td>
<td>4</td>
</tr>
<tr>
<td>or SOCI 204</td>
<td>Math (or three years of high school math)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Religion</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To meet the minimum of 48 quarter hours</td>
<td></td>
</tr>
</tbody>
</table>

In addition to the basic courses listed above, the following elective courses are highly recommended.

- An introductory computer course
- An introductory photography course
- Speech
- Typing

For those students who are planning ahead for further academic work, a B.S. degree requires 12 units of humanities and 12 units of social sciences. Other clinical specialties require General Chemistry and most highly recommend General Physics. The Allied Health Professions Admission Test (AHPAT) is required of students entering Loma Linda University.

RESPIRATORY THERAPY
C. 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:
### PREPROFESSIONAL PROGRAMS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101, 102, 103</td>
<td>General Biology</td>
<td>8-12</td>
</tr>
<tr>
<td>BIOL 201, 202</td>
<td>Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 222</td>
<td>Microbiology</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 101, 102</td>
<td>Introductory Chemistry</td>
<td>8</td>
</tr>
<tr>
<td>PHYS 201, 202</td>
<td>Invitation to Physics</td>
<td>8</td>
</tr>
<tr>
<td>and</td>
<td>Invitation to Physics Laboratory</td>
<td></td>
</tr>
<tr>
<td>PHYS 204, 205</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS 211, 212</td>
<td>General Physics</td>
<td>4</td>
</tr>
<tr>
<td>and</td>
<td>General Physics Laboratory</td>
<td></td>
</tr>
<tr>
<td>PHYS 214, 215</td>
<td>General Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 130</td>
<td>College Writing</td>
<td>8</td>
</tr>
<tr>
<td>or</td>
<td>Math (or three years of high school math)</td>
<td></td>
</tr>
<tr>
<td>SOCI 204</td>
<td>General Sociology</td>
<td>6</td>
</tr>
<tr>
<td>ENGL 121, 122, 123</td>
<td>Electives</td>
<td></td>
</tr>
</tbody>
</table>

The Allied Health Professionals Admission Test (AHPAT) is required of students entering Loma Linda University.

### VETERINARY SCIENCE

D. Rigby, Academic Adviser

The requirements below apply to the Washington-Oregon-Idaho Regional Program in veterinary medical education. Since the basic requirements for entrance into other veterinary schools may be different, the student should confer with the school of his choice.

#### Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101, 102, 103</td>
<td>General Biology</td>
<td>12</td>
</tr>
<tr>
<td>BIOL 261</td>
<td>Genetics</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 141, 142, 143</td>
<td>General Chemistry</td>
<td>9</td>
</tr>
<tr>
<td>CHEM 144, 145, 146</td>
<td>General Chemistry Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 321, 322, 323</td>
<td>Organic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 324, 325, 326</td>
<td>Microscale Organic Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 431</td>
<td>Biochemistry</td>
<td>4-8</td>
</tr>
<tr>
<td>CHEM 433</td>
<td>Biochemical Laboratory Methods</td>
<td></td>
</tr>
<tr>
<td>CHEM 431-432</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 433, 434</td>
<td>Biochemical Laboratory Methods</td>
<td></td>
</tr>
<tr>
<td>ENGL 121, 122, 123</td>
<td>College Writing</td>
<td>8</td>
</tr>
<tr>
<td>MATH 121, 122</td>
<td>Fundamentals of Mathematics</td>
<td>8</td>
</tr>
<tr>
<td>PHYS 211, 212, 213</td>
<td>General Physics</td>
<td>9</td>
</tr>
<tr>
<td>PHYS 214, 215, 216</td>
<td>General Physics Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 101</td>
<td>Fundamentals of Speech Communication</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Humanities and Social Studies</td>
<td>15-20</td>
</tr>
</tbody>
</table>
Recommended Courses:
See pre-veterinary adviser for additional courses recommended by Washington State University Curriculum Committee.
Total hours required (additional electives) 90

Nonacademic Requirements:
Veterinary Aptitude Test or Graduate Record Examination
Veterinary Medical Exposure and Animal Experience 300 hours
Applicants must record a minimum of 300 hours of contact with a graduate veterinarian by November 1 of the year of application.
RELIGION

J. Brunt, Dean; E. Bursey, J. Dybdahl, G. Greenwalt, L. Knapp, A. Thompson, L. Veverka.

The principal purposes of the School of Theology are to provide undergraduate education for students seeking to enter the ministry and to offer courses in religion as desired by students in various other curricula of the college.

Candidates for the ministry are selected on the basis of scholarship, spiritual qualities, cultural refinement, social sympathies and skills. Ministerial students are admitted to candidacy for a Bachelor of Arts degree with a major in theology upon the approval of the theology faculty at the beginning of the junior year. Those approved will then work to meet seminary entrance requirements by completing a theology major. Two additional years of graduate study at the Theological Seminary of Andrews University should be anticipated for ministerial internship.

Those who expect a recommendation to the seminary and/or those who plan to be pastors, evangelists, Bible workers, or Bible teachers should take a theology major. The religion major is available to those who are not planning on the ministry, and for those anticipating additional graduate training in such fields as medicine, dentistry and law.

All majors must successfully complete a senior comprehensive examination. Theology and Biblical Language majors must also pass a Greek proficiency examination typically given near the end of each winter quarter. Those planning to attend the seminary should complete the undergraduate subjects required for entrance and maintain a minimum grade-point average of 2.50. Students who plan to teach religion in academies must aim for 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 college career.

The Biblical languages major is intended for those students who wish to gain facility in use of the basic tools for Biblical study, especially those anticipating graduate work in this and related areas.

MAJOR IN BIBLICAL LANGUAGES (Bachelor of Arts)

A student majoring in Biblical languages must complete 45 quarter hours in the major, the required cognates, the general studies programs, and all baccalaureate degree requirements as outlined in this bulletin.

Major Requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>RLNG 121, 122, 123</td>
<td>Greek I</td>
<td>9</td>
</tr>
<tr>
<td>RLNG 221, 222, 223</td>
<td>Greek II</td>
<td>6-9*</td>
</tr>
<tr>
<td>RLNG 331</td>
<td>Introduction to Hebrew</td>
<td>3</td>
</tr>
<tr>
<td>RLNG 332, 333</td>
<td>Elementary Hebrew</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>18-21</td>
</tr>
</tbody>
</table>

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

*Dependent on Greek proficiency examination score.

Cognates:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELB 223</td>
<td>Exegesis of Romans (Greek)</td>
<td>3</td>
</tr>
<tr>
<td>RELB 423</td>
<td>Hebrew Exegesis</td>
<td>3</td>
</tr>
</tbody>
</table>

252
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELH 405</td>
<td>Biblical Archaeology</td>
<td>2</td>
</tr>
<tr>
<td>RELH 406</td>
<td>History of the English Bible</td>
<td>2</td>
</tr>
<tr>
<td>RELH 455</td>
<td>Early Church History</td>
<td>3</td>
</tr>
<tr>
<td>RELT 404</td>
<td>A Scientific Approach to Biblical Interpretation</td>
<td>2</td>
</tr>
</tbody>
</table>

**MAJOR IN RELIGION (Bachelor of Arts)**

A student majoring in religion must complete 50 quarter hours in the major (27 quarter hours must be upper division), the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

**Major Requirements:**

**RELB**  
**Biblical Studies**  
20 credits  
At least 6 quarter hours must be in Old Testament studies (RELB 111; 141; 301; 302; 303; 304; 305; 312), and at least 6 hours in New Testament studies (RELB 104, 105, 106; 142; 216; 313; 434; 435, 436; 464, 465, 466).

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELH 402</td>
<td>Modern Denominations</td>
<td>3</td>
</tr>
</tbody>
</table>

**or**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELH 403</td>
<td>World Religions</td>
<td>3</td>
</tr>
<tr>
<td>RELT 246</td>
<td>Christian Ethics</td>
<td>4</td>
</tr>
<tr>
<td>RELT 330</td>
<td>Discipleship and Mission</td>
<td>4</td>
</tr>
<tr>
<td>RELT 496</td>
<td>Seminar in Christian Ethics</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>17</td>
</tr>
</tbody>
</table>

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

**Cognate:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 224</td>
<td>Research Writing in Religion</td>
<td>3</td>
</tr>
</tbody>
</table>

**MAJOR IN THEOLOGY (Bachelor of Arts)**

A student majoring in theology 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.

**Major Requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELB 141</td>
<td>Introduction to Old Testament Exegesis</td>
<td>3</td>
</tr>
<tr>
<td>RELB 142</td>
<td>Introduction to New Testament Exegesis</td>
<td>3</td>
</tr>
<tr>
<td>RELB 223</td>
<td>Exegesis of Romans (Greek)</td>
<td>3</td>
</tr>
<tr>
<td>RELB 423</td>
<td>Hebrew Exegesis</td>
<td>3</td>
</tr>
<tr>
<td>RELH 455</td>
<td>Early Church History</td>
<td>3</td>
</tr>
<tr>
<td>RELH 457</td>
<td>History of Adventism</td>
<td>2</td>
</tr>
<tr>
<td>RELP 150</td>
<td>Ministerial Orientation</td>
<td>0</td>
</tr>
<tr>
<td>RELP 241, 242, 243</td>
<td>Personal Ministry</td>
<td>4</td>
</tr>
<tr>
<td>RELP 380</td>
<td>Pastoral Administration and Evangelism</td>
<td>4</td>
</tr>
<tr>
<td>RELP 480</td>
<td>Pastoral Care and Counseling</td>
<td>4</td>
</tr>
<tr>
<td>RELP 496</td>
<td>Seminar in Pastoral Problems</td>
<td>2</td>
</tr>
<tr>
<td>RELT 143</td>
<td>Introduction to the Study of Ellen White's Writings</td>
<td>3</td>
</tr>
<tr>
<td>RELT 221</td>
<td>Christian Spirituality</td>
<td>3</td>
</tr>
<tr>
<td>RELT 456, 457</td>
<td>Systematic Theology I &amp; II</td>
<td>6</td>
</tr>
<tr>
<td>RELT 496</td>
<td>Seminar in Ethics</td>
<td>2</td>
</tr>
</tbody>
</table>
Electives (8 must be upper division) 15
Electives must be chosen in consultation with and approved by the academic adviser assigned by the department and must include one course from the following: RELB 301, 302, 303, 304, 305, 312; and one course from the following: RELB 313, 434, 435, 436, 464, 465.

Cognates:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 224</td>
<td>Research Writing in Religion</td>
<td>3</td>
</tr>
<tr>
<td>HIST 456</td>
<td>Medieval &amp; Modern Church History</td>
<td>4</td>
</tr>
<tr>
<td>RLNG 121, 122, 123</td>
<td>Greek I</td>
<td>9</td>
</tr>
<tr>
<td>RLNG 221, 222, 223</td>
<td>Greek II</td>
<td>9**</td>
</tr>
<tr>
<td>RLNG 331</td>
<td>Introduction to Hebrew</td>
<td>3</td>
</tr>
<tr>
<td>RLNG 332</td>
<td>Elementary Hebrew</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 101</td>
<td>Fundamentals of Speech Communication</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 381, 382, 383</td>
<td>Biblical Preaching</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>One Philosophy Course*</td>
<td></td>
</tr>
</tbody>
</table>

*The requirement for one philosophy course will be waived for Honors students who complete the entire sequence of Western Thought I & II.

**Students who score above 90% on the Greek Proficiency Exam may substitute 3 hours of upper division Greek for the final quarter of Greek II.

MINOR IN BIBLICAL LANGUAGES
A student minoring in Biblical languages must complete 30 quarter hours:

<table>
<thead>
<tr>
<th>Electives (9 must be upper division)</th>
<th>30</th>
</tr>
</thead>
</table>

Approval of Biblical languages adviser required. Recommended electives outside the minor are RELB 223; RELH 405, 406, 455; RELT 404.

MINOR IN RELIGION
A student minoring in religion must complete 30 quarter hours:

<table>
<thead>
<tr>
<th>Electives (9 must be upper division)</th>
<th>30</th>
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</thead>
</table>

Approval of religion adviser required.

