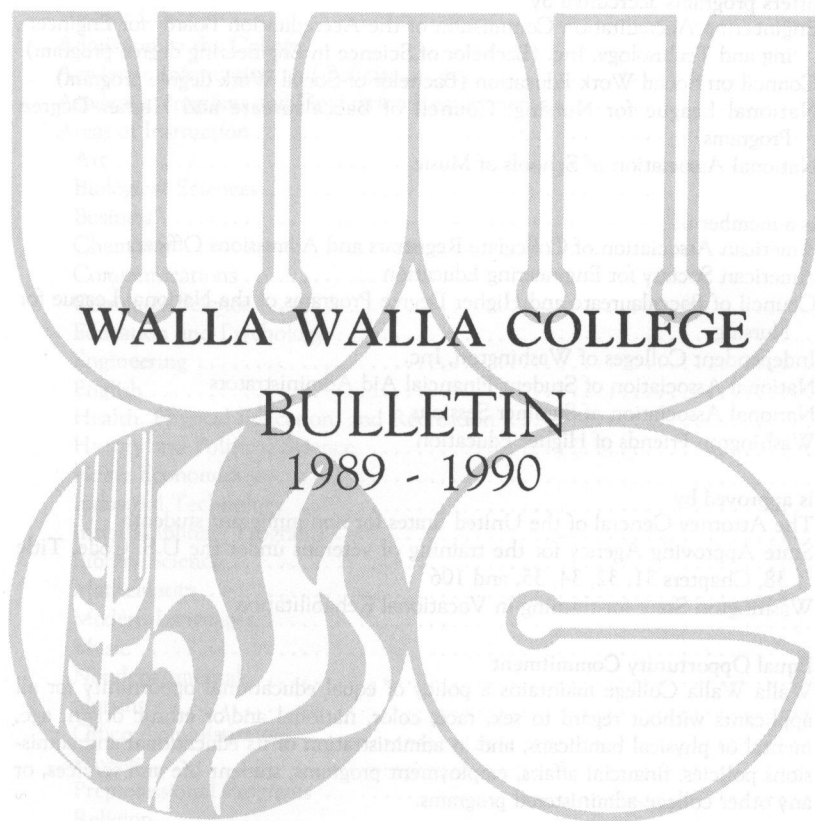




Spirit of Excellence
WALLA WALLA COLLEGE
BULLETIN
1989-1990



WALLA WALLA COLLEGE

BULLETIN

1989 - 1990

204 South College Avenue
College Place, WA 99324-1198
(509) 527-2327

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)
National League for Nursing, Council of Baccalaureate and Higher Degree Programs
National Association of Schools of Music

is a member of

American Association of Collegiate Registrars and Admissions Officers
American Society for Engineering Education
Council of Baccalaureate and Higher Degree Programs of the National League for Nursing
Independent Colleges of Washington, Inc.
National Association of Student Financial Aid Administrators
National Association of Summer Sessions
Washington Friends of Higher Education

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, 35, and 106
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, national and/or ethnic origin, age, mental or physical handicaps, and in administration of its educational and admissions policies, financial affairs, employment programs, student life and services, or any other college-administered programs.

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
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AREAS OF STUDY

BACCALAUREATE DEGREES

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Biblical Languages, p. 255

Bioengineering, p. 122

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Marketing and

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Mass Communication, p. 88

*Journalism and Public

Relations, p. 88

*Media, p. 89

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Medical Technology, p. 190

Medical Technology and

Clinical Chemistry

(double major), p. 192

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Music Performance, p. 210

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Office Administration, p. 228

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Plant Maintenance

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Social Work, p. 264

Sociology, p. 265

Spanish, p. 203

Speech Communication, p. 89

Technology Education, p. 168

Theology, p. 256

*Concentration available

†Option available

ASSOCIATE DEGREES (Two Years)

Automotive Technology
Aviation Technology
Business
Computer Programming
Construction Technology
Data Entry
Early Childhood Education
Electronics Technology

Graphics Technology
Management Information Systems
Plant Maintenance Technology
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)*
Chiropractic (2)
Dental Hygiene (2)
Dentistry (2)
Dietetics (2)
Law (4)
Medicine (4)
Occupational Therapy (2)
Optometry (2)

Osteopathy (3)
Pharmacy (2)
Physical Therapy (2)
Public Health (4)
Radiological Technology (1)
Respiratory Therapy (1)
Speech-Language Pathology
and Audiology (2)
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 DEGREES

(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 Social Work

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	Doug Botimer, Vice President for Admissions and Marketing 509/527-2327
Application Blanks	
Bulletins	
General Information	
RECORDS	Robert Gardner, Registrar 509/527-2811
Academic Information	or
Transcripts	509/527-2812
Transcript Evaluation	
Transfer Student Information	
FINANCES	Cassie Ragenovich, Director Student Financial Services 509/527-2815
Financial Information	
Work Opportunities	
Financial Aid	
Loans and Grants	
Financial Planning	
Payment Arrangements	
RESIDENCE HALL LIVING	Lynn Prohaska, Dean of Men Sittner Hall 509/527-2111
General Information	or
Room Reservations	Ilo Hutton, Dean of Women Foreman/Conard Hall 509/527-2532
	or
	Carol Pifer, Residence Hall Dean Portland Campus 503/251-6118
STUDENT ADMINISTRATION	Walter Meske, Vice President Student Administration 509/527-2511
Automobile Registration	
Off-Campus Housing	
Student Life	
COLLEGE ADDRESS AND TELEPHONE	Walla Walla College 204 S College Avenue College Place, WA 99324-1198 509/527-2615
General Telephone Number	1-800-572-8964
Toll Free (Washington state)	1-800-541-8900
Toll Free (Continental U.S.A.)	
PORTLAND CAMPUS	10355 S.E. Market Portland, OR 97216 503/251-6115
ROSARIO MARINE STATION	174 Rosario Beach Anacortes, WA 98221 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

Note: 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 1989-90

AUTUMN QUARTER

September			
22-26	Th-T	New Student Orientation, Advisement, and Testing	
25	M	New Student Registration	
26	T	Returning Student Registration	
27	W	Instruction Begins	
October 2	M	Last Day to Register	
10	T	Last Day for Registered Students to Add a Class or Change to Audit	
November 15	W	Last Day to Withdraw from Classes	
21	T	Thanksgiving Vacation Begins (noon)	
26	S	Thanksgiving Vacation Ends (10:00 p.m.)	
Dec. 10, 11, 12, 13	SMTW	Final Exams	

WINTER QUARTER

January 2	T	Registration	
3	W	Instruction Begins	
8	M	Last Day to Register	
16	T	Last Day for Registered Students to Add a Class or Change to Audit	
February 7	W	Snow Frolic	
21	W	Last Day to Withdraw from Classes	
Mar. 11, 12, 13, 14	SMTW	Final Exams	

SPRING QUARTER

March 27	T	Registration	
28	W	Instruction Begins	
April 2	M	Last Day to Register	
10	T	Last Day for Registered Students to Add a Class or Change to Audit	
May 2	W	Campus Day	
16	W	Last Day to Withdraw from Classes	
June 3, 4, 5, 6	SMTW	Final Exams	
June 10	S	Commencement (10:00 a.m.)	

SUMMER QUARTER

June 17	S	Registration	
18	M	Instruction Begins	
July 4	W	Independence Day Holiday	
August 10	F	Eight-week Session Ends No Summer Commencement	

OUR EDUCATIONAL AIMS AND OBJECTIVES

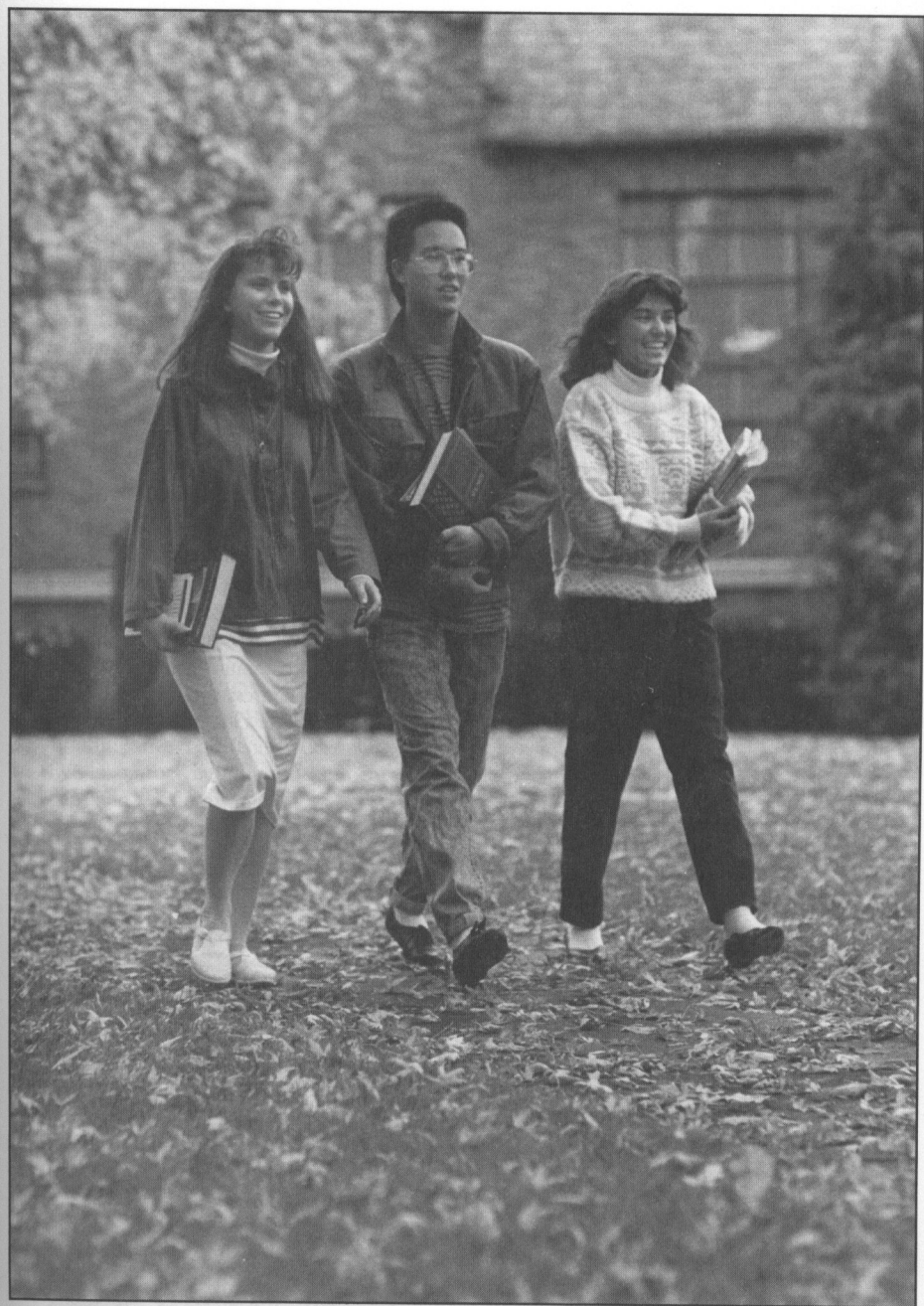
Walla Walla College is operated in harmony with the beliefs, practices and educational philosophy of the Seventh-day Adventist Church.* The College determines its academic policies and offerings in accordance with the following assumptions:

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).



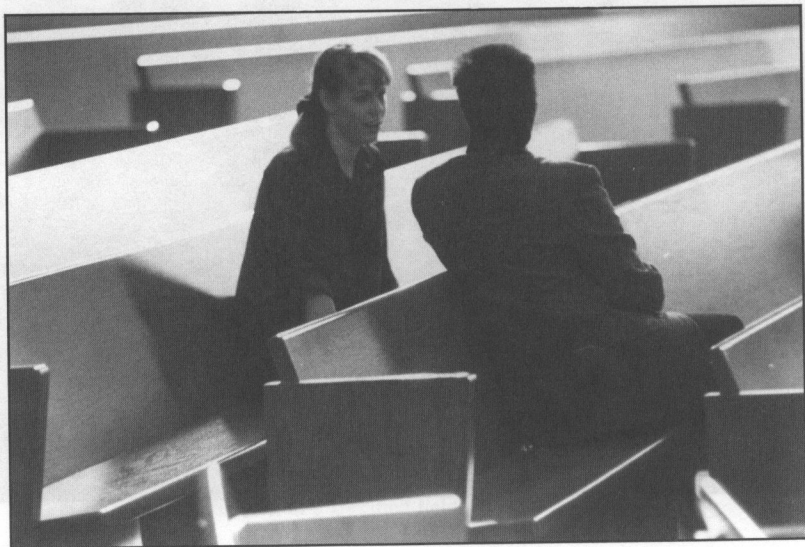
The College

OUR MISSION

Walla Walla College is a center of higher learning founded and supported by the Seventh-day Adventist Church. The college is committed to quality Christian education in the Seventh-day Adventist tradition. This tradition aims to develop in students the whole of their human potential, and bring them into harmony with their Creator. The college's special task is to prepare students to participate in the church's unique mission to the world. In the context of a liberal arts education, the college offers liberal arts, professional, and technical programs to prepare students to become responsible and contributing members of society.

The college is a learning community continuing the Western and Christian heritages. Here, students find personal identity while developing a world view and learning appreciation for other peoples and cultures. In this environment, students grow socially and spiritually as they form friendships and worship with others from diverse backgrounds.

Through fellowship as well as instruction the faculty seek to develop in students the capacity to think independently, analytically, and creatively; to participate independently within the church and other corporate bodies; to communicate their ideas clearly; to understand significant moral and social issues; to address these issues from the perspective of Christian values; and to live for the service of God and the betterment of mankind.



The College

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, passing west of the campus, leads directly to the nearby Whitman Mission National Historic Site. The scenic Blue Mountains to the east and the Snake and Columbia Rivers to the north and west offer opportunities for recreation and relaxation.

The 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, with additional facilities located on adjoining lots of land totaling 22 acres.

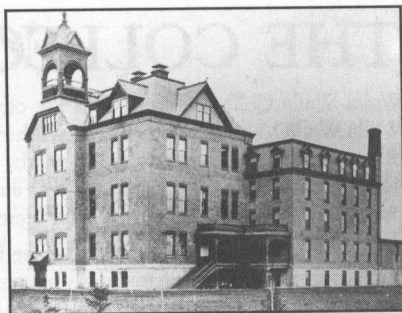
The college provides assistance to encourage the attendance and academic success of handicapped students. The campus and a number of buildings have been modified to provide easy wheelchair access.

PORTLAND CAMPUS. Walla Walla College provides academic and residence hall facilities in Portland, Oregon for its upper-division nursing students completing course work at Portland Adventist Medical Center. 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. Walla Walla College maintains a biological research facility at Rosario Beach, adjoining Deception Pass State Park, Anacortes, Washington. This facility occupies 40 acres of beach and timberland, and includes five laboratory buildings, a kitchen and assembly hall, shop and 29 cabins for student and staff housing.



OUR HERITAGE



Founding a college is a tremendous undertaking. It can be especially intimidating in the dead of winter, with snow on the ground and quilts for heat.

Such was the case in 1892, when Walla Walla College began on a frozen prairie a few miles west of Walla Walla, Washington. One building, five teachers, 101 students of all grades. If you like pioneer stories, we've got one for you. Sally Sutherland, wife of the first president, describes the scene:

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

The old Administration Building still stands. In those days, it contained classrooms, offices, dormitories and the cafeteria. Walla Walla College has come a long way since then.

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

At the conclusion of World War II, WWC began a twenty-year period of expansion both academically and physically. Programs such as engineering were started during this period. The biology department added the Rosario Beach Marine Station in 1958. A large scale building program culminated in the 1960's with the addition of several modern buildings, including the new College Church, Kretschmar Hall, the Fine Arts Center, and the Life Sciences Complex.

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

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

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



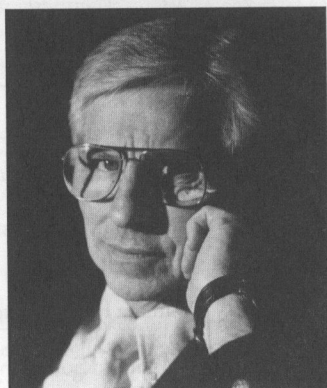
1988-89 marked the formation of the President's Executive Corps, students chosen to assist in campus hosting, special events and recruitment.

OUR FACULTY

Walla Walla College is committed to quality teaching, to Christian educators on a Christ-centered campus. WWC faculty are competent professionals, and the close association with colleagues from various disciplines makes for a stimulating intellectual environment.

Among the many traditions that enrich WWC, one of the most anticipated and inspiring is the faculty awards announcement. For the fifth consecutive year, WWC honored a selection of its outstanding educators at Commencement in June.

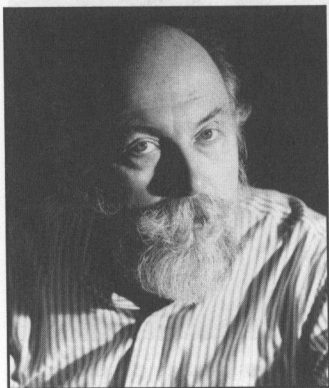
To recognize these five is really to recognize what WWC teachers stand for in general — committed Christianity, professional expertise and a genuine love for their work. Such a faculty is well-represented by the following:



Donald Rigby

BURLINGTON NORTHERN FOUNDATION AWARDS FOR EXCELLENCE IN TEACHING AND PROFESSIONAL ACHIEVEMENT

Kenneth MacKintosh, Professor of Art. He began teaching at WWC in 1961 after receiving his M.F.A. from the Otis Art Institute of Los Angeles County. His distinguished career has included exhibitions and juried competitions in Brazil, Italy, Korea, Poland, China and Spain. He is noted for his miniature woodcuts and wood engravings. As a colleague described it, "his professional record of creative work has been unrelenting for the past two and a half decades."



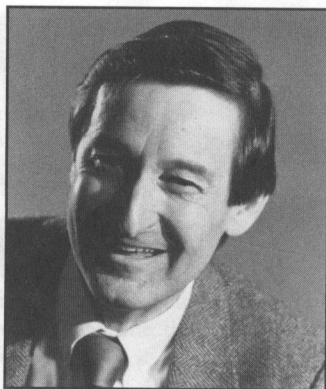
Kenneth MacKintosh

Donald Rigby, Professor of Biology. A mainstay of the biology program, Rigby completed his 31st year at WWC in June. He chaired the biology department from 1964-79 and from 1988 to the present. He received his Ph.D. from Loma Linda University. Long recognized as one of WWC's finest educators, Rigby was also named Honored Faculty Alumnus of the Year in April.

In the words of a colleague, Rigby is "the consummate teacher, who cuts through the plethora of details and brings students the essentials."

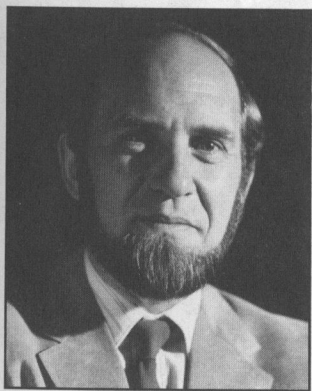
THOMAS AND VIOLET ZAPARA AWARDS FOR TEACHING EXCELLENCE

Ernest Bursey, Associate Professor of Biblical Studies. Bursey has taught in the School of Theology since 1973. He holds both the M.A. and M.Phil degrees from Yale University. He is a New Testament scholar who specializes in the Gospels. A colleague wrote that students in Bursey's classes "experience not only rigorous



Ernest Bursey

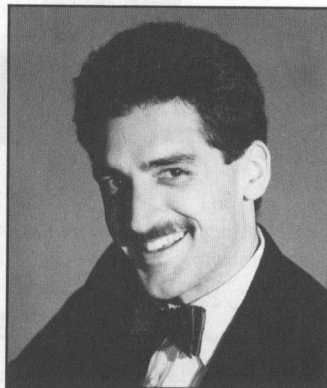
demands, but . . . gentle, perceptive, and personal attention . . ."



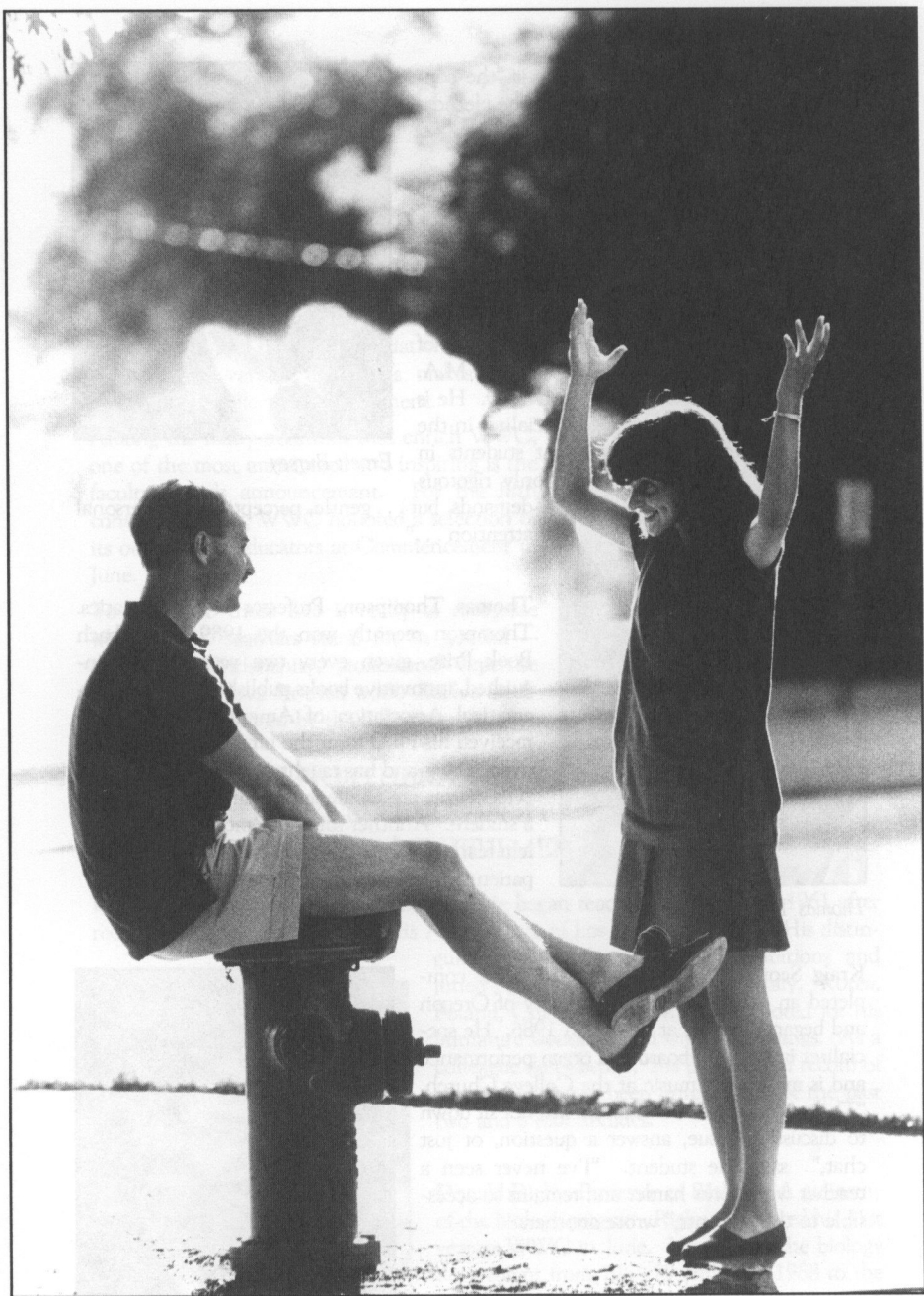
Thomas Thompson

Thomas Thompson, Professor of Mathematics. Thompson recently won the 1989 Beckenbach Book Prize, given every two years for "distinguished, innovative books published by the Mathematical Association of America." Thompson received his Ph.D from the University of California at Davis and has taught at WWC since 1971. "His classes are challenging, but possible," wrote a student. Another said, "He tackles every problem fearlessly and with great ease. He's never impatient when you don't understand."

Kraig Scott, Instructor in Music. Scott completed an M.A. from the University of Oregon and began teaching at WWC in 1986. He specializes in early keyboard and organ performance and is minister of music at the College Church. "There is never a time when he will not sit down to discuss an issue, answer a question, or just chat," said one student. "I've never seen a teacher who works harder and remains so accessible to the students," wrote another.



Kraig Scott



Student Life

STUDENT LIFE

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

CHRISTIAN COMMITMENT

Although Walla Walla College welcomes students from all backgrounds, it asks them to respect the distinctive Seventh-day Adventist way of life, one that emphasizes healthful living and encourages daily worship and Sabbath rest.

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

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

CHAPELS. Chapels, held each Tuesday, and assemblies, held several times each quarter, are important to the spiritual and social unity of the college family. All undergraduate students are required to attend.

WORSHIPS. Providing programs conducive to academic and spiritual growth is the reason Walla Walla College exists. To help preserve this distinctive objective, selected worship attendance is required.

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

OFFICE OF CAMPUS CHAPLAIN. The Campus Chaplain welcomes students seeking personal spiritual guidance. Other responsibilities include coordinating many campus religious activities and sponsoring the Campus Ministries organization.

CAMPUS MINISTRIES. Campus Ministries is a student-operated organization promoting religious understanding and activity on and off campus. Typical activities include Friday evening programs, weekend lectures, community service projects, and student missionary program coordination.

ADVENTIST YOUTH SERVICE (STUDENT MISSIONARY). Through the Chaplain's office, a large number of WWC students take advantage of student missionary opportunities. Participating students spend up to one year away from the WWC campus in Christian service settings around the world.

SOCIAL OPPORTUNITY

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

ASSOCIATED STUDENTS OF WALLA WALLA COLLEGE. All WWC faculty and regularly enrolled students are members of the ASWWC. ASWWC elected officers are responsible for a wide range of social and religious activity planning, and for representing student needs and concerns to WWC administrators. The ASWWC is also responsible for production of the *Mask* student directory, *The Collegian* weekly student newspaper, and the *Mountain Ash* yearbook and video. Student editors of these publications are appointed by the ASWWC Publications Board. The ASWWC is sponsored by the Vice-President for Student Administration.

CAMPUS CLUBS. Students of varying interests and social tastes support a variety of campus clubs and interest groups. Most academic departments sponsor organizations designed to foster academic interaction in more informal settings. Other campus clubs include: Aleph Gimel Ain (AGA), Dormitory Women; Epsilon Mu Sigma (EMS), Married Students; Omicron Pi Sigma (OPS), Dormitory Men; Canadian Club; International Club; and Village Singles Club.

LYCEUM SERIES. Each year, the College sponsors a series of culturally-enriching concerts, lectures, films, and variety presentations. Walla Walla College students are admitted to the Lyceum Series free of charge.

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

ATHLETIC PROGRAM

Walla Walla College places great importance on the physical, as well as the spiritual and intellectual dimensions of education.

INTRAMURALS. A highly-organized athletic program in individual and team sports encourages campus-wide involvement at all skill levels. More than sixty percent of WWC students participate in at least one intramural activity.

FELLOWSHIP OF CHRISTIAN ATHLETES (FCA). WWC students with high athletic ability and the desire to share their love for Christ are encouraged to participate in the FCA program. Program sports currently include football, basketball, volleyball, softball, and track and field.

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

STUDENT HOUSING

RESIDENCE HALLS. Walla Walla College provides on-campus housing for all unmarried students. Campus residence hall options include:

Foreman/Conard Hall. This residence hall complex houses 450 women. The Foreman portion is a seven-story high-rise for upper-division women, featuring elevator service and air-conditioned rooms. The Conard portion includes a large worship room, recreation room, and lounges. Foreman/Conard provides laundry and kitchen facilities.

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

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

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

All unmarried students taking six or more academic credits are required to live in one of the above college residence halls and to eat in the college cafeteria.

Under special circumstances, students may apply to the Vice President for Student Administration for permission to live off campus in an officially approved home. Applications will be processed only at the beginning of a quarter, and failure to secure official approval will invalidate the student's registration. Students who have received approval for off-campus living may be called into the college residence halls at any time.

APARTMENTS. The College owns 50 one- and two-bedroom apartments which are reasonably-priced and available for married students. Apartments in the community, furnished and unfurnished, are also available.

STUDENT SERVICES

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

All degree seeking undergraduate students are expected to have an academic adviser at all times. Freshman are assigned specially selected academic advisers to assist them in making the most of their college experience. Preprofessional students are assigned academic advisers who are familiar with specific professional programs.

Adviser signatures are required on registration and add/drop forms of undergraduate students. In the event of temporary unavailability of the assigned adviser, the student should first consult the department chair. If the chair is not available, the forms may be signed by the Director of Academic Advising. It is the student's responsibility to inform the assigned adviser of the action.

CHANGE OF MAJOR/MINOR AND ADVISER. Students who wish to declare or change a major/minor are expected to complete a "Change of Major/Adviser" form in the Office of Academic Advising or in the Records office. If the declaration of major requires the selection of a new adviser, the student must complete the change of adviser process including an interview with the Director of Academic Advisement. Students are assigned a secondary adviser for the chosen minor, and the student is expected to consult with the adviser to insure appropriate course selection.

Students who are pursuing secondary education certification must consult with the Certification Secretary in the Education Department.

CAMPUS COMPUTER CENTER. The College provides computer services to all faculty, staff, and students through its Campus Computer Center. Administrative computing is handled by a Hewlett-Packard HP 3000 Series 935. Scientific computing is supported on a DEC MicroVAX running VMS and an HP 9000 running UNIX.

A campus-wide PC network running Novell Netware supports a wide variety of software applications for faculty, staff, and student use. Several popular software programs are available for campus computer users in each of the following categories: word processing, spreadsheets, databases, programming languages, graphics, computer-aided design, communications, mathematical and data analysis, tutorials, and electronic-mail.

Three clusters of high-performance (286 and 386) computers are available for student use. Each of these stations has a high-resolution color screen, a mouse, and access to the campus wide network. Access to multi-pen color plotters is also available.

Use of campus computer facilities, software, training, and other services of the Campus Computer Center are provided free of charge to all WWC students.

CAREER DEVELOPMENT CENTER. The Career Development Center assists students by providing early career exploration and guidance, offering opportunities to obtain valuable work experience, and providing graduates with job search and placement assistance or information on graduate or professional school programs.

Career decision making services include a career library of up-to-date information on occupations and professions; career planning courses which help students identify interests and career values, and develop goal-setting and decision-making skills; an interactive computer service providing information about occupations, employment potential, salary range etc.; workshops designed to prepare students for job search and employment; and career information presented by representatives from major employers and professional and graduate schools.

Cooperative Education. In selected programs, students may blend their academic study with career-related, paid, productive employment in business, industry, government, or social agencies. Experiences are arranged through the combined efforts of the co-op coordinator and the student. Placements are either full or part-time. Duration of appointment is typically for one quarter but in many cases may be extended or repeated. Supervision and evaluation are the joint responsibility of a professor from the student's major field of study, the Coordinator of Cooperative Education, and the employment supervisor.

Participants in the Cooperative Education Program will have opportunity to gain valuable work experience, earn college credits and 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 should get in touch with the Coordinator of Cooperative Education at the Career Development Center. Information is also available from faculty/advisers in participating departments.

Placement Services. Anyone seeking employment assistance should apply for placement services as early as possible. Services include resume writing, interview techniques, job search assistance for full-time career positions, or summer employment opportunities, as well as interview appointments with various companies and professional organizations. A Placement Directory is published annually and distributed to more than 600 North American organizations. The directory includes personal data and a photograph of each graduating candidate. Individual placement files are established and maintained at the student's request.

COUNSELING AND TESTING CENTER. The services of the Counseling and Testing Center are designed to help students deal with the pressures of college life. Students can receive help in dealing with personal problems, in learning more about themselves, and in planning their future.

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

Long-term career counseling is also provided by the Center. In-depth investigation of a student's interests, personality, values, skills and expectations is conducted through a variety of career testing services.

Counseling sessions are free. A fee is charged for some of the tests. Counselors are available primarily on an appointment basis by calling 527-2666, or by visiting the Center on the main floor of Sittner East.

Standardized Tests. The Counseling and Testing Center is the official Testing Center for most standardized tests administered on campus. These tests are given on certain dates specified in advance by the testing companies, and most require advance registration through the 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 Admission Test
- English Placement Test
- Graduate Management Admission Test (GMAT)
- Graduate Record Examination (GRE)
- Home Study Institute Correspondence Tests
- Law School Admission Test (LSAT)
- Medical College Admission Test
- Optometry Admission Test (OCAT)
- Test for Entrance into Teacher Education Programs (TETEP)
- Test of English as a Foreign Language (TOEFL)

STUDENT ASSISTANCE PROGRAM. 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 Student Assistance Program provides individualized assessment,

testing, counseling and referral services. This office works closely with residence hall deans and the Vice President of Student Administration to insure that students receive adequate help and support. To continue enrollment, students must follow the recommendations of this group. The student will bear the moderate cost associated with assessment and treatment of chemical dependency.

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

LIBRARY. The combined WWC libraries contain approximately 160,000 volumes, with an average of 3,250 volumes added annually. Currently, the library receives over 1,000 periodicals. Periodical indexes and other bibliographical aids are also available.

Peterson Memorial Library. Reading room accommodations, the open-shelf system, a periodical room and a listening/viewing facility enhance the study experience. Microreaders make accessible microforms of scholarly material.

Curriculum Library. Located in Smith Hall, this library contains a large selection of textbooks and children's literature. A collection of mounted pictures, filmstrips, tapes and phonorecords supplement those held by the main library.

Portland Campus Nursing Library. This facility serves the specific needs of nursing students obtaining clinical practice on WWC's Portland, Oregon campus.

Resources in other libraries are available to students and faculty members through the library's participation in the Resource Sharing Program, and the Western Library Network. WWC students with validated identification cards also have access to the library facilities of Whitman College, a private liberal-arts college located in downtown Walla Walla.

STUDENT HEALTH CENTER. Clinical facilities, nurse practitioner, physician consultations, medication, and medical supplies are available for students requiring medical attention. More serious medical and surgical services can be obtained at 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. The Teaching Learning Center offers drop-in tutoring free of charge and private tutoring for a minimal fee to all students enrolled in Walla Walla College. The business, mathematics, computer, modern languages, reading, science, and writing labs in the Center offer help to students needing to improve their skills before enrolling or to students enrolled in courses. Help in additional areas is available upon sufficient demand. The center also offers specific seminars to help students improve academic skills.

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 as detailed in the *Student Handbook*.

PUBLIC INFORMATION

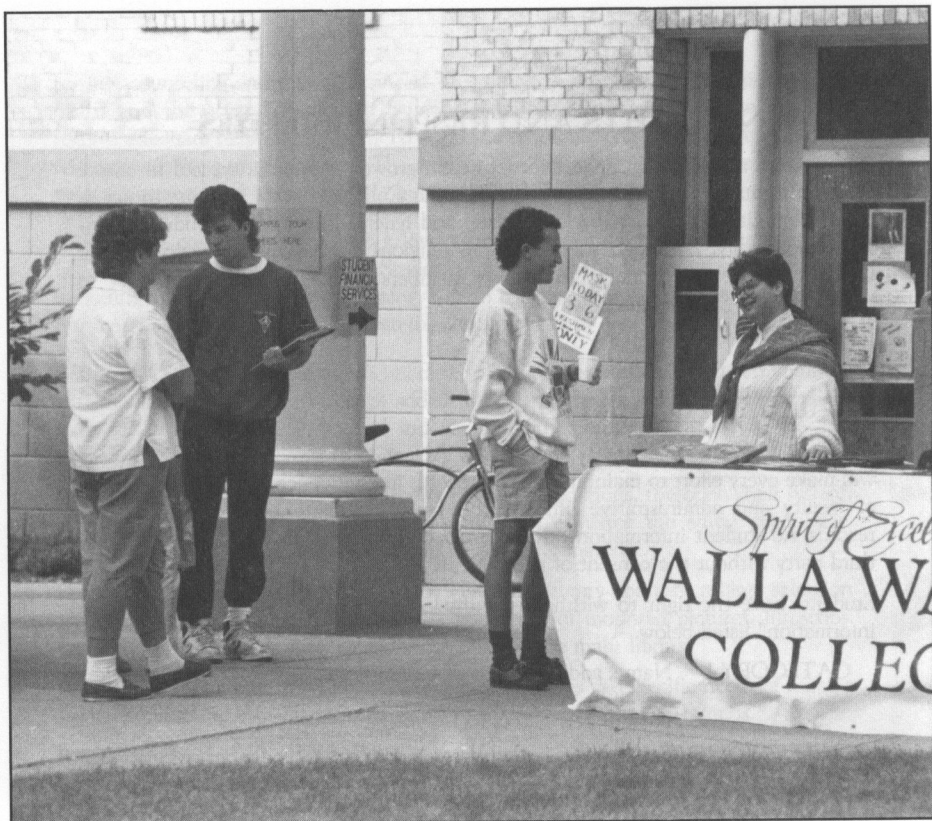
The Family Educational Rights and Privacy Act of 1974 provides that the College will make every effort to maintain student records in confidence. With the exception of faculty and administrative officers who have legitimate need to use student records, no student information other than public information 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. Requests should be made in writing to the administrator responsible for the record and will be processed within 45 days from the date of filing.



The above information is for informational purposes only. The actual information is to be obtained from the Walla Walla College.

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Admission To The College

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 and provides for all students the same rights, privileges, programs, and activities. The College does not discriminate on the basis of sex, race, handicap, color, or national or ethnic origin in its admissions, its educational, financial, employment, and student life programs and policies, or any other college-administered programs.

ADMISSION PROCEDURE

Students must submit an application available from the Office of Admissions. Applications should be made as early as possible prior to the quarter in which study is to begin.

APPLICATION FEE. A \$20 application fee is required, and should be submitted with the WWC Application for Admission.

OFFICIAL TRANSCRIPTS. Official transcripts must be requested by the student from the registrar of each institution attended, and must come to the Office of Admissions directly from that institution, not from the student. Official high school transcripts or GED scores must also be submitted, unless the applicant has completed a baccalaureate degree.

All records become the property of the College. Transcripts, applications and other credentials submitted for admission will be destroyed after two years if the applicant does not enroll in the College.

LETTER OF ACCEPTANCE. 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. Under no condition should applicants consider themselves accepted until they have received an official letter of acceptance. Applicants should not 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, and will guarantee a room for the year. This fee is refundable any time until September 1 of each year. See the Financial Information section of this bulletin for residence hall rates.

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 INFORMATION. The health services of the College are administered by a registered nurse. In order to give efficient service in case of illness and accident, the College requires that all new students present a Personal Health Assessment and Immunization record. Approved forms are available from the Office of Admissions.

ADMISSION STATUS

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

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

Minimum requirements for admission include:

- Graduation and official transcript from an accredited secondary school or the completion of the GED Test with passing scores.
- Completion of the ACT Test.
- Satisfactory recommendations.

All students with secondary school backgrounds must present the following semester credits for admission:

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

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

	Semester Credits
Foreign Language*	20
Social Studies	10
Science (additional)	10
Mathematics** (additional course should be taken in the junior or senior year)	10

*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.

**Some departments may require 10 semester credits of Algebra II, including Trigonometry. Please check departmental requirements.

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 Registrar 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 Mathematics department.

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	Mathematics
Computer Science	Physics
Engineering	

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 must 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. Students must be at least 18 years of age when the test is taken and must have finished eighth grade at least four years earlier.

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. They must show evidence that they are 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 may register for selected Walla Walla College courses.

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 "International Students" section in the Financial Information section of this bulletin.

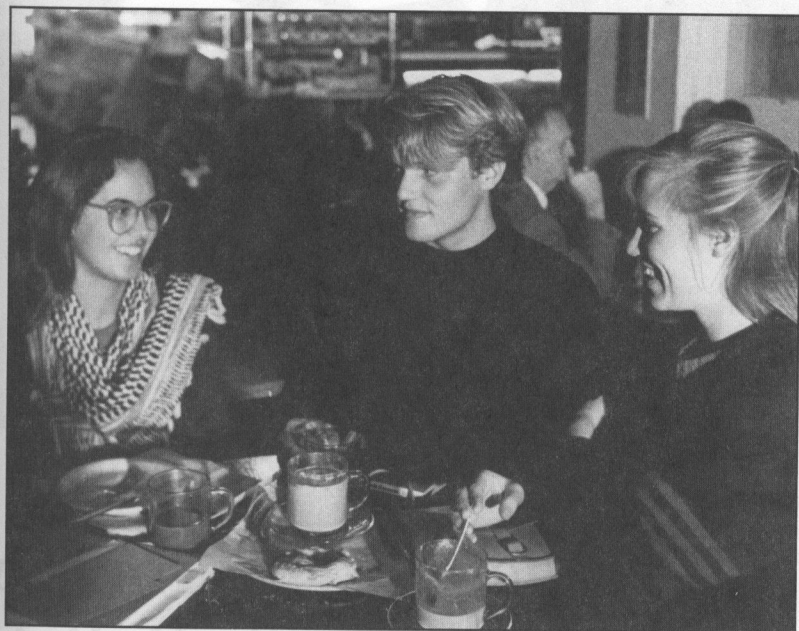
ADMISSION OF TRANSFER STUDENTS

ACCREDITED 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 admission.**

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

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

SENIOR TRANSFER STUDENTS. Transfer students 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.





Academic Information & Policies

ACADEMIC INFORMATION AND POLICIES

ACADEMIC POLICIES

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

REGISTRATION

The academic year is divided into four academic quarters, Autumn, Winter, Spring, and Summer. 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. **Students who do not receive financial clearance prior to the first day of classes will have their schedule cancelled, and will have to re-register on a space available basis.** Faculty advisers are available to assist students with registration and in planning academic programs.

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. Students will not be permitted to register for two classes which meet concurrently.

FRESHMAN ORIENTATION. All entering freshmen are required to attend the college orientation program, which is held prior to each term. This program includes instruction concerning study skills, registration process, college regulations, course placement, and academic advisement.

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

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

WITHDRAWALS. Students withdrawing from all classes must submit an official Class Drop Voucher to the Academic Records Office. It must be signed by (1) the Vice President for Student Administration, (2) the Academic Adviser, (3) the Director of Student Financial Services, and (4) the Registrar.

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.

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

ADMISSION TO UPPER DIVISION. A student may register for upper-division courses provided that he/she has completed ENGL 121, 122, 123, (College writing or its equivalent) and has completed 45 quarter hours of college 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 without completed graduate application forms and registration approval will not apply to a graduate program. For information on graduate program admission, students should consult the *Graduate Bulletin*.

AUDIT. Students may audit classes provided they (1) register in the usual manner; (2) receive prior approval of the instructor, because certain classes and labs may not be audited; (3) pay any special fees, as appropriate; and (4) pay one-half tuition. Students auditing courses are not required to do class assignments or take tests. They receive no grades and no academic credit. **Students may not take challenge or waiver examinations for courses they have audited.** Students with a cumulative grade-point average of at least 3.00 and a course load of 13-16 hours (excluding audit courses) pay a special fee for each audited course which exceeds 16 hours. See fee section of this Bulletin.

COURSE LOAD

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

The normal course load is 16-17 hours per quarter. Sophomores, juniors, and seniors may 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 will carry a reduced course load.

Students in college residence halls must 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 are processed through the Student Administration Office.

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

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

CLASSIFICATION OF STUDENTS

FRESHMEN. 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.

SOPHOMORES. 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.

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

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

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

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

NONMATRICULATED STUDENTS. Mature individuals ineligible for regular admission are considered nonmatriculated. (See Admission to the College: Non-matriculated Admission)

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

GRADING SYSTEM

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. This report includes a second copy which the student may send to parents or guardians.

The following grades and point values are used:

A	— Excellent	4	grade points per quarter hour
B	— Above Average	3	
C	— Average	2	
D	— Below Average	1	
F	— Failure	0	
S/NC	— Satisfactory (C or better)/No Credit	0	

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 submit 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 (2-3 weeks) in the quarter but failed to withdraw officially.

GRADE ERRORS AND CORRECTIONS. Grade reports are issued at the close of each quarter. Upon receiving a grade report, the student should carefully check the accuracy of 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. Students whose cumulative grade-point average falls below 2.00 (C) are placed on academic probation and they will remain so classified until the overall grade-point average is again 2.00 (C) or better. These students' records will be reviewed by the Dean for Academic Administration.

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

FINAL EXAMINATIONS. All students are expected to take final examinations as scheduled. Special administrations are arranged by petition to the Dean for Academic Administration three weeks prior to the close of the quarter. A Special fee for each examination is assessed. See fee section of this Bulletin.

TRANSCRIPTS. Official transcripts are requested from the Academic Records Office. This request must be in writing using a transcript request form available in the Academic Records Office or by letter, including student's signature. One transcript of a student's record is supplied without charge. A fee of \$3 per transcript is charged thereafter. Two days is the normal time for providing a transcript. Transfer credit is not recorded after a student has ceased residence in the College.