BIBLICAL STUDIES (RELB)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELB 101</td>
<td>BIBLE SURVEY</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Introduction to the historical background and content of both Old and New Testaments. Enrollment is limited to those who have not had previous Bible classes on the secondary or collegiate level.</td>
<td></td>
</tr>
<tr>
<td>RELB 104</td>
<td>THE MINISTRY OF JESUS</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Survey of Christ's life in its historical setting as a basis for determining Christian action.</td>
<td></td>
</tr>
<tr>
<td>RELB 105</td>
<td>THE SERMON ON THE MOUNT</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Study of the Sermon on the Mount as it relates to the needs of the Christian.</td>
<td></td>
</tr>
<tr>
<td>RELB 106</td>
<td>THE PARABLES OF JESUS</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Exegetical study of Jesus' parables; considers literary structure, historical context, and relevance for today.</td>
<td></td>
</tr>
<tr>
<td>RELB 111</td>
<td>MESSAGES OF THE OLD TESTAMENT</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Survey of basic themes of the Old Testament.</td>
<td></td>
</tr>
<tr>
<td>RELB 141</td>
<td>INTRODUCTION TO OLD TESTAMENT EXEGESIS</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Introduction to the methods used in interpreting the Old Testament. Open only to departmental majors. Must be taken in sequence.</td>
<td></td>
</tr>
</tbody>
</table>

254
REL 142 INTRODUCTION TO NEW TESTAMENT EXEGESIS
Introduction to the methods used in interpreting the New Testament. Open only to departmental majors. Must be taken in sequence.

REL 216 MESSAGES OF PAUL
Survey of the basic themes of Paul's letters.

REL 223 EXEGESIS OF ROMANS (GREEK)
Exegetical study of the letter of Paul to the Romans based on the Greek text. Prerequisites: RLNG 221, 222, 223 and/or the successful completion of the Greek proficiency examination.

REL 281, 282, 283 THE NEW TESTAMENT AND ITS ENVIRONMENT (HONORS)
Study of certain New Testament themes in the light of first-century Jewish and Hellenistic culture and thought. This course is designed for honors students and is open to other students only by special permission of the instructor. RELB 281 is a prerequisite for either RELB 282 or 283.

REL 301 OLD TESTAMENT HISTORY
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.

REL 302 PENTATEUCH
Exegetical examination of significant passages in the first section of the Hebrew Canon; considers the historical setting, authorship, time, circumstance of writing and other literary questions.

REL 303 WRITINGS
Introduction to the third section of the Hebrew Canon; considers authorship, the time and circumstance of writing and other literary questions.

REL 304 INTERPRETING THE PROPHETS
A study of the ministry and messages of the early prophets of Israel.

REL 305 HEBREW PROPHETS AND CONTEMPORARY ISSUES
An examination of the ministry and messages of the exilic and post-exilic prophets, including a consideration of their relevance for today.

REL 312 DANIEL
Advanced study of the historical setting and significance of the book of Daniel; studies the prophetic features of the book in the light of both secular and church history to provide the student with a clearer insight into contemporary religious conditions.

REL 313 REVELATION
An exegetical study of the book of Revelation within its historical context, with special attention to its significance for Christian Eschatology.

REL 333 BIBLICAL PERSPECTIVES ON HEALING
A survey of the various ways Biblical writers describe restoration to wholeness of life. The course focuses on selected texts from Old and New Testaments with particular attention to Jesus’ acts of healing. Offered on the Portland campus.

REL 423 HEBREW EXEGESIS
Exegetical study of selected Old Testament passages based on Hebrew text. Prerequisites: RLNG 331, 332.

REL 434, 435, 436 GOSPELS
Exegetical examination of each gospel within its historical context to determine the particular message of each and the literary devices employed to convey this message and its relevance for today.

REL 464, 465, 466 NEW TESTAMENT EPISTLES
Exegetical study of the writings of Paul and the general epistles of the New Testament within their historical contexts. Students who have taken RELB 216 should not register for this course without special permission. Theology students should not register for RELB 466 (Romans).

GENERAL (RELG)

RELG 224 RESEARCH WRITING IN RELIGION (or ENGL 224)
See the English section of this bulletin for description.
RELGIOUS HISTORY (RELH)

RELH 349 RELIGION IN A SOCIAL CONTEXT (HONORS) [or SOCI 349]. 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.

RELH 402 MODERN DENOMINATIONS 3
Study of the cardinal teachings of a number of the prominent denominations of the world; includes comparisons of the teachings relating to God, salvation, sin and the future.

RELH 403 WORLD RELIGIONS 3
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 man, as well as their influence on cultural development.

RELH 405 BIBLICAL ARCHAEOLOGY 2
Introduction to the science of archaeology with particular attention to those discoveries which bear on the interpretation of the Biblical text.

RELH 406 HISTORY OF THE ENGLISH BIBLE 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.

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 MODERN CHURCH HISTORY 4
See the History section of this bulletin for description.

RELH 457 HISTORY OF ADVENTISM 2
Study of the rise and development of the Seventh-day Adventist denomination.

SOCI 449 SOCIOLOGY OF RELIGION 2
See the Sociology and Social Work section of this bulletin.

MISSIONS (RELM)

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.

PROFESSIONAL (RELP)

RELP 150 MINISTERIAL ORIENTATION 0
A ministerial orientation seminar offered the autumn quarter by the theology staff and visiting lecturers which includes the many facets of the ministerial profession. Required of all freshman and transfer theology majors. Graded S or NC.

RELP 241, 242, 243 PERSONAL MINISTRY 2, 1, 1
Study of the skills of personal ministry; including individual or small group evangelism and pastoral visitation; combines theory and practice to aid in successfully applying the art as well as teaching it to others. Open only to theology majors. Prerequisite: RELB 141, 142; RELT 143.

RELP 370 HOSPITAL MINISTERIAL TRAINING 2 or 4
This course is offered as a seminar at the Portland Adventist Medical Center or the Walla Walla General Hospital. Besides a balanced program of clinical experience, films, discussion, lectures by physicians, chaplains and other resource personnel are utilized. Registration by permission only; class limited to five students. (Two quarter hours, Walla Walla General Hospital; four quarter hours, Portland Adventist Medical Center.)
REL 380 PASTORAL ADMINISTRATION AND EVANGELISM 4
Theological and psychological principles of administration and evangelism applied to the church. Study is given to Adventist church policy and to programs, materials and methods that can be used in the church's evangelistic task with or participation in these phases of church activity. One laboratory per week.

REL 395 METHODS OF TEACHING BIBLE IN THE SECONDARY SCHOOL 3
Examination of current religion teaching practices in the secondary school with emphasis on objectives, content, organization, and materials and resources available; requires observations in the schools along with microteaching, giving opportunity to demonstrate competency. Prerequisites: EDUC 390; EDUC 392.

REL 480 PASTORAL CARE AND COUNSELING 4
Introduction to the principles and practices of the pastoral care of troubled persons through the application of counseling techniques, the spiritual resources of the Christian community, and theological reflection. One laboratory per week.

REL 483 ADVANCED PASTORAL CARE 3
Study of the role of the pastor in relationship to his ministry 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 480 or permission of the instructor.

REL 490 FIELD EVANGELISM 1-3; 3
Experience in evangelistic techniques is obtained by giving Bible studies and/or holding meetings. One to three hours any quarter; maximum, three.

REL 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. Prerequisites: Approval of the major advisor; CDEV 210 or permission of the Cooperative Education Director.

REL 496 SEMINAR IN PASTORAL PROBLEMS 2
Intensive individual study, written reports and group discussion on selected pastoral problems. Open only to departmental majors. Prerequisite: ENGL 224.

SPCH 381, 382, 383 BIBLICAL PREACHING 2, 2, 2
See the Communications section of this bulletin.

THEOLOGY (RELT)

RELT 112 THEOLOGY OF CHRISTIAN WITNESSING 3
Study of the theology and methodology of the individual Christian witness in a contemporary world.

RELT 143 INTRODUCTION TO THE STUDY OF ELLEN WHITE'S WRITINGS 3
Introduction to the methods used in interpreting the writings of Ellen White. Open only to departmental majors. Prerequisite: RELB 141, 142.

RELT 201 THE CHRISTIAN WAY OF SALVATION 4
Systematic study of the Christian way of life including such topics as conversion, righteousness by faith, Christian growth and witnessing.

RELT 202 BASIC CHRISTIAN BELIEFS 4
Study of the Christian teachings about God and human beings; explores topics such as the trustworthiness of the Bible, creation and the controversy between good and evil and gives special attention to distinctive Seventh-day Adventist beliefs.

RELT 204 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.

RELT 221 CHRISTIAN SPIRITUALITY 3
A historical and theological survey of basic types of Christian spirituality. Emphasis will be placed on relating themes and practices of spiritual life and devotional disciplines to Biblical theology and contemporary Christian living.
RELT 246 CHRISTIAN ETHICS
Study of moral decision-making from the perspective of Christian theology; examines moral implications of Christian faith for contemporary issues.

RELT 312 BIOETHICS
Study of contemporary moral issues in biology and medicine in the light of Christian ethics; discusses topics such as abortion, euthanasia, eugenics, human experimentation and the distribution of scarce lifesaving resources.

RELT 314 ESCHATOLOGY
Study of the final events of this earth's history as outlined in the great lines of Bible prophecy and the writings of Ellen G. White; emphasizes the important issues in the great controversy between good and evil and the final establishment of God's everlasting kingdom upon the earth.

RELT 317 INSPIRATION AND REVELATION
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 330 DISCIPLESHIP AND MISSION
Study of the relationship of the individual to the church; considers the development of study skills with analysis of a member's responsibility to the church community. Emphasis is given to methods of Bible study, the use of tools for Bible study, organization of the church, the role of the layman in the administration of the church, and the mission of the church. Designed primarily for the nonministerial student. Prerequisite: 6 hours of religion or theology general studies credit.

RELT 340 THEOLOGY OF SPIRITUAL CARE
Study of the theological concepts that relate to the issues of human suffering and application of the Biblical principles that underlie the spiritual care of those who suffer. Offered on the Portland campus.

RELT 404 A SCIENTIFIC APPROACH TO BIBLICAL INTERPRETATION
Study of the doctrines of inspiration and revelation in preparation for a survey of the history of the canon and the critical disciplines employed by scholars to arrive at a better understanding of the text.

RELT 408 DOCTRINE OF THE SANCTUARY
Study of the Hebrew tabernacle and its services with special emphasis on its significance for Christian faith in the twentieth century.

RELT 412 PHILOSOPHY OF RELIGION (or PHIL 412)
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.

RELT 417, 418 CHRISTIAN DYNAMICS
Study of the dynamics of the Christian spiritual life as lived individually and in the community. Topics include prayer, meditation, worship, healing, and spiritual guidance.

RELT 456, 457 SYSTEMATIC THEOLOGY I, II
Systematic study of the major teachings of the Christian religion and the Seventh-day Adventist church in particular, with emphasis on the Bible as the authority for truth; requires students to organize their concepts of the Bible doctrines and to give adequate scriptural support for their positions. Designed for theology majors, though non-majors may register with permission of instructor.

RELT 496 SEMINAR IN CHRISTIAN ETHICS
Intensive individual study, written reports, and group discussion on selected ethical issues. Open only to departmental majors. Prerequisite: ENGL 224.

BIBLICAL LANGUAGES (RLNG)

RLNG 121, 122, 123 GREEK I
Introduction to the elements of New Testament Greek with experience in translation. Language laboratory required. 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.
RLNG 221, 222, 223 GREEK II 3, 3, 3
Continued reading in the Greek New Testament with emphasis upon principles of interpretative translation. The book of Revelation and selections from the Gospels are used in developing a facility in translation.

RLNG 331 INTRODUCTION TO HEBREW 3
Introduction to the basic elements of Biblical Hebrew; designed to enable the student to use the language as a tool in Biblical studies and to provide a basis for further study in Hebrew.

RLNG 332, 333 ELEMENTARY HEBREW 3, 3
Study of Hebrew grammar and syntax advancing to reading and exegesis of selected Hebrew Bible passages. Prerequisite: RLNG 331.

RLNG 341 INTRODUCTION TO NEW TESTAMENT TEXTUAL CRITICISM 2
Survey of the history and present development of New Testament textual criticism, integration of textual criticism and translation of selected passages from Novum Testamentum Graece.

RLNG 342 READINGS IN THE GREEK NEW TESTAMENT 2; 8
Reading in selected sections of the Greek New Testament.

RLNG 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.

RLNG 451 READINGS IN HEBREW 2; 6
Selected reading in the various sections of the Hebrew Bible. Prerequisites: RLNG 332, 333.
SOCIOLOGY AND SOCIAL WORK

W. Hepker, Chair; D. Assink, Social Work Program Acting Director; R. Gardner, D. LaRondelle, Field Work Coordinator; K. Stadler, J. Stagg, (R. Hankins, M. Hernandez Peck, Adjunct Faculty).

The department of sociology and social work offers a Bachelor of Social Work degree and a Bachelor of Arts degree with a major in sociology. Minors are available in both social work and sociology.

The degree in social work is designed to prepare the student for beginning professional social work practice; to prepare students for other professions and services, particularly within the Seventh-day Adventist Church; and to prepare students for graduate professional social work education. Supervised field experience in selected social work agencies or related services is an integral part of the program and also meets the criteria of the college's Cooperative Education program. The Bachelor of Social Work Program is accredited by the Council on Social Work Education.