ACHIEVEMENT RECOGNITION

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 incompletes) and have achieved a grade-point average of 3.50 or better.

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, validating, or waiving comparable classes offered by the College. (Certain college classes may not be challenged.)

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

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

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

8. Students may not take challenge or waiver examinations on courses they have audited.
9. Examinations must be taken prior to the last 3 weeks of any quarter.

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

ADVANCED PLACEMENT EXAMINATION (CEEB). Regular college credit may be established by successful completion of an Advanced Placement examination. These tests are graded on a scale of 1 to 5. English and history credits may be earned as follows:

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, 143, or 323.

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 Counseling and Testing Center administers these tests in the third week of each month. Candidates should consult with the center for application forms and other specific information including fees. These tests may not be repeated.

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

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.

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 student will be given credit in the comparable College course.

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

TRANSFER CREDIT BY EXAMINATION. Credit earned by examination at other colleges or universities may be transferred provided such credit meets the guidelines used by Walla Walla 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 and independent or directed study arrangements are not allowed for repeat course work. Repeat course work for which an F has been received must be completed in residence unless permission to do otherwise is granted by the Academic Standards Committee.

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. A student who has failed a course can not make it up by correspondence study. Students must obtain prior approval from their major department chair and Academic Standards Committee in order to carry correspondence work while in college. Correspondence work may not apply on a major unless approved by the department chair concerned. Application forms are available from the Academic Records Office.

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.

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.

SOUTHEAST ASIA UNION COLLEGE AFFILIATION

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, in Singapore. Walla Walla College confers approved baccalaureate degrees on those students who fulfill the necessary admission, academic, and course requirements. Courses taken under this program are described in the *SAUC Bulletin* and are indicated as such on the permanent academic record.

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, students may take 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. Transcripts will be recorded only for students who have been or who are currently enrolled at 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. Ability to meet the financial requirements.

Students planning to study under this program must submit a completed application with a \$100 refundable deposit by April 2, 1990, as there are usually more applications than spaces available.

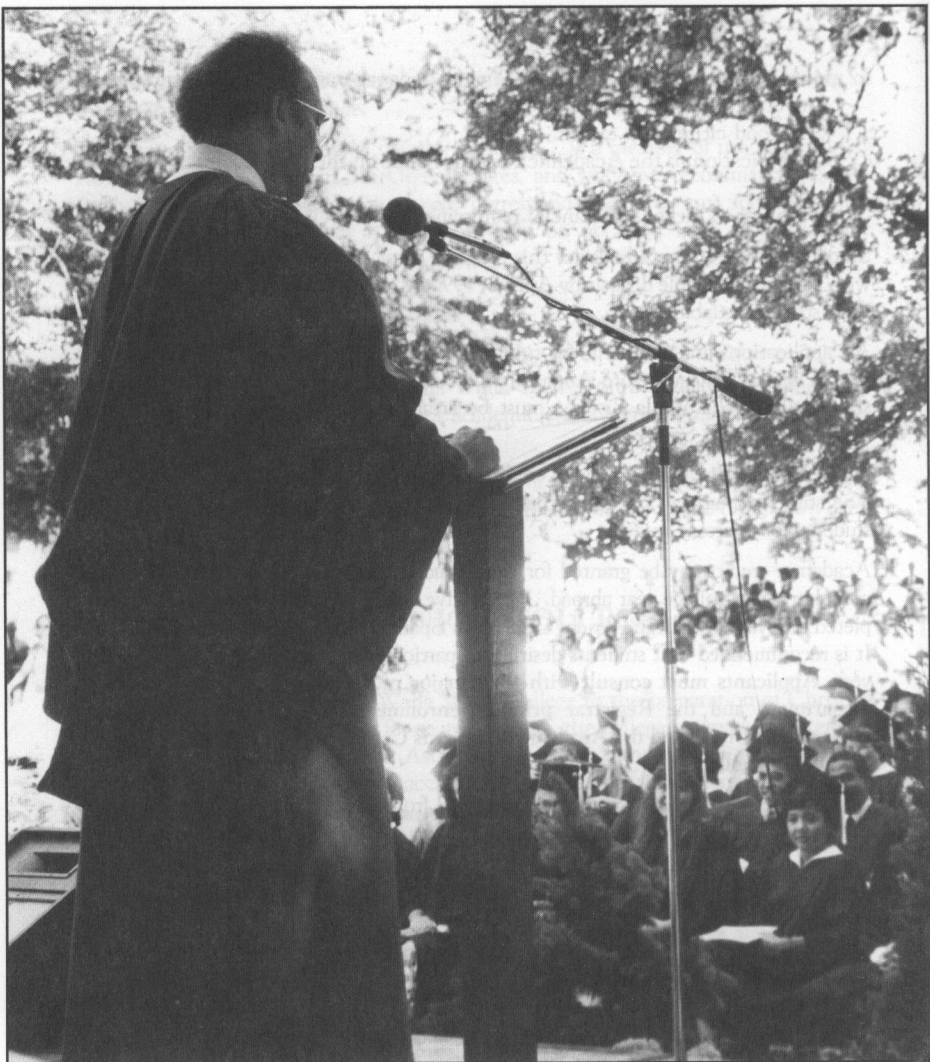
All applications and payments for tuition, room, and board are to be made through Walla Walla College before August 1, 1990. Any deviation from this schedule by students of Walla Walla College must be arranged in advance with the Office of Student Financial Services.

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

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





Academic Programs And Graduation Requirements

ACADEMIC PROGRAMS AND GRADUATION REQUIREMENTS

UNDERGRADUATE DEGREES OFFERED

Walla Walla College offers courses of study leading to the following undergraduate 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.)

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

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

- Master of Arts (M.A.)
- Master of Education (M.Ed.)
- Master of Science (M.S.)
- Master of Social Work (M.S.W.)

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

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 foreign language 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 foreign language study is required. No minor is required with the exception of Elementary Education.

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 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 some specialization 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, students should plan to include certain elementary and intermediate courses in the desired major during the freshman and sophomore years in order to successfully complete the major.

A student who is undecided as to a major field of study may, during the freshman year, explore several fields of knowledge without loss of credit if he 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. Students shall have the option of meeting degree

requirements as published in the bulletin at the time of initial registration or any bulletin published while in regular attendance. Those missing regular attendance for one full school year (except for Student Missionaries and Task Force workers) must meet the requirements of the current bulletin upon resuming attendance. 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 who complete all degree requirements will be notified by the Registrar at the time of completion and are eligible to participate in the next June graduation exercises.

Students anticipating the completion of an approved degree program during the summer may participate in the June graduation exercises immediately prior to their last summer in residence.

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 Registrar not later than one week after the beginning of the first quarter of the senior year. Appropriate forms may be obtained from the Academic Records Office. Students are not considered candidates for degrees or eligible for senior class membership until officially notified by the Registrar.
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 receive their degree. **Seniors must have all correspondence work completed prior to the beginning of their last quarter in residence.**
9. **Second Baccalaureate Degree.** Two different 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 designed so 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 by taking courses of sufficient duration to allow for in-depth study or 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.

The format for the general studies courses 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.

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.

Bachelor of Arts Degree	86 quarter hours (including foreign language)
Bachelor of Music Degree	*
Bachelor of Science Degree	74 quarter hours
Bachelor of Science in Business Administration	74 quarter hours
Bachelor of Science in Engineering Degree	*
Bachelor of Social Work	74 quarter hours
Associate of Science Degree	32 quarter hours
Certificate Program	10 quarter hours

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

For the General Studies Honors Program, see page 52.

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 may count toward the total requirement. Some areas are subdivided, with ranges from each subdivision indicating the minimum that must be taken from that subdivision and the maximum that may count toward that area requirement. Credits earned beyond the listed maximums may be counted as general electives.

Areas	Hours	Hours
	Minimum/Maximum in specific subject areas	Minimum/Maximum in general areas

APPLIED ARTS 0-4

Courses in the applied arts should introduce the student to basic manual and technical skills.

HEALTH AND PHYSICAL EDUCATION 2-6

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

Activity Courses 2-4

Theory Courses in Health,

Health-related, or

Nutrition 0-4

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
Environmental Studies	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 laboratory 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, students will still be required to take a minimum of nine hours of religion from Walla Walla College and meet the Biblical Studies and upper division requirements described above.

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, and PHTO.

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.

HEALTH and PHYSICAL EDUCATION 2-6**Activity Courses: 2-4**

ALL PEAC 101-199 Activity Courses

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

FDNT	220	Human Nutrition	4
HLSC	110	Wellness for Living	3
HLSC	208	Drugs and Society	3
HLSC	353	Principles of Health	3

HISTORY and SOCIAL STUDIES 12-20**History: 8**

HIST	120, 121, 122	History of Western Civilization	4, 4, 4
HIST	131, 132, 133	Western Thought I (Honors)	4, 4, 4
HIST	221, 222	History of the United States	4, 4
HIST	225	History of Canada	4
HIST	274, 275	History of England	4, 4
HIST	284, 285	History of Latin America	4, 4

Social Studies: 4-12

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

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

HUMANITIES 12-16**Fine Arts: 0-8**

ART	251	Introduction to Art	4
ART	324, 325	History of Art	3, 3
ENGL	311, 312, 313	Western Thought II (Honors)	4, 4, 4
MUHL	124	Introduction to Music	4
MUHL	134	The Art of Listening	3
MUHL	321, 322, 323	History of Music	4, 4, 4
SPCH	363	History of Dramatic Arts	4

Literature: 0-8

ENGL	204	Introduction to Literature	4
ENGL	207	World Literature	4
ENGL	209	Religious Literature	4
ENGL	210, 211, 212	Survey of English and American Literature	4, 4, 4
ENGL	214	Themes in Literature	4
ENGL	215	Film Literature	4
ENGL	311, 312, 313	Western Thought II (Honors)	4, 4, 4
ENGL	454	Literature of the Bible	4
HIST	131, 132, 133	Western Thought I (Honors)	4, 4, 4
FREN	301, 302, 303	Survey of French Literature	3, 3, 3
GRMN	311, 312, 313	Survey of German Literature	3, 3, 3
SPAN	324, 325, 326	Survey of Spanish Literature	3, 3, 3

Philosophy: 0-8

PHIL	204	Essentials of Critical Thinking	4
PHIL	205	Introduction to Philosophy	4
PHIL	206	Introduction to Logic	4
PHIL	305	Moral Philosophy	4
PHIL	306	History of Philosophy	4
PHIL	407	Philosophy of Science	4
PHIL	412	Philosophy of Religion	4
PHIL	440	Problems in Philosophy	4

LANGUAGE ARTS 12-20**English: 8**

ENGL	121, 122, 123	College Writing	3, 3, 2
ENGL	141, 142, 143	College Writing (Honors)	3, 3, 2

Communications: 0-8*

ENGL	324	Essay Writing	3
ENGL	325	Advanced Technical Writing	3
JOUR	245	Journalistic Writing	4
JOUR	341	Magazine Article Writing	4
SPCH	101	Fundamentals of Speech Communication	4
SPCH	207	Small Group Communication	3
SPCH	443	Persuasive Speaking	4

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

Foreign Language: 0-12**

FREN	101	Introduction to French	4
FREN	102, 103	Elementary French	4, 4
FREN	202, 203	Intermediate French	4, 4
GRMN	111	Introduction to German	4
GRMN	112, 113	Elementary German	4, 4
GRMN	212, 213	Intermediate German	4, 4
RLNG	121, 122, 123	Greek I	3, 3, 3
SPAN	121	Introduction to Spanish	4
SPAN	122, 123	Elementary Spanish	4, 4
SPAN	222, 223	Intermediate Spanish	4, 4

**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

MATH 105	Mathematics with Applications	4
MATH 106	Applied Statistics	4
MATH 115	Elementary Mathematics	4
MATH 117	Precalculus	5
MATH 121, 122	Fundamentals of Mathematics I, II	4, 4
MATH 123	Survey of Calculus	4
MATH 181, 281	Analytic Geometry/Calculus I, II	4, 4
MATH 282, 283	Analytic Geometry/Calculus III, IV	4, 4

Natural Science: 8-12*

ASTR 141, 142	General Astronomy	4, 4
BIOL 101, 102, 103	General Biology	4, 4, 4
BIOL 105, 106	Biology for General Studies	4, 4
BIOL 201, 202	Anatomy and Physiology	4, 4
CHEM 101, 102	Introductory Chemistry	4, 4
CHEM 141, 142, 143	General Chemistry	3, 3, 3
CHEM 144, 145, 146	General Chemistry Laboratory	1, 1, 1
**ENVI 385	The Environment and Man	4
GEOL 231, 232	Earth Science (Honors)	4, 4
PHYS 201, 202	Invitation to Physics	3, 3
PHYS 204, 205	Invitation to Physics Laboratory	1, 1
PHYS 211, 212, 213	General Physics	3, 3, 3
PHYS 214, 215, 216	General Physics Laboratory	1, 1, 1
PHYS 251, 252, 253	Principles of Physics	3, 3, 3
PHYS 254, 255, 256	Principles of Physics Laboratory	1, 1, 1

*Eight hours must be taken from one course sequence.

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

RELIGION and THEOLOGY *16-20

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

Biblical Studies: 6-20

RELB 101	Bible Survey	4
RELB 104	The Ministry of Jesus	4
RELB 105	Sermon on the Mount	2
RELB 106	Parables of Jesus	2
RELB 111	Messages of the Old Testament	4
RELB 216	Messages of Paul	4
RELB 281, 282, 283	The New Testament and Its Environment (Honors)	2, 2, 2
RELB 301	Old Testament History	3
RELB 302	Pentateuch	3
RELB 303	Writings	3
RELB 304	Interpreting the Prophets	4
RELB 305	Hebrew Prophets and Contemporary Issues	4
RELB 312	Daniel	3
RELB 313	Revelation	3

RELB	333	Biblical Perspectives on Healing	4
RELB	434, 435, 436	Gospels	3, 3, 3
RELB	464, 465, 466	New Testament Epistles	3, 3, 3
Electives in Religion or Theology: 0-14			
RELH	205	Biblical Archaeology	3
RELH	349	Religion in a Social Context (Honors)	4
RELH	402	Modern Denominations	3
RELH	403	World Religions	3
RELH	406	History of the English Bible	2
RELH	457	History of Adventism	2
RELM	233	Introduction to Cross-Cultural Ministry	3
RELT	201	The Christian Way of Salvation	4
RELT	202	Fundamentals of Christian Beliefs	4
RELT	204	Contemporary Issues in Adventist Thought	4
RELT	246	Christian Ethics	4
RELT	312	Bioethics	4
RELT	314	Christian Hope	3
RELT	317	Inspiration and Revelation	4
RELT	330	Discipleship and Mission	4
RELT	340	Theology of Spiritual Care	4
RELT	404	A Scientific Approach to Biblical Interpretation	2
RELT	412	Philosophy of Religion	4
RELT	417, 418	Christian Dynamics	3, 3
SOCI	449	Sociology of Religion	2

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 interviews 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 30 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 30 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

HIST 131, 132, 133	Western Thought I	12
(Satisfies 8 hour general studies history requirement and 4 hours of general studies humanities requirement.)		
SOCI 349	Religion in a Social Context	4
(same as RELH 349)		

HUMANITIES

ENGL 311, 312, 313	Western Thought II	12
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LANGUAGE ARTS

ENGL 141, 142, 143	College Writing	8
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NATURAL SCIENCE

GEOL 231, 232	Earth Science	8
Not offered 1989-90		

RELIGION

RELB 281, 282, 283	The New Testament and Its Environment	6
RELH 349	Religion in a Social Context	4
(same as SOCI 349)		

COLLOQUIUM

HONR 351, 352, 353	Honors Colloquium	3
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HONORS (HONR)

HONR 351, 352, 353 HONORS COLLOQUIUM

1, 1, 1

Research course designed to stimulate interdisciplinary independent study. Students share the results of reading and research through formal presentation of papers. Must be taken in sequence.

ASSOCIATE DEGREE REQUIREMENTS

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

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 must be completed.
- 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 associate degree concentration as outlined under the respective departments of instruction of this bulletin must be completed.
- 4. The general studies requirements as outlined below must be completed. For a listing of the specific courses which may apply to the requirements, see page 48.
- 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 Registrar not later than one week after the beginning of the first quarter of the senior year. Appropriate forms may be obtained from the Academic Records Office. Students are not considered candidates for degrees and are not eligible for senior class membership until officially notified by the Registrar.

General Studies Requirements for the Associate Degree:

Areas	Hours	Hours
	Minimum/Maximum in specific subject areas	Minimum/Maximum in general areas
Applied Arts		0-2
Health and Physical Education		0-2
Activity Courses		
History and Social Studies		0-8
History	0-8	
Social Studies	0-8	
Humanities		0-8
Fine Arts	0-4	
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	0-4
or Theology	
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). Students who are not receiving a formal degree from Walla Walla College but who have successfully completed a preprofessional curriculum outlined in this bulletin, may apply to the Office of Academic Records for a certificate of completion issued by the college. The following preprofessional curricula are detailed in the Preprofessional Programs section of this bulletin:

Architecture (2)*	Osteopathy (3)
Chiropractic Medicine (2)	Pharmacy (2)
Dentistry (3)	Physical Therapy (2)
Dental Hygiene (2)	Public Health (4)
Dietetics (2)	Radiological Technology (1)
Law (4)	Respiratory Therapy (1)

Medicine (4)
Occupational Therapy (2)
Optometry (2)

Speech-Language Pathology
and Audiology (2)
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 Director of Academic Advisement. 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. However, they do count towards the minimum study load for a term (see p. 35).

The Director of Academic Advancement 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.

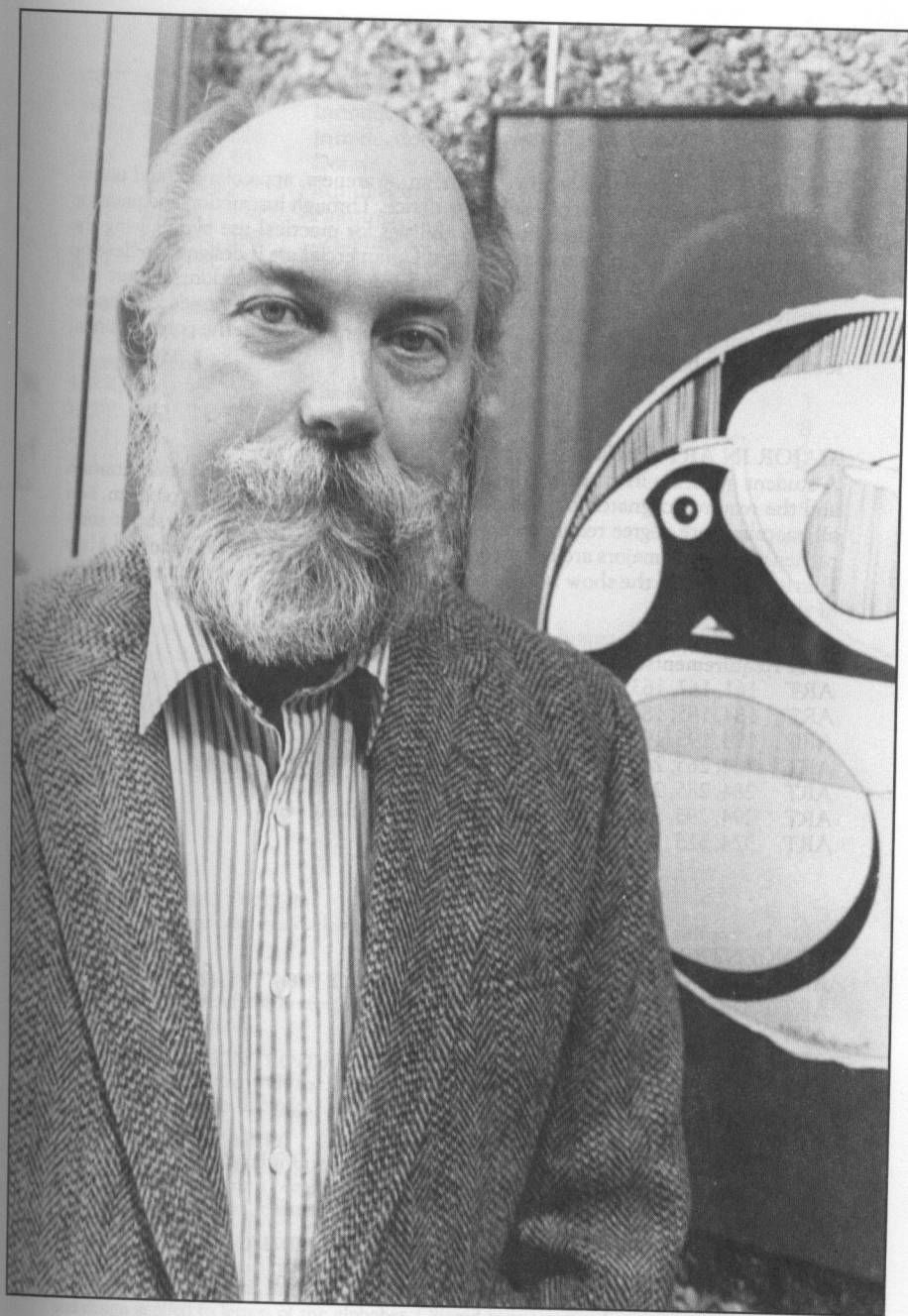
The College will make every effort to consistently offer all courses at appropriate intervals. It does reserve the right, however, to alter the sequences or drop courses if unforeseen circumstances in class enrollments or teacher staffing so dictate. The *Class Schedule* should be consulted for personal 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 throughout this bulletin:

- 100 REMEDIAL COURSES** 2-4
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** 6; 18
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** 1-4; 6
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** 1-2; 2
Previous course work supplemented when portions of a required course in the major or minor have been omitted. Ordinarily supplementation will occur only with transfer students or within a program that has undergone a major curriculum change. A study proposal is to be outlined in consultation with the instructor of the course being supplemented and approved by the department and the Academic Standards Committee. May not be substituted for existing courses.
- 274; 474 WORKSHOPS** 1-4; 6
- 280; 370; 490 DIRECTED FIELD WORK/
PRACTICUM/EXPERIENCE** 2-16
- 392 GENERAL SECONDARY METHODS COURSE** (see Education) 2
- 395; 396 DEPARTMENTAL METHODS COURSES** 3
- 469 ADVANCED STUDY** 1-3; 3
Advanced directed study by which students may enhance the major or minor in breadth or depth in topics not covered by the department curriculum. The study proposal must be approved by the 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** 1-3; 6
Individual research, and/or laboratory work, or technical project in the major. (Some departments may allow this course on the minor.) A project proposal is required to define the scope of the work and the method of reporting. Requires permission of the 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** 0-12
Practical experience in the major in an off-campus setting. Requires permission of major adviser and Cooperative Education Director. See individual departments for specific course description.
- 495 COLLOQUIUM** 0
- 496; 497; 498 SEMINAR** 1-4; 4



Art

ART

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 or art teacher or will provide 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:

ART 161, 162, 163	Design	9
ART 184, 185, 186	Introduction to Drawing	6
ART 194, 195, 196	Introduction to Painting	}
ART 264, 265, 266	Introduction to Sculpture	
ART 284, 285, 286	Introduction to Pottery	
ART 294, 295, 296	Introduction to Printmaking	
ART 324, 325	History of Art	6
		<hr/> 35

CONCENTRATION: Commercial Art

ART 244, 245, 246	Commercial Art	6
ART 314, 315, 316	Advertising Design	9
ART 317, 318	Printmaking	4
ART 201	Calligraphy	}
ART 307, 308	Drawing	
ART 319	Printmaking	
		*6
		<hr/> 25

*2 hours must be upper division.

Cognates: Commercial Art

PHTO 154	Principles of Photography	2
PHTO 355	Advanced Photography	3
HIST 121, 122	History of Western Civilization	8

CONCENTRATION: Fine Art

ART 304, 305, 306	Fine Arts Design	9
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Electives chosen from courses listed below (limited to 5 areas):

ART

ART 201	Calligraphy	}	*16
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.

25

Cognates: Fine Art

ENGL 455	Classical Backgrounds	3	
HIST 120, 121, 122	History of Western Civilization	8	
RELH 205	Biblical Archaeology	3	
REL 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 324, 325	History of Art	6
	Electives	12
		33

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 odd years only.

ART 201 CALLIGRAPHY

2

Introduction to italic handwriting with emphasis on the creative aspects of page layout and design and on developing a beautiful style. Includes individual study of selected hands chosen from foundational, uncial, chancery cursive or gothic hands.

ART 244, 245, 246 COMMERCIAL ART

2, 2, 2

Introduction to the various processes and media of commercial art, with emphasis on layout, design, new directions and craftsmanship. First quarter covers the basic principles of proportion and design applied to letters of the alphabet. Offered even years only.

ART 251 INTRODUCTION TO ART

4

Introduction to art for liberal arts students who wish to better understand and appreciate the visual arts of painting, sculpture, architecture, printmaking and the minor arts.

ART

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.

ART 284, 285, 286 INTRODUCTION TO POTTERY

2, 2, 2

Introduction to pottery and ceramic sculpture using wheel-thrown and hand-built forms. Stresses design as it relates to form, function and glaze decoration. Includes an introduction to the different methods of kiln firing.

ART 294, 295, 296 INTRODUCTION TO PRINTMAKING

2, 2, 2

Introduction to the art of printmaking, emphasizing the relief method linoleum cut, woodcut, and wood engraving. Includes an introduction to the intaglio method. Offered even years only.

ART 301 ART IN THE ELEMENTARY SCHOOL

3

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 S grade.

ART 304, 305, 306 FINE ARTS DESIGN

3, 3, 3

Application of the basic principles and elements of design to be used in the fine arts field. Prerequisites: ART 161, 162, 163. Offered even years only.

ART 307, 308, 309 DRAWING

2, 2, 2

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

3, 3, 3

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 odd years only.

ART 317, 318, 319 PRINTMAKING

2, 2, 2

Advanced study of the various processes of intaglio printmaking, drypoint, engraving, etching and lithography. Open to majors and minors only. Prerequisites: ART 161, 162, 163; ART 184, 185, 186; ART 294, 295, 296. Offered even years only.

ART 324, 325 HISTORY OF ART

3, 3

Chronological study of the great periods in the history of art, their causes and developments; includes discussion of the relation between art and society and the implications of aesthetic understanding in each period. Prerequisites: HIST 121, 122. Offered odd years only.

ART 334, 335, 336 PAINTING

2, 2, 2

Advanced study of aesthetic enjoyment and understanding. Designed to develop the application of paint, including oil, casein or tempera. Prerequisites: ART 184, 185, 186; or ART 194, 195, 196. Offered odd years only.

ART 364, 365, 366 SCULPTURE

2, 2, 2

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.

ART 374, 375, 376 POTTERY AND CERAMIC SCULPTURE

2, 2, 2

Advanced study of the relationship of form, design and decoration to tableware and hand-built, sculptural forms. Includes the understanding and making of clay, glaze formulation, construction methods, and kiln firing procedures. Prerequisites: ART 284, 285, 286.

ART 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.



Biological Sciences

BIOLOGICAL SCIENCES

D. Rigby, Chair; S. Dixon, A. Grable, L. McCloskey, S. Ligman.

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 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.

MAJOR IN BIOLOGY (Bachelor of Science)

A student majoring in biology must complete 62 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. 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. Senior students are required to take the Graduate Record Examination, general and subject parts.

Major Requirements:

BIOL 101, 102, 103	General Biology	12
BIOL 250	Biostatistics	4
BIOL 251	Research Methods I	1
BIOL 352, 353, 354	Research Methods II, III, IV	3
BIOL 392	Cell Biology	4
BIOL 393	Genetics	4
BIOL 394	Developmental Biology	4
BIOL 446	General Ecology	4
BIOL 455	Research Methods V	1
BIOL 483	Philosophy of Origins and Speciation	3
BIOL 495	*Colloquium	0
	Electives (must be upper division)	22
		<hr/> 62

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair and must include one course from the following: BIOL 426, 448, 460, 463; and one course from the following: BIOL 374, 389, 403, 405, 458, 462, 475; and one course from the following: BIOL 401, 413, 449, 464, 465, 466.

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

BIOLOGICAL SCIENCES

Cognates:

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 I, II	8
MATH 181	Analytical Geometry and Calculus I	4
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Laboratory	3

MAJOR IN BIOPHYSICS (Bachelor of Science)

See the Interdisciplinary section of this bulletin.

MINOR IN BIOLOGY

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

BIOL 101, 102, 103	General Biology	12
	One botanical course	4
	One zoological course	4
	Electives	7
		<hr/> 27

Approval of biology adviser required.

BIOLOGY (BIOL)

BIOL 101, 102, 103 GENERAL BIOLOGY 4, 4, 4

Study of the basic principles of biology of animals, plants, and microorganism. Topics include the cell, physiology, genetics, development, taxonomy, and ecology. Must be taken in sequence. One laboratory per week. High school chemistry strongly recommended.

BIOL 105, 106 BIOLOGY FOR GENERAL STUDIES 4, 4

The process of science as a way of knowing, through a study of selected biological phenomena in an historical context. The laboratory emphasizes the process of science. One laboratory per week. Must be taken in sequence. Will not apply to a biology major or minor.

BIOL 201, 202 ANATOMY AND PHYSIOLOGY 4, 4

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 5

Study of the nature and control of bacteria and other disease-producing organisms; consideration of their relationship to human disease and the basic concepts of immunology. Two half laboratories per week. Prerequisites: CHEM 101, 102 or BIOL 101, 102 or permission of instructor.

BIOL 250 BIostatISTICS 4

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

BIOL 251 RESEARCH METHODS I 1

Introduction to the principles of scientific research and the function of the scientific methods. Prerequisites: BIOL 101, 102, 103. Graded S or NC.

BIOLOGICAL SCIENCES

BIOL 101, 102, 103 is a prerequisite for all upper-division courses.

BIOL 352 RESEARCH METHODS II

Emphasizes literature research and retrieval, oral critiques of research papers, and selection of a research area/problem and adviser. Prerequisite: BIOL 251. Graded S or NC. 1

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. 1

BIOL 354 RESEARCH METHODS IV

Collection and analysis of data for the senior thesis. Prerequisite: BIOL 353 and permission of research adviser. 1

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. Offered odd years only. 4

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.) Offered even years only on College Place campus; every 3 - 4 years at Marine Station. 4 or 5

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.) Offered even years only on College Place campus; every 3 - 4 years at Marine Station. 4 or 5

BIOL 392, 393, 394 should be taken in sequence.

BIOL 392 CELL BIOLOGY

Study of eukaryotic cells. Topics include structural and functional diversity of membranes, energy and information flow, and structure and function of chloroplasts, mitochondria, ribosomes, and cytoskeleton. Corequisite: Organic chemistry. 4

BIOL 393 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. 4

BIOL 394 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. One laboratory per week. 4

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. Offered odd years only. 3

BIOL 401 PLANT PHYSIOLOGY

A study of the principles of plant physiology. One laboratory per week. Prerequisite: BIOL 392. Physics and organic chemistry strongly recommended. Offered odd years only. 4

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. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.) offered every 3 - 5 years at the Marine Station. 4 or 5

- BIOL 405 GENERAL ENTOMOLOGY** 4 or 5
Study of insect morphology, physiology, ecology and classification. One laboratory per week. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.) Offered odd years only.
- BIOL 407 PHILOSOPHY OF SCIENCE** 4
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** 4
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. Will not be offered 89-90.
- BIOL 413 PLANT TISSUE CULTURE** 3
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 222, and permission of instructor.
- 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.) Offered even years only on College Place campus; every 3 - 5 years at Marine Station.
- BIOL 446 GENERAL ECOLOGY** 4
Study of the relationship of plants and animals, both as individuals and assemblages, to their physical and biological environment. Laboratory work includes field studies designed to examine ecological principles. One laboratory per week. Biostatistics, genetics, and a minimum of one field natural history course recommended.
- BIOL 448 PLANT ECOLOGY** 4 or 5
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. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.) Offered even years only on College Place campus; every 3 - 5 years at Marine Station.
- BIOL 449 VERTEBRATE HISTOLOGY** 4
Study of the microscopic anatomy of vertebrate cells, tissues, and organs, including reference to their functions. Two laboratories per week. Offered odd years only.
- BIOL 455 RESEARCH METHODS V** 1
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 PSYCHOBIOLOGY** 4
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. Offered odd years only.
- BIOL 464 ANIMAL PHYSIOLOGY** 4
Study of animal physiology with emphasis on integration of vertebrate organ systems. One laboratory per week. Prerequisite: BIOL 392. Physics and organic chemistry strongly recommended.
- 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. Offered odd years only.

BIOLOGICAL SCIENCES

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. Offered even years only.

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. Not offered 89-90.

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

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 101, 102, 103 or equivalent is prerequisite for all courses listed below. Marine Station courses of 5 credits include an additional credit for the requirement of a research problem (See BIOL 374, BIOL 389, BIOL 403, BIOL 405, BIOL 426, and BIOL 448). Normally a maximum of two of the following courses are taught during a summer; see annual Marine Station bulletin.

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

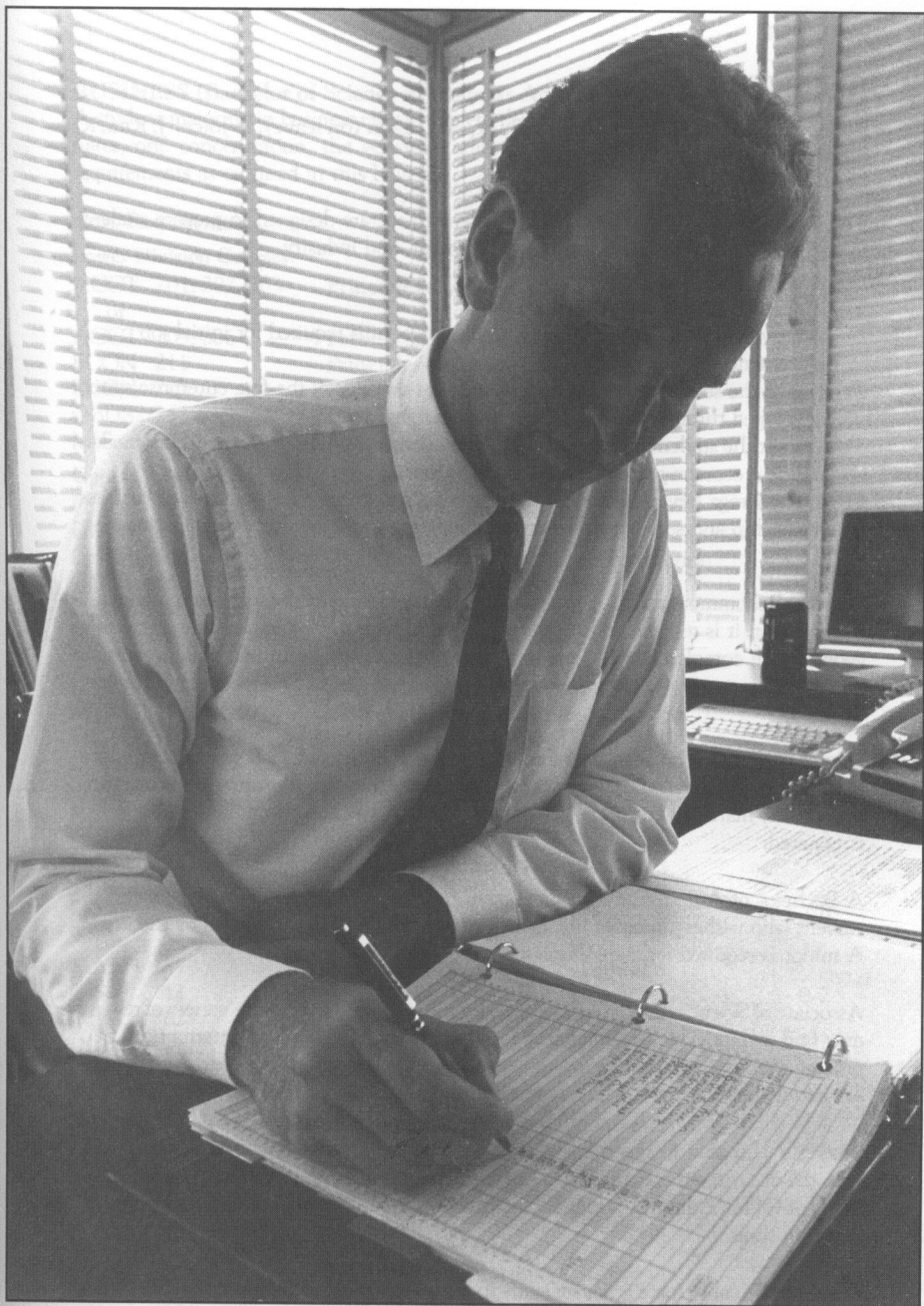
Introduction to the physical aspects of living organisms studied by the experimental and conceptual methods of physics with application to marine life.

BIOL 475 MARINE INVERTEBRATES* 5

A study of the biology of selected groups of marine invertebrates.

Please see the *Graduate Bulletin* for a listing of Biological Science graduate courses.

*Qualifies as a marine-oriented course.



Specific requirements of the various schools to which they intend to apply to be years
it is recommended that a minimum of two quarters of calculus be included in program
development program. Credits of a quantitative nature usually require a year of calculus
and advanced mathematics courses.

Business

BUSINESS

R. Schwab, Chair; N. Anderson, M. Buck, A. Gibson (on leave), P. Joice, J. Kim, K. Stokes, R. Wever.

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 high school algebra and one year of geometry be completed. A course in typewriting is desirable. 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 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 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 to which they intend to apply. In general, it is recommended that a minimum of one quarter of calculus be included in the undergraduate program. Curricula 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:

ACCT 201, 202, 203	Principles of Accounting	}	10
or			
ACCT 205, 206	Principles of Accounting	}	4
ECON 211	Principles of Macroeconomics		
ECON 212	Principles of Microeconomics		
GBUS 263	Business Statistics		
MIS 285	Computer Principles		2

Upper Division Courses:

FINA 351	Financial Management	4
GBUS 361, 362	Business Law	8
GBUS 366	Operations Management and Production	4
GBUS 463	Business Environment and Ethics	3
GBUS 496	Seminar	2
MIS 301	Introduction to Management	3
	Information Systems	
MGMT 371	Management and Organizational Behavior	4
MGMT 479	Business Strategy and Policies	4
MKTG 381	Principles of Marketing	4
		<hr/>
		60

Cognates:

CPTR 105	Personal Computing	3	
MATH 121	Fundamentals of Mathematics I	}	4-8
and			
MATH 123	Survey of Calculus		
or		}	0-2
MATH 181	Analytic Geometry and Calculus I		
OFAD 111	Basic Keyboarding or proficiency		
OFAD 362	Business Communications	}	3-4
or			
ENGL 325	Advanced Technical Writing		
PSYC 130	General Psychology		4
SPCH 101	Fundamentals of Speech Communication		4

CONCENTRATION: Accounting

ACCT 321, 322, 323	Intermediate Accounting	11
ACCT 331, 332	Managerial Cost Accounting	6
ACCT 335	Personal Income Tax	4
ACCT 421	Advanced Accounting	4
ACCT 430	Auditing Concepts	3
ACCT 431	Auditing Practices	3
ACCT	Electives (8 must be upper division)	<hr/>
		10

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

41

BUSINESS

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. 41

CONCENTRATION: Management

ACCT 331, 332	Managerial Cost Accounting	6
ECON 341	Managerial Economics	}
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. 41

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	}
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. 41

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	Retailing	}	12
MKTG 481	Public Relations		
MKTG 485	Retailing		
MKTG 486	Marketing for Non-Profit Organizations		
MKTG 488	International Marketing		
	Electives		10
			<hr/> 41

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		
ECON 211	Principles of Macroeconomics		4
ECON 212	Principles of Microeconomics		4
GBUS 263	Business Statistics		4
MIS 285	Computer Principles		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
			<hr/> 55

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

Cognates:

CPTR 105	Personal Computing	}	3
MATH 121	Fundamentals of Mathematics I		
and			
MATH 123	Survey of Calculus	}	4-8
or			
MATH 181	Analytic Geometry and Calculus I		
OFAD 111	Basic Keyboarding or proficiency		0-2
OFAD 362	Business Communications	}	3-4
or			
ENGL 325	Advanced Technical Writing		
PSYC 130	General Psychology		4
SPCH 101	Fundamentals of Speech Communication		4

BUSINESS

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 and ACCT 206 or ACCT 201, 202, 203 or ACCT 205, 206 MIS 285 ECON 211 FINA 101 GBUS 361	Clerical Accounting Principles of Accounting Principles of Accounting Principles of Accounting Computer Principles Principles of Macroeconomics Personal Finance Business Law Electives	10-11 2 4 2 4 23-24 46
Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.		

Cognates:

CPTR 105 MATH 105 or MATH 117 or MATH 121 OFAD 111	Personal Computing Mathematics With Applications Precalculus Fundamentals of Mathematics I Basic Keyboarding or proficiency	3 4-5 0-2
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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 and ACCT 206 or ACCT 201, 202, 203 or ACCT 205, 206 CPTR 136 CPTR 141 CPTR 142 CPTR 225 ECON 211	Clerical Accounting Principles of Accounting Principles of Accounting Principles of Accounting File-Oriented Programming (COBOL) Introduction to Programming (Pascal) Program and Data Structures Commercial Computer Applications (RPG) Principles of Macroeconomics	10-11 4 4 4 4 4
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BUSINESS

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 Electives	2 <u>2-3</u>
Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.		46

Cognates:

MATH 117	Precalculus	} 4-5
or		
MATH 121	Fundamentals of Mathematics I	} 0-2
OFAD 111	Basic Keyboarding or proficiency	

MINOR IN BUSINESS

A student minoring in business must complete 30 quarter hours:

ACCT 201, 202, 203	Principles of Accounting	} 10
or		
ACCT 205, 206	Principles of Accounting	} 4
ECON 211	Principles of Macroeconomics	
ECON 212	Principles of Microeconomics	4
	Electives (8 must be upper division)	<u>12</u>

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

30

MINOR IN ECONOMICS

A student minoring in economics must complete 30 quarter hours:

ECON 211	Principles of Macroeconomics	4
ECON 212	Principles of Microeconomics	4
ECON 341	Managerial Economics	4
ECON 343	Intermediate Macroeconomics	4
	Electives (8 must be upper division)	<u>14</u>

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

30

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. Students 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 OFAD 236.

BUSINESS

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 105 and MIS 285 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 4

Study of tax regulations and accounting records necessary for proper tax accounting for individuals.

ACCT 421 ADVANCED ACCOUNTING 4

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, 424 CPA REVIEW 2, 2

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 4

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 odd years only.

ACCT 430 AUDITING CONCEPTS 3

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 3

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 4

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 0-2

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. Graded S or NC. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director. No credit will be allowed toward the B.A.

COMPUTER SCIENCE (CPTR)

- CPTR 105 PERSONAL COMPUTING** 3
See the Computer Science section of this bulletin.
- CPTR 124 INTRODUCTION TO BASIC** 2
See the Computer Science section of this bulletin.
- CPTR 134 INTRODUCTION TO COMPUTING (FORTRAN)** 3
See the Computer Science section of this bulletin.
- CPTR 136 FILE-ORIENTED PROGRAMMING (COBOL)** 4
See the Computer Science section of this bulletin.
- CPTR 141 INTRODUCTION TO PROGRAMMING (Pascal)** 4
See the Computer Science section of this bulletin.
- CPTR 142 PROGRAM AND DATA STRUCTURES** 4
See the Computer Science section of this bulletin.
- CPTR 225 COMMERCIAL COMPUTER APPLICATIONS (RPG)** 4
See the Computer Science section of this bulletin.
- CPTR 245 INTERMEDIATE COBOL** 4
See the Computer Science section of this bulletin.

ECONOMICS (ECON)

- ECON 211 PRINCIPLES OF MACROECONOMICS** 4
Basic economic analysis, policy and methodology, with emphasis on economic institutions, the monetary system, and national income determination.
- ECON 212 PRINCIPLES OF MICROECONOMICS** 4
Basic analysis of price determination and market structures.
- ECON 341 MANAGERIAL ECONOMICS** 4
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** 4
Analysis of the determinants of the aggregate level of employment output and income of an economy. Prerequisite: ECON 211. Offered odd years only.
- ECON 345 ECONOMIC HISTORY OF THE UNITED STATES** 4
Study of the economic development of the United States from the colonial period to the present. Recommended: ECON 211, 212 or HIST 221. Will not be offered 89-90.
- ECON 441 MONEY AND BANKING** 4
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 even years only.
- ECON 443 COMPARATIVE ECONOMIC SYSTEMS** 4
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. Will not be offered 89-90.
- ECON 455 PUBLIC FINANCE** 4
Governmental expenditures, taxation, public debt, and public financial administration; public policies on expenditures, taxation, and debt management and their relation to business fluctuations. Prerequisites: ECON 211, 212. Will not be offered 89-90.