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 preprofessional 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 (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 in the areas of social work, sociology, and psychology, and cognates in human biology, and political science. This includes 14 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.

Major Requirements:
Social Work
SOWK 264 Introduction to Social Work 3
SOWK 266 Social Welfare as a Social Institution 3
SOWK 350 Field Placement 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 Marriage/Family 3
SOWK 375 Social Work in Community Services 3
SOWK 465 Policy, Planning and Administration 3
SOWK 490 Field Work 14
SOWK 491 The Life Model of Social Work Practice 3
SOWK 495 Colloquium 0 (required of all Social Work juniors and seniors while in residence)
<table>
<thead>
<tr>
<th>Major in Sociology (Bachelor of Arts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAJOR IN SOCIOLOGY (Bachelor of Arts)</td>
</tr>
<tr>
<td>A student majoring in sociology must complete 45 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.</td>
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</table>

<table>
<thead>
<tr>
<th>Major Requirements:</th>
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<tbody>
<tr>
<td>SOCI 204 General Sociology 4</td>
</tr>
<tr>
<td>SOCI 451 Research Methods 4</td>
</tr>
<tr>
<td>SOCI 452, 453 Research Practicum I, II 2</td>
</tr>
<tr>
<td>SOCI 454 Western Political and Social Thought 4</td>
</tr>
<tr>
<td>SOCI 455 Western Political and Social Thought 4</td>
</tr>
<tr>
<td>Electives (10 must be upper division) 27</td>
</tr>
</tbody>
</table>

| Electives may be chosen from the following courses: All SOCI prefixes, ANTH 225, CORR 285, CORR 365, CORR 385, CORR 387, SOWK 266 and SOWK 465. |
| Approval of sociology adviser required. |

<table>
<thead>
<tr>
<th>Cognates:</th>
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<tbody>
<tr>
<td>MATH 106 Applied Statistics 4</td>
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<tr>
<td>or PSYC 350 Elementary Statistics 4</td>
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</table>

<table>
<thead>
<tr>
<th>Sociology</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCI 204 General Sociology 4</td>
</tr>
<tr>
<td>SOCI 236 Racial and Ethnic Relations 3</td>
</tr>
<tr>
<td>SOCI 345 Sociology of Communities 3</td>
</tr>
<tr>
<td>SOCI 424 Human Development and the Family 4</td>
</tr>
<tr>
<td>SOCI 451 Research Methods 4</td>
</tr>
<tr>
<td>SOCI 452, 453 Research Practicum I, II 2</td>
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<table>
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<tr>
<th>Psychology</th>
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<tbody>
<tr>
<td>PSYC 130 General Psychology 4</td>
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<table>
<thead>
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<th>Electives (17 Total)</th>
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<tbody>
<tr>
<td>Psychology 3-7</td>
</tr>
<tr>
<td>Social Work 6-14</td>
</tr>
<tr>
<td>Anthropology, Corrections, Sociology 0-8</td>
</tr>
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| Electives must be chosen in consultation with and approved by the social work adviser. 82 |

<table>
<thead>
<tr>
<th>Cognates:</th>
</tr>
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<tbody>
<tr>
<td>BIOL 101 General Biology 4</td>
</tr>
<tr>
<td>or BIOL 201 Anatomy and Physiology</td>
</tr>
<tr>
<td>or PLSC 224 American Government</td>
</tr>
<tr>
<td>or PLSC 324 Comparative Governments 4</td>
</tr>
<tr>
<td>or PLSC 455 Western Political and Social Theory (or SOCI 455)</td>
</tr>
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</table>

| 263 |
MINOR IN SOCIAL WORK
A student minoring in social work must complete 30 quarter hours:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCI 204</td>
<td>General Sociology</td>
<td>4</td>
</tr>
<tr>
<td>SOCI 424</td>
<td>Human Development and the Family</td>
<td>4</td>
</tr>
<tr>
<td>SOWK 264</td>
<td>Introduction to Social Work</td>
<td>3</td>
</tr>
<tr>
<td>SOWK 266</td>
<td>Social Welfare as a Social Institution</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

Approval of social work adviser required.

MINOR IN SOCIOLOGY
A student minoring in sociology must complete 30 quarter hours:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCI 204</td>
<td>General Sociology</td>
<td>4</td>
</tr>
<tr>
<td>Electives (3 must be upper division)</td>
<td>26</td>
<td></td>
</tr>
</tbody>
</table>

Approval of sociology adviser required.

ANTHROPOLOGY (ANTH)

ANTH 225 CULTURAL ANTHROPOLOGY 3
Study of the origin and nature of culture, the uniformities and variations in man's cultural development as seen in preliterate societies, with special emphasis upon the value of the cultural concept.

CORRECTIONS, LAW ENFORCEMENT AND CRIMINAL JUSTICE (CORR)

CORR 285 INTRODUCTION TO CRIMINAL JUSTICE 3
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.

CORR 365 LAW, POLICY AND SOCIETY 2
Study of the development and organization of the American legal system and policy formation; considers the work of lawyers, social workers, legislators and police, and their relationship with the courts and human service system. Selected topics are considered which relate the law to social change, social institutions, and morality and justice.

CORR 385 CRIMINOLOGY 3
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.

CORR 387 JUVENILE DELINQUENCY 3
Study of factors in delinquency, juvenile courts, detention and probation; an investigation and comparison of programs of treatment and prevention. Field trips arranged.

CORR 487 PERSPECTIVES ON THE TREATMENT OF OFFENDERS 3
Study of the treatment given juvenile and adult offenders from the arrest, through the court process and incarceration, to the release. Field trips and guest speakers help the student evaluate the effectiveness of the criminal justice system.

ENVIRONMENTAL STUDIES (ENVI)

ENVI 385 THE ENVIRONMENT AND MAN 4
Interdisciplinary consideration of current topics involving the interrelations between man and his environment.
### SOCIAL WORK (SOWK)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOWK 264</td>
<td>INTRODUCTION TO SOCIAL WORK</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Introduction to the profession of social work in the United States; considers history, principles, methods and values of the social worker and settings for social work practice. Community service and field trips arranged.</td>
<td></td>
</tr>
<tr>
<td>SOWK 266</td>
<td>SOCIAL WELFARE AS A SOCIAL INSTITUTION</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Study of the historical development of U.S. social welfare system; examination of current social welfare institutions in terms of political, social and value systems and in terms of needs they attempt to fulfill. Recommended prerequisite: SOWK 264.</td>
<td></td>
</tr>
<tr>
<td>SOWK 271</td>
<td>ASSERTIVENESS THEORY AND PRACTICE</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Study of the concepts of rational and behavior techniques with emphasis on self-awareness, intervention and assertiveness through cognitive and experiential learning.</td>
<td></td>
</tr>
<tr>
<td>SOWK 350</td>
<td>FIELD PLACEMENT ORIENTATION</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>A field placement orientation seminar intended to make students aware of agency possibilities, application and evaluation procedures, contracts and the field instruction learning process. Required of all juniors.</td>
<td></td>
</tr>
<tr>
<td>SOWK 371</td>
<td>SOCIAL WORK PRACTICE WITH INDIVIDUALS</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Introduction to social work methods provided through a survey of basic intervention skills and basic interviewing techniques; explores the Christian value system as it relates to social work practice. Students participate in field experiences and video-taped interviews. Prerequisite: SOWK 264 or approval of instructor.</td>
<td></td>
</tr>
<tr>
<td>SOWK 372</td>
<td>SOCIAL WORK PRACTICE WITH SMALL GROUPS</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Introduction to the group process skills to build a basic foundation for group intervention methods. Students will participate in and observe small groups. Prerequisite: SOWK 371.</td>
<td></td>
</tr>
<tr>
<td>SOWK 373</td>
<td>SOCIAL WORK PRACTICE WITH MARRIAGE AND FAMILY</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Study of basic intervention skills expanded by experiencing family and marriage dynamics through role playing. Students will be exposed to various types of family practice intervention methods by audiovisual aids. Prerequisites: SOWK 371; SOWK 372.</td>
<td></td>
</tr>
<tr>
<td>SOWK 375</td>
<td>SOCIAL WORK IN COMMUNITY SERVICES</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Study of the social work method known as community organization in meeting the needs of large groups of persons such as churches, schools and neighborhoods; emphasizes skills. Prerequisites: SOCI 345; CORR 365.</td>
<td></td>
</tr>
<tr>
<td>SOWK 377</td>
<td>INTRODUCTION TO ALCOHOLISM AND ADDICTION TREATMENT</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>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: HLSC 208.</td>
<td></td>
</tr>
<tr>
<td>SOWK 464</td>
<td>SOCIAL WORK WITH CHILDREN</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Study of social work intervention in child welfare; includes adoption, foster homes, child protection, illegitimacy, group homes, day care, children's institutions and dependency; study of historical and contemporary development.</td>
<td></td>
</tr>
<tr>
<td>SOWK 465</td>
<td>POLICY, PLANNING AND ADMINISTRATION</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Study of social policy, ideology, social policy formation and analysis, social planning and administrative theory. Prerequisites: SOWK 375; CORR 365.</td>
<td></td>
</tr>
<tr>
<td>SOWK 466</td>
<td>COMPARATIVE THEORIES OF SOCIAL WORK PRACTICE</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>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 264; SOWK 266; SOWK 371; SOWK 372; SOWK 373 or approval of instructor.</td>
<td></td>
</tr>
<tr>
<td>SOWK 471</td>
<td>HUMAN SEXUALITY</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Study of the Christian perspective of human sexuality which forms a basis for appropriate intervention with sexual problems. Prerequisite: SOWK 371; SOWK 373 or permission of the instructor.</td>
<td></td>
</tr>
<tr>
<td>SOWK 479</td>
<td>DIRECTED RESEARCH/PROJECTS IN SOCIAL WORK</td>
<td>1-3</td>
</tr>
</tbody>
</table>
|             | Directed learning experience in a special area of social work which is of particular interest to the student. A single project will be chosen in consultation with the instructor. A written
SOCIOLOGY AND SOCIAL WORK

report is required describing the project, the theoretical base, the learning experience, and the conclusions. Prerequisites: SOWK 264; SOWK 371.

SOWK 490 Field Work 2-14
Training under a professional social worker in a public or private welfare or correction agency. Credit is earned at the rate of one quarter hour for three hours of field work per week approved by the supervisor and instructor. Written reports and evaluations are included. Placement may be taken in one quarter (block placement) or concurrently with course work over two or three consecutive quarters. Applications for placement must be submitted to the Placement Coordinator at least one quarter prior to the placement itself. Instruction is offered at various locations in such fields as medical social work, school social work, secondary school residence counseling, criminal justice, child and protective services and community organization. Prerequisites: SOCI 204; SOWK 264; SOWK 266; SOWK 350 and permission of the instructor. Corequisites or prerequisites: SOWK 371; SOWK 372; SOWK 373. Fourteen quarter hours are required for a social work major.

SOWK 491 The Life Model of Social Work Practice 3
This course will serve as a seminar for social work majors to assist them in integrating theory and practice and to conceptualize how social work roles affect the interface between person and environment. The many roles and functions facing social work practitioners within diverse practice settings will be emphasized. In addition ethical and value dilemmas in practice will be highlighted. Prerequisites: SOWK 264; SOWK 371; SOWK 372. Corequisite: SOWK 373.

SOWK 495 Colloquium 0
A lecture series designed to expose students to contemporary practitioners in the field of social work and to assist them in their professional development. Required of all social work juniors and seniors while in residence. Graded S or NC.

SOCIOLOGY (SOCI)

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 224/424 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 affect on human development and behavior; studies the complete life cycle of the growth of an individual and current theories concerning each stage of the family life cycle as it applies to the modern American family as well as families of other cultures. Prerequisites: SOCI 204; PSYC 130.

SOCI 225 Marriage and Family Life 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 3
Study of theoretical perspectives of social problems of particular concern in contemporary society.

SOCI 236 Racial and Ethnic Relations 3
Study of the history, present status and problems of racial, religious and ethnic minorities in the United States and other countries.

SOCI 325 The Social Psychology of Family Life 3
Study of the social-psychological aspects of family life with special reference to the processes of family interaction in the development and maintenance of personal relationships.

SOCI 327 Sociology of Sex Roles 3
An analysis of the psychological, cultural, and economic factors of men and women in today's society. The course will include such topics as sex role stereotyping, sex bias, men and masculinity, current dilemmas faced by men, a history of women's issues, the battered woman. Special emphasis will be placed upon the relationship of the Christian woman to women's liberation, the Christian woman's role in the church, and sex roles and the Christian family.