BUSINESS

- ECON 494 COOPERATIVE EDUCATION/INTERNSHIP** 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. Graded S or NC. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director. No credit will be allowed toward the B.A.
- FINANCE (FINA)**
- FINA 101 PERSONAL FINANCE** 2
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** 4
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** 4
Study of the principles of making sound investments in the securities markets, managing investment portfolios, and evaluating securities; the function of speculation, the hedging operation, and the evaluation of market risks. Recommended: FINA 351. Offered odd years only.
- FINA 453 CREDIT ADMINISTRATION** 4
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. Will not be offered 89-90.
- GENERAL BUSINESS (GBUS)**
- GBUS 160 INTRODUCTION TO BUSINESS** 4
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** 4
Study of descriptive and inferential statistics with emphasis on business and economics applications. Prerequisite: MATH 123 or MATH 181.
- GBUS 361, 362 BUSINESS LAW** 4, 4
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** 4
Study of insurance contracts, underwriting organizations and insurance representation and procedures. Offered odd years only.
- GBUS 366 OPERATIONS MANAGEMENT AND PRODUCTION** 4
The application of management principles and mathematical techniques to production problems and decisions faced in both manufacturing and service organizations. Topics include 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** 4
Survey of the basic principles and problems of real estate management and appraisal.
- GBUS 463 BUSINESS ENVIRONMENT AND ETHICS** 3
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.

2

MANAGEMENT (MGMT)**MGMT 275 MANAGEMENT OF SMALL BUSINESS**

Introduction to various concepts peculiar to the small business enterprise. Recommended: ACCT 203 or ACCT 206.

3

MGMT 371 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR

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.

4

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.

4

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.

2

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.

4

MGMT 379 COMPENSATION MANAGEMENT

Study of procedures used in job analysis, evaluation, and performance appraisal; determining compensable factors and fringe benefits; considering legal and ethical matters; administering the compensation program. Prerequisite: MGMT 371. Recommended MGMT 372. Offered even years only.

3

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. Will not be offered 89-90.

3

MGMT 475 HEALTH CARE ORGANIZATION AND MANAGEMENT

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

2

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.

4

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.

4

BUSINESS

MGMT 494 COOPERATIVE EDUCATION/INTERNSHIP 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. Graded S or NC. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director. No credit will be allowed toward the B.A.

MANAGEMENT INFORMATION SYSTEMS (MIS)

MIS 285 COMPUTER PRINCIPLES 2
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, and programming languages. Recommended: CPTR 105

MIS 301 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS (MIS) 3
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 105 and MIS 285 or a programming language. Recommended: ACCT 203 or 206 and MGMT 371.

MIS 315 INTRODUCTION TO INFORMATION SYSTEMS ANALYSIS 4
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 4
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 4
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 4
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 4
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 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. Graded S or NC. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director. No credit will be allowed toward the B.A.

MARKETING (MKTG)**MKTG 381 PRINCIPLES OF MARKETING** 4

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 4

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 3

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

MKTG 385 SELLING AND SALES MANAGEMENT 4

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 odd years only.

MKTG 451 RESEARCH METHODS 4

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 2; 4

Application of marketing techniques to a special project for a local business. Project will usually involve survey research. Prerequisite: Permission of instructor.

MKTG 481 PUBLIC RELATIONS 4

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

MKTG 485 RETAILING 4

An extensive study of various types of retail organizations and functions. Attention given to problems related to trading area analysis, site selection, consumer behavior, and promotion.

MKTG 486 MARKETING FOR NON-PROFIT ORGANIZATIONS 4

A detailed study of peculiar marketing needs for non-profit organizations. Recommended: MKTG 381.

MKTG 488 INTERNATIONAL MARKETING 4

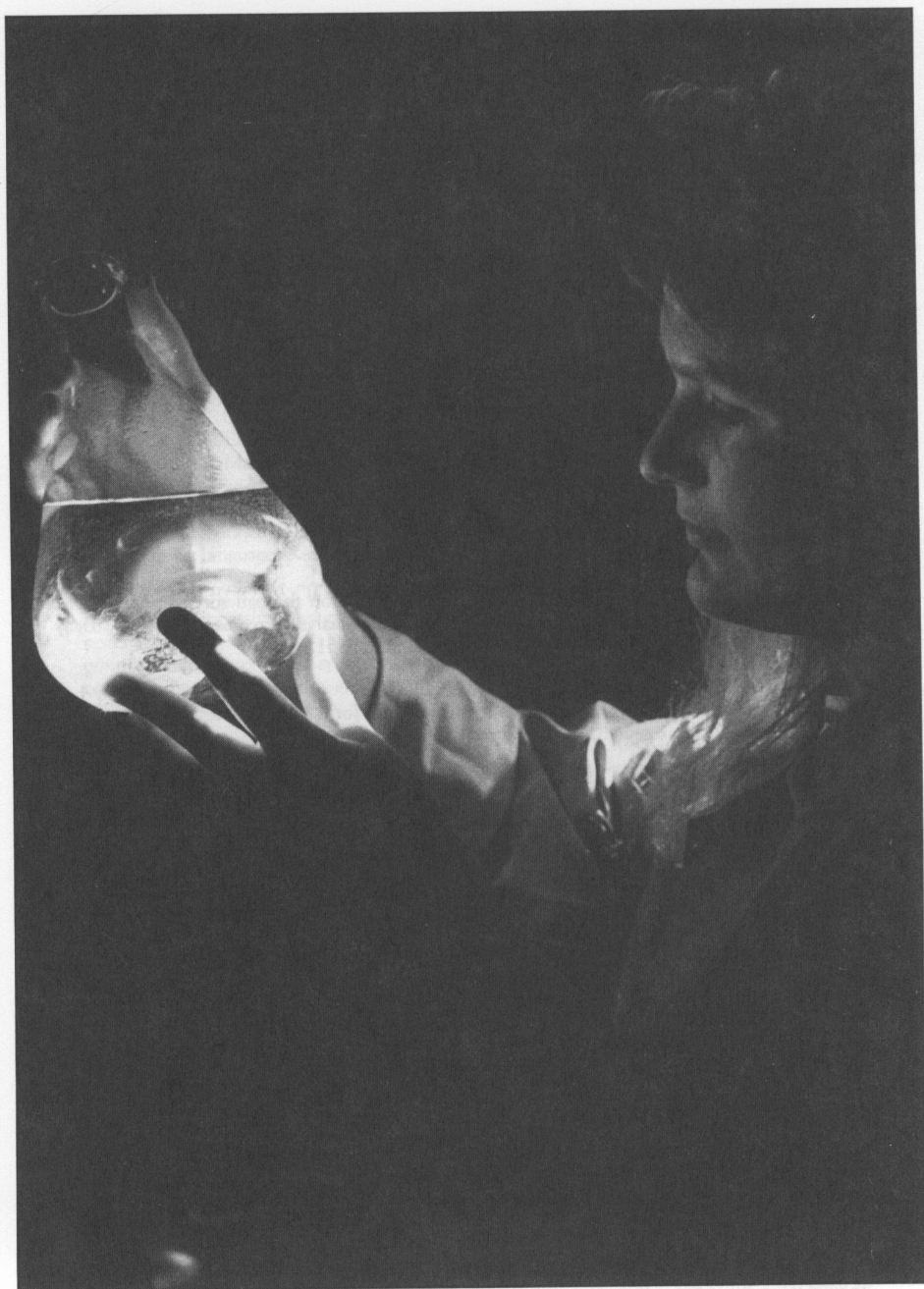
Marketing management problems, techniques, and strategies necessary to incorporate the marketing concept into the framework of the world marketplace. Prerequisites: ECON 212; MKTG 381.

MKTG 489 MARKETING PROBLEMS 4

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 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. Graded S or NC. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director. No credit will be allowed toward the B.A.



Chemistry

CHEMISTRY

S. Lee, Chair; R. Daley, F. Nyasulu

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.

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	} 2
or		
CHEM 494	Cooperative Education	
CHEM 496, 497	Chemistry Seminar	
	Electives	4
		<hr/> 52

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

Cognates:

CPTR 134	Introduction to Computing (FORTRAN)	} 3-4
or		
CPTR 141	Introduction to Programming (Pascal)	} 8
MATH 181, 281	Analytic Geometry and Calculus I, II	
PHYS 211, 212, 213	General Physics	} 12
PHYS 214, 215, 216	General Physics Laboratory	
or		
PHYS 251, 252, 253	Principles of Physics	
PHYS 254, 255, 256	Principles of Physics Laboratory	

CHEMISTRY

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	
	Electives	16
		<u>65</u>

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

Cognates:

CPTR 134	Introduction to Computing (FORTRAN)	3-4
or		
CPTR 141	Introduction to Programming (Pascal)	16
MATH 181, 281-283	Analytic Geometry and Calculus, I-IV	
PHYS 211, 212, 213	General Physics	12
PHYS 214, 215, 216	General Physics Laboratory	
or		
PHYS 251, 252, 253	Principles of Physics	
PHYS 254, 255, 256	Principles of Physics Laboratory	

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
		<u>27</u>

Approval of department chair required.

CHEMISTRY (CHEM)**CHEM 101, 102, 103 INTRODUCTORY CHEMISTRY**

4, 4, 3

Introduction to chemistry, covering the fields of inorganic, organic, and biochemistry. Only CHEM 101 and 102 will meet 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 during the CHEM 101 and 102 courses.

CHEM 141, 142, 143 GENERAL CHEMISTRY

3, 3, 3

Study of the structure and states of matter; atomic and molecular theory, including valency, periodicity, and bonding; solutions and equilibria, stoichiometry, kinetics, and thermodynamics; and the descriptive chemistry of metals and nonmetals. Must be taken in sequence. Prerequisites or corequisites: MATH 121, 122 or equivalent; CHEM 144, 145, 146.

CHEM 144, 145, 146 GENERAL CHEMISTRY LABORATORY

1, 1, 1

Laboratory integrated with CHEM 141, 142, 143. One laboratory per week. Corequisite: CHEM 141, 142, 143.

CHEM 264 CHEMICAL EQUILIBRIUM AND ANALYSIS

4

Study of chemical equilibrium through a perspective of applications in analytical chemistry. Consideration is given to solubility as affected by competing equilibria, to acid-base equilibria in aqueous solutions, and to complexation equilibria; includes an introduction to oxidation reduction equilibria. One laboratory per week. Prerequisite: CHEM 143.

CHEM 265 ANALYTICAL INSTRUMENTAL METHODS I

4

Primary emphasis on electrochemistry and optical spectroscopies. Consideration is given to both the instrumentation and techniques of interest to the analytical and clinical chemist. Other topics include sampling and analysis of complex samples. One laboratory per week. Prerequisite: CHEM 264.

CHEM 321, 322, 323 ORGANIC CHEMISTRY

3, 3, 3

Study of principles of organic chemistry and their application to the preparation, properties, and reactions of organic compounds. Spectroscopic analysis of organic compounds. Prerequisite: CHEM 143. Prerequisite or corequisite: CHEM 324, 325, 326.

CHEM 324, 325, 326 MICROSCALE ORGANIC LABORATORY

1, 1, 1

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

3, 3, 3

Survey of important topics in physical chemistry. The first quarter emphasizes quantum theory with applications to atomic structure, molecular structure, and spectroscopy. Second quarter includes thermodynamics applied to phase and chemical equilibria. Third quarter deals with kinetics, transport properties, and molecular dynamics. Prerequisites: MATH 281; PHYS 213 or PHYS 253; CHEM 265; CPTR 134 or CPTR 141.

CHEM 354, 355, 356 PHYSICAL CHEMISTRY LABORATORY

1, 1, 1

Laboratory integrated with CHEM 351, 352, 353. Corequisite: CHEM 351, 352, 353.

CHEM 395 METHODS OF TEACHING CHEMISTRY

3

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. Offered on demand.

CHEM 427 ORGANIC STRUCTURE AND MECHANISMS

3

In-depth study of the structures of organic molecules and the theories of reaction mechanisms. Prerequisite: CHEM 323. Offered odd years only.

CHEMISTRY

CHEM 428 POLYMER CHEMISTRY

3

An introduction to polymers, their characterization and synthesis. One laboratory per week.

CHEM 431, 432 BIOCHEMISTRY

3, 3

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

1, 1

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

3

Study of energetics and structures as guides to main group chemistry. Lewis acid-base concepts. Prerequisites: CHEM 143; CHEM 351 or permission of instructor. Offered even years only.

CHEM 443 TRANSITION METAL CHEMISTRY

3

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 permission of instructor. Offered odd years only.

CHEM 461 ANALYTICAL INSTRUMENTAL METHODS II

4

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

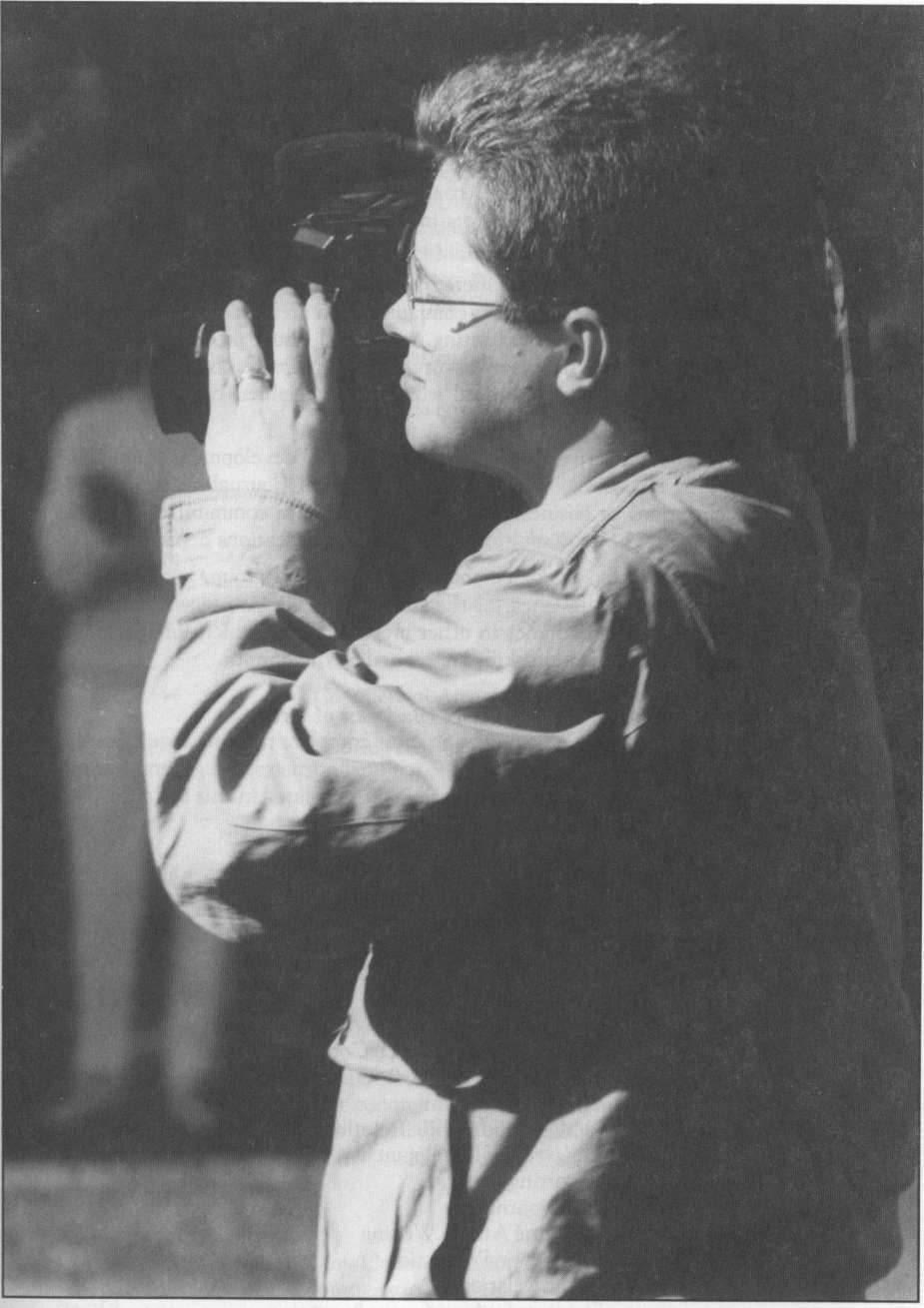
0-3

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 permission of instructor.



Communications

COMMUNICATIONS

L. Dickinson, Chair; D. Bullock (on leave), J. Hannum, D. Rigby, N. Semotiuk.

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

The mass communication 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 fund raising. 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.

Students interested in preparing for careers in institutional development (fund raising) are advised to take a major in mass communication (journalism and public relations concentration) or business. Additional electives in communications and business may be selected in consultation with the communications department.

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 57 hours, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. The Graduate Record Examination is required.

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
SPCH 101	Fundamentals of Speech Communication	4
		<hr/> 23

CONCENTRATION: Journalism and Public Relations

COMM 333	Principles of Development	4
JOUR 246	Reporting Methods	3
JOUR 257	Photojournalism	2
JOUR 341	Magazine Article Writing	4
JOUR 451	Publication Production	4
MKTG 481	Public Relations	4
	Electives (at least 6 must be writing; up to 4 may be COMM courses)	13
		<hr/> 34

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

COMMUNICATIONS

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	Broadcast and Cable Systems		
MKTG 381	Principles of Marketing	}	4
or			
MKTG 383	Advertising and Sales Promotion		
or			
MKTG 481	Public Relations		
	Electives (at least 6 must be writing; May include courses listed in the COMM and JOUR curricula and the following courses:)		14
SPCH 107	Voice and Articulation		
SPCH 211	Oral Interpretation		
SPCH 252	Play Production		
SPCH 363	History of Dramatic Arts		
SPCH 365	Play Direction		

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

34

Cognates:

ART 244	Commercial Art	}	2-3
or			
GRPH 295	Printing Layout and Design	}	2-3
GRPH 121	Introduction to Graphic Arts		
or		}	0-3
GRPH 271	Computer Assisted Publishing		
CPTR 105	Personal Computing (or proficiency)	}	2
or			
OFAD 225	Word Processor Keyboarding		
PHTO 154	Principles of Photography		
PHTO 155	Principles of Photography Laboratory		1

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. The Graduate Record Examination in communications is required.

Major Requirements:

COMM 145	Mass Communication Media	4
JOUR 245	Journalistic Writing	4
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

COMMUNICATIONS

SPCH 341	Argumentation	}	4
or			
SPCH 443	Persuasive Speaking		
SPCH 496	Seminar in Speech Communication		2
	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.)		22
Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.			<hr/> 50

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)	<u>23</u>
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.		<hr/> 27

MINOR IN BROADCAST MEDIA

A student minoring in broadcast media must complete 27 quarter hours.

COMM 145	Mass Communication Media	4
COMM 231	Broadcasting Techniques and Announcing	4
JOUR 245	Journalistic Writing	4
	Electives (9 must be upper division)	<u>15</u>
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.

COMMUNICATIONS

COMM 275 COMMUNICATION THEORY

2

Examination of contemporary thought on the nature and process of communication. Offered even years only.

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; PHOTO 154.

COMM 333 PRINCIPLES OF DEVELOPMENT

4

Study of the philosophy, role, organization, and strategies of institutional development and fund raising. Includes consideration of annual funds, capital campaigns, special events, and direct mail.

COMM 352 BROADCAST AND CABLE 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

3

Study of the legal and ethical aspects of the news-gathering materials for articles and preparation of manuscripts for publication. Offered odd years only.

COMM 479 DIRECTED MEDIA PRODUCTION

1-4

Refinement of media production skills in areas where the student has demonstrated potential in production-related courses. Under the instructor's supervision, the student designs and completes a project. Prerequisite: Permission of the instructor.

COMM 494 COOPERATIVE EDUCATION/PRACTICUM 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

1

A student-selected, department-approved project to demonstrate the student's ability to perform in his/her major field of instruction. Satisfactory completion of this course constitutes the department comprehensive requirement for the bachelor's degree. 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.

COMMUNICATIONS

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

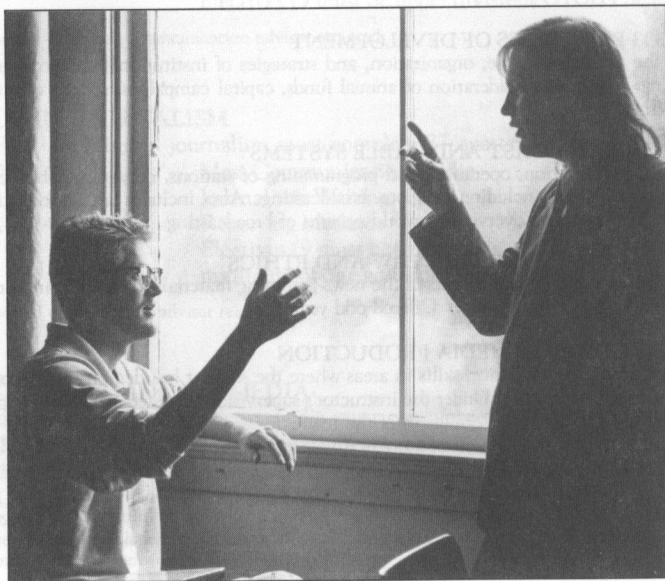
Basic training in the use of interviewing and other social research techniques for the gathering and reporting of news. Prerequisite: JOUR 245.

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: PHTO 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.



JOUR 412 SCRIPT WRITING 3

Writing techniques for multimedia, drama, documentary, broadcast (commercials, news, continuity), and instructional media. Prerequisite: ENGL 335 or 336. Offered odd years only.

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 outline writing; publication design and print production. Each student will plan a project consisting of planning a new publication, with prospectus and dummy copy. Permission of instructor required.

COMMUNICATIONS

ENGL 215 FILM LITERATURE	4
See the English section of this bulletin.	
ENGL 325 ADVANCED TECHNICAL WRITING	3
See the English section of this bulletin.	
ENGL 329 WRITING THEORY	3
See the English section of this bulletin.	
ENGL 335 NARRATIVE WRITING	3
See the English section of this bulletin.	
MKTG 381 PRINCIPLES OF MARKETING	4
See the Business section of this bulletin.	
MKTG 383 ADVERTISING AND SALES PROMOTION	4
See the Business section of this bulletin.	
MKTG 481 PUBLIC RELATIONS	4
See the Business section of this bulletin.	
SOCI 451 RESEARCH METHODS	4
Same as MKTG 451; PLSC 451. See course description under those departments.	

SPEECH COMMUNICATION (SPCH)

SPCH 101 FUNDAMENTALS OF SPEECH COMMUNICATION	4
Introduction to the procedure of public speaking. Emphasis on acquiring ease, a conversational attitude, and reasonable facility in organizing and delivering content relevant to the audience.	
SPCH 107 VOICE AND ARTICULATION	4
Study of and practice in improving the speaking voice. Emphasizes the structure and function of the speech mechanism, quality and effectiveness of voice; stresses developing clear enunciation and articulation. As a guide to correct pronunciation, the International Phonetic Alphabet is also included.	
SPCH 207 SMALL GROUP COMMUNICATION	3
Study of the nature of group and interpersonal processes; includes leadership and participation in group discussion.	
SPCH 211 ORAL INTERPRETATION	3
Study of the various types of interpretative literature with a view toward its understanding for the purpose of public presentation. Includes reading from the printed page with fluency and effectiveness, and Readers' Theatre script preparation and presentation.	
SPCH 252 PLAY PRODUCTION	1-4
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	3
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	4
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. Offered odd years only.	
SPCH 363 HISTORY OF DRAMATIC ARTS	4
Study of the history and development of the theater from the Greek to the twentieth century. Offered even years only.	

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SPCH 365 PLAY DIRECTION 3
Fundamentals of play direction; each student produces and directs a one-act play or one act from a longer play for public performance. Permission of instructor required. Offered odd years only.

SPCH 381, 382, 383 BIBLICAL PREACHING 2, 2, 2
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 3
Study of the basic principles and practices of teaching speech on the junior high and secondary levels. Special attention given to contemporary methods of presentation in classrooms and therapy sessions; includes observations, demonstration, and class participation.

SPCH 401 INTRODUCTION TO GENERAL SEMANTICS 2
Study of the use of language to influence human behavior, to solve problems, and to resolve conflicts.

SPCH 443 PERSUASIVE SPEAKING 4
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 3
Study of the principles of rhetoric proposed by Aristotle, Quintillian, Cicero, and others; the relationship of the principles of rhetoric to contemporary speechmaking. Prerequisite: SPCH 101.

SPCH 496 SEMINAR IN SPEECH COMMUNICATION 2
Integrating course required of all speech communication 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 3
See the English section of this bulletin.

ENGL 485 LINGUISTICS 3
See the English section of this bulletin.

SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY (SPPA)

SPPA 100 INDIVIDUALIZED SPEECH INSTRUCTION 1-3
Appraisals and remedial service for speech and hearing problems. By permission of the instructor.

SPPA 210 SURVEY OF SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY 3
Survey of communication disorders with major emphasis given to the etiologies, symptomatology, and the recognition of speech, language, voice, and hearing disorders.

SPPA 250 SIGN LANGUAGE FOR THE DEAF 3
Introduction to the basic signs used in communicating with the hearing impaired; includes group practice in signing letters, words, sentences, and songs

SPPA 299 NORMAL LANGUAGE DEVELOPMENT 2
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.



Computer Science

COMPUTER SCIENCE

M. Bell, Chair; J. Klein, G. Rittenbach, L. Aamodt.

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

The department offers programs leading to the 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)	} 2-4
or		
CPTR 211	Directed Study in Programming Languages	} 3
CPTR 215	Assembly Language Programming I	
CPTR 224	Scientific Computer Applications	} 4
or		
CPTR 225	Commercial Computer Applications (RPG)	} 4
CPTR 341	Programming Languages	
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
		<u>48</u>

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 250	Biostatistics	} 4
or		
GBUS 263	Business Statistics	
or		} 8
MATH 315	Probability and Statistics	
MATH 181, 281	Analytic Geometry and Calculus I, II	
MATH 250	Discrete Mathematics	4

COMPUTER SCIENCE

MATH 289	Linear Algebra and Its Applications	3
OFAD 111	Basic Keyboarding or proficiency	0-2
ELCT 241	Fundamentals of Electronics	3-5
or		
ENGR 325	Instrumentation	

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:

CPTR 141	Introduction to Programming (Pascal)	4
CPTR 142	Program and Data Structures	4
CPTR 136	File-Oriented Programming (COBOL)	2-4
or		
CPTR 211	Directed Study in Programming Languages	3
CPTR 215	Assembly Language Programming I	
CPTR 224	Scientific Computer Applications	4
or		
CPTR 225	Commercial Computer Applications (RPG)	4
or		
CPTR 345	Theory of Computation	3
CPTR 331	Computers in the Laboratory	
CPTR 341	Programming Languages	4
CPTR 343	Advanced Data Structures	4
CPTR 350	Computer Architecture	3
CPTR 351	Memory and I/O Systems	3
CPTR 352	Operating System Design	3
CPTR 374	Simulation and Modeling	3
CPTR 441	Advanced Computer Projects	4
CPTR 454	Design and Analysis of Algorithms	4
ENGR 354	Digital Logic Circuits	3
	Electives	8-10
Electives must be chosen in consultation with and approved by the department chair.		61

Cognates:

ELCT 241	Fundamentals of Electronics	3-5
or		
ENGR 325	Instrumentation	
MATH 181, 281-283	Analytical Geometry and Calculus I-IV	16
MATH 250	Discrete Mathematics	4
MATH 289	Linear Algebra and Its Applications	3
MATH 315	Probability and Statistics	4
MATH 341	Numerical Analysis	4

COMPUTER SCIENCE

OFAD	111	Basic Keyboarding or proficiency	0-2
PHYS	251, 252	Principles of Physics	6
PHYS	254, 255	Principles of Physics Laboratory	2

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.

Area Requirements:

CPTR	105	Personal Computing	3
CPTR	136	File-Oriented Programming (COBOL)	4
CPTR	141	Introduction to Programming (Pascal)	4
CPTR	142	Program and Data Structures	4
CPTR	211	Directed Study in Programming Languages	2
CPTR	215	Assembly Language Programming I	3
CPTR	224	Scientific Computer Applications	4
or			
CPTR	225	Commercial Computer Applications (RPG)	4
CPTR	241	Computer Projects	
CPTR	494	Cooperative Education	2
		Electives	23

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.

Cognates:

BIOL	250	Biostatistics	4
or			
GBUS	263	Business Statistics	
or			
MATH	106	Applied Statistics	5-8
MATH	117	Precalculus	
or			
MATH	121, 122	Fundamentals of Mathematics I, II	4
MATH	250	Discrete Mathematics	
MATH	289	Linear Algebra and Its Applications	
OFAD	111	Basic Keyboarding or proficiency	0-2
PSYC	130	General Psychology	4

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)	} 2-4
or		
CPTR 211	Directed Study in Programming Languages	} 3
CPTR 215	Assembly Language Programming I	
CPTR 224	Scientific Computer Applications	} 4
or		
CPTR 225	Commercial Computer Applications (RPG)	} 4
CPTR 341	Programming Languages	
	Electives	6-8
		<hr/> 29

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

Cognates:

MATH 181	Analytical Geometry and Calculus I	4
MATH 289	Linear Algebra and Its Applications	3

COMPUTER SCIENCE (CPTR)**CPTR 105 PERSONAL COMPUTING 3**

An introduction to the world of personal computing and MS-DOS using IBM PC compatible computers. Lectures are offered in a lab setting with each student working with a computer. Topics include IBM PC hardware basics, MS-DOS fundamentals, word processing, data base systems, and electronic spreadsheets. Enrollment limited to 32.

CPTR 124 INTRODUCTION TO BASIC 2

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. Will not be offered 89-90.

CPTR 134 INTRODUCTION TO COMPUTING (FORTRAN) 3

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. Will not be offered 89-90.

CPTR 136 FILE-ORIENTED PROGRAMMING (COBOL) 4

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) 4

Introduction to computers and programming; problem analysis, structured design of algorithms and programs, debugging, and documentation.

CPTR 142 PROGRAM AND DATA STRUCTURES 4

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.

COMPUTER SCIENCE

CPTR 211 DIRECTED STUDY IN PROGRAMMING LANGUAGES 1-2; 5

The directed 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 3

Introduction to computer architecture, machine language, and 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 4

Surveys of problem-solving techniques applicable to scientific investigation, including symbolic methods, trial and error, simulation, statistics, and graphics. Prerequisite: CPTR 134 or CPTR 141. Offered odd years only.

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; includes functional use of report program generator (RPG) language and experience in the use of a computer. Recommended: CPTR 105 or CPTR 134 or CPTR 136.

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 2- and 3-dimensional objects using the computer. Theory and application of matrix transform methods to manipulate 2- and 3-dimensional data structures. Graphical operations include scaling, translation, rotation, and reflection; also includes 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 4

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. Study of run-time behavior of program features. Prerequisite: CPTR 142; CPTR 211 recommended.

CPTR 343 ADVANCED DATA STRUCTURES 4

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 345 THEORY OF COMPUTATION 4

Study of the basic theoretical principles of computer science. Areas covered include automata and formal languages, computability by Turing machines and recursive functions, uncomputability and computational complexity. Emphasis on practical implications. Prerequisite: MATH 250. Offered even years only.

CPTR 350 COMPUTER ARCHITECTURE 3

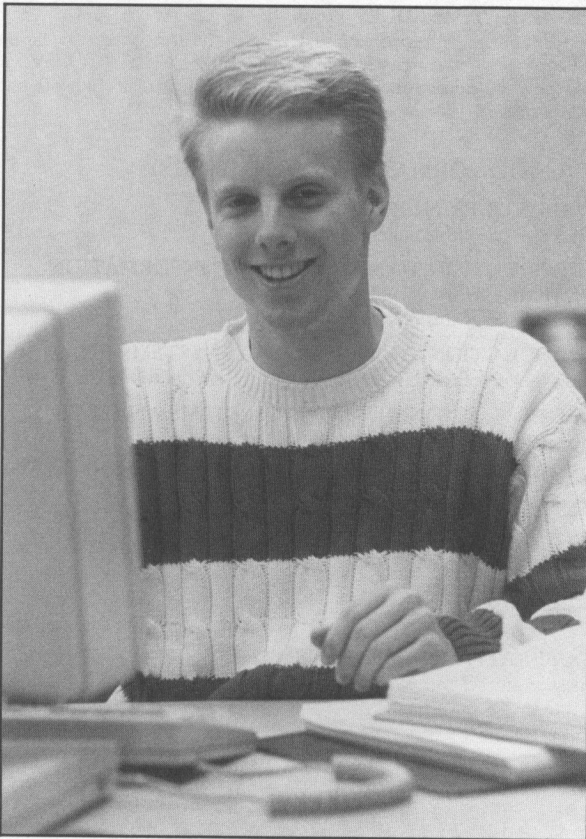
Study of the organization and architecture of computer systems with emphasis on the classical von Neumann architecture. Topics include instruction processing, addressing, interrupt structures, memory management, microprogramming, procedure call implementations, and multiprocessing. Prerequisite: CPTR 215.

CPTR 351 MEMORY AND I/O SYSTEMS 3

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; CPTR 215; CPTR 350.

CPTR 352 OPERATING SYSTEM DESIGN 3

Introduction to the design and operation of computer operating systems. Topics include multiprocessing, multiprocessing, concurrency, mutual exclusion, process models, synchronization, I/O handling, and user interfaces. Prerequisite: CPTR 351.



COMPUTER SCIENCE

CPTR 374 SIMULATION AND MODELING

3

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

2; 4

Experience on a practical, large-scale programming project. 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

4

Application of techniques using asymptotic notations, unit costs, and recurrence relations to the analysis of algorithms. Covers basic design strategies 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

4

Study of the techniques of translating conventional programming language source into executable machine codes. Topics include lexical analysis, syntactic analysis and parsing, static and runtime storage management, and code generation. Prerequisite: CPTR 343. Offered odd years only.

CPTR 494 COOPERATIVE EDUCATION

0-2

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 and approval of major advisor one quarter in advance of registration.

MANAGEMENT INFORMATION SYSTEMS (MIS)

MIS 285 COMPUTER PRINCIPLES

2

See the Business section of this bulletin.

MIS 301 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS (MIS)

3

See the Business section of this bulletin.

MIS 315 INTRODUCTION TO INFORMATION SYSTEMS ANALYSIS

4

See the Business section of this bulletin.

MIS 415 INTERMEDIATE INFORMATION SYSTEMS ANALYSIS

4

See the Business section of this bulletin.

MIS 440 DATABASE AND DATA MANAGEMENT ISSUES

4

See the Business section of this bulletin.

MIS 470 MIS ADMINISTRATION

4

See the Business section of this bulletin.

MIS 490 MIS PROJECTS

4

See the Business section of this bulletin.

MIS 494 COOPERATIVE EDUCATION/INTERNSHIP

0-4

See the Business section of this bulletin.



Education and Psychology

EDUCATION AND PSYCHOLOGY

M.Greenway, Chair; C. Bazzay, G. Brendel, G. Colvin, H. Ochs, G. Rittenbach, V. Ward.

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 secondary teaching. With careful planning, a bachelor's degree and the first teaching certificate may be earned in four years of study. A teaching endorsement in special education is also available through postgraduate or graduate study.

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

MAJOR IN ELEMENTARY EDUCATION (Bachelor of Science)

To be admitted into the elementary education program, a student must have received an acceptable score on the Test for Entrance into Teacher Education Program (TETEP), the Scholastic Aptitude Test (SAT), or the American College Test (ACT).

A student majoring in elementary education must complete 58 quarter hours in the major, the required cognates, as well as (1) an approved second major; or (2) two approved minors; or (3) one approved minor plus 27 hours in approved academic content. A minimum grade point average of not less than 2.50 is required in all courses that apply to these requirements. (Any courses graded lower than a C cannot apply to these requirements.) The Graduate Record Examination in education is required.

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

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

EDUCATION AND PSYCHOLOGY

the major and minor areas is required. 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.)

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.		<hr/> 58

Cognates:

ART 301	Art in the Elementary School	3
HLSC 395	Methods of School Health Instruction	3
MATH 115	Elementary Mathematics	4
MUED 394	Music in the Elementary School	3
PETH 473	Physical Education in the Elementary School	3

Approved Primary and Supporting Endorsements

Elementary education majors will choose a second major or minor from the following list (including courses required for endorsement):

Majors

Biology
Business Education
Chemistry
English
French
German
Health
History
Home Economics

Mathematics
Music Education
Physical Education
Physics
Psychology
Sociology
Spanish
Speech
Technology Education (Industrial)

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Minors

Art	Mathematics
Biology	Physical Education
Chemistry	Physics
English	Psychology
French	Religion
German	Sociology
Health	Spanish
History	Speech
Home Economics	Technology Education (Industrial)

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	Fundamentals of 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 with the department's certification officer periodically for updated information that might affect 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.

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

The secondary certification program requires completion of an approved primary endorsement (major) and professional courses as specified. To be recommended for cer-

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tification, candidates must maintain a grade-point average of not less than 2.50 in professional education/psychology coursework and in all areas of endorsement. No grade lower than C will apply.

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

Phase II

Formal acceptance into the teacher education program is required before registering for Phase II courses. A grade-point average of not less than 2.50 in professional education/psychology coursework and in endorsement(s) is required. Speech and hearing clearance is also expected.

+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 475	Teaching Reading Skills in Content Areas	3
EDUC 479	Secondary Microteaching	3
EDUC 481	Student Teaching in the Secondary School	14
		<hr/> 48

Not required but highly recommended:

PSYC 360	Small Group Procedures	}	3
or			
SPCH 207	Small Group Communication		
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 specified courses. See an adviser in the department offering the endorsement or in the Department of Education and Psychology.

Majors (including courses required for endorsement)

Biology	Mathematics
Business Education	Music Education
Chemistry	Physical Education

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English	Physics
French	Psychology
German	Sociology
Health	Spanish
History	Speech
Home Economics	Technology Education (Industrial)

Minors (including courses required for endorsement)

Art	Home Economics
Biology	Mathematics
Chemistry	Physical Education
English	Physics
French	Psychology
German	Sociology
Health	Spanish
History	Technology Education (Industrial)

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. Primary emphasis is placed on the applied dynamics of human behavior and relationships rather than on animal or laboratory psychology.

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

Although specific requirements for admission to graduate programs in most universities will be met by the general major, the student should realize that 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. The Graduate Record Examination in psychology is required.

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

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PSYC 446	Psychology of Personality	3
PSYC 495	Analysis of Psychological Experiments	2
Electives (15 must be upper division)		<u>23</u>

50

Electives must be chosen in consultation with the student's adviser 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 393	Genetics	4
CHEM 101, 102	Introductory Chemistry	8
CPTR 124	Introduction to BASIC	} 2-3
and/or		
CPTR 134	Introduction to Computing (FORTRAN)	
MATH 121, 122	Fundamentals of Mathematics I, II	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	Curriculum and Instruction in Preschool Education: Art	2
EDUC 252	Curriculum and Instruction in Preschool Education: Discovery	2
EDUC 253	Curriculum and Instruction in Preschool Education: Health/Physical Education	2
EDUC 254	Curriculum and Instruction in Preschool Education: Language	2
EDUC 255	Curriculum and Instruction in Preschool Education: Music	2

EDUCATION AND PSYCHOLOGY

EDUC 294	Planning Learning Environments for Children	2
EDUC 296	Administration in Early Childhood Education	2
EDUC 297	Head Teacher Practicum	4
PSYC 130	General Psychology	4
PSYC 215	Psychology of Childhood and Adolescence	4
PSYC 431	Psychology of the Exceptional Individual	3
or		
PSYC 460	Childhood Learning Disorders	3
	Electives (from home economics and/or education and psychology; may include up to six hours from sociology/social work and health education)	12
Electives must be chosen in consultation with and approved by the adviser assigned by the department chair.		50

Cognates:

ENGL 374	Literature in the Elementary School	3
or		
LIBR 374	Library Materials for Children	4
SOCI 204	General Sociology	3
SOCI 325	Social Psychology of Family Life	2
SPPA 299	Normal Language Development	

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:

PSYC 130	General Psychology	4
PSYC 215	Psychology of Childhood and Adolescence	4
PSYC 230	Systems and Theories in Psychology	4
PSYC 444	Social Psychology	3
	Electives (3 must be upper division)	13
Approval of psychology adviser required.		28

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.

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- 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** 1
Examination of current educational thought regarding the role of the teacher and the purpose of the school.
- EDUC 247 ELEMENTARY SCHOOL EXPLORATORY** 1
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** 1
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 CURRICULUM AND INSTRUCTION IN PRESCHOOL EDUCATION: ART** 2
Application of preschool education theory to teaching situations. Emphasis on participation as a team member in planning and teaching developmentally appropriate art curriculum in an early childhood environment.
- EDUC 252 CURRICULUM AND INSTRUCTION IN PRESCHOOL EDUCATION: DISCOVERY** 2
Application of preschool education theory to teaching situations. Emphasis on participation as a team member in planning and teaching developmentally appropriate discovery curriculum in an early childhood environment.
- EDUC 253 CURRICULUM AND INSTRUCTION IN PRESCHOOL EDUCATION: HEALTH/PHYSICAL EDUCATION** 2
Application of preschool education theory to teaching situations. Emphasis on participation as a team member in planning and teaching developmentally appropriate health and physical education curricula in an early childhood environment.
- EDUC 254 CURRICULUM AND INSTRUCTION IN PRESCHOOL EDUCATION: LANGUAGE** 2
Application of preschool education theory to teaching situations. Emphasis on participation as a team member in planning and teaching developmentally appropriate language curriculum in an early childhood environment.
- EDUC 255 CURRICULUM AND INSTRUCTION IN PRESCHOOL EDUCATION: MUSIC** 2
Application of preschool education theory to teaching situations. Emphasis on participation as a team member in planning and teaching developmentally appropriate music curriculum in an early childhood environment.
- 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 classroom routine. (S or NC only)

EDUCATION AND PSYCHOLOGY

- 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.
- 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** 3
See the English section of this bulletin.
- EDUC 375 CLASSROOM MANAGEMENT** 2
Study of discipline strategies and organization and management skills that promote learning within the school. Includes techniques for maintaining open communication with the entire school community. Prerequisite: Acceptance into Phase II.
- EDUC 381 ELEMENTARY CURRICULUM AND INSTRUCTION: RELIGION** 2
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** 2
Study of strategies for the implementation of the social studies curriculum in the elementary school. Instruction in appropriate uses of resources and materials. Prerequisite: Acceptance into Phase II.
- EDUC 383 ELEMENTARY CURRICULUM AND INSTRUCTION: SCIENCE** 2
Study of teaching of science in the elementary school with emphasis on science as a process of inquiry. Prerequisite: Acceptance into Phase II.
- EDUC 390 EDUCATIONAL EVALUATION** 3
Introduction to principles and techniques of evaluating classroom activities in elementary and secondary schools.

EDUCATION AND PSYCHOLOGY

- EDUC 392 GENERAL SECONDARY METHODS** 2
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.
- MUED 394 MUSIC IN THE ELEMENTARY SCHOOL** 3
See Music section of this bulletin.
- EDUC 404 HISTORY OF EDUCATION** 2
Survey of the history of education.
- EDUC 426 PRINCIPLES AND PROCEDURES OF GUIDANCE** 3
Introduction to the philosophy, functions, organization, and evaluation of guidance programs.
- EDUC 428 EXCEPTIONAL STUDENTS IN THE CLASSROOM** 3
Survey of current special education laws and of materials and techniques for teaching exceptional children within the educational mainstream. Prerequisite: PSYC 220 or permission of instructor.
- INDS 428 HANDWORK ACTIVITIES** 3
See the Industrial Technology section of this bulletin.
- SOCI 444 SOCIOLOGY OF EDUCATION** 3
See the Sociology and Social Work section of this bulletin.
- PETH 473 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL** 3, 4
See the Health, Physical Education, and Recreation section of this bulletin.
- EDUC 475 TEACHING READING SKILLS IN CONTENT AREAS** 3
Introduction to diagnosis, vocabulary, comprehension skills, rate variation, management, and study skills in junior high and secondary reading.
- EDUC 478 ELEMENTARY MICROTEACHING** 3
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** 3
Consideration of teaching procedures applicable at any level. Laboratory practice in certain teaching skills following the microteaching model. Class meets 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** 14
Supervised teaching as required for certification. Includes observation of 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 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
Supervised teaching as required for certification. Includes observation of 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.

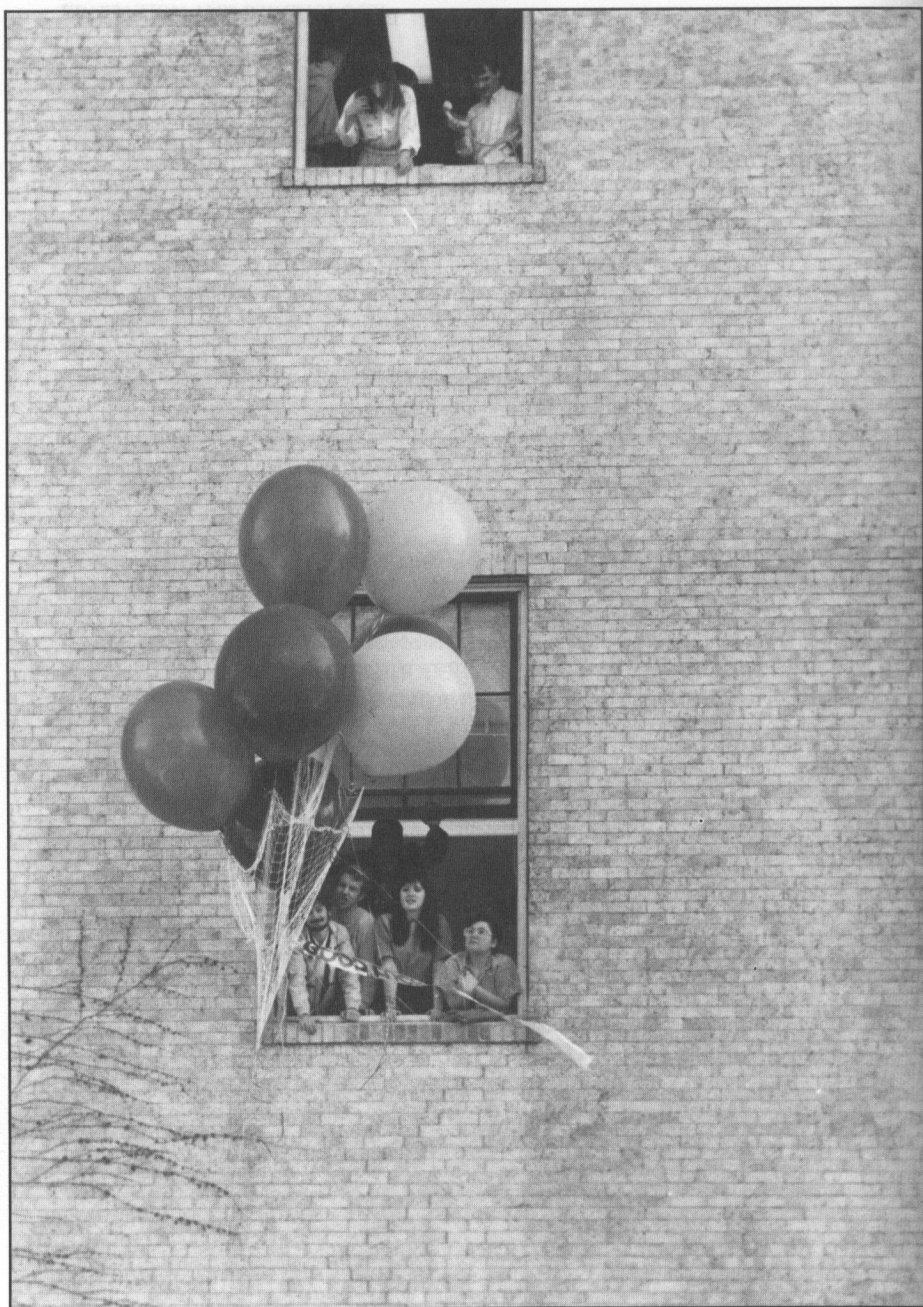
EDUCATION AND PSYCHOLOGY

- EDUC 494 COOPERATIVE EDUCATION** 0-3
Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. 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 through 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.

EDUCATION AND PSYCHOLOGY

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 on the elementary and secondary school years.	
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 include 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. Prerequisite: PSYC 375 or permission of instructor.	

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



Engineering

ENGINEERING

R. Heisler, Dean; R. Baltrusch, M. Bell, F. Bennett, J. Cole, C. Cross, K. Feigner, R. Frohne, G. Masden, S. Myers, C. Nelson, R. Stirling, D. Wallace, R. Wood.

The Engineering profession applies the principles of mathematics, science, economics, ethics, and social science to use 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.

ENGINEERING

Affiliation Program. North American Seventh-day Adventist colleges and universities are affiliated with Walla Walla College under a program which allows students to complete the first one or two years of engineering instruction at any participating institution and then complete degree requirements at Walla Walla College. Each affiliated campus has an engineering coordinator appointed to provide the necessary guidance to insure a smooth transition from the affiliated campus to Walla Walla 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 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 depends upon maintaining a 2.00 minimum grade point average. Students who fail to make satisfactory progress may be advised to register with a reduced course load or to consider other educational alternatives.

A student who retains more than 8 hours of 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.

Subject Area	Credits	
Language Arts	11-14	
College Writing	5-8	
Writing for Engineers	3	
Speech	3-4	
Physical Education	2-3	
Religion	16-18	
Approved Electives	0-4	} 10-15
Social Studies	4-11	
Humanities	4-11	
Total General Studies Requirements	44	
(must include one upper division or advanced course in humanities or social studies; 6 upper-division religion; a minimum of 10 credits upper division from humanities, social studies and approved religion electives)		

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

ENGINEERING CORE REQUIREMENTS (48 to 60 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 48 to 60 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 core elective.

Functional Techniques	Credits	CE	EE	ME
CPTR 141 Introduction to Programming (Pascal)	4	r	r	r
CPTR 255 Computer Graphics	2	e	e	e
DRFT 226 Architectural Drawing	3	e	e	e
DRFT 236 Electrical and Electronic Drawing	3	e	e	e
ENGR 121, 122 Introduction to Engineering	4	r	r	r
ENGR 123 Introduction to Engineering	2	e	e	e
ENGR 326 Engineering Economy	3	r	r	r
ENGR 495 Colloquium (4 quarters required)	0	r	r	r
ENGR 496, 497, 498 Seminar	3	r	r	r
Minimum Requirements		16	16	16

ENGINEERING

Electrical Fundamentals			Credits	CE	EE	ME
ENGR 228	Circuit Analysis		4	r	r	r
ENGR 325	Instrumentation		3	e	a	r
ENGR 351	Linear Network Analysis		4	e	r	r
ENGR 431	Electromechanical Energy Conversion		4	e	r	r
Minimum Requirements				7	12	15
Engineering Mechanics			Credits	CE	EE	ME
ENGR 221, 222, 223	Engineering Mechanics	}	9	r	r	r
or						
ENGR 224, 225	Engineering Mechanics					
ENGR 321	Mechanics of Materials		4	r	a	r
Minimum Requirements				13	9	13
Materials Science			Credits	CE	EE	ME
ENGR 322	Engineering Materials		4	r	e	r
PHYS 312	Physical Electronics and		3		e	
PHYS 315	Physical Electronics Laboratory		1		e	
Minimum Requirements				4	4	4
Transport Phenomena			Credits	CE	EE	ME
CHEM 352	Physical Chemistry		3	e		
CHEM 355	Physical Chemistry Laboratory		1	e		
ENGR 331	Fluid Mechanics		4	r	e	r
ENGR 332	Thermodynamics		4	e	r	r
ENGR 465	Heat Transfer		4	e	e	r
Minimum Requirements				8	8	12
Engineering Core Elective			Credits	CE	EE	ME
ENGR, PHYS or CPTR	Approved Engineering Core Elective		4		r	
Minimum Requirements				0	4	0
Minimum Core Requirements				48	53	60
MATHEMATICS (27 credits)			Credits	CE	EE	ME
MATH 181, 281	Analytic Geometry and		16	r	r	r
282, 283	Calculus I, II, III, IV					
MATH 289	Linear Algebra and Its Applications		3	r	r	r
MATH 312	Ordinary Differential Equations		4	r	r	r
MATH 315	Probability and Statistics		4	r	r	r
Minimum Requirements				27	27	27
SCIENCE (24 credits)			Credits	CE	EE	ME
CHEM 141, 142, 143	General Chemistry		9	r	r	r
CHEM 144, 145, 146	General Chemistry Laboratory		3	r	r	r
PHYS 251, 252, 253	Principles of Physics		9	r	r	r
PHYS 254, 255, 256	Principles of Physics Laboratory		3	r	r	r
Minimum Requirements				24	24	24

MATHEMATICS/SCIENCE ELECTIVE (4 credits)

BIOL, CHEM, MATH, PHYS	Mathematics or Science Elective	4	r	r	r
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Electives, approved by the department, must be chosen in consultation with the academic adviser.

CONCENTRATION: Civil Engineering (53 credits)

ENGR 341	Geology and Soil Mechanics	3
ENGR 342	Hydrology	3
ENGR 343	Hydroenvironmental Engineering Analysis	4
ENGR 345	Contracts and Specifications	2
ENGR 346	Surveying	4
ENGR 348	Structural Analysis	5
ENGR 364	Fluid Mechanics Laboratory	1
ENGR 441, 442	Structures I, II	8
ENGR 445, 446	Hydroenvironmental Engineering I, II	8
ENGR 449	Transportation Engineering	4
	Technical Electives	11

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 (48 credits)

CPTR 215	Assembly Language Programming	3
ENGR 352	Feedback and Control Systems	4
ENGR 354	Digital Logic Circuits	3
*ENGR 355	Microcomputer Systems Design	3
ENGR 356, 357	Engineering Electronics	8
*ENGR 432	Analog Design	4
or		
*ENGR 433	Digital Design	4
ENGR 451	Electromagnetic Fields	
ENGR 455	Signals and Systems	4
ENGR 458	Direct Energy Conversion	4
or		
*ENGR 460	Polyphase Machines and Power Systems	8
ENGR	EE Electives	
CPTR, ENGR	Technical Electives	4
MATH, PHYS		

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

*New Courses

ENGINEERING

CONCENTRATION: Mechanical Engineering (41 credits)

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	Machine Design	4
ENGR 468	Engineering Finite Element Methods	4
ENGR	ME Electives	8
CPTR, ENGR or MATH	Technical Electives	6

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

MAJOR IN BIOENGINEERING (Bachelor of Science)

J. Cole, Chair; R. Baltrusch, C. Cross, R. Heisler, L. McCloskey, D. Rigby.

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 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
BIOL 495	*Colloquium (2-4 Quarters)	0
ENGR 495	*Colloquium (2-4 Quarters)	0
ENGR 496, 497, 498	Seminar	3 or 5
or		
BIOL 251, 352, 353, 354, 455	Research Methods	

ENGINEERING

Electrical Fundamentals

ENGR 325	Instrumentation	3	0-7
ENGR 351	Linear Network Analysis	4	

Mechanics and Materials

BIOL 393	Genetics	4	4-8
BIOL 464	Animal Physiology	4	
BIOL 470	Marine Biophysics	5	
CHEM 351, 354	Physical Chemistry and Laboratory	4	
ENGR 321	Mechanics of Materials	4	
ENGR 322	Engineering Materials	4	
PHYS 312, 315	Physical Electronics and Laboratory	4	

Transport Phenomena

BIOL 392	Cell Biology	4	4-9
BIOL 401	Plant Physiology	4	
CHEM 352, 355	Physical Chemistry and Laboratory	4	
CHEM 431, 433	Biochemistry and Laboratory	4	
ENGR 331, 364	Fluid Mechanics and Laboratory	5	
ENGR 332	Thermodynamics	4	
ENGR 465	Heat Transfer	4	
PHYS 313	Thermodynamics	4	

Electives

BIOL	Selected Courses	12-21	24-33
ENGR	Selected Courses	12-21	
	Technical Electives	0-9	
	Selected courses from MATH, PHYS, CHEM, CPTR, or INDS (21 must be upper division)		

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

*Six Quarters of Colloquium are Required.

69

Cognates:

CPTR 134	Introduction to Computing (FORTRAN)	}	3-4
or			
CPTR 141	Introduction to Programming (Pascal)		
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 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

ENGINEERING

COMPUTER SCIENCE (CPTR)

CPTR 141 INTRODUCTION TO PROGRAMMING (PASCAL)

4

See the Computer Science section of this bulletin.

CPTR 215 ASSEMBLY LANGUAGE PROGRAMMING I

3

See the Computer Science section of this bulletin.

CPTR 255 COMPUTER GRAPHICS

2

See the Computer Science section of this bulletin

ENGINEERING (ENGR)

ENGR 121, 122, 123 INTRODUCTION TO ENGINEERING

2, 2, 2

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

3, 3, 3 or 4, 5

Introduction to two- and three-dimensional equilibria employing vector algebra; friction; centroids and centers of mass, virtual work, and moments of inertia. One- and two-dimensional kinetics and kinematics of rigid bodies by vector calculus; dynamics of rotation, translation, and plane motion; relative motion; work and energy; impulse and momentum. Must be taken in sequence. 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

4

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

4

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

4

Study of the science of engineering materials. Crystal structures, electron transport in solids, single-phase metals, multiphase materials, equilibria, microstructures and properties, thermal processing, and corrosion of metals. Laboratory work required. Prerequisite: CHEM 143 or equivalent.

ENGR 323 CIVIL ENGINEERING MATERIALS

3

Study of the engineering properties of concrete, wood, asphalt and asphaltic concrete. Laboratory work required. Prerequisite: ENGR 322 or permission of instructor.

ENGR 324 MECHANICAL ENGINEERING MATERIALS

2

Study of polymer, ceramic, and composite materials. Material selection. Joining and manufacturing processes. Laboratory work required. Prerequisite: ENGR 322.

ENGR 325 INSTRUMENTATION 3

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 3

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 4

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 similitude; inviscid and viscous flow in pipes and an introductory analysis of boundary layer flow. Prerequisites: CPTR 141; MATH 283; MATH 289. Corequisite: ENGR 223 or ENGR 225. Recommended: PHYS 251, 252, 253.

ENGR 332 THERMODYNAMICS 4

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

ENGR 333 THERMODYNAMICS AND THERMAL SYSTEMS 4

Study of thermodynamics of state for complex systems, detailed analysis of power and reversed cycle systems, thermodynamics, and equilibrium principles of nonreacting and reacting mixtures; application of the principles of global thermochemical energy balances to real power systems; introduction to compressible flow. Prerequisite: ENGR 332.

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. Laboratory work required. 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. Prerequisites: CPTR 141; 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: CHEM 143; 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 141; ENGR 122; Corequisite: MATH 281.

ENGR 348 STRUCTURAL ANALYSIS 5

Study of graphical, algebraic, and matrix 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 141; ENGR 321; ENGR 322; MATH 289; Corequisite: MATH 312.

ENGINEERING

- ENGR 351 LINEAR NETWORK ANALYSIS** 4
Introduction to linear network theory including Laplace-transform analysis and state-space representations. Fourier analysis of periodic signals. Prerequisites: ENGR 228; MATH 283. Corequisites: MATH 289 and 312.
- ENGR 352 FEEDBACK AND CONTROL SYSTEMS** 4
Introduction to state-space analysis methods for continuous dynamic systems and processes; design of control systems including development of performance criteria, pole-placement design and linear state observers. Classical analysis by means of frequency-domain methods such as root-locus diagrams and Bode plots. Prerequisite: ENGR 351.
- ENGR 354 DIGITAL LOGIC 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 355 MICROPROCESSOR SYSTEM DESIGN** 3
Design of microprocessor systems; system organization, CPU structure, address decoding and memory design; wait-state generation, interrupts, real-time operating systems; input/output, direct memory access, device drivers. Laboratory work required. Prerequisite: ENGR 354.
- ENGR 356, 357, ENGINEERING ELECTRONICS** 3, 4
Study of characteristics and applications of discrete and integrated solid-state electronic devices and circuits; large-signal analysis, biasing; small-signal analysis, low and high frequency models, classical amplifier circuits, feedback amplifiers, operational-amplifier circuits; integrated-circuit electronics. Laboratory work required. Corequisite for ENGR 356: ENGR 351. Corequisite for ENGR 357: ENGR 352.
- ENGR 364 FLUID MECHANICS LABORATORY** 1
Laboratory instruction in fluid mechanics. Incompressible and elementary compressible fluid flow with special application of steady state and conservation principles of mass, momentum, and energy; fluid flow measurements and real fluid phenomena in pipelines; theoretical and experimental analysis of open channel flow. Prerequisite: ENGR 331.
- ENGR 365 MECHANICAL SYSTEMS LABORATORY** 1
Laboratory instruction in thermodynamics and energy systems. Internal combustion engine study. Structural dynamics. Lubricant properties. 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** 4
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 432, ANALOG DESIGN** 4
Concepts of analog circuit design; introduction to worst-case analysis, operational amplifier applications; oscillators; power amplifiers; analog-to-digital and digital-to-analog converters. Laboratory work required. Prerequisite: ENGR 357.
- ENGR 433 DIGITAL DESIGN** 4
MSI and LSI circuits and applications; analysis and design of synchronous and asynchronous circuits and systems; programmable controller applications. Laboratory work required. Prerequisite: ENGR 355.

- ENGR 441, 442 STRUCTURES I, II** 4, 4
Study of timber, basic concrete, reinforced concrete and steel, and 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** 3
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** 3
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** 4
Analysis and design of water distribution systems, and sewage and stormwater collection systems. Computation laboratory required. Prerequisites: CPTR 141; ENGR 343.
- ENGR 446 HYDROENVIRONMENTAL ENGINEERING II** 4
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** 3
Design of facilities for disposal of wastewaters to land and water systems; analysis of surface waters receiving wastewater effluents. Laboratory work required. Corequisite: ENGR 343.
- ENGR 448 HYDROENVIRONMENTAL DESIGN** 3
Study of advanced water and wastewater treatment processes and practices. Emphasis upon current literature and recent developments in state-of-the-art practices. Prerequisite: ENGR 446.
- ENGR 449 TRANSPORTATION ENGINEERING** 4
Study of the various modes of transportation that comprise the transportation system. Consideration is given to the planning, design and operation of the system. Introduction to traffic engineering. Prerequisites: ENGR 341; ENGR 442; ENGR 445.
- ENGR 450 GEOTECHNICAL ENGINEERING** 3
Study of stress distribution and deformation of soils; applications to foundation and slope stability. Laboratory work required. Prerequisites: ENGR 321; ENGR 341.
- ENGR 451 ELECTROMAGNETIC FIELDS** 4
Study, by vector calculus, of static and dynamic electric and magnetic fields. Unbounded and bounded fields, fields in material media, force and torque, energy and potential functions, and Faraday induction. Prerequisites: MATH 312; PHYS 253.
- ENGR 452 ELECTROMAGNETIC PROPAGATION AND RADIATION** 4
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** 4
Study of the design and application of digital control methods to real-time dynamic systems such as servomechanisms, chemical processes, and vehicles. Analytical techniques include both transform (classical control) and state-space (modern control) methods. Prerequisites: ENGR 455; ENGR 352. Recommended: MATH 315; CPTR 215.

ENGINEERING

ENGR 455 SIGNALS AND SYSTEMS 4

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

ENGR 457 LINEAR NETWORK DESIGN 4

Introduction to the synthesis of linear networks; amplifier design principles for both lumped and distributed elements, two-port parameters, the Smith chart; bias stabilization, neutralization, impedance matching; noise performance, sensitivity; passive filters, switched-capacitor filters; practical design rules. Laboratory work required. Prerequisites: ENGR 432 and ENGR 455.

ENGR 458 DIRECT ENERGY CONVERSION 3

Study of the principles and applications of direct modes of energy conversion; photovoltaics thermoelectrics, fuel cells, magnetohydrodynamics, thermionics. Prerequisite: ENGR 228, ENGR 332.

ENGR 459 COMMUNICATIONS SYSTEMS 4

Introduction to analog and digital communication systems, including topics in modulation; baseband and bandpass signals; power spectral density and bandwidth; random processes; noise, signal-to-noise ratio, and error probability; and system performance. Prerequisites: ENGR 455; MATH 315.

ENGR 460 POLYPHASE MACHINES AND POWER SYSTEMS 3

Three-phase power systems and energy conversion in induction and synchronous machines, transformer systems, symmetrical components. Laboratory work required. Prerequisite: ENGR 431

ENGR 461 KINEMATICS 4

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 MACHINE DESIGN 4

Design of machines and machine elements; study of stress failure theories applied to machine elements; industrial design problems; CAD methods. Prerequisites: MATH 315; ENGR 324; ENGR 461.

ENGR 464 DYNAMIC SYSTEM DESIGN 4

Analysis and design of dynamic systems containing mechanical, electrical, pneumatic, and hydraulic elements; includes modeling and computer simulation. Uses CAD methods. Prerequisites: ENGR 366, ENGR 462.

ENGR 465 HEAT TRANSFER 4

Study of single and multidimensional steady-state and transient heat conduction; thermal radiation involving black and gray bodies and gas-filled enclosures; solar radiation; free and forced convection through ducts and over exterior surfaces; heat exchangers; combined heat transfer problems. Prerequisite: MATH 312.

ENGR 466 MECHANICAL DESIGN 4

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 4

Introduction to the kinematics, dynamics, and computer control of robot manipulators, with applications of robotic systems to modern automated manufacturing methods. Prerequisites: CPTR 255; ENGR 352.

ENGR 468 ENGINEERING FINITE ELEMENT METHODS

4

Introduction to finite element methods for the solution of problems in structures, solid mechanics, heat transfer and other areas. Techniques for obtaining approximate numerical solutions to governing differential equations for various types of systems are covered. Industrial software is applied to a broad range of engineering problems. Prerequisite: MATH 312.

ENGR 494 COOPERATIVE EDUCATION

0-2

Individual contract arrangement involving students, faculty, and cooperating industries to gain practical engineering experience in an off-campus setting. Prerequisite: Permission of the Dean of the School of Engineering.

ENGR 495 COLLOQUIUM

0

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 of which must be during the senior year. Graded S or NC.

ENGR 496, 497, 498 SEMINAR

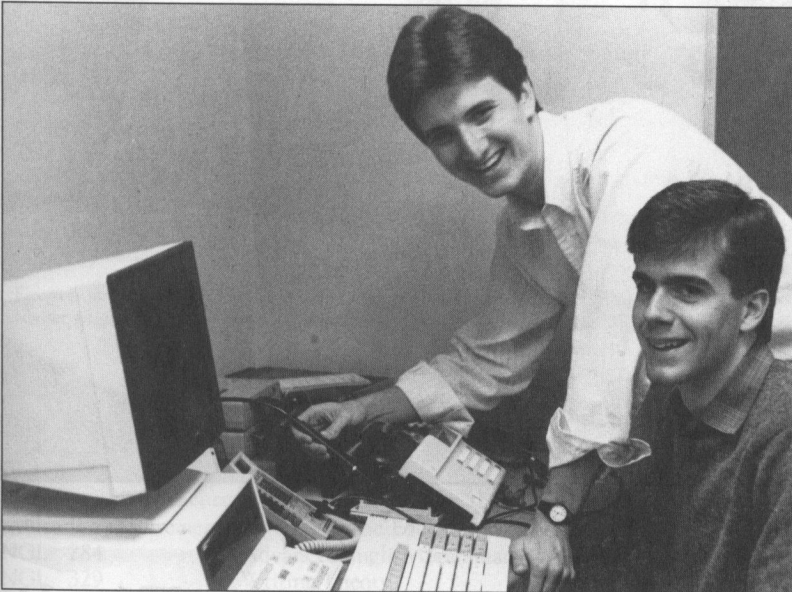
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Presentation and discussion of current topics of interest within professional engineering. Each student is required to conduct an approved engineering design project from conception to final oral and written reports. Prerequisite: senior standing in engineering.

ENVIRONMENTAL STUDIES (ENVI)**ENVI 385 THE ENVIRONMENT AND MAN**

4

Interdisciplinary consideration of current topics involving the interrelations between man and his environment.





English

ENGLISH

B. Beem, Chair; T. Aamodt, N. Cross, S. Gardner, D. Lamberton, S. Nosworthy, C. Shultz, G. Wiss.

In its general studies courses, the department aims to enhance the student's ability to use language, the vehicle of society. The writing courses give instruction in clear, effective writing. The literature courses address significant and enduring issues that lead to a broad understanding of human experience.

The major in English provides a foundation for careers in communications, community service, education, government, and journalism, 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 understand human experience. The student can choose electives in the major to provide an emphasis in writing or literature as desired.

The minor in English is a valuable way for students in any major to polish their writing skills or to enrich themselves through literature. It is especially useful to students who plan a career in teaching. The flexibility of the minor allows students to design it according to individual interests.

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 210, 211, 212	Survey of English and American Literature	12
ENGL 234	Literary Analysis	4
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.		58

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

ENGLISH

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 210, 211, 212	Survey of English and American Literature	12
ENGL 234	Literary Analysis	4
ENGL 344 to 366	English or American Literature	4
	Electives (6 must be upper division; 3 may be ENGL 374 or 375)	10
		<hr/>

Approval of English adviser required.

30

GENERAL STUDIES WRITING (ENGL)

The following courses do not apply toward an English major or minor.

ENGL 100 WRITING SKILLS

4

Study of basic grammar, usage, and punctuation in the context of writing; emphasis on sentence and paragraph work. Short writing assignments on word processors required. Diagnostic test at the beginning with a competency-based exit exam at the end. Graded S/NC only. Required of students who do not place in ENGL 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 writing skills necessary for associate degree programs. In the first quarter, review of grammar and mechanics, study of the writing process, principles of technical writing, and strategies for writing business letters. In the second quarter, further strategies for writing business letters and informal and formal technical and business reports. Satisfactory completion of the sequence satisfies the Language Arts core requirement for the associate degree.

ENGL 111 ENGLISH AS SECOND LANGUAGE

4

Study of writing for students whose first language is not English. Includes a study of the structure of English and extensive writing practice. Language laboratory may be required. The department will determine further English placement for students completing the course. Corequisite: RDNG 100.

ENGL 114 DIRECTED WRITING FOR INTERNATIONAL STUDENTS

1-2

An individualized course in writing for students whose first language is not English. Prerequisite: ENGL 111 or permission of the instructor. May be required as a prerequisite or corequisite to ENGL 121.

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.

GENERAL STUDIES LITERATURE (ENGL)

ENGL 204 INTRODUCTION TO LITERATURE 4
Introduction to the art of reading and studying literature, emphasizing the methods of analyzing poetry, stories, and drama. Will not apply toward an English major.

ENGL 207 WORLD LITERATURE 4
Study of selected literary masterpieces from classical times to the present, emphasizing the literature of the Western world. Will not apply toward an English major.

ENGL 209 RELIGIOUS LITERATURE 4
Study of the works of major Christian writers. Will not apply toward an English major.

ENGL 210, 211, 212 SURVEY OF ENGLISH AND AMERICAN LIT 4, 4, 4
A survey of English and American Literature and literary history from Anglo-Saxon times to the present. The first quarter covers Anglo-Saxon, medieval, and renaissance literature; the second quarter, Neoclassic and romantic literature; and the third quarter, 19th-century and 20th-century literature. Applies toward an English major.

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*. Will not apply toward an English major.

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. Will not apply toward an English major.

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. Will not apply toward an English major.

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.

ENGL 234 LITERARY ANALYSIS 4
Instruction and practice in close analysis, interpretation, and evaluation of literature in the major genres with an introduction to various critical approaches and methods of research in literary history; includes the writing of critical essays. Intended to prepare the student for upper-division literature courses.

ENGL 323 WRITING FOR ENGINEERS 3
Emphasizes the research and writing techniques appropriate to engineering. Includes a research paper and other papers for both professional and general audiences. Corequisite courses are designated by the School of Engineering. Prerequisites: ENGL 122 or 142 or equivalent.

ENGLISH

ENGL 324 ESSAY WRITING 3
Techniques of writing nonfiction 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 3
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 3
A study of composition theory and the writing process. Through writing practice, students study the application of this theory to their own work and to the teaching of writing.

ENGL 334 POETRY WRITING 3
A writing course designed to study and apply the basic principles of poetics. Analysis and discussion of student work.

ENGL 335 NARRATIVE WRITING 3
Study of narrative theory and practice in the techniques of narrative writing, including characterization, theme, and plot. Analysis and discussion of student work.

ENGL 336 DRAMA WRITING 3
Study of dramatic theory and practice in planning, writing, and revising a play. The focus is primarily on the fundamentals of writing drama. Analysis and discussion of student work.

ENGL 338 DIRECTED WRITING 1-2
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 permission of instructor.

LITERATURE AND LANGUAGE (ENGL)

Unless otherwise stated, ENGL 234 or permission of instructor is prerequisite to all literature courses listed below.

ENGL 284 ADVANCED ENGLISH GRAMMARS 3
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 4
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. Offered odd years only.

ENGL 345 RENAISSANCE LITERATURE 4
Study of the major authors and literary movements of the English Renaissance. Offered even years only.

ENGL 346 RESTORATION AND NEOCLASSIC LITERATURE 4
Study of selected works of important seventeenth- and eighteenth-century English authors, including Dryden, Swift, Pope and Johnson. Offered odd years only.

ENGL 354 ROMANTIC ENGLISH LITERATURE 4
Study of major romantic English authors, including Wordsworth, Coleridge, Byron, Shelley and Keats. Offered even years only.

ENGL 355 VICTORIAN LITERATURE 4
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. Offered even years only.

- ENGL 356 TWENTIETH-CENTURY ENGLISH LITERATURE** 4
Study of English literature since 1914; significant works studied in relation to intellectual and historical developments. Offered odd years only.
- ENGL 364 ROMANTIC AMERICAN LITERATURE** 4
Study of major romantic American authors, including Emerson, Thoreau, Hawthorne and Melville.
- ENGL 365 AMERICAN REALISM AND NATURALISM** 4
Study of major American authors who typify nineteenth-century realism and naturalism.
- ENGL 366 TWENTIETH-CENTURY AMERICAN LITERATURE** 4
Study of American literature since 1900; significant works studied in relation to intellectual and historical developments.
- ENGL 394 DIRECTED READING** 1-2; 2
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; admission by permission of instructor.
- ENGL 444 MAJOR AUTHOR** 3
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** 3
Advanced study of selected plays and poems of Shakespeare.
- ENGL 454 LITERATURE OF THE BIBLE** 4
Study of biblical poetry and prose from a literary perspective. Prerequisites: General studies literature or ENGL 234.
- ENGL 455 CLASSICAL BACKGROUNDS** 3
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 or ART 324, 325.
- ENGL 464 DEVELOPMENT OF ENGLISH DRAMA** 3
Survey of the development of English drama from the medieval mystery plays to the twentieth century.
- ENGL 465 DEVELOPMENT OF THE ENGLISH NOVEL** 4
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 Brontes, Dickens, Eliot, Hardy.
- ENGL 466 LITERARY AND CRITICAL THEORY** 3
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** 3
Study of premodern and early modern English, with reference to Indo-European antecedents. Intended to illuminate major trends in English language history. Offered even years only.
- ENGL 485 LINGUISTICS** 3
Survey of approaches to modern linguistic science, with emphasis on the materials and methods of descriptive linguistics in phonology, morphology, syntax and semantics. Offered odd years only.

ENGLISH

ENGL 496, 497 SEMINAR

1, 2

Required of English majors in the senior year. Includes studying research methods, giving oral reports, and writing a major scholarly paper. Research projects relate to a common topic chosen by the instructor.

ENGLISH EDUCATION (ENGL)

The following courses do not apply toward an English major.

ENGL 276 TEACHING ENGLISH AS A FOREIGN LANGUAGE

2

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 toward an English minor.

ENGL 374 LITERATURE IN THE ELEMENTARY SCHOOL

3

Study of 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

3

Study of the philosophy of the selection and 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

3

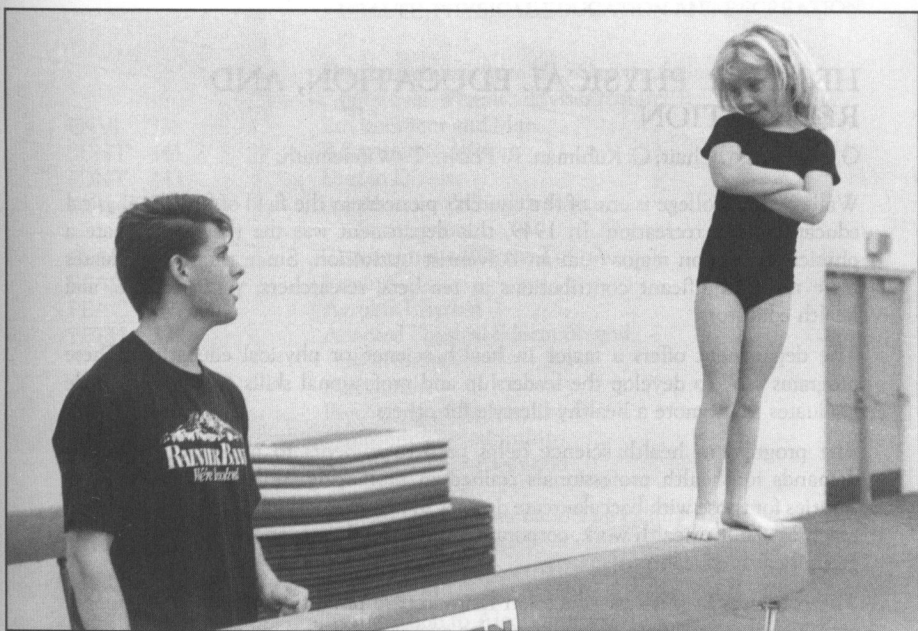
A study of objectives for and methods of teaching language, composition, and literature in grades seven through twelve. Students prepare and present lessons, evaluate student work, and collect and organize a file of teaching materials. Prerequisites: ENGL 284; ENGL 329; ENGL 375. Will not apply toward an English minor.

GENERAL (ENGL)

ENGL 494 COOPERATIVE EDUCATION

0

Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in a work setting. Allows students to apply advanced classroom learning. Prerequisites: Permission of the department; CDEV 210 or permission of Cooperative Education Director.



for participation throughout life. The curriculum contains three concentrations: Preparation for Teaching, Fitness Management and Physiological Basis of Physical Education.

MAJOR IN HEALTH SCIENCE (Bachelor of Science)	
A student majoring in Health Science must complete 60 semester hours of interdisciplinary courses as listed below. The general studies program and all language requirements are outlined in this bulletin.	
Requirement	Course
EDNT 220	Human Nutrition
EDNT 411	Community Nutrition
HLSC 110	Wellness for Living
HLSC 208	Logic and Society
HLSC 328	Health Behavior Change
HLSC 331	Community Health
HLSC 373	Principles of Health
HLSC 373	Health Promotion Planning and Evaluation
HLSC 473	Stress Management

Health, Physical Education, & Recreation

HEALTH, PHYSICAL EDUCATION, AND RECREATION

G. Hamburgh, 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. These programs seek to develop the leadership and professional skills which will enable graduates to promote a healthy lifestyle for others.

The program in health science helps prepare students to meet the increasing demands for health professionals 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 help prepare professionals who will promote activities that stimulate habits of regular exercise and develop skills and interests for participation throughout life. The curriculum contains three concentrations: Preparation for Teaching, Fitness Management and Physiological Basis 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	3
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	472	Stress Management	3
HLSC	475	Programs in Health Promotion	3
HLSC	481	Internship in Health Science	3 or 12
HLSC	491	Seminar	1
PETH	350	Internship Placement Orientation	0
PETH	427	Fitness Evaluation Techniques	3
PETH	426	Physiology of Exercise	4
PSYC	449	Mental Health	3

HEALTH, PHYSICAL EDUCATION AND RECREATION

Electives chosen from HLSC or the following

(approval of health adviser required): 13 or 22

ENVI 385	Environment and Man	4
FDNT 441	Advanced Nutrition	3
FDNT 443	Diet in Disease	4
MGMT 373	Introduction to Health Care Organizations	2
PEAC 123	Conditioning: Weight Training	1
PEAC 128	Jogging	1
PEAC 133	Aerobic Rhythm	1
PETH 324	Adapted Physical Education and Recreation	3
PSYC 442	Motivation	3
PSYC 446	Psychology of Personality	3
PSYC 464	Counseling Relationships	3
OFAD 457	Medical Terminology and Transcription	3
SOCI 224/424	Human Development and The Family	4
SOCI 435	Social Gerontology	3
SOCI 437	Death and Dying	3
SOCI 447	Sociology of Health and Illness	3
SOWK 377	Introduction to Alcoholism and Addiction Treatment	3
SOWK 471	Human Sexuality	3
		<hr/>
		66

Cognates:

BIOL 201, 202	Anatomy and Physiology	}	8
or			
BIOL 101, 102,	General Biology	}	5
BIOL 222	Microbiology		
or			
BIOL 465	Bacteriology	}	4
MATH 106	Applied Statistics		
MKTG 381	Principles of Marketing		
or		}	4
MKTG 383	Advertising and Sales Promotion		
PSYC 130	General Psychology		4
RELT 312	Bioethics		4
SPCH 101	Fundamentals of Speech Communication		4

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 concentration in preparation for teaching must also complete the certification requirements as listed in the Education section of this bulletin.

HEALTH, PHYSICAL EDUCATION AND RECREATION

Core Requirements:

PETH 214	Introduction to Physical Education and Recreation	2
PETH 225	Prevention of Injuries	2
PETH 323	Measurements and Evaluation	3
PETH 324	Adapted Physical Education and Recreation	3
PETH 325	Kinesiology	3
PETH 425	Motor Learning	3
PETH 426	Physiology of Exercise	4
PETH 484	Administration of Health, PE & Recreation	3
PETH 493	History and Philosophy of Physical Education	3
PETH 496	Seminar	1
		<hr/> 27

CONCENTRATION: Preparation for Teaching

HLSC 110	Wellness for Living	3
PEAC 101-277	Physical Activity Courses	15
Physical activity courses must be chosen in consultation with and approved by the academic adviser assigned by the department chair and must include PEAC 106, 123, 133, 224, 242, 244, 246, 271, 273, 274, 275, 276, 277.		
PETH 261, 262, 263	Officiating of Sports Activities	6
PETH 278	Programming Intramural and Recreational Activities	2
PETH 363, 364, 365	Coaching of Team Activities	9
PETH 395	Methods of Teaching Secondary Physical Education	3
PETH 473	Physical Education in the Elementary School	4

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. 42

Cognates:

BIOL 201, 202	Anatomy and Physiology	8
HLSC 110	Wellness for Living	3
MATH 105	Mathematics With Applications	4
or		
MATH 106	Applied Statistics	

CONCENTRATION: Fitness Management

HLSC 238	Health Behavior Change	2
PEAC 101-277	Physical Activities Courses	3
Physical activity courses must be chosen in consultation with and approved by the academic adviser assigned by the department chair.		
PEAC 123	Conditioning: Weight Training	1
PEAC 128	Jogging	1
PEAC 133	Aerobic Rhythm	1
PEAC 151	Racquetball I	1
PEAC 246	Pro Act Tennis	1
PETH 205	Water Safety Instructor's Course	2
PETH 350	Internship Placement Orientation	0
PETH 427	Fitness Evaluation Techniques	3

HEALTH, PHYSICAL EDUCATION AND RECREATION

PETH 490	Internship in Fitness Management	12
PETH 278	Programming Intramural and Recreational Activities	2
	Electives	4

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

33

Cognates:

ACCT 201, 202, 203	Principles of Accounting	}	10
or			
ACCT 205, 206	Principles of Accounting	}	8
BIOL 201, 202	Anatomy and Physiology		
CPTR 105	Personal Computing		3
FDNT 220	Human Nutrition		4
HLSC 110	Wellness for Living		3
MGMT 275	Management of Small Business		3
MIS 285	Computer Principles		2
MKTG 383	Advertising and Sales Promotion		4

CONCENTRATION: Physiological Basis

BIOL 201, 202	Anatomy and Physiology	8
BIOL 464	Animal Physiology	4
FDNT 220	Human Nutrition	4
PEAC 101-277	Physical Activity Courses	5

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

PETH 427	Fitness Evaluation Techniques	3
	Electives	3

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

27

Cognates:

BIOL 101, 102, 103	General Biology	}	12
BIOL 392	Cell Biology		
or		}	4
CHEM 431	Biochemistry		
CHEM 433	Biochemistry Laboratory Methods	}	4
BIOL 250	Biostatistics		
or		}	4
PSYC 350	Elementary Statistics		
CHEM 141, 142, 143	General Chemistry	}	9
CHEM 144, 145, 146	General Chemistry Laboratory		
CHEM 321, 322, 323	Organic Chemistry	}	9
CHEM 324, 325, 326	Microscale Organic Laboratory		
CPTR 105	Personal Computing		3
HLSC 110	Wellness for Living		3
MATH 117	Precalculus	}	5-8
or			
MATH 121, 122	Fundamentals of Mathematics I, II		

HEALTH, PHYSICAL EDUCATION AND RECREATION

MINOR IN HEALTH

A student minoring in health must complete 27 quarter hours.

HLSC 110	Wellness for Living	3
HLSC 353	Principles of Health	3
	Electives	<u>21</u>

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:

PETH 214	Introduction to Physical Education and Recreation	2
PETH 261, 262, 263	Officiating of Sports Activities	6
PETH 484	Administration of Health, Physical Education, and Recreation	3
	Electives	<u>19</u>

Approval of physical education adviser required.

30

HEALTH SCIENCE (HLSC)

HLSC 110 WELLNESS FOR LIVING 3

Survey course covering current health issues; emphasizes the promotion of personal well-being

HLSC 208 DRUGS AND SOCIETY 3

Study of the use and abuse of all classes of drugs, including alcohol and tobacco. Emphasis will be placed on the physiological, sociological, and psychological factors which may lead to drug experimentation and heavy drug use. Prerequisite: BIOL 201, 202 or permission of the instructor.

HLSC 217 FIRST AID 2

Preparation for earning Standard American Red Cross and Cardiopulmonary Resuscitation certificates; prepares the student to deal effectively with minor emergencies, sudden illness, and traumatic injuries. Lecture and laboratory.

HLSC 238 HEALTH BEHAVIOR CHANGE 2

Study of behavioral change in health practices; includes use of group processes and basic behavioral science concepts, relating them to learning and motivation in the health field.

HLSC 266 SAFETY EDUCATION 2

Study of safety at work, home, and school with emphasis on personal and community responsibility. Offered odd years only.

HLSC 110 or permission of instructor is a prerequisite to all upper division health science courses.

HLSC 308 COMMUNITY HEALTH EDUCATION 3

Study of the historical development of community health, including the role of different health agencies in the community. Emphasizes the prevention of disease and health promotion through organized community effort. Offered odd years only.

HLSC 328 BASIC THERAPY 2

Study of simple, nondrug therapeutic health practices; includes legal implications. Offered even years only.

HEALTH, PHYSICAL EDUCATION AND RECREATION

- HLSC 331 CONSUMER HEALTH** 3
Study of advertising techniques and claims concerning a variety of health care products. Analysis will also be made of quackery, various health care services, and the role of the FDA, FTC, and other governmental agencies in protecting the consumer. Offered odd years only.
- HLSC 350 INTERNSHIP PLACEMENT ORIENTATION** 0
An internship placement orientation seminar intended to make students aware of agency possibilities, application and evaluation procedures, contracts and the internship learning process. Required of all juniors.
- HLSC 353 PRINCIPLES OF HEALTH** 3
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** 3
Study of methods of determining health needs, organizing community service skills, planning techniques, and program evaluation. Laboratory required. Prerequisite: HLSC 353.
- HLSC 384 SCHOOL HEALTH PROGRAMS** 3
Analysis of the philosophical, organizational, and legal aspects of school health programs. Offered even years only.
- HLSC 395 METHODS OF SCHOOL HEALTH INSTRUCTION** 3
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.
- HLSC 427 FITNESS EVALUATION TECHNIQUES** 3
The primary focus is to develop and enhance the knowledge and practical skills in health and fitness evaluation. Specific emphasis will be directed toward evaluation techniques of exercise, physiology, nutrition, weight control, exercise programming, health appraisal and fitness, lecture and laboratory. Preparation for meeting ACSM Health/Fitness Instructor Certification. Prerequisites: BIOL 201, 202, PETH 426 or permission of instructor. Offered even years only.
- HLSC 472 STRESS MANAGEMENT** 3
Designed to guide the student in planning practical strategies for personal stress management. A holistic approach emphasizing physical, mental, emotional, and spiritual aspects of a positive Christian lifestyle. The works of Hans Selye and other theoreticians of modern stress management are considered. Students will develop skills in time management, and techniques of meditation and relaxation and exercise. Also considered is the market for stress management education in Employee Assistance Programs. Prerequisites: PSYC 130 or SOCI 204.
- HLSC 475 PROGRAMS IN HEALTH PROMOTION** 3
Study of the methods of program production in health. Supervised experience in the implementation of health education programs within churches, industries, schools, or hospitals of the community. Laboratory required. Prerequisite: HLSC 372.
- HLSC 481 INTERNSHIP IN HEALTH SCIENCE** 3 or 12
Supervised field experience in an approved health care agency. Practical experience and application of responsibilities and competencies necessary for practicing health education. Prerequisites: HLSC 475, HLSC 217 or current certification in First Aid and CPR, HLSC 427.
- HLSC 491 SEMINAR** 1
Presentation and discussion of current topics in health science. Prerequisite: Senior standing in Health Science or permission of the instructor.
- HLSC 494 COOPERATIVE EDUCATION** 0-4
Individual contract arrangement involving students, faculty and cooperating businesses, schools or agencies to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department; CDEV 210 or permission of Cooperative Education Director.