SOCI 345 Sociology of Communities 3
Study of the social structure and interaction patterns of communities; emphasizes the history of community development, urbanization and its affects on society.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCI 349</td>
<td>RELIGION IN A SOCIAL CONTEXT (HONORS) [or RELH 349]</td>
<td>4</td>
</tr>
<tr>
<td>SOCI 444</td>
<td>SOCIOLOGY OF EDUCATION</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 447</td>
<td>SOCIOLOGY OF HEALTH AND ILLNESS</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 449</td>
<td>SOCIOLOGY OF RELIGION</td>
<td>2</td>
</tr>
<tr>
<td>SOCI 451</td>
<td>RESEARCH METHODS</td>
<td>4</td>
</tr>
<tr>
<td>SOCI 452, 453</td>
<td>RESEARCH PRACTICUM I, II</td>
<td>1, 1</td>
</tr>
<tr>
<td>SOCI 454</td>
<td>WESTERN POLITICAL AND SOCIAL THOUGHT</td>
<td>4</td>
</tr>
<tr>
<td>SOCI 455</td>
<td>WESTERN POLITICAL AND SOCIAL THEORY</td>
<td>4</td>
</tr>
</tbody>
</table>

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.

Study of the complex, intriguing and poignant area of death and dying from four distinct perspectives: cultural, social, personal and professional.

Analysis of factors influencing the structure and function of the educational institution. Sociological factors related to the role of the school as a social system, with emphasis on peer groups and teenage subcultures, leadership types, power groups and the school as a selecting and sorting agency; sociometric devices.

Study of social relations and culture as factors affecting health and illness, its prevention and treatment.

Sociological study of organized religion, emphasizing the interaction between the church and its social setting; includes varieties and sources of collective religious behavior with examination and classification of religious movements and reforms.

Introduction to the principles of research design; data collection through surveys and other methods; scaling, sampling and computer assisted statistical analysis. Statistics highly recommended. Laboratory required. Same as MKTG 451 and PLSC 451.

Directed design and execution of an empirical research project over a two quarter period.

A survey of political and social thought from classical Greece to the Enlightenment. Same as PLSC 454.

Survey of modern social, political and economic thought. Emphasizes 19th and 20th century theories and models which have contemporary research in the social sciences and have influenced public policy. Same as PLSC 455.
Financial Information

We desire that the financial arrangements and transactions be made as considerately as possible for both students and parents. Several financial assistance plans are available which can make it possible for almost anyone who so desires to attend Walla Walla College.

PLANNING YOUR FINANCES:

In order to receive the maximum financial assistance available, students are encouraged to do their financial planning for the entire academic school year, prior to fall quarter registration.

How To Get Help:

STUDENT FINANCIAL ADVISORS provide help in financial planning and in applying for financial aid. They are responsible for approving all financial arrangements, and are available to discuss problems if students/parents are unable to meet the requirements on the payment plan they have chosen.

THE STUDENT EMPLOYMENT COORDINATOR helps students find work on campus. The coordinator does not hire or assign students to a particular job, but does work with students on an individual basis to secure employment. For more information on student employment, please see pages 284-285.

TELEPHONE: Direct: 1-509-527-2815
Toll Free: 1-800-541-8900 (Continental U.S.)
1-800-572-8964 (Washington)

Estimated Minimum Student Budgets

<table>
<thead>
<tr>
<th>DORMITORY STUDENT</th>
<th>Per Year</th>
<th>Per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition (full-time, 16 hours)</td>
<td>$6,720</td>
<td>$2,240</td>
</tr>
<tr>
<td>Student Association Fee</td>
<td>75</td>
<td>25</td>
</tr>
<tr>
<td>Accident Insurance (required)*</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Room Rent</td>
<td>1,215</td>
<td>405</td>
</tr>
<tr>
<td>Cafeteria Minimum</td>
<td>642</td>
<td>214</td>
</tr>
<tr>
<td>TOTAL</td>
<td><strong>$8,682</strong></td>
<td><strong>$2,914</strong></td>
</tr>
</tbody>
</table>

*per year estimate

**Students will have additional expenses for books, cafeteria, and personal needs.
NON-DORMITORY STUDENT
(Does not include living expenses)

<table>
<thead>
<tr>
<th></th>
<th>Per Year</th>
<th>Per Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition (full-time, 16 hours)</td>
<td>$6,720</td>
<td>$2,240</td>
</tr>
<tr>
<td>Student Association Fee</td>
<td>75</td>
<td>25</td>
</tr>
<tr>
<td>Accident Insurance (required)*</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$6,825**</td>
<td>$2,295**</td>
</tr>
</tbody>
</table>

*per year estimate
**Students will have additional expenses for books, cafeteria, and personal needs.

Payment Plans

Since our policy is to meet promptly our operating expenses, the College is unable to finance or carry student accounts. The following four payment plans are offered to meet each student's need:

THE ADVANCE PAYMENT PLAN: Estimated expenses for the school year are paid in advance. A tuition discount is given based on the amount of advance payment and the date payment is received by Walla Walla College. The discount is computed at approximately 10 percent return-on-investment.

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Amount</th>
<th>Received by</th>
<th>Received by</th>
<th>Received by</th>
<th>Received by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dorm</td>
<td>8,600</td>
<td>7%</td>
<td>6%</td>
<td>5%</td>
<td>4%</td>
</tr>
<tr>
<td>Village</td>
<td>7,500</td>
<td>6%</td>
<td>5%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Tuition only</td>
<td>6,720</td>
<td>5%</td>
<td>4%</td>
<td>3%</td>
<td>2%</td>
</tr>
</tbody>
</table>

The discount will be applied to accounts May 31, 1988.
- The student must be registered for at least 12 hours autumn, winter, and spring quarters.
- Financial aid and work earnings are not considered toward the cash payment.
- Advance payments are not used to finance flight training beyond the regular tuition-aviation credit plan.
- The discount is computed on tuition charges only.

*Dormitory students are not eligible for this payment level.

**$2,240 will be applied to the account each quarter. Dormitory students need to pay an additional $660 plus any previous balance at the beginning of each quarter. This pays for student association fees, required insurance, room, and minimum cafeteria charges. Balance of the account must be paid as billed.

THE REGULAR PAYMENT PLAN: Before registering, dormitory students pay for tuition, student association fees, required insurance, room and minimum cafeteria charges ($2,900) plus previous balance; non-dorm students pay for tuition, student association fees, and required insurance ($2,295) plus previous balance. Students and/or parents will be billed for other charges as they occur. Awarded financial aid may be deducted from these amounts.

SHORT TERM LOAN PAYMENT PLAN: A financial advisor works with students and parents on an individual basis. A reasonable budget is worked out and put in writing. A balance to finance is estimated, and a repayment plan is agreed upon.
The student borrows the balance to finance from a local bank or credit union through the school, with the school acting as the cosigner for the loan. Repayment is made directly to the lending institution.

THE INSURED TUITION PAYMENT PLAN: With this program, the entire four years' education expenses are divided into equal monthly payments. An extended repayment plan is available. Additional information may be obtained from Walla Walla College Student Financial Services Office, or Richard C. Knight Insurance Agency, Inc., Insured Tuition Payment Plan, 53 Beacon Street, Boston, MA 02108, Phone 617-742-3911.

EXPENSES

Tuition

<table>
<thead>
<tr>
<th>Hours</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-12 quarter hours</td>
<td>$ 178 (per quarter hour)</td>
</tr>
<tr>
<td>13-16 quarter hours</td>
<td>2,240 (per quarter)</td>
</tr>
<tr>
<td>above 16</td>
<td>156 (per quarter hour)</td>
</tr>
</tbody>
</table>

FAMILY TUITION DISCOUNT. A ten percent discount will be allowed on tuition for each student when three or more unmarried students from one family are enrolled for 12 or more hours during the same quarter. A five percent discount will be allowed on tuition for each unmarried student when two students from one family meet the above criteria.

Discounts will be forfeited if student status is terminated before the end of the quarter for which the discount was given.

SENIOR CITIZEN DISCOUNT. Persons sixty years or older taking a class for credit will be charged one-half the regular tuition rate. Those wishing to audit classes will be charged one-fourth the regular tuition rate. Those wanting only to sit in on classes under the "Senior Citizen Class Visitor Program" pay $100 for the quarter.

Student Association Fee

A $25 per quarter Student Association fee is charged to all students registered for six or more quarter hours. It provides for student publications ($15) and membership in the Student Association ($10). This fee is subject to change only by vote of the Student Association.
Residence Halls

Where there is dual occupancy, the room rental charge for each student per quarter is:

- Conard Hall: $405
- Foreman Hall: 425
- Sittner Hall: 405
- Sittner East: 405
- Portland Campus: 425

When rooms are available, single occupancy is permitted at an extra charge of $95 per quarter.

Married Student Housing

Married student housing is available on a first-come-first-serve basis. Financial arrangements must be approved by the Student Financial Services Office before a family may move into college housing.

- Hallmark Apartment
  - One bedroom: $150 per month plus electricity
  - Two bedrooms: $190 per month plus electricity

Additional housing may be available to meet a family’s needs. Rent is subject to change without notice.

Housing Reservations and Deposit

Each student residing in one of the college residence halls will need to make a $50 room deposit. Students residing in other student housing will pay a deposit of $100. The deposit will be credited in full at the end of the student’s stay unless there are charges for delayed departure, unclean rooms, room damage, or unreturned keys.

Dorm reservations are made directly with the residence hall. Married students should contact College Rental Properties at 509-527-2109.

Cafeteria

Vegetarian meals are provided by the ARA Food Service, which is operated on the cafeteria plan. Dorm students are expected to take their meals in the main cafeteria or the snack bar. All dorm students will be charged a quarterly minimum of $214, which may be used in either serving area. A 20% discount will be applied to all food charges above $325 per quarter. A typical dorm student spends about $300 to $350 per quarter in the cafeteria. Non-dorm students will be charged by the item and may pay cash or charge their meals to their student account.

Books and School Supplies

Textbooks, school supplies, and other materials needed for school work may be obtained at the College Store. Students should plan on approximately $150 extra for such purchases each quarter.
Music Fees

Music lessons can be taken for credit or no credit. When lessons are taken for credit, the lesson fee is $102 per quarter, plus tuition, for nine half-hour lessons, or $183 per quarter, plus tuition, for nine one-hour lessons. When lessons are not taken for credit, the lesson fee is $136 per quarter for nine half-hour lessons, or $244 for nine one-hour lessons. Music majors and minors who are currently enrolled for, or have taken MUCT 121-123 and are registered for a full load (12 hours or more), are eligible for a music fee scholarship equal to the lesson fee charged. Only those lessons which are needed to complete requirements for a music major or minor are included in the scholarship program. The scholarships do not apply to lessons taken off campus.

Credit is given for lessons on the following basis: A minimum of nine 30-minute lessons per quarter and daily practice amounting to five clock hours a week will yield one hour of credit. It is the responsibility of the student to meet the appointed time for lessons. The teacher is obligated to provide opportunity for makeup lessons only in the case of illness or emergency.

Excused absences may be made up at the discretion of the teacher if previous arrangements have been made. Lessons falling on holidays or vacations are not made up unless this results in the student receiving fewer than nine lessons.

Music fee refunds are calculated on the basis of the number of lessons taken through the fourth week of the quarter, after which no refunds are granted. Students taking lessons for credit must submit a Change of Registration form to the Academic Records Office at the time lessons are discontinued. Drops for non-credit lessons must be registered at the music office.

Other Music Fees:

Organ $30
(per quarter for students desiring practice only)
Band or Orchestral instruments 25
(per quarter for students desiring lessons and not possessing their own instruments.)

Laboratory Fees (per quarter)

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 264, 265, 266</td>
<td>$15</td>
</tr>
<tr>
<td>ART 284, 285, 286</td>
<td>20</td>
</tr>
<tr>
<td>ART 294, 295, 296</td>
<td>10</td>
</tr>
<tr>
<td>ART 317, 318, 319</td>
<td>10</td>
</tr>
<tr>
<td>ART 364, 365, 366</td>
<td>15</td>
</tr>
<tr>
<td>ART 374, 375, 376</td>
<td>20</td>
</tr>
</tbody>
</table>

The laboratory fee policy is currently under review. Other classes with labs will likely have a lab fee to be announced fall quarter.