PHYSICAL ACTIVITY COURSES (PEAC)

PEAC 101-197 PHYSICAL EDUCATION ACTIVITY COURSES

1

Motor skills are physiological development; adaptive programs as needed.

- | | |
|-----------------------------------|-----------------------------------|
| *PEAC 101 Canoeing I | *PEAC 144 Golf I |
| *PEAC 102 Canoeing II | *PEAC 145 Golf II |
| PEAC 103 Springboard Diving I | PEAC 146 Tennis I |
| PEAC 104 Springboard Diving II | PEAC 147 Tennis II |
| *PEAC 105 Kayaking and Rafting I | PEAC 148 Tennis III |
| PEAC 106 Lifesaving | PEAC 149 Handball I |
| PEAC 107 Lifeguard Training | PEAC 150 Handball II |
| *PEAC 108 Sailing I | PEAC 151 Racquetball I |
| *PEAC 109 Sailing II | PEAC 152 Racquetball II |
| *PEAC 110 Scuba I | *PEAC 153 Western Horsemanship I |
| *PEAC 111 Scuba II | *PEAC 154 Western Horsemanship II |
| PEAC 112 Introductory Swimming | *PEAC 157 Backpacking |
| PEAC 113 Beginning Swimming | *PEAC 159 Cycling |
| PEAC 114 Intermediate Swimming | *PEAC 160 Cycle Touring |
| PEAC 115 Competitive Swim & Cond. | *PEAC 161 Orienteering |
| PEAC 116 Synchronized Swimming I | *PEAC 162 Mountaineering |
| PEAC 117 Synchronized Swimming II | *PEAC 163 Rock Climbing |
| *PEAC 118 Water Skiing | †PEAC 164 Downhill Skiing I |
| PEAC 121 Adaptive | †PEAC 165 Downhill Skiing II |
| PEAC 122 Body Mechanics | †PEAC 166 Cross-Country Skiing I |
| PEAC 123 Cond. Weight Training | †PEAC 167 Cross-Country Skiing II |
| PEAC 124 Gymnastics I | PEAC 170 Baseball |
| PEAC 125 Gymnastics II | PEAC 171 Basketball |
| PEAC 126 Modern Gymnastics | PEAC 172 Field Hockey |
| PEAC 127 Tumbling | PEAC 173 Flagball |
| PEAC 128 Jogging | PEAC 174 Soccer |
| PEAC 129 Weight Control | PEAC 175 Softball |
| PEAC 131 Movement Skill | PEAC 176 Track and Field |
| PEAC 132 Developmental Movement | PEAC 177 Volleyball I |
| PEAC 133 Aerobic Rhythm | PEAC 178 Volleyball II |
| PEAC 134 Rhythms | PEAC 179 Team Handball |
| PEAC 135 Singing Games | PEAC 180 Water Polo |
| †PEAC 136 Ice Skating I | PEAC 181 Fencing I |
| †PEAC 137 Ice Skating II | PEAC 182 Fencing II |
| *PEAC 139 Roller Skating I | PEAC 187 Self-Defense |
| *PEAC 140 Roller Skating II | †PEAC 190 Independent Activity |
| PEAC 141 Archery | PEAC 195 Gymnastics Team |
| PEAC 142 Badminton I | PEAC 197 Modern Gymnastics Team |
| PEAC 143 Badminton II | |

PROFESSIONAL ACTIVITIES (Individual)

- | | |
|--------------------------------|----------------------------------|
| PEAC 223 Pro Act Conditioning | PEAC 242 Pro Act Badminton I |
| PEAC 224 Pro Act Gymnastics I | *PEAC 244 Pro Act Golf |
| PEAC 225 Pro Act Gymnastics II | PEAC 246 Pro Act Tennis |
| PEAC 241 Pro Act Archery | PEAC 276 Pro Act Track and Field |

PROFESSIONAL ACTIVITIES (Team)

- | | |
|-------------------------------|-----------------------------|
| PEAC 270 Pro Act Baseball | PEAC 274 Pro Act Soccer |
| PEAC 271 Pro Act Basketball | PEAC 275 Pro Act Softball |
| PEAC 272 Pro Act Field Hockey | PEAC 277 Pro Act Volleyball |
| PEAC 273 Pro Act Flagball | |

*Special fee required. See Financial Information

†Graded S or NC.

HEALTH, PHYSICAL EDUCATION AND RECREATION

PHYSICAL EDUCATION THEORY (PETH)

PETH 205 WATER SAFETY INSTRUCTOR'S COURSE

2

Preparation for meeting the requirements of the National Red Cross Certificate to teach swimming and supervise swimming areas. Prerequisite: Lifesaving.

PETH 214 INTRODUCTION TO PHYSICAL EDUCATION

2

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

2

Methods of prevention, evaluation, recognition, and immediate care and rehabilitation of injuries. Lecture and laboratory.

PETH 261, 262, 263 OFFICIATING OF SPORTS ACTIVITIES

2, 2, 2

Introduction to officiating in a variety of activities covered in the service areas; students are required to act as officials in the intramural activities sponsored by the department. Lecture and laboratory.

PETH 268 SKI INSTRUCTOR'S COURSE

2

Introduction for the advanced skiing student to the methods and skills of skiing instruction; students are required to assist in ski classes. Lecture and laboratory.

PETH 278 PROGRAMMING INTRAMURAL AND RECREATIONAL ACTIVITIES

2

Study of the mechanics of programming the intramural and recreational activities in the school and community.

PETH 323 MEASUREMENTS AND EVALUATION

3

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

3

Study of common abnormalities found in students which may be corrected or helped by proper exercise; considers extent and limitations of the teacher's responsibility in this phase of education. Lecture and laboratory.

PETH 325 KINESIOLOGY

3

Study of joint and muscular mechanism action of muscles involved in fundamental movements; effect of gravity and other forces on motion. Lecture and laboratory. Prerequisites: BIOL 201, 202; PETH 323.

PETH 363, 364, 365 COACHING OF TEAM ACTIVITIES

3, 3, 3

Study of 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

3

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. Offered even years only.

PETH 425 MOTOR LEARNING

3

Analysis of selected variables which influence the learning of motor skills. Lecture and laboratory. Prerequisite: PETH 323.

PETH 426 PHYSIOLOGY OF EXERCISE

4

Study of the physiological basis for motor fitness, factors limiting human performance in athletic competition, pertinent research from the sports medicine literature, and laboratory techniques used in analysis of motor fitness. Lecture and laboratory. Prerequisites: BIOL 201, 202; PETH 323 or permission of instructor.

HEALTH, PHYSICAL EDUCATION AND RECREATION

PETH 427 FITNESS EVALUATION TECHNIQUES 3

The primary focus is to develop and enhance the knowledge and practical skills in health and fitness evaluation. Specific emphasis will be directed toward evaluation techniques of exercise, physiology, nutrition, weight control, exercise programming, health appraisal and fitness, lecture and laboratory. Preparation for meeting ACSM Health/Fitness Instructor Certification. Prerequisites: BIOL 201, 202, PETH 426 or permission of instructor. Offered even years only.

PETH 473 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL 3 or 4

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

1-3; 6

Additional research or study carried out under the direction of an assigned faculty member.

PETH 484 ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION, AND RECREATION 3

Study of the techniques of scheduling, organizing, and planning suitable activities; includes purchasing of supplies and equipment, planning and use of facilities, and comparative cost and budgeting for 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

12

Supervised field experience in an approved fitness agency. Practical experience and application of responsibilities necessary for practicing fitness management. Prerequisite: Senior standing or departmental approval.

PETH 493 HISTORY AND PHILOSOPHY OF PHYSICAL EDUCATION 3

Study of Physical Education and Recreation from earliest times to the present. Emphasis on the social and religious conditions which determine the character of physical education in a given society. Offered odd years only.

PETH 494 COOPERATIVE EDUCATION

0-4

Individual contract arrangement involving students, faculty, and cooperating businesses, schools or agencies to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department; CDEV 210 or permission of Cooperative Education Director.

PETH 496 SEMINAR

1

Study of the modern trends in physical and recreational education; group discussion and presentation of current material in the field. Prerequisite: senior standing.



History and Political Science

HISTORY AND POLITICAL SCIENCE

R. Blaich, Chair; T. Aamodt, 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:

HIST 120, 121, 122	History of Western Civilization	12
HIST 221, 222	History of the United States	8
HIST 396	Introduction to Historical Research	1
HIST 397	Historiography	2
HIST 496, 497	Seminar	3
	Electives (20 must be upper division)	<u>28</u>
		54

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:

HIST 120, 121, 122	History of Western Civilization	8-12
HIST 221, 222	History of the United States	8
	Electives (4 must be upper division)	<u>8-12</u>

Approval of history adviser required.

28

MINOR IN POLITICAL SCIENCE

A student minoring in political science must complete 28 quarter hours:

Electives (4 must be upper division)	28
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Approval of political science adviser required.

GENERAL

HIST 120, 121, 122 HISTORY OF WESTERN CIVILIZATION

4, 4, 4

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.

HISTORY AND POLITICAL SCIENCE

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, (Satisfies 8 hour general studies history requirement and 4 hours of general studies humanities requirement.) Students not taking Western Thought II must take a humanities course in philosophy or fine arts.

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 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. Offered odd years only.

HIST 394 DIRECTED READING 1-3
Independent reading for students who wish to continue broadening their knowledge of history by extensive reading; admission by department approval. Prerequisite: Eight hours of general studies history.

HIST 395 METHODS OF TEACHING SOCIAL STUDIES 3
Methods and techniques of teaching social studies on the secondary school level; requires observation, demonstration and class presentation. Will not apply on a major or minor in history or political science.

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 0-4
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 Cooperative Education Director.

HIST 496, 497 SEMINAR 0, 3
Preparation of the senior thesis. Open only to senior history majors. Prerequisite: HIST 396.

GEOG 258 WORLD GEOGRAPHY 4
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.

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 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 even years only.

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. Same as RELH 456.

HISTORY AND POLITICAL SCIENCE

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. Offered even years only.

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 developments. Prerequisite: HIST 121. Offered odd years only.

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 even years only.

HIST 467 THE MODERN TRANSITION, 1815-1919 4

Study of Europe against the backdrop of nineteenth century industrialization. Prerequisites: HIST 121, 122. Offered even years only.

HIST 468 CONTEMPORARY EUROPE, 1918 TO THE PRESENT 4

Study of Europe from division to proposed unity. Prerequisites: HIST 122. Offered even years only.

AMERICAN HISTORY (HIST)

HIST 225 HISTORY OF CANADA 4

Survey of Canadian development from the beginnings of the French regime to the present. Will not be offered 89-90.

HIST 284, 285 HISTORY OF LATIN AMERICA 4, 4

Survey of the colonial period, followed by a more detailed study of the development of the individual Latin American nations and their world relationship. Will not be offered 89-90.

HIST 424 THE AMERICAN FRONTIER 4

Study of the exploration, settlement, and development of the American west; considers economic, social, cultural, and political factors. Offered even years only.

HIST 443 COLONIAL AND REVOLUTIONARY AMERICA 4

Study of the American colonies in their religious, social, and political contexts; examines the transition from colonial status to independence. Prerequisite: HIST 221. Offered odd years only.

HIST 445 THE CIVIL WAR AND THE RISE OF INDUSTRIAL AMERICA, 1850-1900 4

Study of the sectional crisis and the 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. Offered even years only.

HIST 448 TWENTIETH CENTURY AMERICA 4

Study of maturing America from 1900 to the present; emphasizes the problems of prosperity and 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 4

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 odd years only.

POLITICAL SCIENCE (PLSC)**PLSC 224 AMERICAN GOVERNMENT 4**

Study of the principles, organization, and development of American national, state, and local government.

PLSC 324 COMPARATIVE GOVERNMENT 4

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 communist, fascist, Catholic, socialist, and democratic political theories. Offered even years only.

PLSC 426 AMERICAN POLITICAL THOUGHT 4

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 even years only.

PLSC 427 AMERICAN DIPLOMATIC HISTORY 4

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 odd years only.

PLSC 434 INTERNATIONAL RELATIONS 4

Analysis of the nature of international society and of the motivating and conditioning factors which explain interaction among states and other international entities. Offered odd years only.

PLSC 451 RESEARCH METHODS 4

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 4

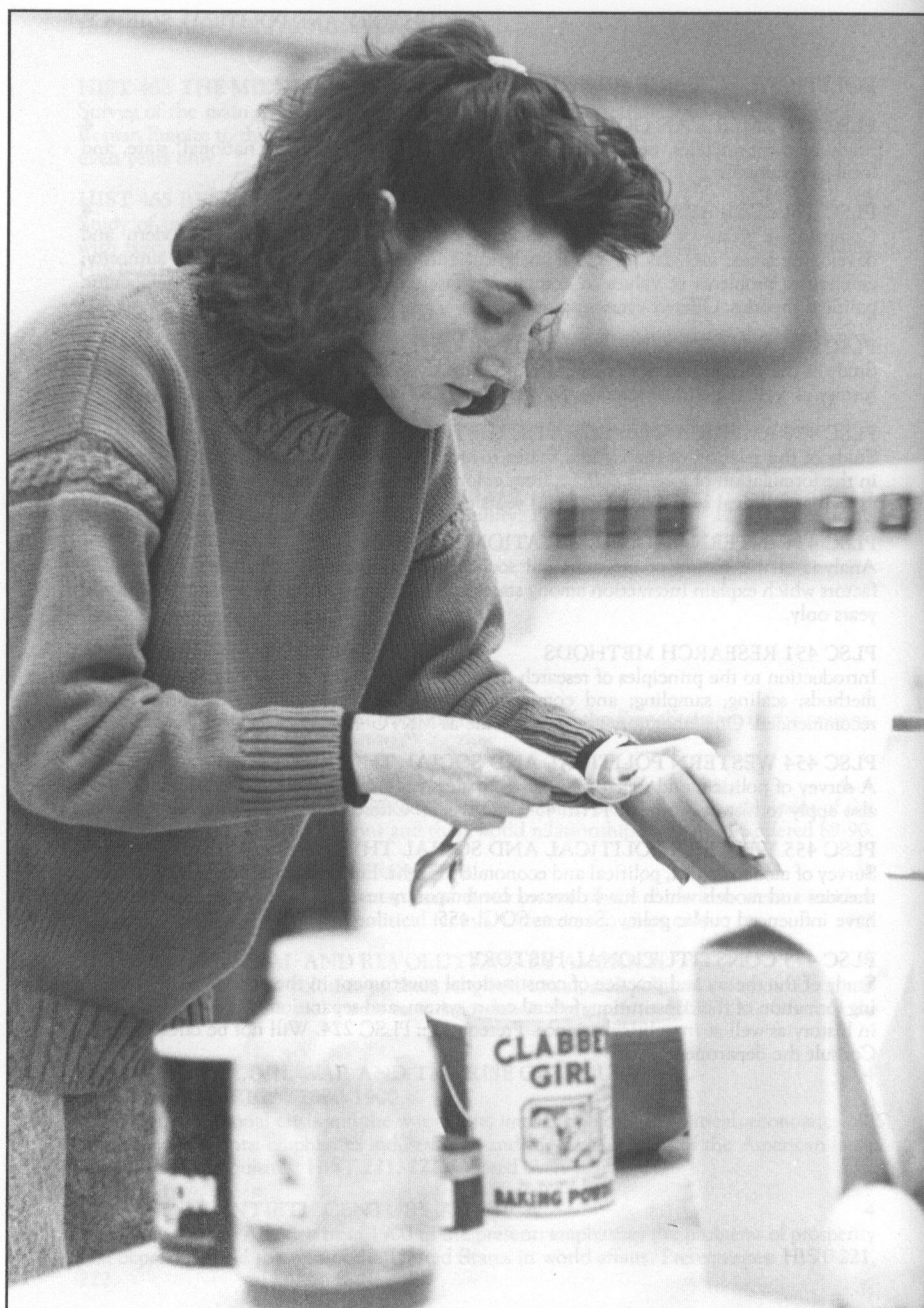
A survey of political and social thought from classical Greece to the Enlightenment. May also apply to history. Same as PHIL 454; SOCI 454. Offered even years only.

PLSC 455 WESTERN POLITICAL AND SOCIAL THEORY 4

Survey of modern social, political and economic thought. Emphasizes 19th and 20th century theories and models which have directed contemporary research in the social sciences and have influenced public policy. Same as SOCI 455.

PLSC 475 CONSTITUTIONAL HISTORY 4

Study of the theory and practice of constitutional government in the United States including formation of the constitution, federal court system, and separation of powers. May apply in history as well as in political science. Prerequisite: PLSC 224. Will not be offered 89-90. Consult the department chair.



Home Economics

HOME ECONOMICS

M. Olmsted, Chair; C. Bazy, H. Thorp.

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 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 and the family and the needs of both.

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 degree, with a major in 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 52 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

HOME ECONOMICS

Major Requirements:

CFSC 282	Child Development	3
FDNT 101, 102	Principles of Food Science	6
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)	9

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. 52

Cognates:

CHEM 101, 102	Introductory Chemistry	8
SOCI 325	The Social Psychology of Family Life	3

Students desiring teaching certification in home economics must take HMEC 395, Methods of Teaching Home Economics, and meet the certification requirements as listed by the Education and Psychology Department.

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 275	Fashion Merchandising	3
HMEC 301	Consumer Education	4
HMEC 325	Pattern Alteration and Fitting	3
HMEC 350	Orientation to Field Study	1
HMEC 369	Textiles	4
HMEC 415	Business Practices for Interior Designers	3
HMEC 424	History of Furniture	3
HMEC 425	Problems in Residential Interiors	3
HMEC 426	Problems in Commercial Interiors	3
HMEC 455	Visual Merchandising	3
HMEC 494	Cooperative Education/Field Experience	8

HOME ECONOMICS

HMEC 495	Colloquium	0
HMEC 496	Seminar	1
	Electives	11
	(7 must be chosen in consultation with and approved by the department chair.)	
		<hr/> 65

Maximum of 7 credits may be approved from:

Electives:

GBUS 361	Business Law	4
HMEC 302	Weaving	3
HMEC 451	Clothing Design	3
HMEC 461	Tailoring	3
INDS 221	Wood Products and Processes	2
MGMT 275	Management of Small Business	3
MGMT 372	Human Resources Management	4
MGMT 476	Motivation and Leadership	4
MKTG 383	Advertising and Sales Promotion	4
MKTG 384	Consumer Behavior	3

Cognates:

ACCT 201, 202, 203	Principles of Accounting	10
ART 161, 162	Design	6
ART 184, 185	Introduction to Drawing	4
ART 324, 325	History of Art	6
CPTR 105	Personal Computing	3
DRFT 226	Architectural Drawing	3
ECON 211	Principles of Macroeconomics	4
INDS 254	House Planning	3
MGMT 371	Management and Organizational Behavior	4
MKTG 381	Principles of Marketing	4
MKTG 385	Selling and Sales Management	4

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.

HOME ECONOMICS

MINOR IN HOME ECONOMICS

A student minoring in home economics must complete 31 quarter hours:

CFSC 282	Child Development	3
FDNT 101, 102	Principles of Food Science	6
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 301	Consumer Education	4
	Electives	5
		<hr/> 31

Approval of home economics adviser required.

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	History of Furniture	3
HMEC 425	Problems in Residential Interiors	3
	Electives	3
		<hr/> 30

Approval of interior design adviser required.

FOODS AND NUTRITION (FDNT)

FDNT 101, 102 PRINCIPLES OF FOOD SCIENCE 3, 3

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. Offered odd years only.

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. Offered odd years only.

FDNT 220 HUMAN NUTRITION 4

Study of fundamental principles and basic vocabulary of nutritional science; interpretation and application of those principles through practical experiences. Covers the many factors associated with food and the digestion of food and to evaluation of 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. Will not be offered 89-90.

FDNT 422 EXPERIMENTAL COOKERY 3

Development of experimental methods, their application, 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. Laboratory required. Will not be offered 89-90.

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 even years only.

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. Not offered 89-90.

FDNT 443 DIET IN DISEASE

4

Study of recent developments 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. Not offered 89-90.



HOME ECONOMICS

HOME ECONOMICS (HMEC)

- HMEC 101 INTRODUCTION TO HOME ECONOMICS** 2
Study of attitudes, interests, and goals relating to careers in home economics; Includes basic information for making wise professional choices; meaning and scope of home economics.
- HMEC 201 HOUSEHOLD EQUIPMENT** 3
Introduction to the selection, operation, and care of household appliances; includes study of electricity in the home and kitchen planning. Will not be offered 89-90.
- HMEC 215 FABRIC CONSTRUCTIONS FOR INTERIORS** 3
Construction techniques, including handstitching, seam finishes and special fabrics used for such items as slipcovers, curtains, draperies, throw pillows, applique, and quilts. Basic weaves and common variations; comparison of weaves to knitted structure. Laboratory required.
- HMEC 216 CLOTHING SELECTION AND CONSTRUCTION** 4
Garment construction techniques; fit and style; behavioral aspects of clothing; forecasting; fashion cycle. Evaluation of construction quality. Laboratory required. Prerequisite: HMEC 215.
- HMEC 222 ART IN EVERYDAY LIVING** 3
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** 3
Application of design principles in the study of background treatments. Principles of space utilization in residential interiors; anthropometrics and ergonomics. Unifying interiors through accessories and designing with a budget. Prerequisite: HMEC 222.
- HMEC 275 FASHION MERCHANDISING** 3
Study of the various businesses involved in fashion design, production, and distribution; planning, selection, buying, promotion and selling of textiles and clothing, control procedures; and management and personnel responsibilities of buyers.
- HMEC 301 CONSUMER EDUCATION** 4
Study of the 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. Offered even years only.
- HMEC 302 WEAVING** 3
Study of the principles, techniques, and development of weaving, both handwoven and commercial, spinning processes; types of looms. Calculation of needed yarns; construction of handwoven articles. Laboratory required. Offered odd years only.
- HMEC 325 PATTERN ALTERATION AND FITTING** 3
Comparative analysis of pattern techniques, drafting procedures for pattern changes, garment fitting procedures, evaluation of apparel quality. Lab required. Prerequisites: HMEC 216. Offered even years only.
- HMEC 346 HOME MANAGEMENT AND FAMILY DECISION-MAKING** 3
Study of the 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. Offered odd years only.
- HMEC 350 ORIENTATION TO FIELD STUDY** 1
Preparation for responsible participation in a field setting; covers the complex of enterprises involved in fashion design, production, and distribution.
- HMEC 369 TEXTILES** 4
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 odd years only.

HMEC 395 METHODS OF TEACHING HOME ECONOMICS 3
Study of objectives, methods, materials, student demonstrations, observations, lesson plans, and problems involved in teaching home economics. Prerequisites: EDUC 390; EDUC 392. Offered even years only.

HMEC 415 BUSINESS PRACTICES FOR INTERIOR DESIGNERS 3
Techniques for making professional presentations. Estimating budgets, bids, contracts, and design fees. Project management and current professional issues in interior design. Prerequisite: HMEC 223.

HMEC 424 HISTORY OF FURNITURE 3
A survey of historical furniture from ancient times through the present. Prerequisite: HMEC 223.

HMEC 425 PROBLEMS IN RESIDENTIAL INTERIORS 3
A lecture/studio class designed for application of space planning principles for residential interiors. Students work with clients making recommendations for solving design problems using professional presentation techniques. One lecture, two labs. Prerequisites: DRFT 226; HMEC 415.

HMEC 426 PROBLEMS IN COMMERCIAL INTERIORS 3
A lecture/studio class. Application of design principles specifically related to the design and specification of commercial spaces. Projects will include working with clients to evaluate and organize spaces used for different commercial purposes. One lecture, two labs. Prerequisites: DRFT 226; HMEC 415.

HMEC 451 CLOTHING DESIGN 3
Study of the history and theory of clothing design; development of original clothing designs by flat pattern techniques. Prerequisite: HMEC 216. Laboratory required. Offered even years only.

HMEC 455 VISUAL MERCHANDISING 3
Basic principles and techniques of merchandising display; experience through cooperation with retail stores. Prerequisite: HMEC 275. Offered odd years only.

HMEC 461 TAILORING 3
Custom and unstructured tailoring techniques applied to the construction of suits and coats. Twentieth century fashion history. Laboratory required. Prerequisite: HMEC 216 or permission of instructor. Offered odd years only.

HMEC 494 COOPERATIVE EDUCATION/FIELD EXPERIENCE 8
Individual contract arrangement involving student, faculty and cooperating businesses to gain practical experience in a cooperating retail firm, design studio, museum, manufacturing plant, or cooperative extension. Allows the student to apply advanced classroom learning. Evaluated on the S or NC basis. Prerequisite: HMEC 350.

HMEC 495 COLLOQUIUM 0
A lecture series designed to expose students to contemporary interior design and/or fashion merchandise practitioners. Required of all IAMM majors.

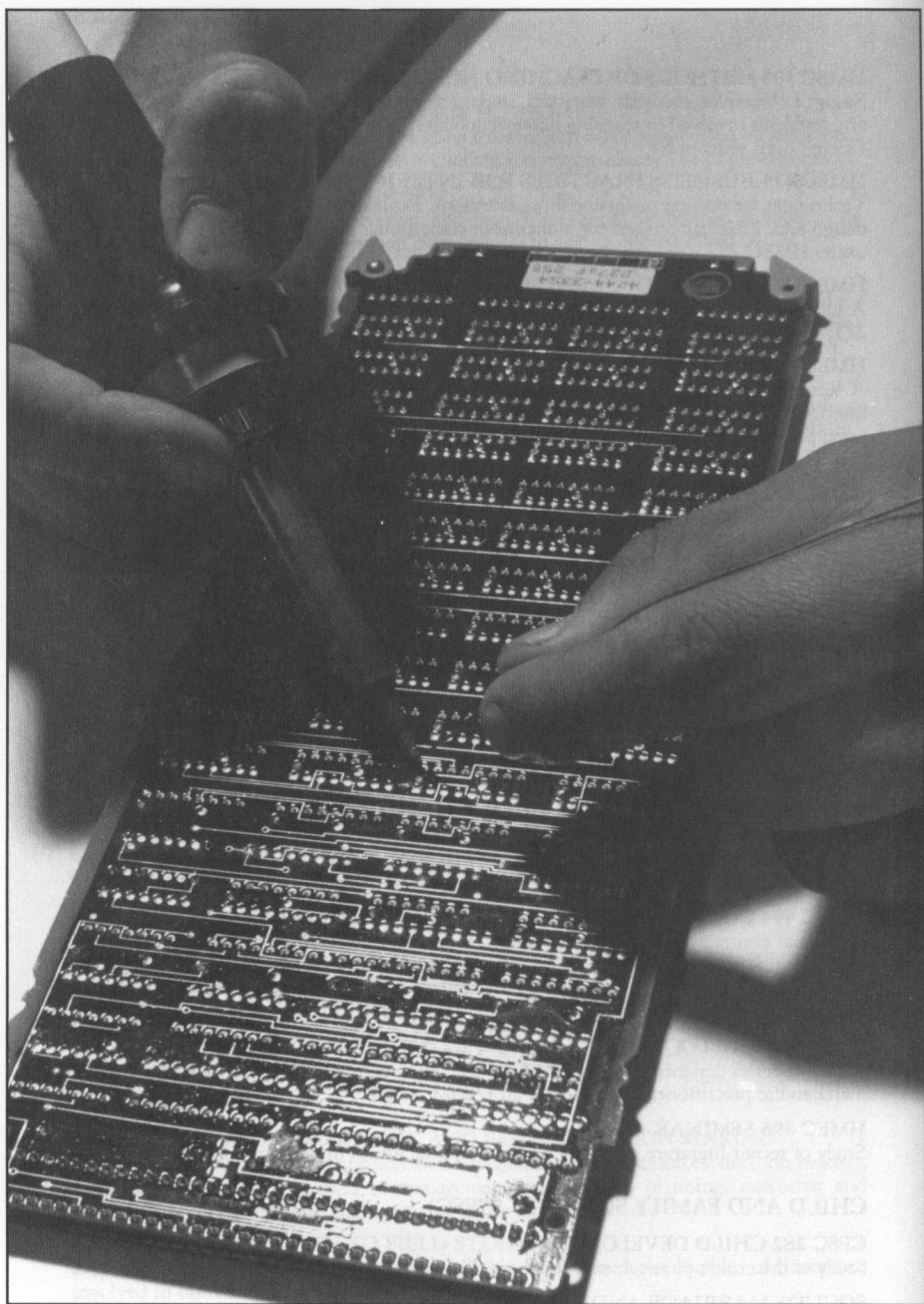
HMEC 496 SEMINAR 1
Study of recent literature, research, and professional ethics in areas of home economics.

CHILD AND FAMILY SCIENCES (CFSC)

CFSC 282 CHILD DEVELOPMENT 3
Study of the child's physical, emotional, intellectual, and social growth in a family context.

SOCI 225 MARRIAGE AND FAMILY LIFE 2
See the Social Work and Sociology section of this bulletin.

SOCI 325 SOCIAL PSYCHOLOGY OF FAMILY LIFE 3
See the Social Work and Sociology section of this bulletin.



Industrial Technology

INDUSTRIAL TECHNOLOGY

D. Visger, Chair; C. Blake, K. Boyson, D. Dawes, G. Fisher, K. Gruesbeck, L. Laabs, A. Payne, W. Rouse.

The industrial technology department provides quality technological instruction in a Christian environment, preparing students to teach technology education or to work 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 concentrations leading to the Associate of Science degree and a number of certificate programs.

Associate of Science degrees are offered with concentrations 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 so 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 so 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.

INDUSTRIAL TECHNOLOGY

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 Technology (in automotive)	3
INDS 499	Senior Problem Electives	1
		<u>7</u>

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

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Cognates:

ACCT 201, 202, 203	Principles of Accounting	10
CPTR 105	Personal Computing	3
MGMT 275	Management of Small Business	} 3-4
or		
MGMT 371	Management and Organizational Behavior	
	Business Electives	8

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 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 baccalaureate degree requirements as outlined in this bulletin.

Major Requirements:

DRFT 236	Electrical and Electronic Drawing	3
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INDUSTRIAL TECHNOLOGY

ELCT	241	Fundamentals of Electronics	5
ELCT	242	Electronic Circuit Analysis	5
ELCT	252, 253	Solid State Devices and Circuits	8
ELCT	263	Electronic Circuits	4
ELCT	297, 298	Electronics Fabrication	2
ELCT	326	Hospital Safety	2
ELCT	331, 332	Medical Electronics	10
ELCT	361	Linear Integrated Circuits	5
ELCT	362	Digital Integrated Circuits	5
ELCT	372	Computer Circuits and Systems	4
ELCT	381, 382	TV Systems and Circuits	8
ELCT	490	Directed Hospital Experience	12-16
INDS	124	Introduction to Technology	3
INDS	280	Practicum in Industrial Technology (in medical electronics)	3
INDS	480	Advanced Practicum in Industrial Technology (in medical electronics)	0-2
INDS	494	Cooperative Education	0-2
INDS	499	Senior Problem	1
			84

Cognates:

BIOL	201, 202	Anatomy and Physiology	8
CHEM	101, 102	Introductory Chemistry	8
CPTR	105	Personal Computing	3
MATH	117	Precalculus	5-8
or			
MATH	121, 122	Fundamentals of Mathematics I, II	9
PHYS	211, 212, 213	General Physics	
PHYS	214, 215, 216	General Physics Laboratory	3

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:

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	Electronic Circuits	4
ELCT	297, 298	Electronics Fabrication	2
ELCT	361	Linear Integrated Circuits	5
ELCT	362	Digital Integrated Circuits	5
ELCT	372	Computer Circuits and Systems	4
ELCT	381, 382	TV Systems and Circuits	8
ELCT	393	Computer Troubleshooting	4
ELCT	421	Microprocessor Interfacing	4
ELCT	472	Application of Robotics	3

INDUSTRIAL TECHNOLOGY

INDS	124	Introduction to Technology	3
INDS	280	Practicum in Industrial Technology (in electronics)	3
INDS	499	Senior Problem	1

Electives must be chosen in consultation with and approved by the academic ad-

Cognates:			
CPTR	124	Introduction to BASIC	} 2-4
or			
CPTR	134	Introduction to Computing (FORTRAN)	
or			
CPTR	141	Introduction to Programming (Pascal)	} 3
CPTR	215	Assembly Language Programming I	
CPTR	331	Computers in the Laboratory	
MATH	117	Precalculus	
or			} 5-8
MATH	121, 122	Fundamentals of Mathematics I, II	

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	Electronic 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	141	Introduction to Programming (Pascal)	} 3-5
or		(Prerequisite to 215)	
CPTR	215	Assembly Language Programming I	

INDUSTRIAL TECHNOLOGY

MATH 117	Precalculus	}	5-8
or			
MATH 121, 122	Fundamentals of Mathematics I, II		
MATH 123	Survey of Calculus	}	4
or			
MATH 181	Analytic Geometry and Calculus I		
PHYS 211, 212, 213	General Physics		9
PHYS 214, 215, 216	General Physics Laboratory		3

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:

GRPH 121	Introduction to Graphic Arts	4
GRPH 221, 222, 223	Offset Lithography	9
GRPH 271	Computer Assisted Publishing	2
GRPH 272, 273	Computer Composition	4
GRPH 295	Printing Layout and Design	3
GRPH 326	Printing Estimating	3
GRPH 331	Advanced Halftone Photography	2
GRPH 421, 422	Color Separations	6
INDS 124	Introduction to Technology	3
INDS 364	Industrial Safety	2
INDS 376	Technical Facility Planning	3
INDS 480	Advanced Practicum in Industrial Technology (in graphics)	4
INDS 494	Cooperative Education	12
INDS 499	Senior Problem	1
PHTO 154	Principles of Photography	2
PHTO 155	Principles of Photography Laboratory	1
	Electives	<u>2</u>

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

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Cognates: (Choose business or commercial art emphasis)

Business Emphasis:

ACCT 201, 202, 203	Principles of Accounting	10
CPTR 105	Personal Computing	3
MGMT 275	Management of Small Business	} 3-4
or		
MGMT 371	Management and Organizational Behavior	
	Business Electives	8

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:

ART 161, 162, 163	Design	9
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INDUSTRIAL TECHNOLOGY

ART	184, 185, 186	Introduction to Drawing	6
ART	244, 245, 246	Introduction to Commercial Art	6
ART	314, 315, 316	Advertising Design	9

MAJOR IN INDUSTRIAL TECHNOLOGY (Bachelor of Science)

A student majoring in industrial technology must complete 64 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:

DRFT	121, 122	Technical Drawing	6
INDS	124	Introduction to Technology	3
INDS	221, 222, 223	Wood Products and Processes	6
or			
INDS	241, 242, 243	Fabrication and Machining of Metals	2
INDS	364	Industrial Safety	
INDS	436	Production Processes	3
INDS	499	Senior Problem	1
		Industrial Technology Electives (15 must be upper division)	43
		or	
		Choose one of the following concentrations:	
			64

CONCENTRATION: Aviation

AVIA	124	Introduction to Aviation	2
AVIA	234	Meteorology and Commercial Pilot Lectures	5
AVIA	256	Principles of Aircraft Maintenance	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
AVIA	357	Flight Instructor—Airplane Lectures	3
AVIA	358	Flight Instructor—Airplane Flight Training	3
		Electives	3
			43

CONCENTRATION: Construction

DRFT	226	Architectural Drawing	3
INDS	151	Foundations and Framing	6
INDS	152	Building Materials and Mechanical Systems	6
INDS	153	Finish Carpentry	6

INDUSTRIAL TECHNOLOGY

INDS 254	House Planning	3
INDS 264	Construction Codes and Specifications	2
INDS 345	Finishing Materials and Methods	3
INDS 351	Advanced Wood Processes	3
INDS 355	Energy Efficient Construction	3
INDS 356	Construction Management	3
	Electives (must be upper division)	5

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

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Cognates:

ACCT 201, 202, 203	Principles of Accounting	10
CPTR 105	Personal Computing	3
MGMT 275	Management of Small Business	3-4
or		
MGMT 371	Management and Organizational Behavior	
	Business Electives	8

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 PLANT MAINTENANCE TECHNOLOGY (Bachelor of Science)

A student majoring in plant maintenance technology must complete 65 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, 122	Technical Drawing	6
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 328	Applied Maintenance	6
and/or		
INDS 494	Cooperative Education	
INDS 376	Technical Facility Planning	3
INDS 386	Oil Hydraulics	3
INDS 398	Machine and Tool Maintenance	2
INDS 436	Production Processes	3

INDUSTRIAL TECHNOLOGY

INDS 499	Senior Problem	1
	Electives (must be upper division)	3

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

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Cognates:

ACCT 201, 202, 203	Principles of Accounting	10
CPTR 105	Personal Computing	3
MGMT 275	Management of Small Business	3-4
or		
MGMT 371	Management and Organizational Behavior	8
	Business Electives	8

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. Students planning on teaching in the state of Oregon, should check with the certification officer in the Education and Psychology Department for specific certification requirements. A minor should be chosen from instructional areas taught on the secondary level.

Major Requirements:

DRFT 121, 122	Technical Drawing	6
DRFT 226	Architectural Drawing	3
or		
DRFT 236	Electrical and Electronic Drawing	5
ELCT 241	Fundamentals of Electronics	
ELCT 252	Solid State Devices and Circuits	4
INDS 124	Introduction to Technology	3
INDS 221, 222, 223	Wood Products and Processes	6
	Technical choice	8

Minimum of eight quarter hours in one of the following technical areas: Automotive, Construction, Graphic Arts, Industrial Crafts, and Metals (Machining and/or Welding)

INDS 364	Industrial Safety	2
INDS 374	Foundations of Technology Education	2
INDS 376	Technical Facility Planning	3
INDS 395	Methods of Teaching Technology	4
INDS 398	Machine and Tool Maintenance	1
INDS 436	Production Processes	3
INDS 480	Advanced Practicum in Industrial Technology (in supervision)	1
INDS 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.

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INDUSTRIAL TECHNOLOGY

Cognates:

CPTR 105	Personal Computing	3
HLSC 217	First Aid (must also gain and maintain current certification in cardiopulmonary resuscitation)	2

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 (in automotive)	2
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.

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Cognates:

ACCT 115, 116 or ACCT 201, 202 MGMT 275	Clerical Accounting Principles of Accounting Management of Small Business	6-7 3
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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.

INDUSTRIAL TECHNOLOGY

Area Requirements:

AVIA 124	Introduction to Aviation	2
AVIA 141	Private Pilot Lectures	5
AVIA 142	Private Pilot Flight Training	3
AVIA 143	Advanced Private Pilot Flight Training	3
AVIA 234	Meteorology and Commercial Pilot Lectures	5
AVIA 256	Principles of Aircraft Maintenance	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
AVIA 357	Flight Instructor—Airplane Lectures	3
AVIA 358	Flight Instructor—Airplane Flight Training	3
INDS 124	Introduction to Technology	3
INDS 280	Practicum in Industrial Technology (in aviation)	1

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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:

DRFT 121, 122	Technical Drawing	6
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, 222	Wood Products and Processes	4
INDS 254	House Planning	3
INDS 264	Construction Codes and Specifications	2
INDS 345	Finishing Materials and Methods	3
INDS 351	Advanced Wood Processes	3
INDS 355	Energy Efficient Construction	3
INDS 356	Construction Management	3
INDS 364	Industrial Safety	2
INDS 398	Machine and Tool Maintenance	1
	Electives	1

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

Cognates:

ACCT 115, 116	Clerical Accounting	} 6-7
or		
ACCT 201, 202	Principles of Accounting	
MGMT 275	Management of Small Business	3

INDUSTRIAL TECHNOLOGY

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	3
ELCT	241	Fundamentals of Electronics	5
ELCT	242	Electronic Circuit Analysis	5
ELCT	252, 253	Solid State Devices and Circuits	8
ELCT	263	Electronic Circuits	4
ELCT	297, 298	Electronics Fabrication	2
ELCT	361	Linear Integrated Circuits	5
ELCT	362	Digital Integrated Circuits	5
ELCT	372	Computer Circuits and Systems	4
ELCT	381, 382	TV Systems and Circuits	8
INDS	124	Introduction to Technology	3
INDS	280	Practicum in Industrial Technology (in electronics)	3
		Electives	3

58

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
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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	121	Introduction to Graphic Arts	4
GRPH	221, 222, 223	Offset Lithography	9
GRPH	271	Computer Assisted Publishing	2
GRPH	272, 273	Computer Composition	4
GRPH	295	Printing Layout and Design	3
GRPH	331	Advanced Halftone Photography	2
INDS	124	Introduction to Technology	3
INDS	280	Practicum in Industrial Technology (in graphics)	5
INDS	364	Industrial Safety	2
INDS	494	Cooperative Education	12
PHTO	154	Principles of Photography	2
PHTO	155	Principles of Photography Laboratory	1
		Electives	6

55

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

INDUSTRIAL TECHNOLOGY

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, 122	Technical Drawing	6
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 328	Applied Maintenance	6
and/or	Cooperative Education	
INDS 494	Oil Hydraulics	3
INDS 386	Electives	5
		<hr/> 55

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
		<hr/> 12

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

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INDUSTRIAL TECHNOLOGY

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
		<hr/> 38

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
		<hr/> 38

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 121	Introduction to Graphic Arts	4
GRPH 221, 222	Offset Lithography	6
GRPH 271	Computer Assisted Publishing	2
GRPH 272, 273	Computer Composition	6
GRPH 295	Printing Layout and Design	3
INDS 124	Introduction to Technology	3
PHTO 154	Principles of Photography	2
PHTO 155	Principles of Photography Laboratory	1
	Electives	11
		<hr/> 38

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

INDUSTRIAL TECHNOLOGY

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:

AUTO 134	Internal Combustion Engine Theory	2
AUTO 135	Internal Combustion Engine Laboratory	1
DRFT 121	Technical Drawing	3
DRFT 226	Architectural Drawing	3
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 328	Applied Maintenance	3
	Electives	2
		<hr/> 38

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:

GRPH 121	Introduction to Graphic Arts	4
GRPH 221, 222, 223	Offset Lithography	12
GRPH 271	Computer Assisted Publishing	2
GRPH 273	Computer Composition	2
GRPH 295	Printing Layout and Design	3
GRPH 331	Advanced Halftone Photography	2
INDS 124	Introduction to Technology	3
	Electives	10
		<hr/> 38

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:

AVIA 124	Introduction to Aviation	2
AVIA 141	Private Pilot Lectures	5
AVIA 142	Private Pilot Flight Training	3
AVIA 143	Advanced Private Pilot Flight Training	3
	Electives (3 must be upper division)	17
		<hr/> 30

Approval of aviation adviser required.

INDUSTRIAL TECHNOLOGY

MINOR IN GRAPHIC ARTS

A student minoring in graphic arts must complete 30 quarter hours:

GRPH 121	Introduction to Graphic Arts	3
GRPH 221, 222, 223	Offset Lithography	9
GRPH 271	Computer Assisted Publishing	2
GRPH 331	Advanced Halftone Photography	2
INDS 124	Introduction to Technology	3
PHTO 154	Principles of Photography	2
PHTO 155	Principles of Photography Laboratory	1
	Electives (must have GRPH or PHTO prefix. 1 credit must be upper division.)	8
		<hr/>

Approval of graphics technology adviser required. 30

MINOR IN INDUSTRIAL TECHNOLOGY

A student minoring in industrial technology must complete 30 quarter hours:

DRFT 121, 122	Technical Drawing	6
INDS 124	Introduction to Technology	3
INDS 436	Production Processes	3
	Electives	18
		<hr/>

Approval of industrial technology adviser required. 30

MINOR IN TECHNOLOGY EDUCATION

A student minoring in technology education must complete 30 quarter hours:

DRFT 121, 122	Technical Drawing	6
INDS 124	Introduction to Technology	3
INDS 221, 222, 223	Wood Products and Processes	6
INDS 364	Industrial Safety	2
INDS 374	Foundations of Technology Education	2
INDS 395	Methods of Teaching Technology	4
	Electives	7
		<hr/>

Approval of technology education 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. 2

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. 1, 3; 3

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. 3

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. 1, 3; 3

INDUSTRIAL TECHNOLOGY

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

1, 3; 3

Laboratory study and application of collision repair techniques. One laboratory per week or three laboratories per week. Prerequisite: ABOD 176. Corequisite: ABOD 186.

AUTO 114 INTRODUCTION TO AUTO MECHANICS

3

Study of the automobile with emphasis on general maintenance and service procedures. Specifically designed for the student without an automotive background. Does not apply toward an Automotive Technology major. Two lectures and one laboratory per week.

AUTO 134 INTERNAL COMBUSTION ENGINE THEORY

2

Study of the internal combustion engine, including theory of operation, analysis of construction, working principles, and components as applicable to gasoline and diesel engines. Two lectures per week.

AUTO 135 INTERNAL COMBUSTION ENGINE LABORATORY

1, 2; 2

Laboratory study of engine components through disassembly, inspection, measurement, servicing, and reassembly of engines. Corequisite: AUTO 134.