Physical Education Fees

<table>
<thead>
<tr>
<th>Activity</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backpacking</td>
<td>$40</td>
</tr>
<tr>
<td>Canoeing</td>
<td>30</td>
</tr>
<tr>
<td>Cycling</td>
<td>10</td>
</tr>
<tr>
<td>Cycling Touring</td>
<td>30</td>
</tr>
<tr>
<td>Golf 1</td>
<td>50</td>
</tr>
<tr>
<td>Activity</td>
<td>Fee</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Golf II</td>
<td>$ 85</td>
</tr>
<tr>
<td>Golf, Pro-Act</td>
<td>85</td>
</tr>
<tr>
<td>*Horsemanship</td>
<td>70</td>
</tr>
<tr>
<td>*Ice Skating</td>
<td>25</td>
</tr>
<tr>
<td>Mountaineering (Snow &amp; Ice)</td>
<td>40</td>
</tr>
<tr>
<td>Officiating of Sports Activity</td>
<td>20</td>
</tr>
<tr>
<td>Prevention of Injury</td>
<td>30</td>
</tr>
<tr>
<td>Rock Climbing</td>
<td>40</td>
</tr>
<tr>
<td>Roller Skating</td>
<td>20</td>
</tr>
<tr>
<td>Sailing</td>
<td>40</td>
</tr>
<tr>
<td>+*Scuba I (optional field trip for certification additional $115)</td>
<td>125</td>
</tr>
<tr>
<td>+*Scuba II</td>
<td>180</td>
</tr>
<tr>
<td>*Ski Instructor</td>
<td>40</td>
</tr>
<tr>
<td>*Skiing (Bluewood)</td>
<td>45</td>
</tr>
<tr>
<td>*Skiing (Cross Country)</td>
<td>60</td>
</tr>
<tr>
<td>*Skiing (Mount Hood)</td>
<td>60</td>
</tr>
<tr>
<td>*nonrefundable</td>
<td></td>
</tr>
</tbody>
</table>

+Student must receive a permit from the Student Financial Services Office before registering for this class.

### Special Fees

<table>
<thead>
<tr>
<th>Description</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application (nonrefundable)</td>
<td>$20.00</td>
</tr>
<tr>
<td>*Audit Class (one-half regular tuition)</td>
<td></td>
</tr>
<tr>
<td>Aviation (as announced)</td>
<td></td>
</tr>
<tr>
<td>Challenge Examination per quarter credit</td>
<td>35.00</td>
</tr>
<tr>
<td>Plus special examination fee per exam</td>
<td>15.00</td>
</tr>
<tr>
<td>Challenge examination fee per exam (Nursing)</td>
<td>$30.00</td>
</tr>
<tr>
<td>Class added</td>
<td>3.00</td>
</tr>
<tr>
<td>Class dropped</td>
<td>3.00</td>
</tr>
<tr>
<td>Degree, Bachelor's and Associate</td>
<td>15.00</td>
</tr>
<tr>
<td>Degree, in absentia, Bachelor's and Associate</td>
<td>30.00</td>
</tr>
<tr>
<td>ID Card Replacement</td>
<td>5.00</td>
</tr>
<tr>
<td>Junior Class Membership</td>
<td>1.00</td>
</tr>
<tr>
<td>(Plus any additional amount as voted by the class)</td>
<td></td>
</tr>
<tr>
<td>Late Registration</td>
<td>20.00</td>
</tr>
<tr>
<td>(Plus $2 per day from published registration date)</td>
<td></td>
</tr>
<tr>
<td>Nursing Clinical, per clinical laboratory course per quarter</td>
<td>30.00</td>
</tr>
<tr>
<td>Physical Fitness Testing</td>
<td>15.00</td>
</tr>
<tr>
<td>Out-of-Schedule Examination (per exam)</td>
<td>30.00</td>
</tr>
<tr>
<td>Refrigerator (per dorm room)</td>
<td>5.00</td>
</tr>
<tr>
<td>Returned Check</td>
<td>10.00</td>
</tr>
<tr>
<td>Senior Class Membership (as voted by the class)</td>
<td></td>
</tr>
<tr>
<td>Special Examination</td>
<td>15.00</td>
</tr>
<tr>
<td>Teachers of classes having numerous or extended field trips will notify</td>
<td></td>
</tr>
<tr>
<td>students of special fees to cover expenses.</td>
<td></td>
</tr>
<tr>
<td>Student Pilot Insurance per quarter</td>
<td>9.00</td>
</tr>
<tr>
<td>Transcript, first copy (requests must be in writing)</td>
<td>free</td>
</tr>
<tr>
<td>Transcript, additional copies each</td>
<td>2.00</td>
</tr>
</tbody>
</table>
Tutoring by members of the faculty, triple tuition is charged for individual tutoring.

Validating Examination Fee per quarter credit $ 3.00
Plus special examination fee per exam 15.00
Validation exam fee per exam (Nursing) 30.00
Waiver Examination 15.00

*Students may audit classes provided (1) they register in the usual manner; (2) receive prior approval of the instructor, because some classes may not be audited; (3) pay any special fees, as appropriate; and (4) pay one-half tuition. They are not required to do class assignments or take tests. They receive no grades and no credit. Students may not take challenge or waiver examinations on courses they have audited. Students with a cumulative grade-point average of at least 3.00 and taking 13-16 hours for credit pay $10 for each audited course in excess of 16 hours.

Student Insurance

Walla Walla College provides injury and accident insurance on a mandatory basis at an estimated cost to the student of $30 per year. Students enrolling winter, spring, or summer quarters will pay a reduced premium. In addition, students may elect to purchase sickness insurance at an additional estimated cost of $180 per year. Married students may also purchase similar coverage for spouse and dependent children. A detailed brochure will be available at registration time.

No changes or refunds are allowed on the sickness insurance after the information has been sent to the insurance company (two weeks after the first day of classes). The accident insurance is not refundable if a student drops after the fourth day of classes.

REFUNDS

If a student withdraws during the quarter, refunds will be made 30 days after withdrawing. Students who leave school without completing withdrawal procedures will be charged until proper arrangements are made.

A student withdrawing from classes during the quarter will receive the following refunds:

Tuition

100% through the fourth day of classes after regularly scheduled registration on the College Place campus.*
75% second week
50% third and fourth weeks

A tuition refund may affect awarded financial aid.

*Students dropping all classes during this period will be charged a processing fee of $50 or 5% of tuition, whichever is less.

Student Association Fee

This fee is not refundable after the fourth day of classes.
Dormitory Room Rent:

90% during first week of quarter
80% during second week of quarter
70% during third week of quarter
60% during fourth week of quarter
50% during fifth week of quarter
40% during sixth week of quarter
30% during seventh week of quarter
20% during eighth week of quarter

The beginning of the quarter will be considered to be the first day of class instruction.

Financial Aid

When a student withdraws from school while a tuition refund is in effect, a portion of aid from each program will be returned to the original source as follows:

\[
\text{Amount to be returned to fund} = \frac{\text{Refund Due}}{\text{Total Title IV Aid}} \times \frac{\text{Total Title IV Aid}}{\text{Total Aid}}
\]

STATEMENTS

Itemized statements will be issued each month giving an account for the previous month. Tuition, room rent, and minimum cafeteria charges for the quarter will be charged in advance at the beginning of each quarter. Non-dorm students may obtain their statements from the cashier in the Accounting Office.

It is expected that statements will be paid within ten days from the time of mailing. The College operates on a cash basis and is dependent upon prompt payment of accounts.

Checks, drafts, and money orders should be made payable to Walla Walla College and should be sent to:

Accounting Office
Walla Walla College
College Place, WA 99324

PAST DUE ACCOUNTS

FINANCE CHARGE computed at a periodic rate of one percent per month is assessed against a past due account. This is an ANNUAL PERCENTAGE RATE of twelve percent.

RELEASE OF TRANSCRIPTS OR DEGREES

By action of the Board of Trustees of the College, a diploma or transcript (official or unofficial) may not be released until the following criteria are met:

a) The student’s account is paid in full.

b) Walla Walla College has been released as cosigner on student’s short-term loan.

c) The student’s Perkins (NDSL), Nursing, and Institutional loans are current.
To expedite the release of transcripts, diplomas and other legal documents, a money order or certified check should be sent to cover the balance of the student’s account. Requests for transcripts must be in writing.

PERSONAL PROPERTY LOSS

Walla Walla College is not responsible for loss of personal property. Students are encouraged to carry their own insurance for personal belongings since the insurance the College carries does not cover these items. Students should keep this in mind when deciding what to bring.

INTERNATIONAL STUDENTS

International students who are not citizens or permanent residents of the United States are asked to place a $1,500 (U.S.) deposit with the College (Canadian students are exempt) before final acceptance can be given and the I-20 form, necessary to secure the U.S. student visa, can be sent.

International students on student visas do not qualify for the majority of loans and grants described in this bulletin. International students may accept employment on campus only; however, spouses and children who are not students may not accept employment under any circumstances. To determine ability to meet educational costs, the College requires applicants to submit a declaration of finances before final acceptance is given.

STUDENT HEALTH CENTER

Clinical facilities are available for students requiring medical attention. Physician consultations, medication, and medical supplies are available. More serious medical and surgical services are provided by Walla Walla General Hospital. Student Health Service personnel will assist with insurance billing; however, financial responsibility for hospital care rests with the student.

Students on the Portland campus receive routine health services through the Employee Health Department of Portland Adventist Medical Center. Major illnesses may be treated through the emergency room or through hospitalization. In case of hospitalization, the student must make financial arrangements with the Medical Center.

BOARD ACTION

Because of possible fluctuation in the national economy, the right is reserved by the College Board of Trustees to adjust costs charged throughout the school year or to supersede statements published in the bulletin.
Financial Aid

Walla Walla College assumes that a student and his/her parents have the primary obligation of paying for the student’s education. Parents are expected to provide, as they are able, the basic essentials of life, whether the student lives in the community or on campus.

For families unable to meet the full costs of attending Walla Walla College, financial aid is available in the form of student employment, long-term loans, grants, and scholarships. Grants and scholarships are gift aid and do not have to be repaid. Interest rates for long-term loans are extremely low, and repayment does not begin until after a student leaves college.

WHAT IS A FINANCIAL AID PACKAGE?

When a student’s costs of attendance exceed the expected family contribution, the student may receive a financial aid award. This award may be a package of aid made up of grants, scholarships, loans, and employment. After students have been awarded the scholarships, grants, and discounts to which they are entitled, the college will award further aid based on need, according to the following priority:

1. Part-time employment for the academic year: freshman $1,350; sophomore, junior, senior $1,500.
2. Loans
3. Other grants and scholarships.

SUMMER SAVINGS. Each aid recipient is expected to have at least the following minimums for summer savings: Freshman $700; Sophomore, Junior and Senior $900. Applicants who are able to secure better jobs will be expected to have increased summer savings.

FINANCIAL AID AWARD. The Financial Aid Award gives the costs, the applicant’s resources, and the aid awarded. It will also indicate the amount of aid per quarter from each source which will be credited to the student’s account. The student must sign additional forms before aid funds may be disbursed. Funds are usually credited to the first statement of each quarter. Students having questions concerning an award or having situations requiring an exception to policy may make an appeal to the Financial Aid Committee.

PRIORITY FOR FINANCIAL AID WILL BE GIVEN TO APPLICANTS WHO HAVE APPLIED BY APRIL 1 PRIOR TO THE ACADEMIC SCHOOL YEAR THEY ARE PLANNING TO ATTEND.

WHAT ARE YOUR RESPONSIBILITIES?

Applicants must keep the Student Financial Services Office informed of any changes in their financial circumstances or any other changes in the information originally submitted on the Walla Walla College Financial Aid application.

The applicant must respond to the award notice by the date indicated on the award notice. By accepting the award, the student accepts the conditions of the award which include:
1. Maintaining the minimum labor expectation.
2. Maintaining satisfactory academic progress (see page 287).
3. Repayment of any loans received after ceasing to be at least a half-time student.
   For sample repayment schedules contact the Loan Billing and Collections Office of the college.

WHAT SHOULD YOU DO TO APPLY?

1. Complete the Financial Aid Form (FAF) and mail it, with required fee, to College Scholarship Services no later than March 1 prior to the academic school year the student is planning to attend.
2. Complete a Walla Walla College Financial Aid Application (FAA) and return it to Student Financial Services by April 1.
3. All students must submit a copy of their Income Tax Form 1040, 1040A, or 1040EZ. All dependent students (and independent students under the age of 24) must submit a copy of their parents' Income Tax Form.
4. For transfer students, Walla Walla College must obtain a Financial Aid Transcript from each postsecondary institution previously attended.

The above deadlines are very important for students wishing to receive a full financial aid package. Students should complete a financial aid form using estimated information if a delay in completing the income tax forms for the current year will result in missing the financial aid deadline.

Eligibility for aid is based on individual financial need. College Scholarship Service (CSS) will provide the college with a Need Analysis for determining the amount of aid to be awarded. In most cases, a student will be offered a package of financial aid including several forms of assistance.

Financial Aid Forms are available from academies, high schools, and the Walla Walla College Student Financial Services Office. No aid will be disbursed until all required forms are submitted.