AUTO 145 POWER TRAIN THEORY

2

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

1, 2; 2

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

2

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 SYSTEMS LABORATORY

1, 2; 2

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

2

Experience in engine rebuilding involving machining operations such as cylinder reconditioning, valve train servicing, lubrication, and cooling system servicing. Two laboratories per week. Prerequisites: AUTO 134; AUTO 135.

AUTO 314 ENGINE DIAGNOSIS AND TUNE-UP

2

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.

INDUSTRIAL TECHNOLOGY

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 3
Study of diesel engine theory; includes types of engines, fuel injection systems, air induction systems, exhaust systems, cooling systems, starting, and controls. Two lectures and one laboratory per week. Prerequisites: AUTO 156; AUTO 157. AUTO 286 recommended. Offered odd years only.

AUTO 366 COMPUTERIZED ENGINE CONTROLS 3
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 of the National Air Transportation System. Seventh-day Adventist uses and needs with an introduction to the mission flying program of the church. Offered even years only.

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. May be repeated for a total of 6 credits. Prerequisite or corequisite AVIA 141, or successfully completed FAA written exam for private pilot.

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. Offered odd years only.

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 3
Study of the fundamentals of basic instrument flight, navigation, and approach procedures.

AVIA 263 ADVANCED INSTRUMENT PILOT FLIGHT TRAINING 3
Study of advanced instrument maneuvers, cross-country procedures, and composite instrument operations; prepares the student to meet the requirements of the instrument flight test. May be repeated for a total of 6 credits. Prerequisite or corequisite AVA 261 or successfully completed FAA written exam for Instrument Flight Training.

INDUSTRIAL TECHNOLOGY

- AVIA 335 COMMERCIAL PILOT FLIGHT TRAINING** 4
Study of procedures in cross-country flying and night operations.
- AVIA 336 ADVANCED COMMERCIAL PILOT FLIGHT TRAINING** 5
Training to develop a superior pilot by perfecting coordination, judgment, and flying ability. Prepares student for the commercial flight test. May be repeated for a total of 10 credits. Prerequisite or corequisite AVA 234 or successfully completed FAA written exam for Commercial Pilot.
- AVIA 340 MULTI—ENGINE FLIGHT TRAINING** 3
Provides the necessary flight and ground instruction leading to the FAA multi-engine rating. Course offered ONLY when a multi-engine airplane is available.
- AVIA 357 FLIGHT INSTRUCTOR—AIRPLANE LECTURES** 3
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** 3
Study of the standards for acceptable performance for the Federal Aviation Administration Flight Instructor.
- AVIA 457 FLIGHT INSTRUCTOR—INSTRUMENT LECTURES** 2
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** 3
Study of the standards for acceptable performance for the FAA Flight Instructor Certificate (instrument rating).
- AVIA 465 TRANSPORT PILOT FLIGHT TRAINING** 6
Provides the necessary flight and ground instruction in a multi-engine of the FAA Airline Transport Pilot Practical Test. Flight instruction includes instrument flying, with concentrated practice on approaches, emergency procedures and cross-country flight. Course offered ONLY when a multi-engine airplane is available.

DRAFTING (DRFT)

- DRFT 121, 122 TECHNICAL DRAWING** 3, 3
Introduction to technical drawing; includes care and use of instruments, computer aided drafting (CAD) techniques, 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** 3
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** 3
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 odd years only.

ELECTRONICS (ELCT)**ELCT 241 FUNDAMENTALS OF ELECTRONICS**

5

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

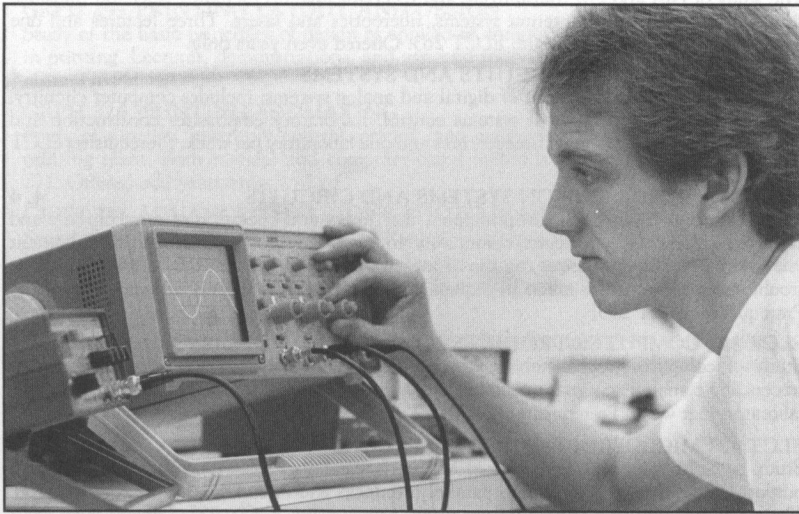
5

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

4, 4

Introduction to solid-state devices, analytical and graphical analysis of diode characteristics and diode circuit applications; includes three-terminal solid-state devices, concept of amplification, 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 ELECTRONIC CIRCUITS**

4

The study of basic electronic circuits including resonant circuits, oscillator circuits, regulated power supplies, A.F. amplifiers, R.F. amplifiers, and an introduction to basic transmitters. Emphasis in lab will be placed on learning how to troubleshoot and repair AF and RF circuits. 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.

INDUSTRIAL TECHNOLOGY

ELCT 326 HOSPITAL SAFETY

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

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

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

Study of basic principles and applications of digital I.C.'s; includes characteristics of logic families and application of I.C. gates, clocks, counters, 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

The study of AM and FM transmitting and receiving systems including sideband transmission, transmission lines, antenna systems, fiberoptics and lasers. Three lectures and one laboratory per week. Prerequisite: ELCT 263. Offered even years only.

ELCT 372 COMPUTER CIRCUITS AND SYSTEMS

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. Three lectures and one laboratory per week. Prerequisite: ELCT 362.

ELCT 381, 382 TELEVISION SYSTEMS AND CIRCUITS

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. Three lectures and one laboratory per week. Prerequisite: ELCT 253.

ELCT 393 COMPUTER TROUBLESHOOTING

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: ELCT 372. Offered odd years only.

ELCT 421 MICROPROCESSOR INTERFACING

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 372. Offered even years only.

ELCT 472 APPLICATION OF ROBOTICS

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. Offered odd years only.

ELCT 490 DIRECTED HOSPITAL EXPERIENCE

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 121 INTRODUCTION TO GRAPHIC ARTS** 3 or 4

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.)

GRPH 221, 222, 223 OFFSET LITHOGRAPHY 3, 3, 3/4, 4, 4

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: GRPH 121.

GRPH 271 COMPUTER ASSISTED PUBLISHING 2

Study of the processes and techniques associated with Computer Assisted Publishing (CAP) including optical scanner use, text manipulation, Graphics Generation, electronic layout, and laser printing. One lecture and one or two laboratories per week. The student must have a minimum proficiency in keyboarding skills.

GRPH 272, 273 COMPUTER COMPOSITION 2, 2/3, 3

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: GRPH 121 or equivalent. Students must be able to demonstrate a typing proficiency of at least 40 words per minute.

GRPH 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: GRPH 121.

GRPH 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: GRPH 271. Offered odd years only.

GRPH 331 ADVANCED HALFTONE PHOTOGRAPHY 2

Study of special techniques of making quality halftones; emphasizes such variables as picture type and quality, and printing paper; includes techniques of posterization and the making of duotones. One lecture and one laboratory per week. Prerequisite: GRPH 223.

GRPH 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: GRPH 223 or equivalent. Offered even years only.

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.

INDUSTRIAL TECHNOLOGY

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.

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.

CONSTRUCTION/GENERAL/METALS/PROFESSIONAL/ WOODS (INDS)

INDS 124 INTRODUCTION TO TECHNOLOGY

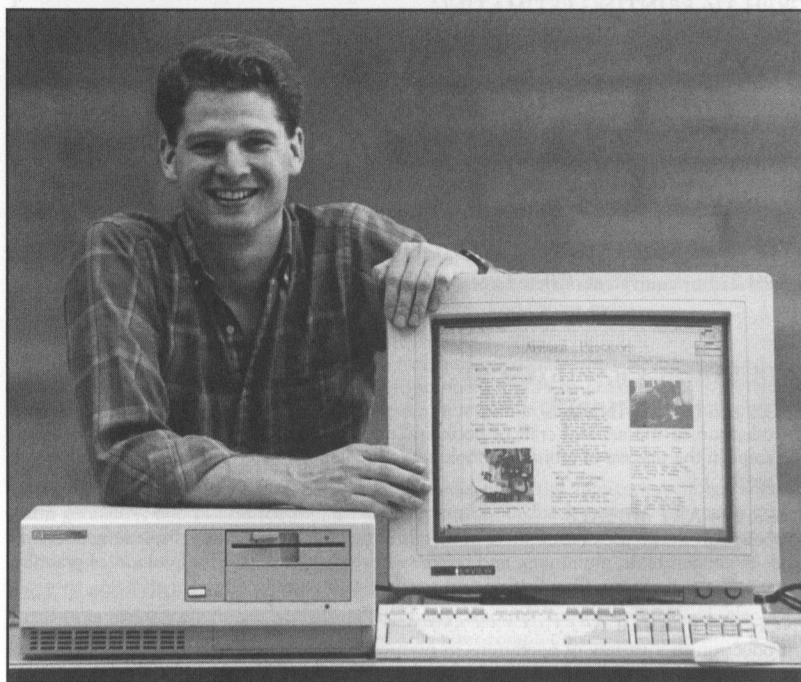
3

A study of current technology as it relates to society and the individual. Includes the study of industrial technology in the broad areas of communication, transportation, construction, and manufacturing. Two lectures and one laboratory per week.

INDS 134 GAS WELDING LABORATORY

1

Laboratory study of gas welding. Recommended corequisite: INDS 137. One laboratory per week.



INDUSTRIAL TECHNOLOGY

- INDS 135 ARC WELDING LABORATORY** 1
Laboratory study of arc welding. Recommended corequisite: INDS 138. One laboratory per week.
- INDS 136 SPECIALIZED WELDING LABORATORY** 1
Laboratory study of specialized welding, including metallic inert gas (MIG) and tungsten inert gas (TIG). Prerequisite or corequisite: INDS 139. Prerequisite: INDS 135. One laboratory period per week.
- INDS 137 GAS WELDING THEORY** 1
Study of the gas welding theory.
- INDS 138 ARC WELDING THEORY** 1
Study of arc welding theory.
- INDS 139 SPECIALIZED WELDING THEORY** 1
Study of specialized welding theory, including metallic inert gas (MIG) and tungsten inert gas (TIG).
- INDS 151 FOUNDATIONS AND FRAMING** 3-6; 6
Introduction to concrete work and residential foundations, includes theory and practice in floor, walls, roof framing, stair construction, and thermal practices; provides experience with, and an understanding of, the tools and equipment used by a carpenter. Two lectures and one laboratory per week; an option designed primarily for those in the associate degree and certificate programs provides for an additional three laboratories per week.
- INDS 152 BUILDING MATERIALS AND MECHANICAL SYSTEMS** 3-6; 6
Introduction to the study and use of construction lumber, wood products and substitutes, insulation, air and vapor barriers, hardware and finishing materials; examines the relationship of the mechanical systems—heating, cooling, air exchange, plumbing, and electrical—to the overall construction process. Two lectures and one laboratory per week; an option designed primarily for those in the associate degree and certificate programs provides for an additional three laboratories per week.
- INDS 153 FINISH CARPENTRY** 3-6; 6
Introduction to the theory and practice of interior and exterior finishing products and processes; study of various types of doors and windows; experience with installation procedures. Two lectures and one laboratory per week; an option designed primarily for those in the associate degree and certificate programs provides for additional laboratories per week.
- INDS 221, 222, 223 WOOD PRODUCTS AND PROCESSES** 2, 2, 2
Introduction to wood products and processes incorporating use of basic tools and machines as found in the wood industries. Includes planning and construction of simple furniture. One lecture and one laboratory per week.
- INDS 241, 242, 243 FABRICATION AND MACHINING OF METALS** 2, 2, 2
Study of theory and practice in metal operations. Fall, basic lathe and drill press operations involving metal cutting and measurement; winter, various assembly methods including forging, heat treatment, molding, pouring, filing, bending and offhand grinding; spring, associated and succeeding operations such as threading, tapering, testing, reaming, riveting and use of jigs. Projects selected incorporate the operations taught and involve “running” of various pieces of equipment common to a basic machine laboratory. One lecture and one laboratory per week. Must be taken in sequence.
- INDS 254 HOUSE PLANNING** 3
Study of house design development in relationship to; house types, architectural styles, community, family living, and site determining factors.
- INDS 264 CONSTRUCTION CODES AND SPECIFICATIONS** 2
Study of the Uniform Building Code and its application to residential and commercial construction; includes relationship to plumbing, electrical, energy, and safety codes. Emphasis on code interpretation, specification writing, and implementation of code requirements. Prerequisites: INDS 151, 152 and 153 or permission of instructor.

INDUSTRIAL TECHNOLOGY

INDS 280 PRACTICUM IN INDUSTRIAL TECHNOLOGY 1-6; 6
Laboratory work in a technology area or laboratory supervision experience chosen in counsel with the supervising laboratory instructor. Six credits maximum. One 3-hour laboratory per week per credit.

INDS 328 APPLIED MAINTENANCE 1, 2; 6
Practical, on-the-job experience for students of plant maintenance technology in the following areas: power plant, painting, carpentry, cabinetmaking, plumbing, electrical, refrigeration, air conditioning, locksmithing, door hardware, heavy equipment, and motor pool. Selected in consultation with adviser. One laboratory per week per quarter. One or two hours per quarter; maximum, six.

INDS 345 FINISHING MATERIALS AND METHODS 3
Study of the composition and application of finishing materials, including selection and care of equipment. Two lectures and one laboratory per week. Offered even years only.

INDS 351, 352, 353 ADVANCED WOOD PROCESSES 2, 2, 2/3, 3, 3
Study of advanced wood processes; includes design, methods and techniques of furniture and cabinet case work, door and drawer construction, special machine operations, jigs and fixtures. One class and choice of one or two laboratory sessions per week. Two laboratory sessions per week recommended for Industrial Technology majors. Prerequisite: INDS 223 or permission of the instructor. Must be taken in sequence.

INDS 355 ENERGY EFFICIENT CONSTRUCTION 3
Study of energy efficient concepts, energy products, and advanced building practices. Allows the student to apply learning in designing with energy efficient concepts. Prerequisite: DRFT 226 or permission of instructor.

INDS 356 CONSTRUCTION MANAGEMENT 3
Study of working drawings, specifications, estimating and bidding, scheduling, and the financing of construction projects. Two lectures and one laboratory per week. Prerequisite or corequisite: INDS 153.

INDS 364 INDUSTRIAL SAFETY 2
Introduction to federal, state, and local safety codes applying to materials, material handling, and equipment commonly encountered by the industrial technologist; includes study of codes from Occupational Safety and Health Act (OSHA), Washington Industrial Safety and Health Act (WISHA), National Fire Protective Association (NFPA), and Department of Transportation (DOT).

INDS 374 FOUNDATIONS OF TECHNOLOGY EDUCATION 2
Study of the underlying foundations of technology education in both public and Seventh-day Adventist schools; emphasis on management, developing and managing youth organizations, professional growth, legislation, and basic organization of industry.

INDS 376 TECHNICAL FACILITY PLANNING 3
Study of technical facility planning involving space considerations, structures, environment, service systems, storage, and production flow patterns.

INDS 381, 382, 383 MACHINE TOOL OPERATION 2, 2, 2/3, 3, 3
Study of advanced processes of turning and handwork, together with operations involving milling, shaping, planing, grinding, cutter sharpening, gear calculations, and gear cutting; assigned exercises. One lecture and choice of one or two laboratory sessions per week. Two laboratory sessions per week recommended for IT majors. Prerequisite: INDS 241, 243 or equivalent.

INDS 386 OIL HYDRAULICS 3
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. Offered even years only.

INDS 395 METHODS OF TEACHING TECHNOLOGY 4
Methods of systematic course preparation including analysis of course outline, relation of lesson units, and methods unique to technology education.

INDUSTRIAL TECHNOLOGY

INDS 398 MACHINE AND TOOL MAINTENANCE

1, 2; 2

Methods of care and maintenance of tools, machines, and supplementary equipment. Selection may be made in any field offered. Prerequisite: adequate background in chosen fields. One laboratory per credit per week. One or two hours any quarter; maximum, two.

INDS 428 HANDWORK ACTIVITIES

3

Study of handwork activities as applied to the elementary grades and recreational activities; emphasizes methods of application, materials, and processes.

INDS 436 PRODUCTION PROCESSES

3

Study of various methods for processing metallic, polymeric and ceramic materials. Major families of processes are explored as well as industrial materials, automation, process planning, and quality control.

INDS 480 ADVANCED PRACTICUM IN INDUSTRIAL TECHNOLOGY

1-6; 6

Laboratory work in a technology area or laboratory supervision experience chosen in counsel with the supervising laboratory instructor. Six credits maximum. One 3-hour laboratory per week per credit. Prerequisite: Lower division work in chosen area.

INDS 494 COOPERATIVE EDUCATION

1-12

Individual contract arrangement involving students, faculty, and cooperating businesses to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department; CDEV 210 or permission of Cooperative Education Director.

INDS 499 SENIOR PROBLEM

1

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.

PHOTOGRAPHY (PHTO)

PHTO 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.

PHTO 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: PHTO 154.

PHTO 355 ADVANCED PHOTOGRAPHY

3

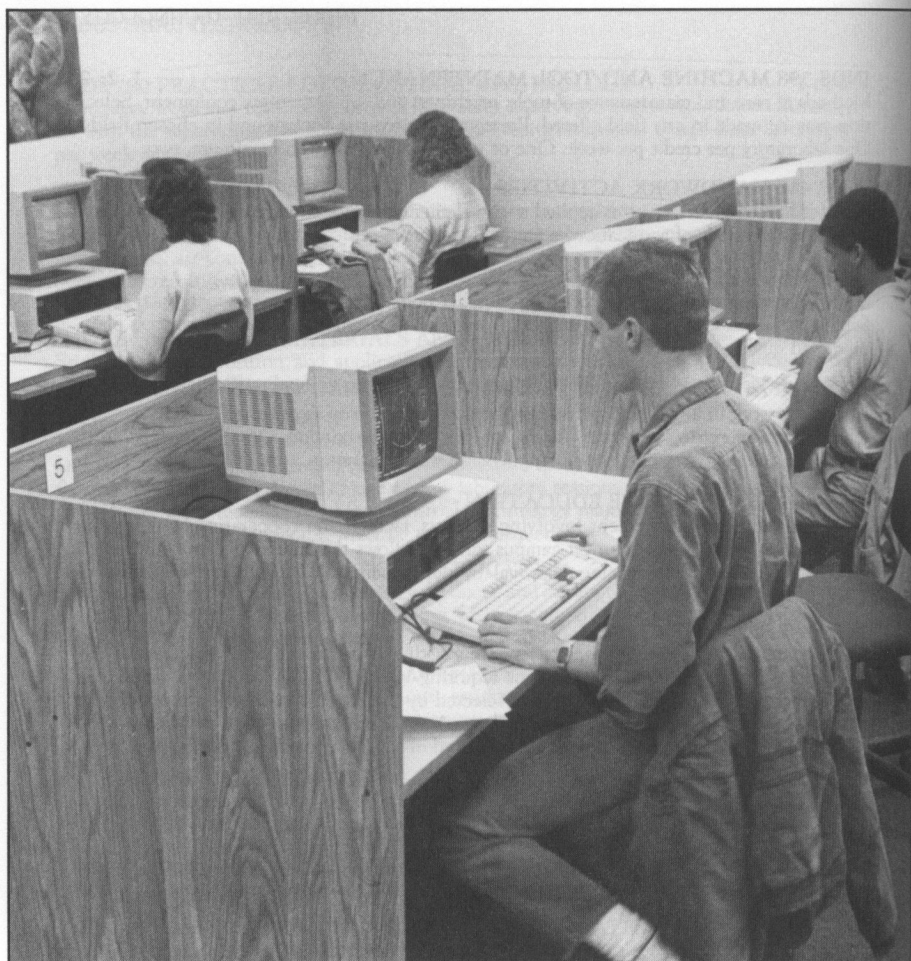
Study of advanced techniques in photography; includes lighting, photo-chemistry, optics, photo accessories, printing, enlarging, and processing of chromatic and monochromatic mediums, in-camera manipulations, darkroom manipulation, finishing presentation techniques. Two lectures and one laboratory per week. Prerequisites: PHTO 154; PHTO 155.

PHTO 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: PHTO 355 or equivalent.

PHYS 315 Optical Laboratory
PHYS 317, 318, 319 Physics Seminar I
PHYS 321, 322 Cycles
PHYS 417, 418, 419 Physics Seminar II



Interdisciplinary Programs

INTERDISCIPLINARY PROGRAMS

BIOPHYSICS

C. Barnett (Physics), D. Rigby (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 Examinations in physics and biology (general and subject portions) are required. One summer term at the Marine Station is required.

Biology Requirements:

BIOL 101, 102, 103	General Biology	12
BIOL 251	Research Methods I	1
BIOL 352, 353, 354	Research Methods II, III, IV	3
BIOL 392	Cell Biology	4
BIOL 393	Genetics	
or		4
BIOL 394	Developmental Biology	
BIOL 464	Animal Physiology	
or		
BIOL 401	Plant Physiology	4-5
or		
BIOL 468	Comparative Physiology	
BIOL 446	General Ecology	4
BIOL 455	Research Methods V	1
BIOL 495	Colloquium*	0

33-34

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

Physics Requirements:

PHYS 114	Perspectives in Physics	1
PHYS 115, 116	Introduction to Experimentation	2
PHYS 251, 252, 253	Principles of Physics	9
PHYS 254, 255, 256	Principles of Physics Laboratory	3
PHYS 311	Modern Physics	3
PHYS 313	Thermodynamics	4
PHYS 314	Modern Physics Laboratory	1
PHYS 316	Optics Laboratory	1
PHYS 317, 318, 319	Physics Seminar I	3
PHYS 321, 322	Optics	6
PHYS 417, 418, 419	Physics Seminar II	3
		<u>36</u>

INTERDISCIPLINARY PROGRAMS

Cognates:

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 321, 322, 323	Organic Chemistry	
CHEM 324, 325, 326	Microscale Organic Laboratory	12
or		
CHEM 351, 352, 353	Physical Chemistry	
CHEM 354, 355, 356	Physical Chemistry Laboratory	
CPTR 134	Introduction to Computing (FORTRAN)	3-4
or		
CPTR 141	Introduction to Programming (Pascal)	
CPTR 374	Simulation and Modeling	3
ENGR 228	Circuit Analysis	
and		
ENGR 325	Instrumentation	
or		
ENGR 228	Circuit Analysis	5-7
and		
CPTR 331	Computers in the Laboratory	
or		
BIOL 470	Marine Biophysics	
MATH 181, 281-283	Analytic Geometry and Calculus I-IV	16
MATH 315	Probability and Statistics	4

HUMANITIES

D. Lamberton, Chair, B. Beem (English), R. Czeratzki (Modern Languages), R. Blaich (History), D. Shultz (Music), J. Brunt (Religion), T. Emmerson (Art) D. Rigby (Comm).

The humanities major is an interdisciplinary program designed for those who want to study the themes and values of the humanities—in history, the visual arts, music, philosophy and literature—and who wish to tailor their major to meet their interests. It provides a choice of content areas for those interested in teaching at the college or secondary levels and an excellent second major for those wanting to teach in elementary school. The humanities major also is excellent 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	4
ENGL 207	World Literature	
ENGL 210, 211, 212	Survey of English and American Literature	8
ENGL	One upper-division literature course	4

INTERDISCIPLINARY PROGRAMS

HIST 120, 121, 122	History of Western Civilization	8
HIST 465	Renaissance and Reformation	4
HMNT 496	Seminar in Humanities	3
MUHL 124	Introduction to Music	4
PHIL 205	Introduction to Philosophy	4
		<hr/> 39

Cognates:

ANTH 225	Cultural Anthropology	
or		3-4
*PLSC 454	Western Political and Social Thought	
BIOL 407	Philosophy of Science	4
or		
ENVI 385	Environment and Man	
PSYC 444	Social Psychology	3
or		
PSYC 446	Psychology of Personality	
RELH 403	World Religions	3-4
or		
RELT 412	Philosophy of Religion	

*Can also be taken as SOCI 454 or PHIL 454

CONCENTRATION: English

ENGL 234	Literary Analysis	4
ENGL 445	Shakespeare	3
ENGL 455	Classical Backgrounds	3
ENGL 324-338	Upper-division writing	3
ENGL	Upper-division literature	8

CONCENTRATION: Fine Arts (8 quarter hours must be upper division)

ART 324, 325	History of Art (recommended)	20
or		
MUHL 321, 322, 323	History of Music	
	(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)	4
PLSC 454	Western Political and Social Thought (recommended)	4
PLSC 455	Western Political and Social Theory (recommended)	4

INTERDISCIPLINARY PROGRAMS

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	
GRMN	421	18th Century German Literature	15-20
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	

CONCENTRATION: Philosophy

PHIL	206	Introduction to Logic	
PHIL	305	Moral Philosophy	
PHIL	306, 307	History of Philosophy	
PHIL	407	Philosophy of Science	16
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

S. Lee, Academic Adviser.

The major in medical technology involves three years of preclinical education on the Walla Walla College campus and twelve 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.

Students may apply to the clinical program of their choice. Entrance into a clinical program is competitive. Applicants are selected on the basis of such qualities as scholarship, integrity, dependability and motivation for medical technology.

The courses included as a part of the major meet the requirements of the National Accrediting Agency for Clinical Laboratory Sciences. Since requirements for entry into the clinical program vary, students interested in specific clinical programs must contact these institutions to be certain that all entry requirements be satisfied.

INTERDISCIPLINARY PROGRAMS

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. In addition, 30 quarter hours of preclinical coursework must be upper division. Completion of an accredited clinical experience (48 quarter hours minimum) completes the degree requirements.

BIOL 101, 102, 103	General Biology	12
BIOL 222	Microbiology	}
or		
*BIOL 465	Bacteriology	5
BIOL 201, 202	Anatomy and Physiology	8
BIOL 466	Immunology	4
BIOL	Elective	4
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	Fundamentals of Mathematics I	
or		
MATH 117	Precalculus	4-5
or		
MATH 181	Analytic Geometry and Calculus I	
or		
MATH 123	Survey of Calculus	
	Major Electives	12
		<u>65-66</u>

Courses that may be applied as major elective credit are:

BIOL 393	Genetics	4
BIOL 392	Cell Biology	4
BIOL 449	Vertebrate Histology	4
ACCT 201, 202, 203	Principles of Accounting	10
or		
ACCT 205, 206	Principles of Accounting	

Management (MGMT)

CHEM 264	Chemical Equilibrium and Analysis	4
CHEM 265	Analytical Instrumental Methods I	4
CHEM 431, 432	Biochemistry	3, 3
CHEM 433, 434	Biochemistry Laboratory Methods	1, 1
CPTR 105	Personal Computing	3
PSYC 130	General Psychology	4
ELECT 241	Fundamentals of Electronics	8
PHYS 211, 212, 213	General Physics	3, 3, 3
PHYS 214, 215, 216	General Physics Laboratory	1, 1, 1
or		
PHYS 251, 252, 253	Principles of Physics	3, 3, 3
PHYS 254, 255, 256	Principles of Physics Laboratory	1, 1, 1

Library Science

INTERDISCIPLINARY PROGRAMS

MAJOR IN MEDICAL TECHNOLOGY AND CLINICAL CHEMISTRY (Bachelor of Science)

A student majoring in medical technology and clinical chemistry must complete 144 quarter hours of interdisciplinary courses (30 quarter hours must be upper division) 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. Students will share the results of reading and research through formal courses as listed below:

BIOL	101, 102, 103	General Biology	12
BIOL	222	Microbiology	
or			
*BIOL	465	Bacteriology	5
BIOL	201, 202	Anatomy and Physiology	
or			
*BIOL	392	Cell Biology	8
and			
*BIOL	464	Animal Physiology	
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
MATH	121, 122	Fundamentals of Mathematics I, II	8
MATH	181, 281	Analytic Geometry and Calculus I, II	8
PHYS	211, 212, 213	General Physics	9
PHYS	214, 215, 216	General Physics Laboratory	3

*Prerequisites for the upper division courses are described in the Biology section of this bulletin.

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Library Science

LIBRARY SCIENCE

C. Gaskell, Chair; M. Copsey, 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:

LIBR 111	Introduction to Library Resources	2
LIBR 232	Information Resources	3
LIBR 261	Cataloging and Classification	4
LIBR 385	Selection and Acquisition of Library Materials	3
	Electives	<u>18</u>
		30

In addition to courses from the department, electives may be selected from the following:

CPTR 105	Personal Computing	3
ENGL 375	Literature in the Secondary School	3
INCR 126	Bookbinding	2
SPCH 211	Oral Interpretation	3

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.

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. Prerequisite: LIBR 111. Offered odd years only.

LIBR 261 CATALOGING AND CLASSIFICATION 4
Introduction to principles, techniques, and practices of cataloging and classifying materials for use in instructional materials centers. Offered odd years only.

LIBR 288 STORYTELLING 2
Study of the place of storytelling in the educational process; selection, preparation, and presentation of diversified materials. Offered even years only.

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.

LIBRARY SCIENCE

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. Offered even years only.

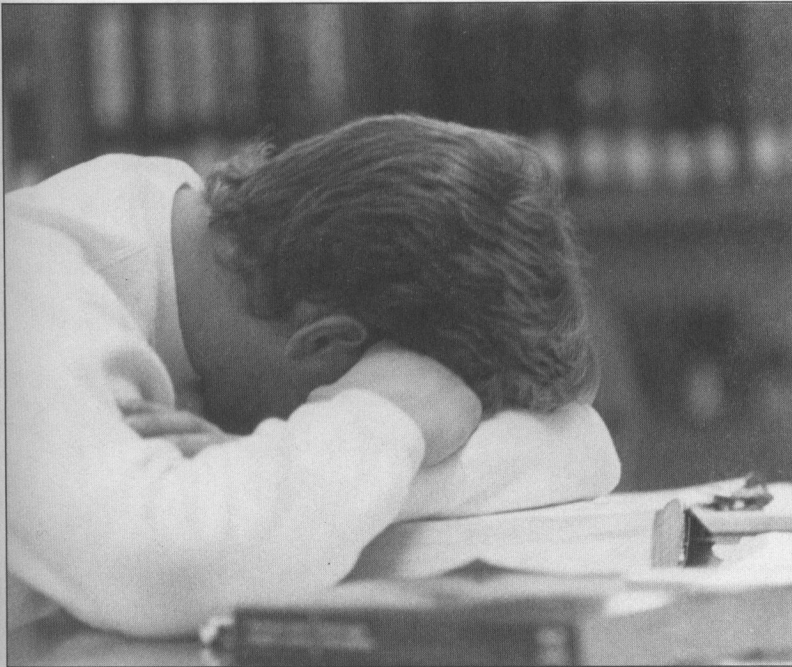
LIBR 456 ADMINISTRATION OF SCHOOL LIBRARIES 3

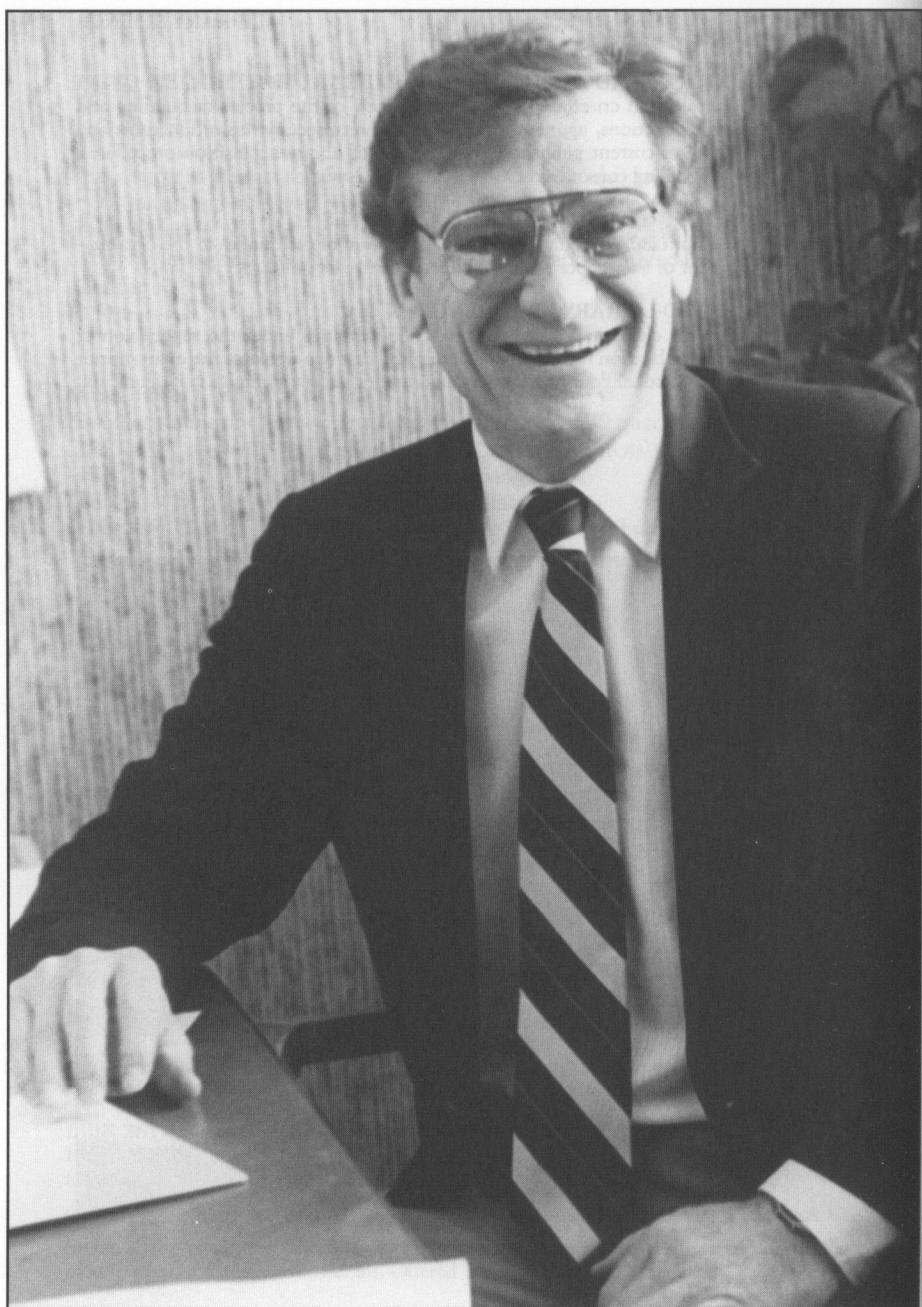
Study of the general principles of administration; application of techniques to the organization and management of the school library. Offered even years only.

LIBR 490 DIRECTED LIBRARY EXPERIENCE

4-6; 6

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.





An innovative book of finger puppets for children designed to develop the ability to think, listen, speak, write, and read. The book contains 100 finger puppets, each with a unique personality and a story to tell. The book is designed to be used in a variety of ways, including as a classroom resource, a home learning tool, and a gift for children.

Mathematics

MATHEMATICS

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:

MATH 181, 281-283	Analytic Geometry and Calculus I-IV	16
MATH 289	Linear Algebra and Its Applications	3
MATH 451, 452	Advanced Calculus	6
MATH 461	Modern Algebra	4
MATH 496	Seminar	1
	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)	15
		<hr/> 45

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. Students seeking a teaching endorsement should consult with the certification officer in the Education and Psychology Department.

Cognate:

CPTR 134	Introduction to Computing (FORTRAN)	} 3-4
or CPTR 141	Introduction to Programming (Pascal)	

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:

MATH 181, 281-283	Analytic Geometry and Calculus I-IV	16
MATH 289	Linear Algebra and Its Applications	3
MATH 496	Seminar	1
		<hr/> 20

OPTION: Preparation for Graduate Study

MATH 451, 452, 453	Advanced Calculus	9
MATH 461, 462	Modern Algebra	8
	Electives (4 must be upper division)	16
		<hr/> 33

MATHEMATICS

OPTION: Preparation for Secondary Teaching*

MATH 250	Discrete Mathematics	4
MATH 315	Probability and Statistics	4
MATH 321	Geometry	4
MATH 451, 452	Advanced Calculus	6
MATH 461	Modern Algebra	4
	Electives (3 must be upper division)	11
		<hr/> 33

*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	3-4
or		
MATH 461	Modern Algebra	13-14
	Electives (3 must be upper division)	
	Mathematics	
	or	
	Selected courses from MATH, CPTR or ENGR (Courses not in mathematics must be chosen from CPTR 142, 211, 215, 341, 343, 350, 352, 374, 454, or ENGR 454, 455)	21-22

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

33-41

52-60

Cognates:

CPTR 134	Introduction to Computing (FORTRAN)	3-4
or		
CPTR 141	Introduction to Programming (Pascal)	10-12
BIOL 101, 102, 103	General Biology	
or		
CHEM 141, 142, 143	General Chemistry	10-12
CHEM 144, 145, 146	General Chemistry Laboratory	
or		
(Three additional CPTR classes)		
CPTR 134	Introduction to Computing (FORTRAN)	9
CPTR 141	Introduction to Programming (Pascal)	
CPTR 215	Assembly Language Programming I	3
CPTR 224	Scientific Computer Applications	
PHYS 251, 252, 253	Principles of Physics	
PHYS 254, 255, 256	Principles of Physics Lab	

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.

Students seeking a teaching endorsement should consult with the certification officer in the Education and Psychology Department.

MATHEMATICS (MATH)

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 Mathematics Department. Provisions are made for students to take non-credit mathematics courses if they have not satisfied the mathematics entrance requirements.

MATH 100 INTERMEDIATE ALGEBRA

4

Review of high school algebra, including topics such as sets, numbers, exponents, polynomials, factoring rational algebraic expressions, graphs, first and second degree equations, and inequalities. Credit does not apply toward graduation.

MATH 105 MATHEMATICS WITH APPLICATIONS

4

Introduction to mathematics, including algebraic concepts, systems of equations, linear programming, and permutations. 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

4

Study of applied statistics, including methods of describing data, distributions, sampling, confidence intervals, hypothesis testing including analysis of variance, correlation and regression. Designed to meet the general studies requirements for the baccalaureate degree, but will not apply toward a major or minor in mathematics. Prerequisite: MATH 100 or MATH 105 or MATH 117 or MATH 121 or a satisfactory score on ACT.

MATH 115 ELEMENTARY MATHEMATICS

4

Study of mathematics, including number theory, geometry, numeration, number systems, graphs, algebra, statistics, 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

5

Introduction to college algebra and trigonometry including equations, inequalities; algebraic, exponential, logarithmic, and trigonometric functions; graphs and complex numbers. Placement examination required. Algebra II strongly recommended. Credit will not be allowed for both MATH 117 or MATH 121, 122.

MATH 121, 122 FUNDAMENTALS OF MATHEMATICS I, II

4, 4

Study of college algebra and trigonometry including integers; rational, real, and complex numbers; equations and inequalities; polynomials; algebraic, exponential, logarithmic, and trigonometric functions; graphs; the binomial theorem; matrices; determinants; progressions; and mathematical induction. Must be taken in sequence. 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

4

Introduction to calculus, includes topics such as functions, limits, derivatives, and integration in one or more variables; includes applications from business and social sciences. Prerequisite: MATH 117 or 121 or a satisfactory score on a departmental qualifying examination.

MATHEMATICS

MATH 181, 281, 282, 283

4, 4, 4, 4

ANALYTIC GEOMETRY AND CALCULUS I, II, III, IV

Study of calculus integrating topics of analytic geometry as needed. Must be taken in sequence. Prerequisite: MATH 117 or MATH 122 or a satisfactory score on a departmental qualifying examination.

MATH 250 DISCRETE MATHEMATICS

4

Introduction to discrete mathematical structures with computer applications. Topics include combinatorics, sets, recursion, and graph theory. Prerequisites: MATH 181 and knowledge of a programming language.

MATH 289 LINEAR ALGEBRA AND ITS APPLICATIONS

3

Study of vector spaces, linear transformations, matrices and determinants, with applications. Prerequisite: MATH 117 or MATH 122.

MATH 312 ORDINARY DIFFERENTIAL EQUATIONS

4

Study of solutions of first order differential equations, solutions of linear differential equations of order n , applications, linear systems, and series solutions. Prerequisite: MATH 283.

MATH 315 PROBABILITY AND STATISTICS

4

Study of 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

3

Study of multiple linear regression, analysis of variance, contingency tables, goodness-of-fit, nonparametric statistics, correlation and discriminant analysis, and Bayesian decision-making. Prerequisite: MATH 315. Offered even years only.

MATH 321 GEOMETRY

4

Study of geometries, concentrating on Euclidean, non-Euclidean, and projective geometries; examination of axiomatic foundations and qualitative study of the geometries; considers briefly Mohr-Mascheroni constructions and impossible constructions. Prerequisite: MATH 281 and permission of instructor. Offered even years only

MATH 341 NUMERICAL ANALYSIS

4

Study of numerical methods with computer applications; topics include numerical solutions of nonlinear equations, systems of equations, ordinary differential equations, interpolation, and numerical integration. Prerequisites: CPTR 134 or CPTR 141; MATH 289. Corequisite: MATH 312.

MATH 351 OPERATIONS RESEARCH

4

Introduction to deterministic models in operations research; includes linear programming, network analysis, dynamic programming, and game theory. Prerequisites: CPTR 134 or 141; MATH 283; MATH 289 or permission of instructor. Offered odd years only.

MATH 395 METHODS OF TEACHING MATHEMATICS

3

Methods, materials, and techniques of teaching mathematics on the secondary school level; requires observation, demonstration, and class presentation. Will not apply toward a major or minor in mathematics. Offered odd years only.

MATH 423 INTRODUCTION TO THE THEORY OF COMPLEX VARIABLES

4

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 odd years only.

MATH 442 ADVANCED NUMERICAL ANALYSIS

4

Study of curve fitting, approximation of functions, Monte Carlo methods, boundary value problems, and partial differential equations. Prerequisite: MATH 341. Offered even years only.

MATH 451, 452, 453 ADVANCED CALCULUS 3, 3, 3

Study of functions of one and several variables including continuity, differentiation, integration, infinite series, uniform convergence, and selected topics. Prerequisite: MATH 283. Offered odd years only.

MATH 461, 462, 463 MODERN ALGEBRA 4, 4, 4

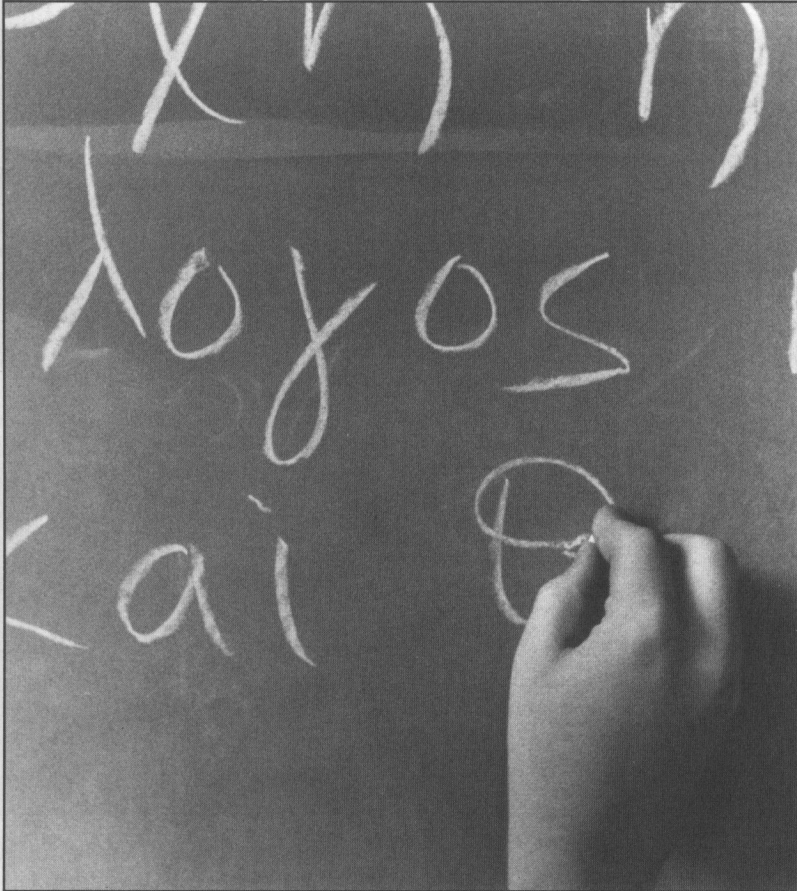
Study of groups, rings, fields, vector spaces, linear transformations, selected topics, and applications. Prerequisite: MATH 289. Offered even years only.

MATH 494 COOPERATIVE EDUCATION 0

Individual contract involving students, faculty, and cooperating employers which provides the student with practical experiences in an off-campus setting. Graded S or NC. Prerequisites: MATH 283, CDEV 210 or equivalent, and departmental approval.

MATH 496 SEMINAR 1

Includes giving an oral report and writing a scholarly paper on an approved mathematical topic. Prerequisite MATH 451 or 461. Open to Junior/Senior math majors only.





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 abroad. 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 Registrar 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 Education and Psychology Department 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	}	8
or			
GRMN 212, 213	Intermediate German		
or			
SPAN 222, 223	Intermediate Spanish		
	Electives (21 must be upper division)		37
			<hr/> 45

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	}	3
or			
ENGL 485	Linguistics		
or			
MDLG 395	Methods of Teaching Modern Languages		

MODERN LANGUAGES

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, plus 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

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 2, 2
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 3, 3, 3
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 1-3; 6
Assigned readings and reports in German. Prerequisites: GRMN 311, 312, 313. One to three hours per quarter; maximum, six.

GRMN 421 18TH CENTURY GERMAN LITERATURE 4
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 4
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 4
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 4
Introduction to Spanish, providing the foundation for oral, writing and reading skills; includes basic Spanish grammar, as well as phonetics and phonology. Language laboratory required.

SPAN 122, 123 ELEMENTARY SPANISH 4, 4
Elementary study of Spanish, developing oral, writing, and reading skills. Language laboratory required. Prerequisite: SPAN 121 or equivalent.

SPAN 222, 223 INTERMEDIATE SPANISH 4, 4
Intermediate study of Spanish emphasizing oral, writing, and reading skills, and mastery of grammar; designed to prepare students to use Spanish as a research and cultural tool. Prerequisite: SPAN 123 or equivalent.

SPAN 324, 325, 326 SURVEY OF SPANISH LITERATURE 3, 3, 3
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. Prerequisite: SPAN 223 or equivalent. Offered even years only.

MODERN LANGUAGES

SPAN 330 IBERIAN CULTURE AND CIVILIZATION 4
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 even years only.

SPAN 331 SPANISH-AMERICAN CULTURE AND CIVILIZATION 4
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 odd years only.

SPAN 341, 342, 343 ADVANCED SPANISH GRAMMAR 3, 3, 3
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 1-3; 6
Assigned readings and reports in Spanish. Prerequisites: SPAN 341, 342, 343. One to three hours per quarter; maximum, six.

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 odd years only.

GENERAL (MDLG)

MDLG 395 METHODS OF TEACHING MODERN LANGUAGES 3
Study of 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.

MDLG 494 COOPERATIVE EDUCATION 0-3
Individual contract arrangement involving students, faculty, and cooperating regional or international organizations to gain practical experience using a foreign language in an off-campus setting. Prerequisites: Approval of the department; CDEV 210 or permission of the Cooperative Education Director.



Music

MUSIC

D. Shultz, Chair; C. Manous, L. Richter, K. Scott, G. Spring, S. Zork.

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.

The department offers the Bachelor of Arts and Bachelor of Music degrees. In each the main purpose is to develop in the student a conceptual understanding of historical and theoretical perspectives in music and their interrelationships as they affect listening, composing, and performing.

The Bachelor of Music degree is a professional program with a choice of two majors: Music Education or Music Performance. The Bachelor of Arts is a liberal arts degree. Formal acceptance as a music major or minor is accomplished by passing a performance audition before the music faculty and completing Theory I.

Piano proficiency is required of all majors. Requirements for minimum proficiency must be completed prior to application for upper division standing in the student's major performing area.

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 concert and recital attendance, and performance classes. Detailed information regarding these and other 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 the core requirements and one emphasis, as well as the general studies and certification requirements as outlined below. This curriculum provides for K-12 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)	

MUSIC

RELB, 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	11
MUCT 221, 222, 223	Theory II	12
MUCT 335	Composition	1
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
MUPF	Recital	
		<hr/> 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	
	Speech and hearing clearance	

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
MUED 395	Elementary School Music Methods and Materials	4
MUED 396	Secondary Music Methods	3

MUSIC

Not required but highly recommended:

SPCH 310	Interpersonal and Nonverbal Communication	3
PSYC 360	Small Group Procedures	3
or SPCH 207	Small Group Communication	

Choose one of the following three emphases:

Instrumental

MUPF	Applied Music ¹	20
MUED	Instrumental Techniques and Methods Classes	8
MUPF	Voice Performance Studies	1
MUPF	Conducting ²	6

Choral

MUED 251, 252, 253	Singer's Diction	3
MUED 354	Vocal Techniques and Methods	3
MUPF	Applied Music ¹	20
MUPF	Keyboard Performance Studies	6
MUPF	Conducting ²	6

Keyboard

MUED 324	Organ Pedagogy and Literature	3
MUED 334	Piano Pedagogy and Literature	3
MUPF	Applied Music ¹	20
MUPF	Additional Keyboard Performance Studies (Students whose major area is organ will take piano and/or harpsichord; those whose major area is piano will take organ.)	6
MUPF 351, 352, 353	Advanced Keyboard Skills	3
MUPF	Voice Performance Studies	1

¹ The student will choose these hours in one applied field, 8 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.

² Three of these hours must be in area of emphasis.

MUSIC PERFORMANCE (Bachelor of Music)

A student majoring in music performance must complete 114 quarter hours in the major, and general studies as listed below. (This curriculum does not result in state teaching certification.) The Graduate Record Examination in music is required.

General Studies Requirements:

ENGL 121, 122, 123	College Writing	8
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MUSIC

FREN 101, 102, 103	French	}	12
or GRMN 111, 112, 113	German		
German recommended			
HIST 120, 121, 122	History of Western Civilization		8
	Humanities (non-music)		4
	Mathematics and General Science (as required by general studies)		12
PEAC	Physical Activity Courses		2
RELH, RELH, RELT	Religion and Theology		16
			<hr/> 62

Major Requirements:

MUCT 121, 122, 123	Theory I	11
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 361	Basic Conducting	2
MUPF	Conducting (other)	2
MUPF	Organizations	12
MUPF	*Applied Music (one area)	48
MUPF 487	Recital (junior and senior year)	
		<hr/> 114

*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.

MUSIC (Bachelor of Arts)

A student majoring in 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	Theory I	11
MUCT 221, 222, 223	Theory II	12
MUCT 424	Form and Analysis	3
MUCT 426	Counterpoint	3
MUHL 134	The Art of Listening	3
MUHL 321, 322, 323	History of Music	12
MUPF	Applied Music ¹ (6 must be upper division in major performance area)	15

MUSIC

MUPF 487 *Recital 0
 *A conducting or research project as approved by the music faculty may be substituted for the senior recital.

Electives² 4-7
 66

1 A maximum of 3 hours of MUPF 127 may apply on the major.

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

MINOR IN MUSIC

A student minoring in music must complete 30 quarter hours:

MUCT 121, 122, 123	Theory I	11
MUHL 124	Introduction to Music	
or		3-4
MUHL 134	The Art of Listening	
	*Applied Music (3 must be upper division)	8
	Electives (2 must be upper division; a solo recital is required.)	7-8
		30

*A maximum of 3 hours of MUPF 127 may apply on the minor.

Participation in an ensemble appropriate to the applied area is required during each quarter of performance studies.

COMPOSITION AND THEORY (MUCT)

MUCT 101 FUNDAMENTALS OF MUSIC 2
 Introduction to the elements of notation, rhythm, scales, key signatures and terms, and reading skills. Does not apply toward a major or minor.

MUCT 121, 122, 123 THEORY I 3, 4, 4
 Intensive study of traditional harmonic concepts up to and including secondary dominants. Aural skills (sightsinging and ear training) are integrated throughout. Prerequisite: Concurrent registration in MUCT 101 or passing of an 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 (sightsinging 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. Offered on demand.

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 even years only.

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 odd years only.

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 odd years only.

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 even years only.

MUED 291, 292 PERCUSSION TECHNIQUES AND METHODS

1, 1

Class instruction in the performance and teaching of percussion instruments. Offered even years only.

MUED 324 ORGAN PEDAGOGY AND LITERATURE

3

Study in the teaching of organ, including a survey of materials, repertoire, and techniques. Offered odd years only.

MUED 334 PIANO PEDAGOGY AND LITERATURE

3

Study of the teaching of piano, including a survey of materials, repertoire, and techniques. Offered even years only. By permission only.

MUED 354 VOCAL TECHNIQUES AND METHODS

3

Study of vocal production and instruction, including a survey of materials. Offered even years only.

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. Offered on demand.

MUED 394 MUSIC IN THE ELEMENTARY SCHOOL

3

An overview of objectives, procedures, and materials in music education for kindergarten through grade eight. For elementary education majors only.

MUED 395 ELEMENTARY SCHOOL MUSIC METHODS AND MATERIALS

4

A comprehensive study of objectives, procedures, and materials in music education for kindergarten through grade eight. Prerequisite: Permission of instructor. Offered odd years only.

MUSIC

MUED 396 SECONDARY MUSIC METHODS

3

Study of objectives, procedures, and materials in music education for grades seven through twelve. By permission of the instructor only. Offered odd years only.

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. Prerequisite: Permission of instructor.

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. Permission of instructor.



MUSIC PERFORMANCE (MUPF)**ENSEMBLES**

Membership in the performance groups listed below is by audition or invitation. These classes may be repeated for additional credit.

MUPF 215 CHORAL UNION 1
A large choir which performs major choral works and sings for church services.

MUPF 245 I CANTORI 1
A select choral group which specializes in music of the Renaissance and other works suitable for chamber groups.

MUPF 255 CONCERT BAND 1
A symphonic band. Local performances only.

MUPF 256 BAND (WIND ENSEMBLE) 1
A select touring concert band. Participation in Concert Band, MUPF 255, required.

MUPF 265 BRASS CHOIR 1
A select group of brass and percussion players emphasizing literature of 8-15 parts with and without percussion.

MUPF 266 ORCHESTRA 1
An organization which performs representative orchestral literature from the Baroque era to the present. Graded S or NC.

MUPF 275 WALLA WALLA SYMPHONY ORCHESTRA 1
A community symphonic orchestra open to members of the college orchestra. Graded S or NC.

MUPF 285 ENSEMBLE 1
Vocal or instrumental duos, trios, quartets, or larger groups under the direction of a music department staff member.

CONDUCTING

MUPF 361 BASIC CONDUCTING 2
Study of basic techniques and the art of conducting musical ensembles of all kinds.

MUPF 362 INSTRUMENTAL CONDUCTING TECHNIQUES AND MATERIALS 3
Study of advanced techniques, rehearsal procedures, repertoire, program building, and administration. Prerequisite: MUPF 361 or permission of instructor.

MUPF 363 CHORAL CONDUCTING TECHNIQUES AND MATERIALS 3
Study of advanced techniques, rehearsal procedures, repertoire, program building, and administration. Prerequisite: MUPF 361 or permission of instructor.

MUPF 364 INSTRUMENTAL CONDUCTING 2
Application of conducting techniques through practical experience with instrumental ensembles. Orchestral conducting 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. May be repeated for additional credit. Prerequisites: MUPF 361 and permission of instructor.

Nondepartmental

MUSIC

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

1

Class instruction in general or special areas of interest.

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: 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 479 DIRECTED RESEARCH/PROJECT

1-3

An alternative to MUPF 487, Senior Recital, 0 credits; in Bachelor of Arts, Music.

MUPF 487 SENIOR RECITAL

0

Preparation of materials for recital in consultation with music with music staff member. Graded S or NC.



Nondepartmental

NONDEPARTMENTAL

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 either full or part-time. Duration of appointments is typically for one quarter but in many cases may be extended or repeated. Supervision and evaluation are the joint responsibility of a professor from the student's major field of study, the Coordinator of Cooperative Education, and the employment supervisor.

Participants in the Cooperative Education Program may gain valuable work experience, earn college credits and 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 should get in touch with the Coordinator of Cooperative Education at the Career Development Center. Further information is also available from faculty or student representatives in 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.

CAREER DEVELOPMENT (CDEV)

CDEV 210 CAREER EXPLORATION AND PREPARATION

1

Development of career exploration and decision making skills, allowing student to implement appropriate job search strategies. This would include resume writing, interviewing techniques and development of positive work habits and attitudes.

PHILOSOPHY

_____, Chair; C. Barnett, G. Greenwalt.

Philosophy courses should, in their manner and subject matter, encourage 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
		<hr/> 28

Approval of philosophy adviser required.

PHILOSOPHY (PHIL)**PHIL 204 ESSENTIALS OF CRITICAL REASONING**

4

Study of concepts and procedures basic to effective critical thinking, and extensive practice with material drawn from a variety of disciplines. Prerequisites: ENGL 121, 122, 123 or permission of the instructor. Will not be offered 89-90.

PHIL 205 INTRODUCTION TO PHILOSOPHY

4

Study of the nature and place of philosophy in human thought, its traditional as well as its more recent concerns and approaches. Includes 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. Will not be offered 89-90.

PHIL 305 MORAL PHILOSOPHY

4

Philosophical investigation of major moral concepts such as duty, the good, the right, and 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. Will not be offered 89-90.

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. Will not be offered 89-90.

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

Critical study of selected philosophers and their distinctive contributions to philosophical thought. Prerequisite: PHIL 205, PHIL 206. Will not be offered 89-90.

PHIL 454 WESTERN POLITICAL AND SOCIAL THOUGHT (or PLSC 454; SOCI 454)

4

See the History section of this bulletin.

TEACHING LEARNING CENTER

Dale Hepker, Director.

The Teaching Learning Center offers free drop-in tutoring and private tutoring for a minimal fee to all students enrolled in Walla Walla College. The business, math, computer, modern languages, reading, science, and writing labs in the Center offer help to students enrolled in courses or to students needing to improve their skills before enrolling. Help in additional areas is available upon sufficient demand. The Center also offers specific seminars to help students improve academic skills.

READING (RDNG)**RDNG 100 DEVELOPMENTAL READING**

2, 2, 2; 6

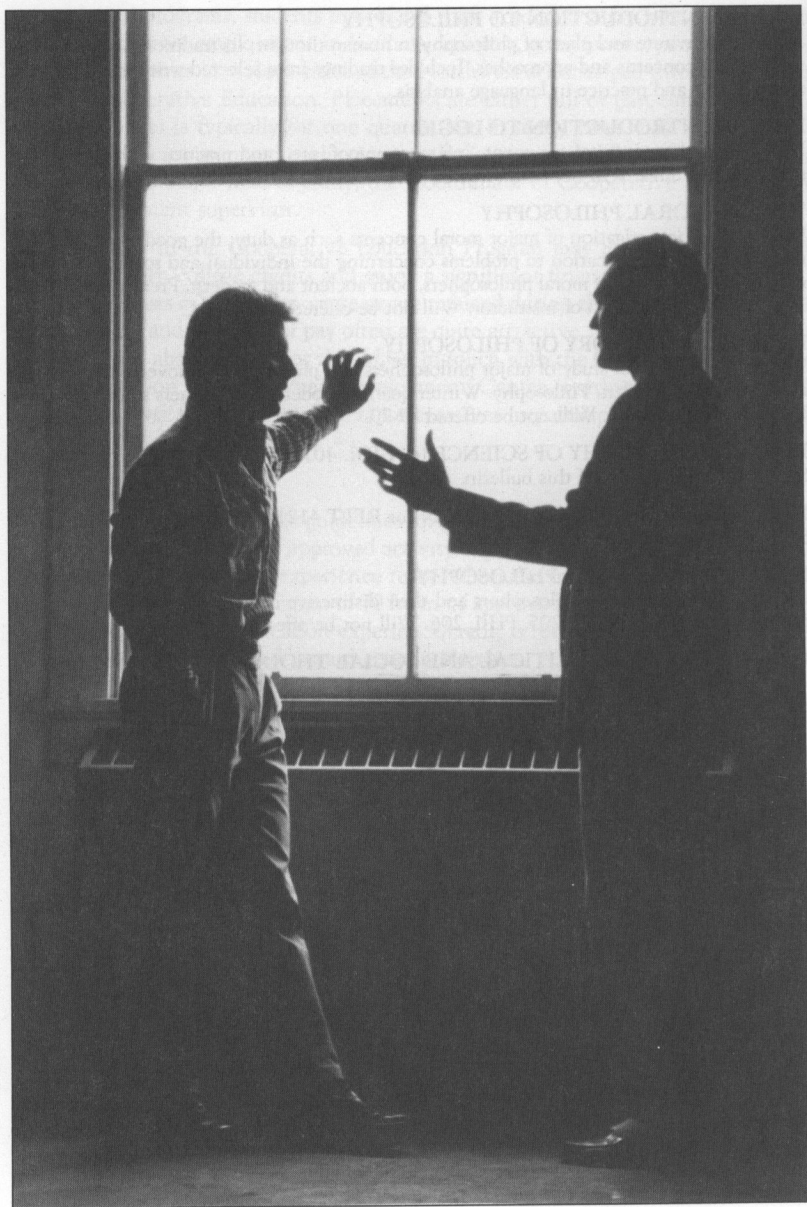
Individualized instruction in reading, including comprehension, vocabulary, speed, and study skills essential for success in college studies. This course may be taken for up to six quarter hours during three quarters with materials being chosen to suit the individual's progress. Credit does not apply toward graduation.

NONDEPARTMENTAL

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.





Nursing

NURSING

F. Fickess, Dean; C. Brown, M. Casebolt, V. Meyer, K. Tetz, F. Troutman, L. Whitchurch, S. Williams, D. Wright, C. Wrightman.

The School of Nursing offers a four-year program leading to a baccalaureate degree with a major in nursing. The purpose of the program is to prepare professional nurses to function in a variety of settings and to provide a foundation for graduate study.

The freshmen and sophomore years of the nursing curriculum are taken on the College Place campus and include a combination of general studies, nursing cognates, and nursing courses. The junior and senior years are taken on the Portland, Oregon, campus. 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 community hospitals, service agencies, 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. The procedure is the same for nursing majors as for all other majors.

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 (necessary for clinical placement).

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. 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 NRSB 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 NRSB 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, students must successfully complete both the theory and clinical portions of the course. Anyone receiving a grade lower than C in either the theory or clinical portion of a course must repeat both the theory and clinical portions.

Students who are judged to be unsafe practitioners may be removed from the clinical area and are subject to dismissal as nursing majors.

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:

Nursing Courses:

NRSB 210	Introduction to Nursing	3
NRSB 211	Fundamentals of Nursing	4
NRSB 212	Health Assessment and the Nursing Process	4
NRSB 213	Pharmacology in Nursing	4

Required Cognates:

BIOL 201, 202	Anatomy and Physiology	8
BIOL 222	Microbiology	5
CHEM 101, 102 103	Introductory Chemistry	11
CPTR 105	Personal Computing	3

NURSING

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 the Family	4
SPCH 101	Fundamentals of Speech Communication	4

General Studies:

	*Health and Physical Education (activity courses)	2
	*History	8
	*Humanities (fine arts, literature, philosophy)	12
ENGL 121, 122, 123	College Writing	8
	*Religion and Theology (minimum of 4 quarter hours in Biblical Studies)	4-16

*See the General Studies section of this Bulletin.

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.

NRSG 210	Introduction to Nursing	3
NRSG 211	Fundamentals of Nursing	4
NRSG 212	Health Assessment and the Nursing Process	4
NRSG 213	Pharmacology in Nursing	4
NRSG 321	Nursing of the Acutely Ill Adult	8
NRSG 325	Research in Nursing	3
NRSG 331	Mental Health Nursing	8
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

NURSING

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	}
or		
NRSG 433	Topics in Nursing	
NRSG 490	Nursing Practicum	
or		
NRSG 433	Topics in Nursing	
NRSG 490	Nursing Practicum	}
NRSG 494	Cooperative Education	
NRSG 435	Critical Care Nursing	
NRSG 441	Community Health Nursing	4
NRSG 445	Issues and Trends in Nursing	8
		<u>3</u>
		83

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, 102 103	Introductory Chemistry	11
CPTR 105	Personal Computing	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 the Family	4
SPCH 101	Fundamentals of Speech Communication	4

NURSING (NRSG)

NRSG 210 INTRODUCTION TO NURSING 3
Introduction to professional nursing practice, education, and health maintenance. Includes concepts on historical perspectives, current trends, human needs, nursing process, and lifestyle practices necessary to prevent illness. Provides basis for developing effective communication skills and helping relationships. Prerequisites: BIOL 201, 202; PSYC 130; SOCI 204.

NRSG 211 FUNDAMENTALS OF NURSING 4
Emphasis 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 4
Emphasis 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 4
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 8
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. Practicum included. Prerequisite: NRSG 213. Corequisite: NRSG 351.

NURSING

- NRSG 325 RESEARCH IN NURSING** 3
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** 8
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** 8
Emphasis on 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** 2
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** 2
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** 2
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** 8
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** 2
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** 4
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** 1, 2; 6
Study of current topics of interest in professional nursing. May include papers or other projects.
- NRSG 435 CRITICAL CARE NURSING** 4
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** 8
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** 3
Discussion of issues and trends affecting the practice of professional nursing and health care delivery.
- NRSG 490 NURSING PRACTICUM** 2; 4
Individual study arrangement involving students, faculty, and health care agencies to gain practical experience in an area of special interest. Prerequisite: Senior standing. Up to 4 hours may apply toward the major.
- NRSG 494 COOPERATIVE EDUCATION** 2; 4
Individual contract arrangement involving students, faculty, and cooperating health care agencies to gain practical nursing experience. Prerequisite: NRSG 213 and permission of the nursing faculty. Only two credits may apply toward the major.



Office Administration

OFFICE ADMINISTRATION

N. Cleveland, Chair; R. Greenway, 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 office occupation and business 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:

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 459	The Administrative Assistant	4
OFAD 466	Office Ethics and Relations	3

OFFICE ADMINISTRATION

OFAD 496	Office Administration Seminar	1
Electives (must be upper division)		7
Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair.		52

Cognates:

ACCT 201, 202, 203	Principles of Accounting	}	10
or			
ACCT 205, 206	Principles of Accounting	}	3
CPTR 105	Personal Computing		
ECON 211	Principles of Macroeconomics		4
GBUS 361	Business Law		4
MGMT 371	Management and Organizational Behavior		4

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
		57

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 105	Personal Computing		
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
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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 105	Personal Computing	3
MIS 285	Computer Principles	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.

43

Cognates:

ACCT 115, 116	Clerical Accounting	}	6-10
or			
ACCT 201, 202, 203	Principles of Accounting	}	4
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

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
		<hr/> 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	4
		<hr/> 25

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

Cognates: Accounting Assistant

CPTR 105	Personal Computing	3
FINA 101	Personal Finance	2
MIS 285	Computer Principles	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	6
		<hr/> 21

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

Cognates: Administrative Assistant

ACCT 115, 116	Clerical Accounting	}	6
or			
ACCT 201	Principles of Accounting		
and			
ACCT 222	Accounting Projects		

OFFICE ADMINISTRATION

CPTR 105	Personal Computing	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
or			
ACCT 201	Principles of Accounting		
and			
ACCT 222	Accounting Projects		
CPTR 105	Personal Computing		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
or			
ACCT 201	Principles of Accounting		
and			
ACCT 222	Accounting Projects		
BIOL 201, 202	Anatomy and Physiology		8
CPTR 105	Personal Computing		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

OFFICE ADMINISTRATION

OFAD 362	Business Communications	4
OFAD 459	The Administrative Assistant	4
	Electives	2
Approval of office administration adviser required.		<hr/> 30

BUSINESS EDUCATION (BUED)

BUED 474 WORKSHOP IN BUSINESS EDUCATION	2
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	2
Study of the problems, trends, and recent developments in business education.	
BUED 496 SEMINAR IN BUSINESS EDUCATION	2
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.	

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 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. Prerequisite: OFAD 113 or equivalent.	
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 touch typewriting 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.	

OFFICE ADMINISTRATION

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 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. Emphasis 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.

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.

OFFICE ADMINISTRATION

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 machine dictation. 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 office assistant; 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 an 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.



Legal statements

UNIVERSITY OF CALIFORNIA, BERKELEY

UNIVERSITY OF CALIFORNIA, BERKELEY, CALIF. 94720-1380

Physics

PHYSICS

G. Johnson, Chair; C. Barnett, G. Schoepflin (on leave).

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, careers in applied or basic research, or 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.

Major Requirements:

PHYS 114	Perspectives in Physics	1
PHYS 115, 116	Introduction to Experimentation	2
PHYS 251, 252, 253	*Principles of Physics	9
PHYS 254, 255, 256	Principles of Physics Laboratory	3
PHYS 311	Modern Physics	3
PHYS 312	Physical Electronics	3
PHYS 313	Thermodynamics	4
PHYS 314	Modern Physics Laboratory	1
PHYS 315	Physical Electronics Laboratory	1
PHYS 316	Optics Laboratory	1
PHYS 317, 318, 319	Physics Seminar I	3
PHYS 321, 322	Optics	6
PHYS 401, 402	Electricity and Magnetism	8
or		
PHYS 421	Classical Mechanics	
and		
PHYS 422	Quantum Mechanics	3
PHYS 417, 418, 419	Physics Seminar II	

*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	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CPTR 134	Introduction to Computing (FORTRAN)	3-4
or		
CPTR 141	Introduction to Programming (Pascal)	

PHYSICS

MATH 181, 281-283	Analytic Geometry and Calculus I-IV	16
MATH 315	Probability and Statistics	4

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 requirements as outlined in this bulletin. The Graduate Record Examination in physics (general and subject portions) is required.

Major Requirements:

PHYS 114	Perspectives in Physics	1
PHYS 115, 116	Introduction to Experimentation	2
PHYS 251, 252, 253	*Principles of Physics	9
PHYS 254, 255, 256	Principles of Physics Laboratory	3
PHYS 311	Modern Physics	3
PHYS 312	Physical Electronics	3
PHYS 313	Thermodynamics	4
PHYS 314	Modern Physics Laboratory	1
PHYS 315	Physical Electronics Laboratory	1
PHYS 316	Optics Laboratory	1
PHYS 317, 318, 319	Physics Seminar I	3
PHYS 321, 322	Optics	6
PHYS 401, 402	Electricity and Magnetism	8
PHYS 414, 415, 416	Experimental Physics	3
PHYS 417, 418, 419	Physics Seminar II	3
PHYS 421	Classical Mechanics	4
PHYS 422, 423	Quantum Mechanics	8

*Students who have completed PHYS 211, 212, 213 may meet the PHYS 251, 252, 253 requirement by passing a department examination.

63

Cognates:

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CPTR 134	Introduction to Computing (FORTRAN)	3-4
or		
CPTR 141	Introduction to Programming (Pascal)	4
ENGR 228	Circuit Analysis	
ENGR 325	Instrumentation	3
or		
ENGR 354	Digital Logic Circuits	
or		3
CPTR 331	Computers in the Laboratory	
ENGR 366	Vibrations (Recommended; not required)	3
MATH 181, 281-283	Analytic Geometry and Calculus I-IV	16
MATH 289	Linear Algebra and Its Applications or equivalent	3
MATH 312	Ordinary Differential Equations	4
MATH 315	Probability and Statistics	4

MATH 341
or
MATH 423

Numerical Analysis
Introduction to the Theory of Complex
Variables

4

MAJOR IN BIOPHYSICS (Bachelor of Science)
See the Interdisciplinary section of this bulletin.

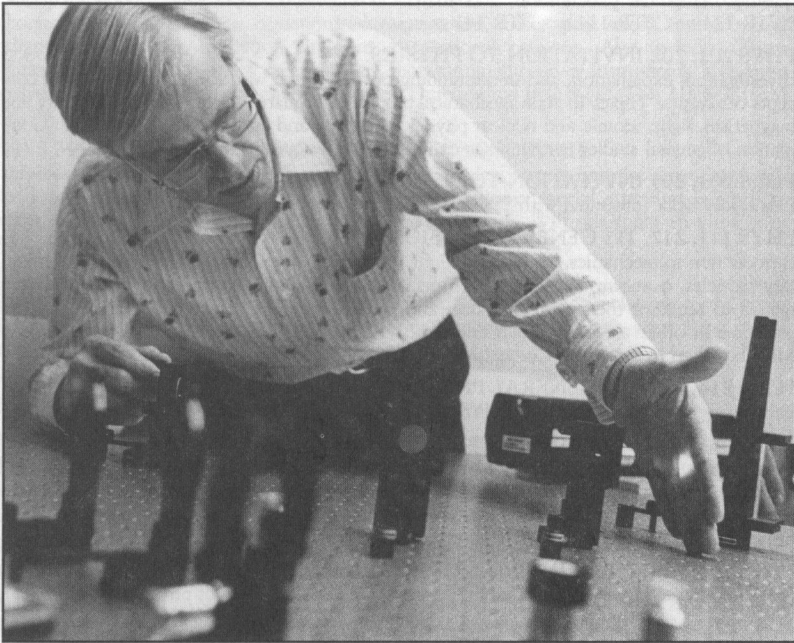
MINOR IN PHYSICS

A student minoring in physics must complete 27 quarter hours:

Electives (3 must be upper division)

27

Approval of physics adviser required.



PHYSICS

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, meteors, 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 nonphysics majors to acquaint them with the ideas and methods of physics for possible application to problems in other areas of human endeavor. Prerequisites: MATH 121, 122 or equivalent. Must be taken in sequence. Corequisites: PHYS 214, 215, 216.

PHYS 214, 215, 216 GENERAL PHYSICS LABORATORY

1, 1, 1

Laboratory work integrated with PHYS 211, 212, 213.

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 thermostatics and irreversible thermodynamics based on elementary statistical mechanics. Prerequisites: PHYS 311; MATH 315.
- PHYS 314 MODERN PHYSICS LABORATORY** 1
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** 1
Experiments in crystal and semiconductor physics, properties of ionized gases, measurement of fundamental physical constants. Corequisite: PHYS 312.
- PHYS 316 OPTICS LABORATORY** 1
Experimental study of geometrical and physical optics.
- PHYS 317, 318, 319 PHYSICS SEMINAR I** 1, 1, 1
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** 3, 3
Study of classical theory of radiation and optics based on Maxwell's equations; includes reflection, refraction, dispersion, diffraction, interference, coherence, polarization, scattering, polychromatic waves. Corequisite: PHYS 316.
- PHYS 352, 353 RADIOISOTOPE TECHNIQUES** 2, 2
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. Also includes 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** 3
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** 4, 4
Study of electric and magnetic field theory, polarization, magnetization, solutions to the equations of Laplace and Poisson, Maxwell's equations, applications to plane waves, and dipole radiation.
- PHYS 414, 415, 416 EXPERIMENTAL PHYSICS** 1, 1, 1
Experimental investigations in classical and modern physics.
- PHYS 417, 418, 419 PHYSICS SEMINAR II** 1, 1, 1
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** 4
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** 4, 4
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** 0
Individual contract arrangement between a cooperating employer and a student which provides the student with practical experience in an off-campus setting. Graded S or NC. Prerequisites: CDEV 210 or equivalent, completion of at least ten credit hours of upper division physics courses, and departmental approval.



Preprofessional Programs

PREPROFESSIONAL PROGRAMS

The College offers courses required for admission to professional or technical schools. Students should learn the admission requirements of the school of their choice. Most preprofessional curricula require two units of high school mathematics (algebra and geometry). **Students who are not receiving a formal degree from Walla Walla College but who have successfully completed a preprofessional curriculum outlined in this bulletin may apply for a certificate of completion issued by the college.**

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. 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 plan their preprofessional studies to fit the requirements of the particular institutions to which they intend to apply.

Students interested in completing the preprofessional architecture requirements at Walla Walla College and in transferring to Andrews University for the architecture program should consult with the preprofessional architecture advisers for the recommended course of study.

ART 161, 162, 163	Design	9
ART 184, 185	Introduction to Drawing	4
ART 251	Introduction to Art	4
ART 324, 3257	History of Art	6
CPTR 134	Introduction to Computing (FORTRAN)	3
ENGL 121, 122, 123	College Writing	8
ENGR 121, 122, 123	Introduction to Engineering	6
HIST 120, 121, 122	History of Western Civilization	8
MATH 121, 122	Fundamentals of Mathematics I, II	8
MATH 181	Analytic Geometry and Calculus I	4
MATH 281	*Analytic Geometry and Calculus II	4
PEAC	Electives	3
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Laboratory	3
PSYC 130	*General Psychology	4
RELB, RELH, RELT	Electives	8
SPCH 101	Fundamentals of Speech Communication	4

*Suggested courses: other courses in this same field may also be appropriate.

PREPROFESSIONAL PROGRAMS

CHIROPRACTIC

S. Lee, Academic Adviser

Two years of college work 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 and on state requirements, which vary. 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

R. Perrin, Academic Adviser

The minimum requirement for admission to dentistry is 96 quarter hours. However, most dental schools expect candidates to have completed a bachelor's degree. 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 I, II (or equivalent)	8
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

A. Grable, 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

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:

BIOL 201, 202	Anatomy and Physiology	8
BIOL 222	Microbiology	5
CHEM 101, 102	Introductory Chemistry	8
ENGL 121, 122, 123	College Writing	8

PREPROFESSIONAL PROGRAMS

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

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

PREPROFESSIONAL PROGRAMS

MATH 121, 122	Fundamentals of Mathematics I, II	}	4-8
or			
MATH 117	Precalculus		
or		}	16
MATH 181	Analytical Geometry and Calculus I		
PHYS 211, 212, 213	General Physics		
PHYS 214, 215, 216	General Physics Laboratory	}	16
or	12		
PHYS 251, 252, 253	Principles of Physics		
PHYS 254, 255, 256	Principles of Physics Laboratory	}	16
	Religion		
Also recommended are:			
BIOL 394	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

See Nursing section of this Bulletin.

OCCUPATIONAL THERAPY

C. Kuhlman, Academic Adviser

Students 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
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.	

PREPROFESSIONAL PROGRAMS

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

Two years of high school mathematics or equivalent

Religion

Electives

23

To meet the minimum of 96 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

G. Johnson, Academic Adviser

While two years of college work is the minimum requirement for admission to most optometry schools, the majority of students being admitted have finished at least four years of college or received a bachelor's degree. Students interested in optometry should choose a major even though they may later gain admission to professional school before finishing it. At some optometry schools a student admitted before graduation must then finish a bachelor's degree while pursuing professional studies. This is not advisable since the requirements of the school awarding the degree must then be met.

The preprofessional curriculum should include as a minimum the following courses:

CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
ENGL 121, 122, 123	College Writing	8
MATH 121, 122	*Fundamentals of Mathematics I, II (may be satisfied by a good secondary mathematics background)	8
MATH 181	Analytic Geometry and Calculus I	4
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Laboratory	3
PSYC 130	General Psychology	4

*Fundamentals of Mathematics should be taken the first year since it is a corequisite for General Chemistry and a prerequisite for General Physics.

Since the requirements for other preoptometry courses differ widely among the optometry schools, students should obtain catalogs from each school of interest in order that all prerequisites may be fulfilled. Other commonly required courses include:

BIOL 101, 102, 103	General Biology	12
BIOL 201, 202	Anatomy and Physiology	8
BIOL 222	Microbiology	5
CHEM 321, 322, 323	Organic Chemistry	9
CHEM 324, 325, 326	Microscale Organic Laboratory	3

A course in statistics

An additional psychology course

PREPROFESSIONAL PROGRAMS

Students may also wish to request the booklet Admissions to Schools and Colleges of Optometry, available from the American Optometric Association, 243 Lindburg Blvd., St. Louis, MO 63141

OSTEOPATHY

S. Lee, 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

S. Lee, 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:

BIOL	101, 102, 103	General Biology (or Zoology)	12
BIOL	222	Microbiology	5
CHEM	141, 142, 143	General Chemistry	9
CHEM	144, 145, 146	General Chemistry Laboratory	3
CHEM	321, 322, 323	Organic Chemistry	9
CHEM	324, 325, 326	Microscale Organic Laboratory	3
ENGL	121, 122, 123	College Writing	8
MATH	181, 281	Analytical Geometry and Calculus I, II	8
PHYS	211, 212, 213	General Physics	9
PHYS	214, 215, 216	General Physics Laboratory	3

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. Students should check with the adviser about changing requirements. Both Loma Linda and Andrews University will offer the master's degree. Courses at Walla Walla College that meet entry requirements are as follows:

BIOL	101, 102, 103	General Biology	} 8-12
or (allowed for AU)			
BIOL	201, 202	Anatomy and Physiology	
BIOL	222	Microbiology	5
CHEM	141, 142, 143	General Chemistry	9
CHEM	144, 145, 146	General Chemistry Laboratory	3
CPTR	105	Personal Computing	3
ENGL	121, 122, 123	College Writing	8
PHYS	201, 202	Invitation to Physics	6
PHYS	204, 205	Invitation to Physics Laboratory	2
PSYC	130	General Psychology	4
SOCI	204	General Sociology (prerequisite to SOCI 224)	4

PREPROFESSIONAL PROGRAMS

SOCI 224	Human Development and the Family	4
SPCH 101	Fundamentals of Speech	4
	Humanities	8-12
	Select from at least two fields: fine arts (4 quarter hours of applied music or arts may be included for LLU), foreign language, literature, philosophy, or history of civilization. Fine arts is required for AU.	
MATH 121	Fundamentals of Mathematics I	4
	Religion	8-9
	RELT 202 or 314 required for AU	
	Electives	
	To meet the minimum of 96 quarter hours for AU.	
	LLU prerequisites 98 hours including a statistics course.	
	AU also requires 5 hours of PE with HLSC 110.	

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

The Loma Linda University School of Public Health is one of the 24 fully-accredited schools of public health in the United States but is the only one with a distinctly Christian emphasis. A variety of graduate programs are offered: Biostatistics, Environmental Health, Epidemiology, Health Administration, Health Promotion and Education, International Health, and Nutrition.

Loma Linda offers four Masters degrees: Master of Public Health (MPH), Master of Science in Public Health (MSPH), Master of Science (MS), and Master of Health Administration (MHA). Two doctoral degrees are also offered: Doctor of Health Science (DHSc), and Doctor of Public Health (DrPH).

Applicants must have at least a baccalaureate degree from an accredited institution with a GPA of 3.0 or above. Content and program length vary according to each applicant's background. What remains constant is the School's commitment to equip graduates to play well their role in keeping man whole.

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:

BIOL 201, 202	Anatomy and Physiology	8
ENGL 121, 122, 123	College Writing	8

PREPROFESSIONAL PROGRAMS

PHYS	201, 202	Invitation to Physics	}	8
and				
PHYS	204, 205	Invitation to Physics Laboratory		
or			}	4
PHYS	211, 212	General Physics		
and				
PHYS	214, 215	General Physics Laboratory	}	4
PSYC	130	General Psychology		
or				
SOCI	204	General Sociology	}	4
		Math (Two years of high school math)		
		Religion		
		Electives		
		To meet the minimum of 48 quarter hours		

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 planning 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:

BIOL	101, 102, 103	General Biology	}	8-12
or				
BIOL	201, 202	Anatomy and Physiology		
BIOL	222	Microbiology	}	5
CHEM	101, 102	Introductory Chemistry		8
PHYS	201, 202	Invitation to Physics		
and			}	8
PHYS	204, 205	Invitation to Physics Laboratory		
or				
PHYS	211, 212	General Physics	}	
and				
PHYS	214, 215	General Physics Laboratory		

PREPROFESSIONAL PROGRAMS

PSYC 130	General Psychology	}	4
or SOCI 204	General Sociology		
ENGL 121, 122, 123	College Writing		8
	Math (Two years of high school math)		
	Religion		4
	Electives		
	To meet the minimum of 48 quarter hours. (Speech is highly recommended.)		

The ACT or SAT examination is required for students entering Loma Linda University.

SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY

Donnie Rigby, Academic Adviser

The requirements below apply to the Loma Linda University program in speech-language pathology and audiology. Because the basic requirements for entrance into other speech-language pathology and audiology programs may be different, the student should confer with the school of his choice.

Where possible, the student should plan to complete speech-language pathology-related courses on this campus before transferring to Loma Linda University or another school. They include:

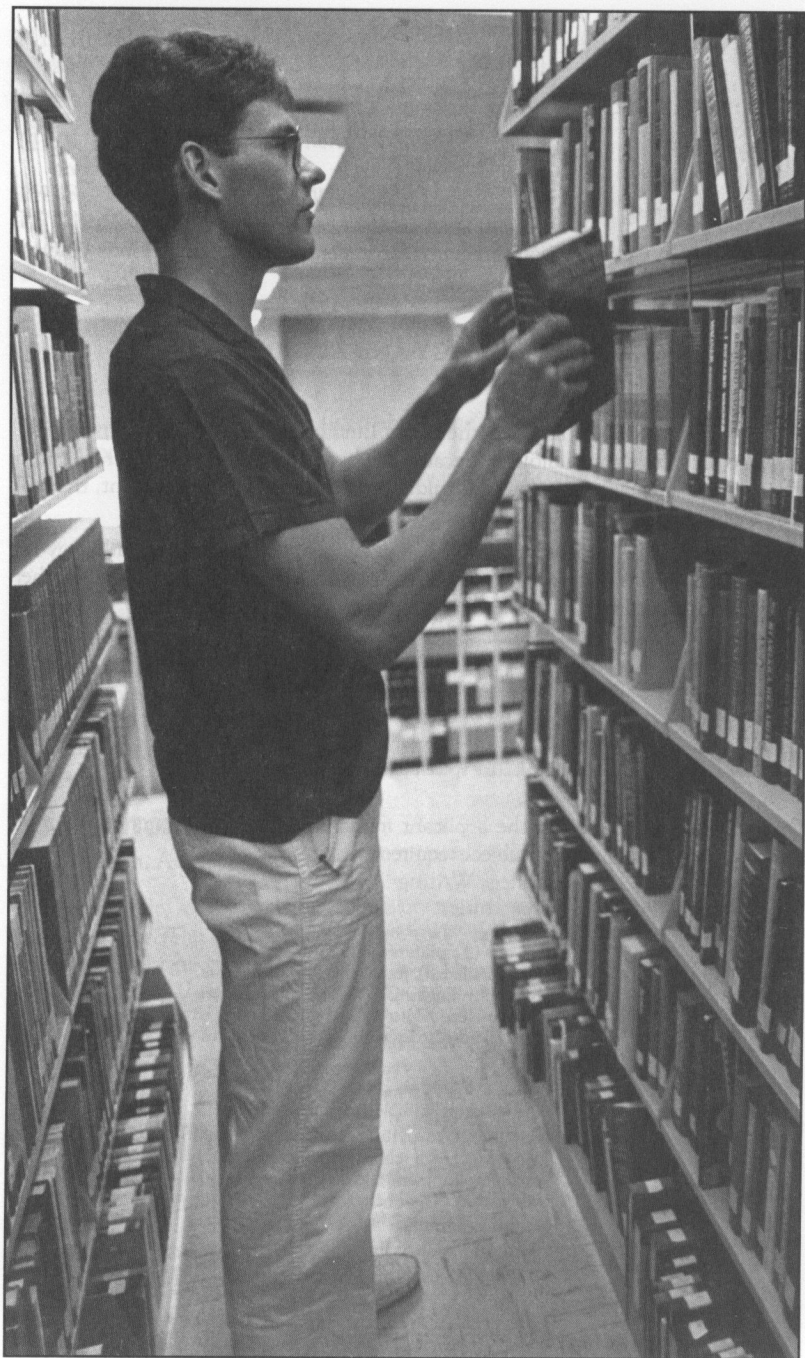
SPCH 107	*Voice and Articulation	4
SPPA 210	†Survey of Speech-Language Pathology and Audiology	3
SPPA 250	*Sign Language for the Deaf	3

† Required

*These courses may help fulfill elective speech pathology hours.

To be eligible for admission, the applicant must have completed a minimum of 96 quarter hours. The minimum subject requirements are:

College Writing	8	
Humanities	16	
Select from at least two fields:		
Fine arts (4 credits of applied music or art may be included), foreign language, literature, philosophy. English as a foreign language may not be included. History of civilization may be counted either in humanities or social studies.		
Speech	4	
Natural Science		
Anatomy and Physiology recommended		
Mathematics (Math 106 strongly recommended)		
Two years of high school mathematics or equivalent (excluding arithmetic and business mathematics), with grades of C- or better.		
Social Sciences	12	
General Psychology	4	
Human Growth and Development	}	8
or		
Developmental Psychology		
Select one other behavior science course.		



PREPROFESSIONAL PROGRAMS

Religion	12
Any student who has attended a Seventh-day Adventist college must have an average of two units of credit for each quarter attended to a total of 12.	
Electives	
Sufficient to meet the minimum of 96 hours. (Computer science/word processing course recommended.)	

The Allied Health Professions Admission Test is required for students entering Loma Linda.

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, students should confer with the schools of their choice.

Requirements:

BIOL 101, 102, 103	General Biology	2
BIOL 261	Genetics	4
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
CHEM 431	Biochemistry	4-8
CHEM 433	Biochemical Laboratory Methods	
or		
CHEM 431, 432	Biochemistry	4-8
CHEM 433, 434	Biochemical Laboratory Methods	
ENGL 121, 122, 123	College Writing	8
MATH 121, 122	Fundamentals of Mathematics I, II	8
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Laboratory	3
SPCH 101	Fundamentals of Speech Communication	4
	Humanities and Social Studies	15-20

Recommended Courses:

See preveterinary adviser for additional courses recommended by Washington State University Curriculum Committee.