LATE APPLICATIONS. Students whose financial aid applications are received after April 1 will be considered for financial aid as funds are available on a first-come, first-served basis.

NOTE. A new financial aid application must be submitted each school year. Unless otherwise noted, the financial aid award will be disbursed one-third each quarter in attendance for fall, winter, and spring. Funds awarded by Walla Walla College are not transferable to other colleges or universities.

WHAT GRANTS ARE AVAILABLE?

MAXIMUM GRANT:

Up to $2,100 per year
Renewable

*PELL GRANT. This program is made available by the Department of Education. To qualify for a full Pell Grant students must be enrolled for at least 12 hours (fewer hours, smaller award) and have need according to a formula established by the Department of Education. Students applying for financial aid will receive a letter of eligibility (two or three colored sheets and one white sheet of paper) from the Pell Grant processing center in Iowa City, IA. This authorization letter should be reviewed for accuracy, signed, and mailed to WWC.
*SUPPLEMENTAL EDUCATION OPPORTUNITY GRANT (SEOG).* These grants are made available by the Department of Education. To qualify, a student must be enrolled as a full-time undergraduate student or have petitioned for reduced hours and have financial need.

*NPUC EMPLOYMENT GRANT.* The North Pacific Union Conference of Seventh-day Adventists and Walla Walla College jointly provide funds for this work-match grant. Applicants must be baptized Seventh-day Adventists having home church membership in the North Pacific Union Conference or having graduated from an academy within the North Pacific Union. Grants are awarded on the basis of need. Matching earnings may be earned on or off campus while enrolled from October through May. Students working off campus must provide proof of earnings to the Student Financial Services Office.

*CARRIE WELCH CHALLENGE GRANT.* This grant was established by the Carrie Welch Trust Estate as a work-match grant for Washington State residents. Grants are awarded on the basis of need. Matching earnings may be earned on or off campus while enrolled from October through May. Students working off campus must provide proof of earnings to the Student Financial Services Office.

*WALLA WALLA COLLEGE WORK-MATCH GRANT.* This grant is awarded to the most needy students. Matching earnings may be earned on or off campus while enrolled from October to May. Students working off campus must provide proof of earnings to the Student Financial Services Office.

*WASHINGTON STATE NEED GRANT.* The State of Washington has made available a grant program for state residents only. Qualifications are state residency and financial need. Residency of dependent students is the same as that of the parents. A student must have lived in the state for one full year prior to the commencement of the first day of the quarter for which aid is requested.

*OREGON STATE NEED GRANT.* The State of Oregon has made available a grant program for Oregon State residents attending a Washington College. Qualifications are state residency and financial need.

Application consists of a Financial Aid Form (FAF) listing the Oregon State Scholarship Commission code number in 0410 in Section G, line 41, along with Walla Walla College 4940, and the Walla Walla College institutional application.

*Eligible students applying for financial aid will be considered for this program.*
CANADIAN WORTHY STUDENT GRANTS. These grants are made available by Walla Walla College to Canadian students whose support comes from wages earned in Canada. This grant is awarded on the basis of need as evidenced by submission of an application supplied by Walla Walla College.

FRESHMAN ACHIEVEMENT AWARD. Walla Walla College awards a scholarship to entering freshmen who have a high cumulative secondary grade-point average. To validate this award, evidence of grade-point average must be submitted to the Student Financial Services Office from the student's school:
- 3.50 to 3.74 Grade-point average: $500
- 3.75 to 4.00 Grade-point average: $1,000

WALLA WALLA COLLEGE MERIT AWARD. Walla Walla College will award scholarships to entering freshmen who placed in the National Merit Scholarship Competition as follows:
- Finalist: $1,000
- Semifinalist: $750
- Commended Student: $500

LEADERSHIP AWARD. Walla Walla College awards a $500 nonrenewable scholarship to entering freshmen who served as senior class or Student Association President. To validate this award, evidence of office held must be submitted to the Student Financial Services Office.

FRESHMAN RECOGNITION AWARD. Nominations for this award are made by NPUC academy faculty to outstanding students who want to attend WWC and do not qualify for the leadership or achievement scholarships.

ACT ACHIEVEMENT AWARD. Walla Walla College awards a scholarship to students who scored well on the ACT test and show financial need. These grants may be renewed based on the student's need and cumulative grade-point average while attending Walla Walla College. Because this grant is a work-match grant, the student must be employed during the school year. The award is a ratio of earnings (2 or 3 to 1); the student must earn at least $1,200 in order to receive the total award.

<table>
<thead>
<tr>
<th>Amount</th>
<th>Employment to Entering Continuing Year Cumulative GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>$400</td>
<td>3 to 1</td>
</tr>
<tr>
<td>$600</td>
<td>2 to 1</td>
</tr>
</tbody>
</table>

DEPARTMENTAL MERIT AWARD. Nominations for these awards are made each spring quarter by academic departments and are for the following school year.

EMPLOYMENT AWARD. Walla Walla College distributes a number of awards to students each spring to recognize outstanding work habits. Nominations for awards are made by departments and supervisors, and are for the following school year.
DEAN'S AWARD. This grant is given to continuing students who show excellence in academics. Forty students with the highest cumulative grade-point average at the end of spring quarter are eligible for this award. Students must have been enrolled full-time fall, winter and spring quarters, and enroll full-time the following year.

BUREAU OF INDIAN AFFAIRS GRANTS. Students having at least one-fourth American Indian or Eskimo blood may obtain considerable grant assistance from the Bureau of Indian Affairs. For applications and additional information, write to Bureau of Indian Affairs, 1425 N.E. Irving Street, Portland, OR 97208.

PUBLISHING HOUSE SCHOLARSHIPS. Students may earn a portion of their school expenses by selling denominational literature during the summer. These scholarships apply to room, cafeteria, tuition and other direct school expenses and are disbursed the first quarter of attendance after receiving the scholarship. For details regarding this scholarship plan, write to the Publishing Secretary of the North Pacific Union Conference, P.O. Box 16677, Portland, OR 97216.

YOUTH SERVICE OPPORTUNITIES. The College, in cooperation with the Youth Department of the North Pacific Union and the local conferences, makes available variable scholarships for students participating in the Youth Services Opportunities Program during the summer. These scholarships are disbursed the first quarter of attendance after receiving the award.

WALLA WALLA SYMPHONY SOCIETY. Scholarships are available to student members of the orchestra for participation and private lesson study. Information and application forms may be obtained from the Walla Walla Symphony Society, P.O. Box 92, Walla Walla, WA 99362.

SYMPHONY SOCIETY JAMES B. ELLIOT SCHOLARSHIP. A $1,000 scholarship is awarded each year to either a freshman or transfer student for participation in the symphony. Recipients who continue with the orchestra may receive the award for four years for a total of $4,000. Information and an application form may be obtained from the Walla Walla Symphony Society, P.O. Box 92, Walla Walla, WA 99362.

GRADUATE ASSISTANTSHIPS. A few assistantships are available for graduate students in biology and education. Candidates applying for these assistantships should write to the respective department chairs.

ADDITIONAL SCHOLARSHIPS. The College offers additional scholarships as funds are available. The following is a partial list and amounts vary. For further information contact the Student Financial Services Office at Walla Walla College.

Associated Grocers Award
Associated Students of Walla Walla College Scholarships
Breese-Trefz Scholarship
C. W. Shankel Chemistry Scholarship
Carlos Ayala Modern Languages Scholarship
Chevron Merit Award
Class of '65 Scholarship
Class of '83 Scholarship
Class of '84 Scholarship
College Days Award
Committee of 100 Work-Match Grants
Communications Scholarship
Degering Educational Scholarship
Deming Worthy Student Award
Donald W. Rigby Biology Award
Edward F. Cross Engineering Scholarship
Farmers Insurance Group Scholarship
George Kretschmar Engineering/Math/Physics Scholarship
John V. Jones Scholarship
Joseph L. Stubblefield Trust Scholarship
Kooreny Scholarship
Lewiston/Clarkston Scholarship
Matiko Theology Award
Nursing Scholarship
Percy W. Christian History Award
Peterson/Weaver Office Administration Scholarship
Robert L. Spies Memorial Scholarship
Rotary Scholarship
Oland Hubbs Theology Scholarship
Orval Patchett Modern Language Scholarship
UPS Foundation Award
Vera Hubbs Business Scholarship
Walla Walla College Alumni Scholarship
Washington Automobile Dealers Association Scholarship

HOW ABOUT A JOB?

A part of the financial aid package awarded to students at Walla Walla College is the opportunity to defray part of the educational expenses through a work program. All students receiving aid are awarded expected student earnings as follows:

Freshmen $1,350
Sophomores/Juniors/Seniors $1,500

Walla Walla College offers an excellent on-campus work program. During fall, winter, and spring quarters, all students residing in college housing (dorms, married student housing, etc.) are guaranteed as much work as they want up to 20 hours per week if:

1. They are enrolled for at least 12 hours of classes on the College Place campus.
2. They work with the Student Employment Coordinator in obtaining a job.
3. Their class schedule allows for a reasonable work program.
4. They perform satisfactory work when a job is obtained.

Applications for work are available at the Student Financial Services Office and at the various departments and industries on campus. While the completed applica-
tion provides information for campus employers as they look for student help, it does not guarantee a specific job. A list of the major on-campus employers is available from the Student Employment Coordinator.

Since students are not assigned a job by Walla Walla College, most new students finalize on their employment after arriving on campus. Many employers will need to see the student's class schedule before hiring. Students who wish to contact particular departments earlier are encouraged to do so. Students unable to find a job on their own should contact the Student Employment Coordinator for assistance.

Wage rates start at $3.35 per hour (minimum wage) and increase depending on skills, ability, job requirements, and length of employment. Earnings from campus jobs will be credited directly to the student's account. Workers may arrange to have tithe deducted directly from the earnings. All students working on campus are covered by workman's compensation.

Most students work 10 to 15 hours per week. Students planning to work more than 20 hours per week should get permission from the Student Employment Coordinator. In general, students find that three- to four-hour blocks of time are ideal for their work schedules.

Foreign students who attend Walla Walla College while on student visas are permitted to work on campus only. Student visas do not entitle students to take off-campus jobs in the community.

The responsibility for taking advantage of work opportunities rests with the student. For further information on job placement contact the Student Employment Coordinator.

COLLEGE WORK-STUDY PROGRAM. The federal government awards Walla Walla College money to expand student employment opportunities both on campus and in the community. Positions available on campus or with non-profit agencies off campus include clerical, library assistants, teacher's aides, custodial work, and many other jobs. Students must have a completed financial aid file before they will be eligible for this program. The students are paid once a month by check. This is not a work-match program and hourly rate of pay is not affected.

WASHINGTON STATE WORK-STUDY PROGRAM. The state of Washington awards Walla Walla College money to expand student employment opportunities off campus. Students must have a completed financial aid file before they will be eligible for this program. The work performed must be related to the student's major. Employers pay the student directly with the state reimbursing the employer for a portion of the labor costs. Students should contact the Work-Study Coordinator for more information on this program.

WHAT ABOUT A LOAN?

An increasing number of students are financing their education through loan funds. Several of these funds are available, making it possible for the great majority of students to continue school without interruption due to lack of finances.
MAXIMUM LOAN:

$1,500 per year

UP TO 

$2,500 per year

RENEWABLE

*PERKINS LOAN. (Formerly National Direct Student Loan). These loans are made available jointly by the U.S. Department of Education and Walla Walla College. Students may borrow up to $4,500 during their first two academic years and no more than $9,000 during the entire undergraduate period of study. Repayment begins six to nine months after the borrower ceases to be enrolled at least half-time. Repayment may be extended up to ten years with an interest rate of 5%.

*NURSING STUDENT LOAN (NSL). This is made available by the federal government and Walla Walla College. Only nursing students are eligible to apply for this loan. Students may borrow up to $2,500 per year, but no more than $10,000, during their undergraduate period of study. Repayment of the NSL begins nine months after the borrower ceases to be at least a half-time nursing student. The repayment period may be extended up to ten years with an interest rate of 6%. Repayment may be deferred if the student enrolls for graduate nursing studies.

*ADDITIONAL LOANS. Through the generous gifts of friends of the College various loan funds have been established. Repayments begin six months after the applicant's student status terminates. Loan terms are similar to the Perkins Loan Program.

*THE GUARANTEED STUDENT LOAN PROGRAM (GSLP). This allows a student to borrow directly from commercial lenders and credit unions. These loans are available to students who are citizens or nationals of the United States, or those in the country for other than a temporary purpose. These loans, which have an annual interest rate of seven to nine percent, do not have to be repaid until six months after student status has terminated.

<table>
<thead>
<tr>
<th>Category of Borrower</th>
<th>Annual Loan Limits</th>
<th>Aggregate Loan Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman or Sophomore</td>
<td>$2,625</td>
<td>$5,250</td>
</tr>
<tr>
<td>Junior or Senior</td>
<td>$4,000</td>
<td>$17,250</td>
</tr>
<tr>
<td>Graduate or Professional</td>
<td>$7,500</td>
<td>$54,750</td>
</tr>
</tbody>
</table>

Eligibility is based on individual financial need determined by applying for financial aid. After eligibility is determined, a student must complete a separate application form.

Most states now have their own programs. Interested applicants may obtain further information and application forms from their banks in their home states or by writing the Walla Walla College Student Loan Coordinator.

*All eligible students applying for financial aid will be considered for this program.
SUPPLEMENTAL LOANS FOR STUDENTS PROGRAM (SLSP). These are available to graduate students and to independent undergraduate students. The borrowing limit is $4,000 per year, with an aggregate limit of $20,000. This is in addition to any GSL the student may borrow. The interest rate will be 12%. Applications and more information are available from the Walla Walla College Student Loan Coordinator.

LOANS TO PARENTS (PLUS). A program of loans to parents for dependent undergraduate students has been established. This program allows parents to borrow directly from commercial banks and credit unions. The maximum amount a parent may borrow for any one student in any academic year is $4,000. The aggregate loan limit for each dependent student is $20,000. Repayment is required to begin within sixty days after disbursement; the interest rate will be 12 percent. Applications and more information are available from the Walla Walla College Student Loan Coordinator.

WHAT IS SATISFACTORY ACADEMIC PROGRESS?

To be eligible for federal, state and/or institutional financial aid at Walla Walla College, a student must maintain measurable satisfactory academic progress. Students are expected to:

Full-time Undergraduates (12-17 hours)

1. Complete a minimum of 12 hours per quarter, however, the normal load is 16-17 hours per quarter if the student wishes to graduate in four years. This will allow up to 16 quarters maximum for completion of a four-year degree, and eight quarters maximum to complete a two-year degree. Students who meet the above requirement may be considered for Financial Aid while completing their first 225 undergraduate credits, or their baccalaureate degree, whichever occurs first. Transfer credit will be considered as part of the 225 hours. Exceptions to this policy will be considered by the Financial Aid Committee.

2. Maintain a minimum grade point average of 2.00 on hours attempted.

Part-time Students (6-11 hours)

All students who register for part-time status must have their hours approved by the Student Financial Services Office or the Financial Aid Committee by written appeal.

Graduates

Complete a minimum of six hours per quarter. Graduate students will be considered for Financial Aid during their first eight quarters of full-time graduate study.

Transfer and First Time Financial Aid Recipients

1. Transfer students will be considered eligible for financial aid during their first quarter of attendance at Walla Walla College. Following the initial quarter, they must meet the same academic requirements as other students.
2. Students previously enrolled at Walla Walla College, and during the last quarter in attendance did not complete a minimum of 12 hours with a 2.00 grade-point average on hours attempted, will be subject to the Financial Aid Probation Policy for the first quarter during which they receive financial aid.

FINANCIAL AID ACADEMIC PROBATION/FINANCIAL AID HOLD POLICY

1. Students who fail to maintain "Satisfactory Academic Progress" will be placed on Financial Aid Probation the following quarter. Recipients will receive a letter of warning and will be asked to seek academic counseling. Students must complete a minimum of 12 quarter hours with a 2.00 grade-point average on hours attempted the following quarter in order to be removed from Financial Aid Probation Status.

2. Recipients who did not clear Financial Aid Probation status the previous quarter will be placed on Financial Aid Hold status the subsequent quarter. This means aid will not be awarded until the end of the quarter when the student can submit a written progress report showing that he/she will complete a minimum of 12 hours with a 2.00 GPA on hours attempted. If a student is awarded aid during Financial Aid Hold, but final grades do not show satisfactory progress, the student will not be eligible for Financial Aid until satisfactory progress can be demonstrated.

3. Students who are placed on Financial Aid Hold for the second time during their academic studies will have their aid status reviewed by the Financial Aid Committee.

PROCEDURE FOR APPEAL

-Students may submit a written appeal to the Financial Aid Committee describing the circumstances which attributed or will attribute to their failure to make academic progress because of reduced hours. Their letter should be accompanied by supporting documentation from their academic adviser, health center, or dean.
WALLA WALLA COLLEGE
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Paul Turpel, B.A., Vice President for College Advancement
Robert Gardner, Ph.D., Associate Dean for Academic Administration

ADMINISTRATIVE STAFF

ACADEMIC ADMINISTRATION
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Chair, Department of Biology, Ronald L. Carter, Ph.D.
Chair, Department of Business, Robert C. Schwab, Ph.D.
Chair, Department of Chemistry, Robert A. Wade, D.Phil.
Chair, Department of Communications, Loren Dickinson, Ph.D.
Chair, Department of Computer Science, C. Michael Bell, M.S.E.E.
Chair, Department of Education and Psychology, Harold T. Ochs, Ed.D.
Chair, Department of English, Beverly G. Beem, Ph.D.
Chair, Department of Health, Physical Education and Recreation,
Gary M. Hamburgh, Ph.D.
Chair, Department of History, Roland D. Blaich, Ph.D.
Chair, Department of Home Economics, Merlene L. Olmsted, M.A.
Chair, Department of Industrial Technology, Chester D. Blake, Ed.D.
Chair, Department of Library Science, Elwood L. Mabley, M.S.L.S.
Chair, Department of Mathematics, Melvin S. Lang, Ph.D.
Chair, Department of Modern Languages, Reinhard Czeratzki, M.A.
Chair, Department of Music, Dan M. Shultz, M.Mus.
Chair, Department of Office Administration
Chair, Department of Physics, Gordon O. Johnson, Ph.D.
Chair, Department of Sociology and Social Work, Wilma M. Hepker, Ph.D.
Dean, Graduate School, Hollibert E. Phillips, Ed.D.
Dean, School of Engineering, Rodney Heisler, Ph.D.
Dean, School of Nursing, Frances L. Fickess, D.N.Sc.
Assistant Dean, School of Nursing, Carol Brown, Ph.D.
Dean, School of Theology, John C. Brunt, Ph.D.

ACADEMIC SUPPORT
Dean of Academic Records and Registrar, Orpha Osborne, B.A.
Director of Career Development and Cooperative Education, Sergio Hernandez, Ed.S.
Director, Educational Computer Center, Gary Rittenbach, B.A.
Director, Institutional Research, Robert W. Gardner, Ph.D.
Director, Teaching Learning Center,
Director, Technical Services Shop, James Forsyth, M.A.
Director of Freshmen Advisement, Betty Duncan, B.A.
Director of Libraries, Elwood L. Mabiey, M.S.L.S.
Director of Marine Station, Ronald L. Carter, Ph.D.
Director of Summer Session, Melvin S. Lang, Ph.D.
Manager, KGTS Station, David Bullock, M.A.

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Director, Development,
Director, College Relations, Lori Lewis, M.A.

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Controller and Assistant Treasurer, James Hall, M.B.A.
Director of Student Financial Services, Cassie Ragenovich, B.S.
Director of Buildings and Grounds, Daryl Bughart
Director of Personnel Services, Carolyn Dickinson, B.S.
Director of Administrative Data Processing, Jerry Mason, B.S.

AUXILIARY
Manager, College Bookstore, Barbara Bigger, M.A.
Manager, Rental Properties, William Adams

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President, Manford Simcock, M.A.
College Farm, Larry Adams, M.A.
College Place Bindery, Ivan Groulis
Color Press, Harold Kehney, B.S.B.A.
College Dairy, Darral Payne, M.A.
STUDENT SERVICES
Chaplain, Winston De Haven, M.A.
Consulting Physician, J. D. Losey, M.D.
Dean of Men, Lynn Prohaska
Dean of Women, Ilo Hutton
Director of Counseling Services, Karen Maclvor, M.Ed.
Director of Food Service, Shirley Messinger
Director of Health Services, Wendy Hernandez, R.N., B.S.W.
Residence Hall Dean (Portland Campus), Carol Pifer
INSTRUCTIONAL FACULTY†

*Terrie Dopp Aamodt, Assistant Professor of English (1979)
B.A. 1976, Columbia Union College
M.A. 1978, The College of William and Mary
Ph.D. 1986, Boston University

Rosalie Abrams, Assistant Professor of Nursing (1972)
B.S. 1972, Walla Walla College
M.N. 1977, University of Oregon

Norman Anderson, Assistant Professor of Business (1987)
B.S. 1971, Henderson State College
C.P.A. 1973, State of California
J.D. 1976, Southern Methodist University

James W. Aulick, Assistant Professor of Management Information Systems (1983)
B.S.B.A. 1974, Union College
M.B.A. 1982, University of Minnesota

Roger Baltrusch, Assistant Professor of Engineering (1985)
B.S.E. 1959, Walla Walla College
M.S.M.E. 1969, University of Southern California
D.D.S. 1975, Loma Linda University

Claude C. Barnett, Professor of Physics (1957)
B.S. 1952, Walla Walla College
M.S. 1956, State College of Washington
Ph.D. 1960, Washington State University

Cleona Bazzy, Assistant Professor of Education (1984)
B.S. 1961, Pacific Union College
M.A. 1980, Loma Linda University

Beverly G. Beem, Professor of English (1976)
B.A. 1967, Union College
M.A. 1969, Andrews University
Ph.D. 1974, University of Nebraska

C. Michael Bell, Assistant Professor of Computer Science (1984)
B.S.E. 1980, Walla Walla College
M.S.E.E. 1984, Stanford University

Frederick R. Bennett, Professor of Engineering (1961)
B.S. 1955, Walla Walla College
M.S. 1966; Ph.D. 1977, Washington State University

Hermas J. Bergman, Professor of History (1985)
B.A. 1948, Walla Walla College
M.A. 1963, University of Puget Sound
Ph.D. 1967, Washington State University

Roland D. Blaich, Professor of History (1968)
B.A. 1966; M.A. 1967, California State College at Los Angeles
Ph.D. 1975, Washington State University

Chester D. Blake, Professor of Industrial Technology (1966)
B.S. 1963, Walla Walla College
M.A. 1968, San Jose State College
Ed.D. 1980, Washington State University

Gary Brendel, Associate Professor of Education and Psychology (1980)
B.A. 1966, Union College
M.A. 1969; Ed.D. 1985, University of Denver

Joseph H. Brooks, Assistant Professor of Music (1982)
B. Mus. 1982, Walla Walla College
M. Mus. 1986, University of Oregon

†Dates in parenthesis indicate the beginning year of employment at Walla Walla College.
*On leave
Carol M. Brown, Professor of Nursing (1971-73; 1976-79; 1980)
B.S. 1965, Walla Walla College
M.S. 1968, Loma Linda University
Ed.M. 1975; Ph.D. 1978, Oregon State University

John C. Brunt, Professor of Biblical Studies (1971)
B.A. 1964, Loma Linda University
M.A. 1966; B.D. 1967, Andrews University
Ph.D. 1978, Emory University

Michael Buck, Instructor in Business (1987)
B.S. 1982, Union College
M.B.A. 1984, University of Nebraska
C.P.A. 1987, State of Nebraska

Rosemarie Buck, Assistant Professor of Nursing (1983)
B.S. 1981, Walla Walla College
M.S. 1983, Loma Linda University

B.S.W. 1978, Walla Walla College
M.S.W. 1983, Eastern Washington University

David Bullock, Instructor in Communications (1984)
B.A. 1976, Walla Walla College
M.A. 1985, Washington State University

Mima Burgher, Assistant Professor of Nursing (1983)
B.S. 1976, Walla Walla College
M.N. 1978, University of Oregon

Ernest J. Bursey, Associate Professor of Biblical Studies (1973)
B.A. 1964, Pacific Union College
M.Div. 1971, Andrews University
M.A. 1978, M.Phil 1980, Yale University

Ronald L. Carter, Associate Professor of Biology (1984)
B.A. 1969, Columbia Union College
Ph.D. 1976, Loma Linda University

Linda M. Casebolt, Instructor in Nursing (1986)
B.S. 1982, Walla Walla College
M.S. 1987, Oregon Health Sciences University

*Robby Ghislain Chaffart, Instructor in Modern Languages (1983)
B.A. 1981, Seminaire Adventiste du Saleve
M.A. 1983, Andrews University

*Lee Ann Church, Instructor in Nursing (1983)
B.S. 1975, Southern Missionary College

Jon A. Cole, Professor of Engineering (1964)
B.S.C.E. 1961, Illinois Institute of Technology
M.S. 1964; Ph.D. 1970, University of Wisconsin

B.A. 1981, Andrews University
A.M.L.S. 1983, University of Michigan

Nelle Cornelison, Instructor in Home Economics (1984)
B.S. 1972; M.S. 1985, University of Idaho

Ralph M. Coupland, Associate Professor of Music (1986)
B.S. 1958, Pacific Union College
M.A. 1966, Andrews University

Carlton E. Cross, Professor of Electrical Engineering (1981)
B.S.E. 1966, Walla Walla College
M.S.E.E. 1969; Ph.D. 1973, Oregon State University

*On leave

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Reinhard Czeratzki, Associate Professor of Modern Languages (1967)
B.A. 1964, Atlantic Union College
M.A. 1967, Middlebury College

Frederick L. Davis, Instructor in Economics (1986)
B.A. 1983; M.A. 1986, San Francisco State University

Donald Dawes, Associate Professor of Industrial Technology (1976)
B.S. 1961, Walla Walla College
M.Ed. 1966, Oregon State University

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M.A. 1960, University of Nebraska
Ph.D. 1968, University of Denver

*Susan C. Dixon, Assistant Professor of Biology (1981)
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Jon Dybdahl, Professor of Biblical Studies (1976)
B.A. 1965, Pacific Union College
M.A. 1966; B.D. 1967, Andrews University
Ph.D. 1981, Fuller Theological Seminary

*Richard K. Emmerson, Professor of English (1971)
B.A. 1970, Columbia Union College
M.A. 1971, Andrews University
Ph.D. 1976, Stanford University

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B.A. 1972, Walla Walla College
B.F.A. 1974; M.F.A. 1979, Otis Art Institute of Los Angeles County

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B.S. 1956, Columbia Union College
M.A. 1959, Loma Linda University
D.N.Sc. 1976, The Catholic University of America

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Ed.D. 1980, Oregon State University

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M.A. 1975, University of Utah
Ph.D. 1985, University of Michigan

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M.A. 1971, Loma Linda University
Ph.D. 1977, University of Utah

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M.A. 1977, University of Denver

*On leave
*Ann Gibson, Associate Professor of Accounting (1983)
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C.P.A. 1980, State of California

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B.A. 1973, Walla Walla College
M.A. 1975; Ph.D. 1981, Washington State University

Albert E. Grable, Associate Professor of Biology (1963)
B.S. 1959, Loma Linda University
M.S. 1962; Ph.D. 1964, University of Minnesota

Tom R. Graham, Assistant Professor of Industrial Technology (1977-80; 1986)
B.S. 1970, Walla Walla College
M.A. 1972, University of Northern Colorado

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B.A. 1971, Walla Walla College
M.Div. 1974, Andrews University

Kenneth L. Gruesbeck, Assistant Professor of Industrial Technology (1964)
B.A. 1952, Columbia Union College
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Gary M. Hamburger, Professor of Health and Physical Education (1972)
B.A. 1971, Loma Linda University
M.A. 1974, California State University at Fresno
Ph.D. 1985, University of Oregon

James C. Hannum, Associate Professor of Communications (1983)
B.A. 1965, Southern Missionary College
M.A. 1972, University of Wisconsin

Gordon B. Hare, Professor of Mathematics (1957)
B.A. 1951, Columbia Union College
M.S. 1954; Ph.D. 1964, University of Colorado

Vivian Hassell, Assistant Professor of Library Science (1982)
B.A. 1950, Walla Walla College
M.LS. 1963, University of Washington

Rodney Heisler, Professor of Engineering (1970)
B.S.E. 1965, Walla Walla College
M.S.E.E. 1967; Ph.D. 1970, Washington State University

Robert A. Henderson, Professor of History (1967)
B.A. 1962, Walla Walla College
Ph.D. 1967, Washington State University

Solange Henderson, Assistant Professor of Modern Languages (1973)
B.A. 1971, Walla Walla College
M.A. 1976, Middlebury College

Dale B. Hepker, Professor of English (1973)
B.A. 1953, Union College
M.A. 1963; Ph.D. 1978, University of Nebraska

Wilma M. Hepker, Professor of Sociology and Social Work (1973)
B.A. 1953, Union College
M.A. 1966; Ph.D. 1976, University of Nebraska
M.S.W. 1983, Eastern Washington University

Dale A. Johnson, Professor of Education and Psychology (1976)
B.A. 1964, Union College
M.A. 1967, University of Nebraska
Ph.D. 1978, University of California, Riverside

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B.S. 1966, Walla Walla College
M.S. 1967; Ph.D. 1972, California Institute of Technology

*On Leave
E. Lee Johnston, Associate Professor of Library Science (1976)
B.S. 1960, Loma Linda University
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M.S.L.S. 1971, University of Southern California

Paul W. Joice, Professor of Business (1971)
B.S. 1949, Union College
M.B.A. 1953, University of Denver
Ed.D. 1962, University of Nebraska

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B.A. 1947, Walla Walla College
M.A. 1949, Andrews University

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Dan Lamberton, Assistant Professor of English (1981-1983, 1987)
B.A. 1971, Walla Walla College
M.A. 1981, University of Montana

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B.S. 1957, Valley City State Teachers College
M.A. 1958, Colorado State College
Ph.D. 1972, University of Northern Colorado

David I. LaRondelle, Assistant Professor of Social Work (1984)
B.A. 1976, Andrews University
M.S.W. 1983, Eastern Washington University

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B.S. 1976, Andrews University
Ph.D. 1981, University of Wisconsin

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M.S.L.S. 1959, University of Southern California

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M.N. 1983, University of Washington

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M.N. 1977, University of Oregon

Samuel Myers, Associate Professor of Engineering (1981)
B.S. 1952, University of California, Los Angeles
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B.S. 1950; M.S. 1951, University of Wisconsin

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B.A. 1967, M.A. 1968; Andrews University

Frazier W. Nyasulu, Assistant Professor of Chemistry (1986)
B.S. 1979; B.S. 1981, University of Malawi
M.S. 1982; Ph.D. 1985, University of Salford

Harold T. Ochs, Professor of Education and Psychology (1969)
B.A. 1950, Walla Walla College
M.Ed. 1957, Eastern Washington State College
Ed.D. 1972, University of Idaho

Merlene L. Olmsted, Assistant Professor of Home Economics (1977)
B.A. 1969, Walla Walla College
M.A. 1975, Loma Linda University

Ralph Perrin, Associate Professor of Health Science (1984)
B.S. 1977, Walla Walla College

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B.A. 1959, University of London
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Ed.D. 1970, Boston University

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Diploma, 1961, Ostrava Conservatory
B.A. 1970, University of Waterloo
M.Mus. 1971, Andrews University
M.Mus. 1977, Manhattan School of Music
Ph.D. 1984, New York University

Donald W. Rigby, Professor of Biology (1958)
B.A. 1950, Loma Linda University
M.A. 1956, Walla Walla College
Ph.D. 1967, Loma Linda University

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B.A. 1952, Loma Linda University
M.A. 1965, Redlands University

Gail S. Rittenbach, Assistant Professor of Education and Psychology (1986)
B.A. 1970, Pacific Union College
M.Ed. 1980; Ph.D. 1986, University of Washington

William Rouse, Associate Professor of Industrial Technology (1981)
B.S. 1972, Walla Walla College
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M.P.H. 1979, Loma Linda University

Gary L. Schoepflin, Professor of Physics (1979)
B.S. 1963, Walla Walla College
M.S. 1965, University of Washington
Ph.D. 1977, Oregon State University

Robert C. Schwab, Associate Professor of Management (1985)
B.A. 1971, Atlantic Union College
M.B.A. 1975, Andrews University
Ph.D. 1980, University of Oregon

Carlos A. Schwantes, Adjunct Professor of History (1969)
B.A. 1967, Andrews University
M.A. 1968; Ph.D. 1976, University of Michigan

*On leave
Kraig S. M. Scott, Instructor in Music (1986)
B. Mus. 1984, Walla Walla College
M.A. 1986, University of Oregon

Carolyn Stevens Shultz, Professor of English (1970)
B.A. 1965, Pacific Union College
M.A. 1966, Loma Linda University
Ph.D. 1977, University of Washington

Dan M. Shultz, Professor of Music (1979)
B.S. 1962, Atlantic Union College
M.Mus. 1967, Andrews University

Ward A. Soper, Associate Professor of Mathematics (1965)
B.A. 1961, Andrews University
M.A. 1962, University of Michigan

Glenn E. Spring, Professor of Music (1965)
B.A. 1962, Loma Linda University
M.Mus 1964, Texas Christian University
D.M.A. 1972, University of Washington

James H. Stagg, Assistant Professor of Social Work (1980)
B.A. 1966, Walla Walla College
M.S.W. 1980, University of Utah

Karen B. Tetz, Assistant Professor of Nursing, (1985)
B.S. 1977, Walla Walla College
M.S. 1983, Loma Linda University

Alden L. Thompson, Professor of Theology (1970)
B.A. 1965, Walla Walla College
M.A. 1966; B.Div. 1967, Andrews University
Ph.D. 1975, University of Edinburgh

Thomas M. Thompson, Professor of Mathematics (1971)
B.A. 1968, Walla Walla College
M.A. 1971, University of Washington
Ph.D. 1979, University of California at Davis

Fred W. Troutman, Associate Professor of Nursing (1972)
B.S. 1966, Walla Walla College
M.S. 1974, Loma Linda University

Robert C. Van Stee, Assistant Professor of Engineering (1984)
B.S.E. 1969, Walla Walla College
M.S.E. 1984, University of California at Los Angeles

Larry E. Veverka, Associate Professor of Pastoral Care (1976)
B.A. 1965, La Sierra College
M.A. 1966; B.D. 1966, Andrews University
M.A. 1981, Loma Linda University

Dale B. Visger, Professor of Industrial Technology (1977)
B.S. 1958, Walla Walla College

Robert Alan Wade, Associate Professor of Organic Chemistry (1979)
B.A. 1975, Kalamazoo College
D.Phil. 1979, Oxford University

Dale O. Wagner, Professor of Education and Psychology (1966)
B.A. 1952, Walla Walla College
Ed.M. 1958, Eastern Washington State College
Ed.D. 1973, University of Idaho

Verlie Ward, Assistant Professor of Education (1983)
B.S. 1971, Union College
M.A. 1977, Andrews University

298
Lois A. Whitchurch, Assistant Professor of Nursing (1967)
B.S. 1965, Walla Walla College
M.S. 1967, Loma Linda University

Wendy S. A. Innis Whitehouse, Assistant Professor of Chemistry (1985)
B.A. 1981, Southern Missionary College

JoAnn Wiggins, Assistant Professor of Office Administration (1987)
M.A. 1985, Walla Walla College

Kenneth L. Wiggins, Professor of Mathematics (1980)
B.A. 1968, Walla Walla College
M.S. 1971; Ph.D. 1974, Montana State University

Timothy Martin Windemuth, Assistant Professor of Health and
Physical Education (1983)
B.S. 1972; M.A. 1983, Loma Linda University

Gary Alan Wiss, Professor of English (1966)
B.A. 1966, Walla Walla College
M.A. 1969; D.A. 1976, University of Oregon

Robert F. Wood, Professor of Engineering (1976)
B.S.E. 1960, Walla Walla College
M.S. 1866, University of Texas
Ph.D. 1970, University of Illinois

Dolores J. Wright, Assistant Professor of Nursing (1984)
B.S. 1967, Loma Linda University
M.S. 1977, Southern Oregon State College

EMERITI

Irene T. Black, B.A., Registrar
Lewis H. Canaday, Ed.M., Professor of Industrial Technology
George L. Cavinness, Ph.D. Professor of Modern Languages
James R. Chambers, Ph.D., Professor of Chemistry
Darrel J. Cowin, Assistant Professor of Industrial Education and Technology
Edward F. Cross, M.E., M.A., Doctor of Engineering, honoris causa, Dean of
Engineering
J. Paul Grove, B.D., Professor of Religion
John J. Hafner, M.Mus., Professor of Music
Frederick R. Hanson, M.A., Professor of Nursing
Carl T. Jones, Ph.D., Professor of Chemistry
Jacob G. Mehling, M.A., Professor of Business
Agnes L. Sorenson, M.A., Professor of Modern Languages
Calvin C. Trautwein, Ed.D., Professor of Industrial Technology
Eugene S. Winter, Ph.D., Professor of Physical Education
Evelynn F. Wright, M.S., Professor of Home Economics
Presidents of Walla Walla College

*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-

*Deceased

COMMITTEE ASSIGNMENTS

Because the present structure of the committees on campus is currently under extensive review, the Committee Assignments section of the Bulletin will not be printed at this time. An updated list of the committee assignments will be included in the spiral-bound edition of the 1987-88 Bulletin which is published in September.
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