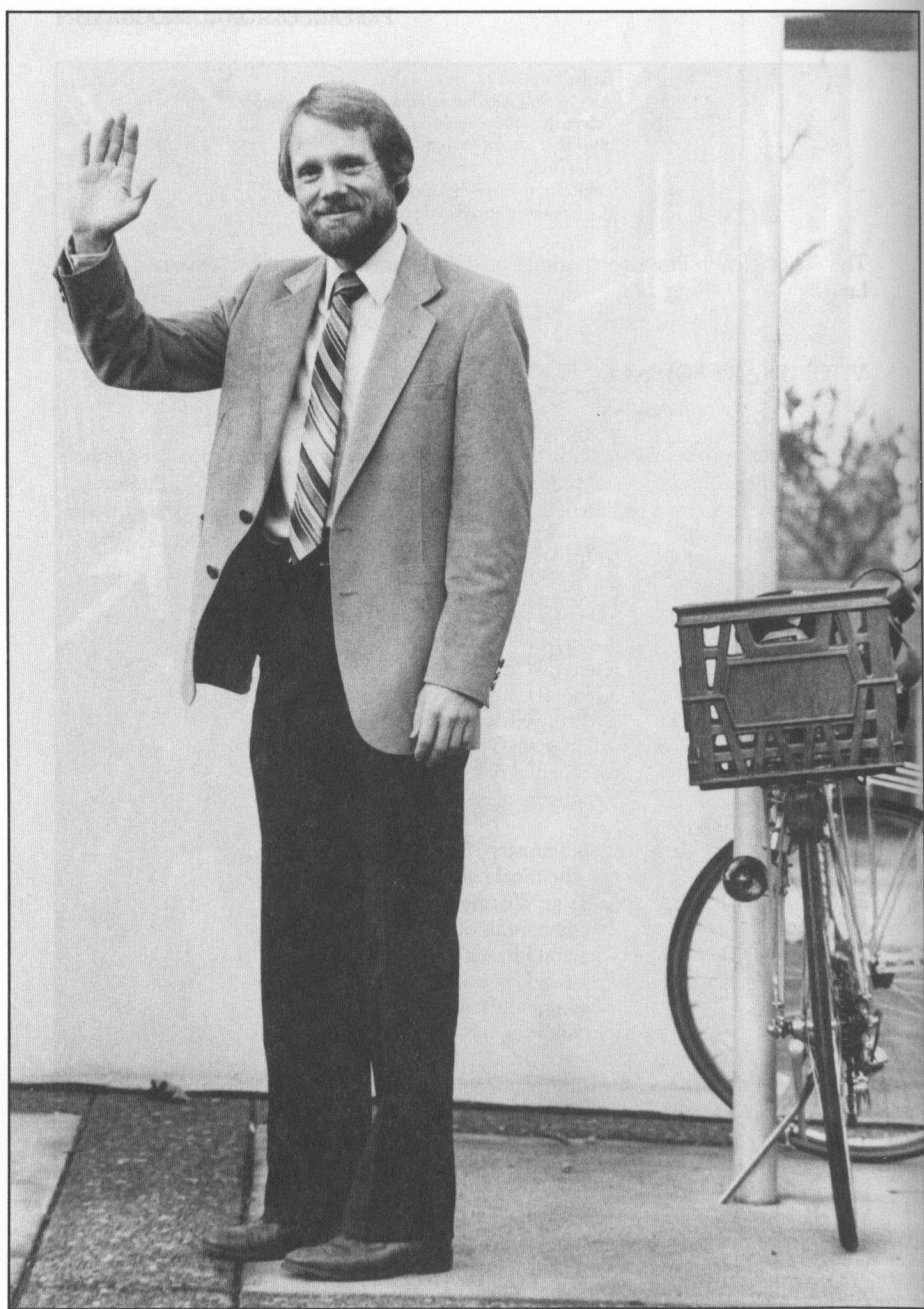
Total hours required (additional electives) 90

Nonacademic Requirements:

Veterinary Aptitude Test or Graduate Record Examination (General Test)

Veterinary Medical Exposure and Animal Experience 300 hours

Applicants must record a minimum of 300 hours of veterinary medical exposure and experience with animals or biomedical research laboratories by November 1 of the year of application.



Religion

RELIGION

J. Brunt, Dean; E. Bursey, D. Clark, J. Dybdahl (on leave), G. Greenwalt, B. Johanson, R. Jolliffe, 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. Students should plan on two additional years of graduate study at the Theological Seminary of Andrews University 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 Seventh-day Adventist 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 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:

RLNG 121, 122, 123	Greek I	9
RLNG 221, 222, 223	Greek II	6-9*
RLNG 331	Introduction to Hebrew	3
RLNG 332, 333	Elementary Hebrew	6
	Electives (12 must be upper division)	18-21
		<hr/> 45

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

*Dependent on Greek proficiency examination score.

RELIGION

Cognates:

RELB 223	Exegesis of Romans (Greek)	3
RELB 423	Hebrew Exegesis	3
RELH 205	Biblical Archaeology	3
RELH 406	History of the English Bible	2
RELH 455	Early Church History	3
RELH 404	A Scientific Approach to Biblical Interpretation	2

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
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).		
RELH 402	Modern Denominations	3
or		
RELH 403	World Religions	4
RELT 246	Christian Ethics	
RELT 330	Discipleship and Mission	4
RELT 496	Seminar in Christian Ethics	2
	Electives	17
		<hr/> 50
Electives must be chosen in consultation with and approved by the academic adviser assigned by the department.		

Cognate:

ENGL 224	Research Writing in Religion	3
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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:

RELB 141	Introduction to Old Testament Exegesis	3
RELB 142	Introduction to New Testament Exegesis	3
RELB 223	Exegesis of Romans (Greek)	3
RELB 423	Hebrew Exegesis	3
RELH 455	Early Church History	3
RELH 457	History of Adventism	2
RELP 150	Ministerial Orientation	0
RELP 241, 242, 243	Personal Ministry	4
RELP 380	Pastoral Administration and Evangelism	4
RELP 480	Pastoral Care and Counseling	4
RELP 496	Seminar in Pastoral Problems	2

RELIGION

RELT 143	Introduction to the Study of Ellen White's Writings	3
RELT 221	Christian Spirituality	3
RELT 456, 457	Systematic Theology I & II	6
RELT 496	Seminar in Christian Ethics	2
	Electives (8 must be upper division)	<u>15</u>
		60

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:

ENGL 224	Research Writing in Religion	3
HIST 456	Medieval and Modern Church History	4
RLNG 121, 122, 123	Greek I	9
RLNG 221, 222, 223	Greek II	9†
RLNG 331	Introduction to Hebrew	3
RLNG 332	Elementary Hebrew	3
SPCH 101	Fundamentals of Speech Communication	4
SPCH 381, 382, 383	Biblical Preaching	6
	One Philosophy Course*	

*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:

Electives (9 must be upper division) 30

Approval of Biblical languages adviser required. Recommended electives outside the minor are RELB 223; RELH 205, 406, 455; RELT 404.

MINOR IN RELIGION

A student minoring in religion must complete 30 quarter hours:

Electives (9 must be upper division) 30

Approval of religion adviser required.

BIBLICAL STUDIES (RELB)

RELB 101 BIBLE SURVEY 4

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.

RELB 104 THE MINISTRY OF JESUS 4

Survey of Christ's life in its historical setting as a basis for determining Christian action.

RELB 105 THE SERMON ON THE MOUNT 2

Study of the Sermon on the Mount as it relates to the needs of the Christian.

RELB 106 THE PARABLES OF JESUS 2

Exegetical study of Jesus' parables; considers literary structure, historical context, and relevance for today.

RELIGION

- RELB 111 MESSAGES OF THE OLD TESTAMENT** 4
Survey of basic themes of the Old Testament.
- RELB 141 INTRODUCTION TO OLD TESTAMENT EXEGESIS** 3
Introduction to the methods used in interpreting the Old Testament. Open only to departmental majors. Must be taken in sequence.
- RELB 142 INTRODUCTION TO NEW TESTAMENT EXEGESIS** 3
Introduction to the methods used in interpreting the New Testament. Open only to departmental majors. Must be taken in sequence.
- RELB 216 MESSAGES OF PAUL** 4
Survey of the basic themes of Paul's letters.
- RELB 223 EXEGESIS OF ROMANS (GREEK)** 3
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.
- RELB 281, 282, 283 THE NEW TESTAMENT AND ITS ENVIRONMENT (HONORS)** 2, 2, 2
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.
- RELB 301 OLD TESTAMENT HISTORY** 3
Study of the historical framework in which the religion of Israel developed; considers dominant events and trends in God's saving relationship to His covenant people.
- RELB 302 PENTATEUCH** 3
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.
- RELB 303 WRITINGS** 3
Introduction to the third section of the Hebrew Canon; considers authorship, the time and circumstance of writing, and other literary questions.
- RELB 304 INTERPRETING THE PROPHETS** 4
A study of the ministry and messages of the early prophets of Israel.
- RELB 305 HEBREW PROPHETS AND CONTEMPORARY ISSUES** 4
Examination of the ministry and messages of the exilic and post-exilic prophets, including a consideration of their relevance for today.
- RELB 312 DANIEL** 3
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.
- RELB 313 REVELATION** 3
An exegetical study of the book of Revelation within its historical context, with special attention to its significance for Christian Eschatology.
- RELB 333 BIBLICAL PERSPECTIVES ON HEALING** 4
A survey of the various ways Biblical writers describe restoration to wholeness of life. The course focuses on selected texts from Old and New Testaments with particular attention to Jesus' acts of healing. Offered on the Portland campus.
- RELB 423 HEBREW EXEGESIS** 3
Exegetical study of selected Old Testament passages based on Hebrew text. Prerequisites: RLNG 331, 332.

RELB 434, 435, 436 GOSPELS

3, 3, 3

Exegetical examination of each gospel within its historical context to determine the particular message of each, the literary devices employed to convey this message, and its relevance for today.

RELB 464, 465, 466 NEW TESTAMENT EPISTLES

3, 3, 3

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).

RELIGIOUS HISTORY (RELH)**RELH 205 BIBLICAL ARCHAEOLOGY**

3

Introduction to the science of archaeology with particular attention to those discoveries which bear on the interpretation of the Biblical text.

RELH 349 RELIGION IN A SOCIAL CONTEXT (HONORS)

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. Same as SOCI 349.

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 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

Same as HIST 456. 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.

RELH 490 ARCHAEOLOGICAL FIELDWORK

0-4

Participation in an archaeological expedition. Involves all aspects of dig life — stratigraphic excavation employing the most up-to-date methodologies, careful recording and analysis of data in consultation with experts from a wide range of disciplines. Prerequisites: Application to the School of Theology is required by March 1 of the year course is taken and RELH 205.

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.

RELIGION

PROFESSIONAL (REL P)

REL P 150 MINISTERIAL ORIENTATION

0

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.

REL P 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; RELB 142; RELT 143.

REL P 370 HOSPITAL MINISTERIAL TRAINING

2 or 4

Seminar offered at the Portland Adventist Medical Center or the Walla Walla General Hospital. Besides a balanced program of clinical experience, films, discussion, and lectures by physicians, chaplains, and other resource personnel are included. Registration by permission only; class limited to five students. (Two quarter hours, Walla Walla General Hospital; four quarter hours, Portland Adventist Medical Center.)

REL P 380 PASTORAL ADMINISTRATION AND EVANGELISM

4

Study of theological and psychological principles of administration and evangelism applied to the church. Emphasizes Adventist church policy and programs, materials, and methods that can be used in the church's evangelistic task with observation of or participation in these phases of church activity. One laboratory per week.

REL P 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 P 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 P 483 ADVANCED PASTORAL CARE

3

Study of the role of the pastor in relationship to his ministering to families; includes study of the pastor as premarital counselor, as marriage and family counselor, and as marriage and family life enrichment leader. Prerequisite: REL P 480 or permission of the instructor.

REL P 490 FIELD EVANGELISM

1-3; 3

Experience in evangelistic techniques obtained by giving Bible studies and/or holding meetings. One to three hours any quarter; maximum, three.

REL P 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 P 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 143****3****INTRODUCTION TO THE STUDY OF ELLEN WHITE'S WRITINGS**

Introduction to the methods used in interpreting the writings of Ellen White. Open only to departmental majors. Prerequisite: RELB 141; RELB 142.

RELT 201 THE CHRISTIAN WAY OF SALVATION**4**

Study of the nature of human beings, human being's predicament, and the Christian offer of salvation; examines topics such as the basic structures of human beings and their possible violation, sin and its corrupting influence, salvation through Jesus Christ, the church as a salvic community, and the moral and social dimensions of Christian salvation.

RELT 202 FUNDAMENTALS OF CHRISTIAN BELIEF**4**

Study of Christian teachings from Seventh-day Adventist perspective; explores topics such as revelation, God, creation, human beings and sin, the person and work of Jesus, the nature and purpose of the church, salvation, and Christian hope. Prerequisite: One college-level religion course or permission of instructor.

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**

Historical and theological survey of basic types of Christian spirituality. Emphasis on relating themes and practices of spiritual life and devotional disciplines to Biblical theology and contemporary Christian living.

RELT 246 CHRISTIAN ETHICS**4**

Study of moral decision-making from the perspective of Christian theology; examines moral implications of Christian faith for contemporary issues.

RELT 312 BIOETHICS**4**

Study of contemporary moral issues in biology and medicine in the light of Christian ethics; includes topics such as abortion, euthanasia, eugenics, human experimentation, and the distribution of scarce lifesaving resources.

RELT 314 CHRISTIAN HOPE**3**

Study of Christian eschatology with emphasis upon biblical patterns of hope and disappointment, early Adventist end-time predictions, contemporary visions of hope offered by Seventh-day Adventists and other Christians, and the implications of eschatology for ethics.

RELT 317 INSPIRATION AND REVELATION**4**

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**4**

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 in 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**4**

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.

RELIGION

RELT 404 APPROACHES TO BIBLICAL INTERPRETATION 2
A survey of the critical disciplines employed in reading the Biblical text for ethical and theological reflection.

RELT 412 PHILOSOPHY OF RELIGION (or PHIL 412) 4
Study of religious thought and practice from a philosophical perspective; considers the arguments for the existence of God, the relationship of faith and reason, the use of religious language, and the problem of evil.

RELT 413 GOD AND WORLD 3
Study of God and God's relation to the world; examines traditional reasons for belief in God, the attributes and names of God, and God's creative and providential care of the world.

RELT 417, 418 CHRISTIAN DYNAMICS 3, 3
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 3, 3
An inquiry from a Seventh-day Adventist perspective into the major themes of Christian theology; introduces students to the process of theological thinking, including systematic reflection of one's own views. Permission of instructor required.

RELT 496 SEMINAR IN CHRISTIAN ETHICS 2
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 3, 3, 3
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 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.



Students enrolled in the professional curriculum must complete a total of 147 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 cognate in human biology, and political science. These include 14 hours of field placement in the senior year, which is divided into two 7-week placements. A professional social work practicum is required in which the student is required to complete 400 hours of field placement (general portion) and the departmental practicum. The examination is required.

Major Requirements:

Major Requirements:	General Studies
Social Work	General Studies
SOWK 204	General Studies
SOWK 205	General Studies
SOWK 206	General Studies
SOWK 207	General Studies
SOWK 208	General Studies
SOWK 209	General Studies
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Social Work and Sociology

SOCIAL WORK AND SOCIOLOGY

W. Hepker, Chair; R. Gardner, S. Gellineau, Graduate Program Director; D. La-Rondelle, Field Work Coordinator; C. Hoffard, J. Merkel, M. Mc Chesney, J. Stagg (R. Hankins, S. Ellingson, Adjunct Faculty).

The department of social work and sociology offers a Bachelor of Social Work degree and a Bachelor of Arts degree with a major in sociology. Minors are available in 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. These include 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. The Graduate Record Examination (general portion) and the departmental comprehensive examination are required.

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)	

SOCIAL WORK AND SOCIOLOGY

Sociology

SOCI 204	General Sociology	4
SOCI 236	Racial and Ethnic Relations	3
SOCI 345	Sociology of Communities	3
SOCI 424	Human Development and the Family	4
SOCI 451	Research Methods	4
SOCI 452, 453	Research Practicum I, II	2

Psychology

PSYC 130	General Psychology	4
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Electives (17 Total)

Psychology	3-7
Social Work	6-14
Anthropology, Corrections, Sociology	0-8

Electives must be chosen in consultation with and approved by the social work adviser. 82

Cognates:

BIOL 101	General Biology	}	4
or			
BIOL 201	Anatomy and Physiology	}	4
PLSC 224	American Government		
or		}	4
PLSC 324	Comparative Government		
or		}	4
PLSC 455	Western Political and Social Theory (or SOCI 455)		

MAJOR IN SOCIOLOGY (Bachelor of Arts)

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.

Major Requirements:

SOCI 204	General Sociology	4
SOCI 451	Research Methods	4
SOCI 452, 453	Research Practicum I, II	2
SOCI 454	Western Political and Social Thought	4
SOCI 455	Western Political and Social Theory	4
	Electives (10 must be upper division)	27

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. 45

Approval of sociology adviser required.

Cognates:

MATH 106	Applied Statistics	}	4
or			
PSYC 350	Elementary Statistics		

SOCIAL WORK AND SOCIOLOGY

MINOR IN SOCIAL WORK

A student minoring in social work must complete 30 quarter hours:

SOCI 204	General Sociology	4
SOCI 424	Human Development and the Family	4
SOWK 264	Introduction to Social Work	3
SOWK 266	Social Welfare as a Social Institution	3
	Electives	16
		<hr/> 30

Approval of social work adviser required.

MINOR IN SOCIOLOGY

A student minoring in sociology must complete 30 quarter hours:

SOCI 204	General Sociology	4
	Electives (3 must be upper division)	26
		<hr/> 30

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 services 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 delinquency, juvenile courts, detention, and probation; 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 arrest, through the court process and incarceration, to 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)

- SOWK 264 INTRODUCTION TO SOCIAL WORK** 3
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.
- SOWK 266 SOCIAL WELFARE AS A SOCIAL INSTITUTION** 3
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.
- SOWK 271 ASSERTIVENESS THEORY AND PRACTICE** 2
Study of the concepts of rational and behavior techniques with emphasis on self-awareness, intervention, and assertiveness through cognitive and experiential learning.
- SOWK 350 FIELD PLACEMENT ORIENTATION** 1
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.
- SOWK 371 SOCIAL WORK PRACTICE WITH INDIVIDUALS** 4
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 permission of instructor.
- SOWK 372 SOCIAL WORK PRACTICE WITH SMALL GROUPS** 4
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.
- SOWK 373 SOCIAL WORK PRACTICE WITH MARRIAGE AND FAMILY** 3
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.
- SOWK 375 SOCIAL WORK IN COMMUNITY SERVICES** 3
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.
- SOWK 377 INTRODUCTION TO ALCOHOLISM AND ADDICTION TREATMENT** 3
A comprehensive survey covering the basic aspects of alcohol, alcoholism, prevention and intervention, rehabilitation and treatment. Alcoholism and other addictions are studied as disease processes. Recommended: HLSC 208.
- SOWK 464 SOCIAL WORK WITH CHILDREN** 3
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.
- SOWK 465 POLICY, PLANNING AND ADMINISTRATION** 3
Study of social policy, ideology, social policy formation and analysis, social planning, and administrative theory. Prerequisites: SOWK 375.
- SOWK 466 COMPARATIVE THEORIES OF SOCIAL WORK PRACTICE** 3
Study of intervention strategies, change theories, and therapeutic techniques employed at individual, family, and group levels. Emphasizes criteria for selecting alternative approaches and appropriate intervention activities. Prerequisites: SOWK 264; SOWK 266; SOWK 371; SOWK 372; SOWK 373 or permission of instructor.

SOCIAL WORK AND SOCIOLOGY

SOWK 471 HUMAN SEXUALITY 3

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.

SOWK 472 STRESS MANAGEMENT 3

Designed to guide the student in planning practical strategies for personal stress management. A holistic approach emphasizing physical, mental, emotional, and spiritual aspects of a positive Christian lifestyle. The works of Hans Selye and other theoreticians of modern stress management are considered. Students will develop skills in time management, and techniques of meditation and relaxation and exercise. Also considered is the market for stress management education in Employee Assistance Programs. Prerequisites: PSYC 130 or SOCI 204.

SOWK 479 DIRECTED RESEARCH/PROJECTS IN SOCIAL WORK 1-3

Directed learning experience in a special area of social work of particular interest to the student. A single project will be chosen in consultation with the instructor. A written 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; 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; SOWK 371; SOWK 372; and permission of the instructor. Corequisite or prerequisite: SOWK 373. Fourteen quarter hours are required for a social work major.

SOWK 491 THE LIFE MODEL OF SOCIAL WORK PRACTICE 3

Seminar for social work majors to assist them in integrating theory and practice and in conceptualizing how social work roles affect the relationship between people and their environment. The many roles and functions facing social work practitioners within diverse 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

Lecture series designed to expose students to contemporary social workers and to assist them in their professional development. Required of all social work juniors and seniors while in residence. Graded S or NC.

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 effect on human development and behavior; covers the complete life cycle of the growth of an individual and current theories concerning each stage of the family life cycle as it applies to the modern American family as well as families of other cultures. Prerequisites: SOCI 204; PSYC 130.

SOCIAL WORK AND SOCIOLOGY

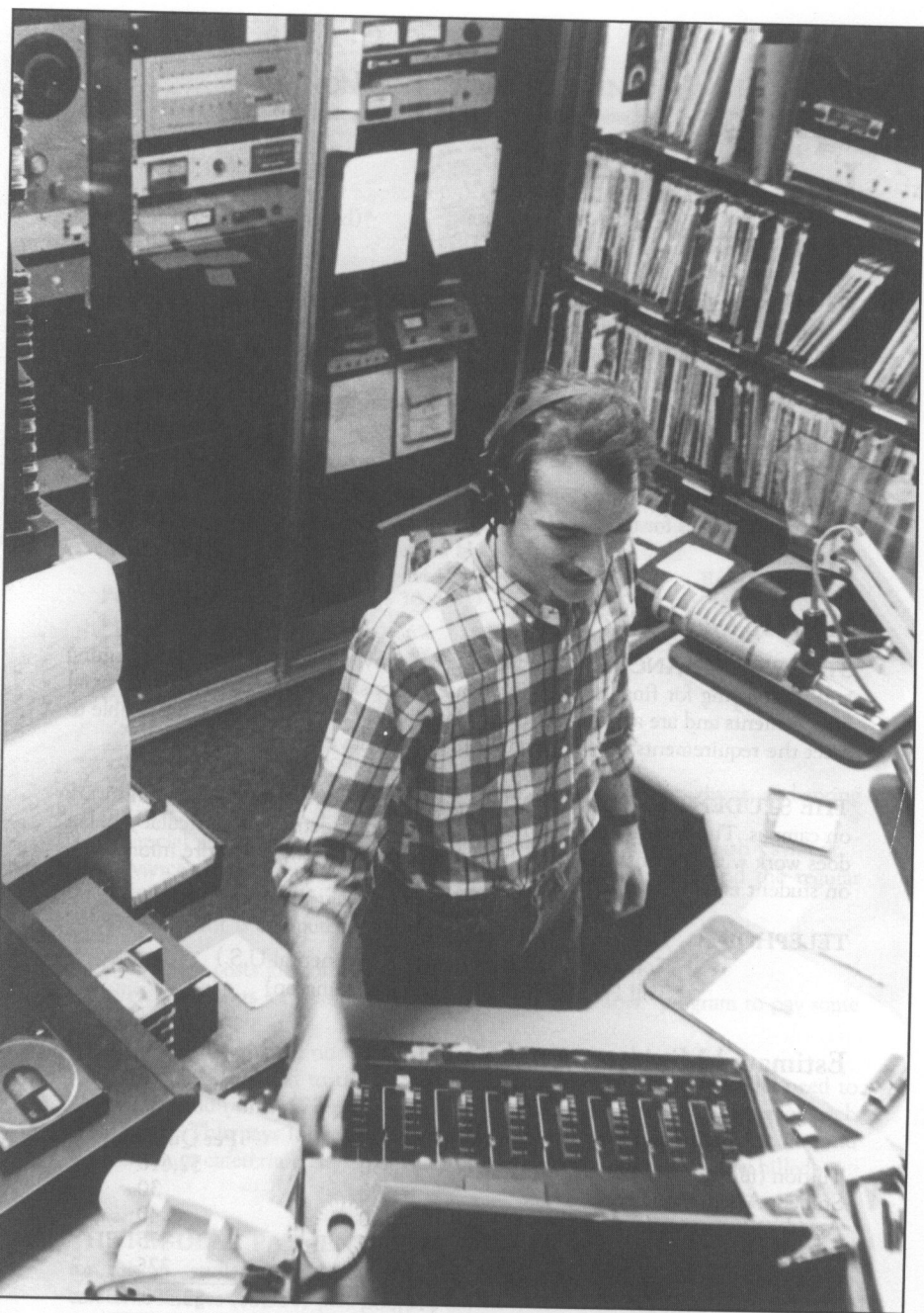
- SOCI 225 MARRIAGE AND FAMILY LIFE** 2
Study of the physical, economic, and psychological adjustments necessary for happy marriage and parenthood; stresses Christian philosophy and principles; staff members and guest speakers will lecture and lead discussions.
- SOCI 234 CURRENT SOCIAL PROBLEMS** 3
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, emphasizing the role of family interaction in developing and maintaining personal relationships.
- SOCI 327 SOCIOLOGY OF SEX ROLES** 3
Analysis of the psychological, cultural, and economic influences on men and women in today's society. Includes 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 on 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 effects on society.
- SOCI 349 RELIGION IN A SOCIAL CONTEXT (HONORS)** 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. Same as RELH 349.
- SOCI 435 SOCIAL GERONTOLOGY** 3
Study of problems concerning the social role of the aged in society.
- SOCI 437 DEATH AND DYING** 3
Study of the process of death and dying from four distinct perspectives: cultural, social, personal, and professional.
- SOCI 444 SOCIOLOGY OF EDUCATION** 3
Analysis of factors influencing the structure and function of schools. 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.
- SOCI 447 SOCIOLOGY OF HEALTH AND ILLNESS** 3
Study of social relations and culture as factors affecting health and illness, and the prevention and treatment of illness.
- SOCI 449 SOCIOLOGY OF RELIGION** 2
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.
- SOCI 451 RESEARCH METHODS** 4
Introduction to the principles of research design; data collection through surveys and other methods; scaling, sampling; computer assisted statistical analysis. Statistics highly recommended. Laboratory required. Same as MKTG 451 and PLSC 451.
- SOCI 452, 453 RESEARCH PRACTICUM I, II** 1, 1
Directed design and execution of an empirical research project over a two quarter period.

SOCIAL WORK AND SOCIOLOGY

SOCI 454 WESTERN POLITICAL AND SOCIAL THOUGHT 4
Survey of political and social thought from classical Greece to the Enlightenment. Same as PLSC 454.

SOCI 455 WESTERN POLITICAL AND SOCIAL THEORY 4
Survey of modern social, political, and economic thought. Emphasizes 19th and 20th century theories and models which have directed contemporary research in the social sciences and have influenced public policy. Same as PLSC 455.





student association fees, and required insurance (\$1,650) plus any other expenses. Students and/or parents are advised to check with the school for the amount of financial aid that may be deducted from these amounts.

Financial Information

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 should plan their finances for the entire academic school year prior to fall quarter registration.

How To Get Help:

STUDENT FINANCIAL COUNSELORS 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 individually to secure employment. For more information on student employment, please see pages 288-290.

TELEPHONE: Direct: 1-509-527-2815
Toll Free 1-800-541-8900 (Continental U.S.)
Toll Free: 1-800-572-8964 (Washington)

Estimated Minimum Student Budgets

	DORMITORY STUDENT	
	Per Year	Per Quarter
Tuition (full-time, 16 hours)	\$7,830	\$2,610
Student Association Fee	90	30
Accident Insurance (required)*	40	40
Room Rent	1,425	475
Cafeteria Minimum	675	225
TOTAL	\$10,060**	\$3,380**

*per year estimate

**Students will have additional expenses for books, cafeteria, and personal needs.

NON-DORMITORY STUDENT
(Does not include living expenses)

	Per Year	Per Quarter
Tuition (full-time, 16 hours)	\$7,830	\$2,610
Student Association Fee	90	30
Accident Insurance (required)*	40	40
TOTAL	\$7,960**	\$2,680**

*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 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.

Purpose	Amount	Received by June 30, 1989	Received by Aug. 15, 1989	Received by Sept. 25, 1989
¹ Dorm	\$11,600	6%	5%	4%
² Dorm	10,000	5%	4%	3%
³ Village	8,900	5%	4%	3%
⁴ Tuition only	7,830	4%	3%	2%

- The discount will be applied to accounts May 31, 1990.
- 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.

¹ Covers most costs for dorm students.

² Covers most costs for dorm students, but allows for a work program to pay some costs.

³ Dormitory students are not eligible for this payment level.

⁴ \$2,610 will be applied to the account each quarter. Dormitory students need to pay an additional \$770 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 (\$3,380) plus previous balance; non-dorm students pay for tuition, student association fees, and required insurance (\$2,680) 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.

MONTHLY PAYMENT PLAN: Twelve monthly payments BEGINNING JUNE 30, 1989. The size of payment depends on housing, meals and work program. To use the chart, first estimate your work program. Then under the Dorm or Non-Dorm sections, estimate your quarterly cafeteria charges. Example: a student planning to work 10 hours a week, live in the dorm and eat about \$350 per quarter would use \$920 for their monthly payment.

On-Campus Work Estimate (Hours per week)	Dorm Estimated Quarterly Cafeteria Charges		
	Below Average	Average	Above Average
	\$225-300	\$300-400	\$400-500
No On-Campus Work	\$980	\$1,000	\$1,030
1-4 hrs. week	960	985	1,010
5-8 hrs. week	925	950	975
9-12 hrs. week	895	920	945
13-16 hrs. week	860	885	910

On-Campus Work Estimate (Hours per week)	Non-Dorm Estimated Quarterly Cafeteria Charges		
	No Meals	Some Meals	Most Meals
	\$0-100	\$100-200	\$200-350
No On-Campus Work	\$810	\$835	\$875
1-4 hrs. week	790	815	855
5-8 hrs. week	755	780	820
9-12 hrs. week	725	750	790
13-16 hrs. week	690	715	755

SHORT TERM LOAN PAYMENT PLAN: A financial counselor 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.

INSURED TUITION PAYMENT PLANS: With these programs, one to four years' educational expenses are divided into equal monthly payments. Extended repayment plans may be available. A list of companies offering these plans may be obtained from the Walla Walla College Student Financial Services Office.

EXPENSES

Tuition

1-12 quarter hours	\$ 208 (per quarter hour)
13-16 quarter hours	2,610 (per quarter)
above 16	181 (per quarter hour)

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 classes 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 \$30 per quarter Student Association fee is charged to all students registered for six or more quarter hours. It provides for student publications and membership in the Student Association. This fee is subject to change only by vote of the Student Association.

Health Service Fee

A \$20 per quarter Health Service fee is charged to all students registered for six or more quarter hours. It provides for all health services on campus with a doctor or nurse practitioner.

Residence Halls

For dual occupancy, the room rental charge for each student per quarter is:

Conard Hall	\$465
Foreman Hall	485
Sittner Hall	465
Sittner East	465
Hansen Hall (Portland Campus)	485

When rooms are available, single occupancy is permitted at an extra cost of \$100 per quarter.

Married Student Housing

Married student housing is available on a first-come-first-served basis. Financial arrangements must be approved by the Student Financial Services Office before a family may move into college housing.

Hallmark Apartment

One bedroom	\$155 per month plus electricity
Two bedrooms	\$195 per month plus electricity

Additional housing may be available to meet a family's needs. Rent is subject to change.

Housing Reservations and Deposit

The College residence halls and other student housing require a \$100 room deposit. The entire 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 \$225, 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 \$400 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 class materials are available at the College Store. Students should plan on approximately \$180-200 for such purchases each quarter.

Aviation

A student who registers for a flight training class will receive scholarship money in an aviation account equal to the total tuition charged divided by the number of credit hours taken times the number of flight training hours registered for. Scholarship money will be available for the student's use during the time registered as a student at WWC and for 12 calendar months after enrollment ceases. After that time, any scholarship funds remaining unused will revert to the general fund. Once the scholarship money is used, funds must be deposited to the aviation account to cover all charges before incurred.

Aviation Fees

	<u>Solo</u>	<u>Dual</u>
*Cessna 150/152	\$33 an hour	\$49 an hour
*Warrior	\$46 an hour	\$62 an hour
*Mooney	\$66 an hour	\$82 an hour
*ATC 610K Simulator	\$16 an hour	\$32 an hour
*Ground Instruction	\$16 an hour	
Student Pilot Insurance	per quarter	\$9.00

*All fees are subject to change due to fluctuation of operating costs.

Music Fees

Music lessons may be taken for credit or no credit. When lessons are taken for credit, the lesson fee is \$108 per quarter, plus tuition, for nine half-hour lessons, or \$216 per quarter, plus tuition, for nine one-hour lessons. When lessons are not taken for credit, the lesson fee is \$139.50 per quarter for nine half-hour lessons, or

\$279 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 student's responsibility to meet the appointed time for lessons. The teacher is obligated to provide opportunity for makeup lessons only in cases 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)

ART 264, 265, 266	\$ 15
ART 284, 285, 286	20
ART 294, 295, 296	10
ART 317, 318, 319	10
ART 364, 365, 366	15
ART 374, 375, 376	20

Physical Education Fees

Backpacking	\$ 25
Canoeing	30
Cycling	10
Cycling Touring	30
†* Golf I	50
† Golf II	50
† Golf, Pro-Act	50
*Ice Skating	15
Mountaineering (Snow & Ice)	25

Prevention of Injury	30
Rock Climbing	25
Sailing	40
†*Scuba I (includes field trip for certification)	240
†*Scuba II	180
*Ski Instructor	30
*Skiing (Bluewood)	30
*Skiing (Cross Country)	30
†*Skiing (Mount Hood)	65
*Nonrefundable	
†Student must receive a permit from the Student Financial Services Office before registering for this class.	

Special Fees

Application (nonrefundable)	\$20.00
*Audit Class	one-half regular tuition
Change in Registration (Drop/Add)	3.00
Degree, in absentia, Bachelor's and Associate	30.00
ID Card Replacement	7.50
Late Registration	50.00
Nursing, per clinical laboratory course per quarter	15.00/Credit hr.
Out-of-Schedule Examination (per exam)	50.00
Returned Check	10.00
Field trips - teachers will notify students of special fees to cover expenses.	
Transcript, first copy (requests must be in writing)	free
Transcript, additional copies each	3.00
Transcript, same day service, each copy	5.00

*Students with a cumulative grade-point average of at least 3.00 and a course load of 13-16 hours pay \$10 for each audited course in excess of 16 hours.

Examination Fees:

Challenge Exam	
Recording Fee	40.00/Credit hr.
Examination Fee	20.00
National League of Nursing Exam	45.00
Validation Exam	
Recording Fee	3.00/Credit hr.
Examination Fee	20.00
National League of Nursing Exam	45.00
Waiver Exam	15.00

Student Insurance

Walla Walla College provides injury and accident insurance on a mandatory basis at an estimated cost to the student of \$40 per year. Students enrolling winter, spring, or summer quarters will pay a reduced premium. In addition, students may elect to purchase major medical insurance at an additional estimated cost of \$360 per year. Students may also purchase similar coverage for spouse and/or dependent children. A detailed brochure will be available at registration time.

No changes or refunds are allowed on the major medical 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.

Insurance claims are made through the Student Health Center.

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:

Amount to be returned to fund = Refund Due X $\frac{\text{Total Title IV Aid}}{\text{Total Aid}}$

STATEMENTS

Itemized statements will be issued each month giving an account for the previous month. Tuition, required fees, room rent, and minimum cafeteria charges for the quarter will be charged 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
204 S College Ave
College Place, WA 99324-1198

PAST DUE ACCOUNTS

A **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.

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.

CHANGE IN EXPENSES

Because of possible fluctuation in the national economy, the College Board of Trustees reserves the right 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: \$1,650.
2. Loans
3. Other grants and scholarships.

SUMMER SAVINGS. Each aid recipient is expected to have at least \$1,200. Applicants who are able to secure better jobs will be expected to have increased summer savings.

FINANCIAL AID AWARD. The Financial Aid Award delineates 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 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 THE STUDENT'S 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 notice. By accepting the award, the student accepts the conditions of the award which include:

1. Maintaining the minimum employment expectation.
2. Maintaining satisfactory academic progress (see page 291).
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 A STUDENT DO TO APPLY?

1. Complete the Financial Aid Form (FAF) and mail it, with the required fee, to the College Scholarship Services. To meet the priority deadline, the FAF should be mailed by 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. Priority deadline is April 1.
3. Submit a copy of Income Tax Form 1040, 1040A, or 1040EZ. Students who did not file and do not plan to file an income tax form will need to sign a statement of non-filing. Contact a financial counselor for assistance.
4. All dependent students (and independent students under the age of 24) must submit a copy of their parents' Income Tax Form.
5. For transfer students, Walla Walla College must obtain a Financial Aid Transcript from each postsecondary institution previously attended before an aid award can be offered.

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 priority financial aid deadline.

Eligibility for aid is based on individual financial need. The 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 the student is in full-time attendance for fall, winter, and spring. Funds awarded by Walla Walla College are not transferable to other colleges or universities.

WHAT GRANTS AND SCHOLARSHIPS ARE AVAILABLE?

MAXIMUM GRANT:

Up to
\$2,300 per year
Renewable

***PELL GRANT.** This program is made available to undergraduate students 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.

Up to
\$2,000 per year
Renewable

***SUPPLEMENTAL EDUCATION OPPORTUNITY GRANT (SEOG).** This grant is 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. Students receiving this grant must also accept a low interest loan, such as the Perkins loan.

Up to
\$300 per year

***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 NPUC or having graduated from an academy within the NPUC. Grants are awarded on the basis of need. Matching earnings may be earned on or off campus while students are enrolled from October to May. Students working off campus must provide proof of earnings to the Student Financial Services Office.

Up to
\$1,000 per year
Renewable

***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 students are enrolled from October to May. Students working off campus must provide proof of earnings to the Student Financial Services Office. Students must borrow a full Stafford loan in order to receive this grant. In cases of exceptional need, a low interest loan may also be required.

*Eligible students applying for financial aid will be considered for this program

***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 students are enrolled from October to May. Students working off campus must provide proof of earnings to the Student Financial Services Office. Students must borrow a full Stafford loan in order to receive this grant. In cases of exceptional need, a low interest loan may also be required. This grant is available exclusively to students living in the dorm, college owned housing, living with parents or a house they own. The college will consider exceptional circumstances on an individual basis.

***WASHINGTON STATE NEED GRANT.** The State of Washington has made available a grant program for Washington state residents with 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 first day of the quarter for which aid is requested. Students should meet the priority deadline to be considered for this grant because of state funding limitations.

CANADIAN WORTHY STUDENT GRANT. This grant is made available by Walla Walla College to Canadian students whose support comes from wages earned in Canada. Grants are awarded on the basis of need as evidenced by submission of an application supplied by Walla Walla College. Canadian tax papers are also required.

†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. GED test scores do not qualify.

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	See President's Scholarship
Semifinalist	\$ 1,500
Commended Student	1,000

*Eligible students applying for financial aid will be considered for this program

†Total academic scholarship and Educational subsidy cannot exceed cost of tuition.

Full tuition first
year
Renewable for
half tuition

†**PRESIDENT'S SCHOLARSHIP.** Walla Walla College will award a full tuition scholarship to entering freshmen who are finalists in the National Merit Scholarship Competition. A half tuition award may be received for three additional years provided the student continues to register full time and maintains a 3.50 cumulative grade-point average. Students receive this award in place of the Entering Freshman Achievement Award and WWC Merit Award.

\$500-\$1500
per year
May be renewable

†**ACT/SAT ACHIEVEMENT AWARD.** Walla Walla College awards a scholarship to entering freshmen who scored well on the ACT or SAT test. Students scoring 95 percentile or above may renew the scholarship providing their year-end cumulative GPA is 3.50 or above. Student scoring 80-94 percentile receive a non-renewable work-match award.

Score	Amount	Restrictions
97-99	\$1,500	Maintain 3.50 GPA
95-96	1,000	Maintain 3.50 GPA
90-94	1,000	Work-match
80-89	500	Work-match

\$500 per year
Renewable

CHURCH MATCH GRANT. Walla Walla College tries to match the home church's contributions for a student's educational expenses. As funds are available, WWC will match the first \$500 the church sends provided:

1. The funds are donated by the church at large, and not by a relative of the student.
2. The church pastor and treasurer write a letter confirming the funds were from the church as a whole, and the church requests WWC match their donation.
3. The student must show need according to the standard U.S. Government formula for financial aid.

\$500 per year
Nonrenewable

†**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.

\$300 per year
Nonrenewable

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.

\$600 per year

DEPARTMENTAL MERIT AWARD. Nominations for this award are made each spring quarter by academic departments and are for the following school year.

*Eligible students applying for financial aid will be considered for this program

†Total academic scholarship and Educational subsidy cannot exceed cost of tuition.

\$750-\$1,000 per 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.
\$300 per year Renewable	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 must enroll full-time the following year.
Variable Renewable	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.
Variable	PUBLISHING HOUSE SCHOLARSHIPS. Students may earn a portion of their school expenses by selling denominational literature during the summer. These scholarships for full-time students 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.
Variable	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 full-time students participating in the Youth Services Opportunities Program during the summer. These scholarships are disbursed the first quarter of attendance after receiving the award.
\$150 - \$600 per year Renewable	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.
\$1,000 per year Renewable	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

†Total academic scholarship and Educational subsidy cannot exceed cost of tuition.

application form may be obtained from the Walla Walla Symphony Society, P.O. Box 92, Walla Walla, WA 99362.

Variable
Renewable

GRADUATE ASSISTANTSHIPS. A few assistantships are available for graduate students in biology, education, and social work. 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 Students of Walla Walla College Scholarship
Breese-Trefz Scholarship
Business Dept. Chair Award
Business Scholarship
C. W. Shankel Chemistry Scholarship
Carlos Ayala Modern Languages Scholarship
Chevron Merit Award
Child Welfare Training Grant
Class of '65 Scholarship
Class of '78 Scholarship
Class of '83 Scholarship
Class of '84 Scholarship
Clyde & Mary Harris Grant
College Days Award
Communications Drama Award
Communications Scholarship
Degering Educational Scholarship
Deming Worthy Student Award
Donald W. Rigby Biology Award
Dr. Anah Wineberg Winton Scholarship
Edward F. Cross Engineering Scholarship
Edwin L. Zaugg Scholarship
Engineering Scholarship
English Education Award
English Writer's Award
Farmers Insurance Group Scholarship
George Bowers Chemistry Scholarship
Graduate Dean's Award
Honors Program Scholarship
Jenson Math Scholarship
John V. Jones Foundation Scholarship
Joseph & Beth Murray Scholarship
Joseph L. Stubblefield Trust Scholarship
Lewiston/Clarkston Scholarship
Lilah Risinger Math Scholarship
Llewellyn and Vivian Nixon Scholarship

Luella Latham Kretschmar Engineering/Math/Physics
 Scholarship
 Matiko Theology Award
 Messingers/Loewen Scholarship
 Nursing Scholarship
 Office Administration Dept. Chair Award
 Oland Hubbs Theology Scholarship
 Orval Patchett Modern Language Scholarship
 Pauline Hart Social Work Scholarship
 Percy W. Christian History Award
 Peterson/Weaver Office Administration Scholarship
 Robert Koorennny Scholarship
 Robert L. Spies Memorial Scholarship
 Rotary Scholarship
 Schlotthauer Math 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 minimum expected earnings of \$1,650.

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 application 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 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.

Federal regulations require that all employees hired present ORIGINAL documents that establish both their identity and eligibility to work. All students wishing to work on the Walla Walla College campus will be required to present documents before they will be authorized to begin work.

Employees must present either one item from list A or one item each from lists B and C.

LIST A

- United States Passport

- Certificate of United States Citizenship

- Unexpired foreign passport with attached employment authorization (WWC will accept a student visa)

- Alien Registration Card with photograph

LIST B

- A State issued driver's license or ID card with a photograph or information including name, sex, date of birth, height, weight and color of eyes

- U.S. Military Card

LIST C

- Original Social Security card (other than a card stating it is not valid for employment)

- A birth certificate issued by state, county or municipal authority bearing a seal or other certification

- Unexpired INS Employment Authorization

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. 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, and perform work related to their 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:

Up to \$2,250
per year

***PERKINS/NATIONAL DIRECT STUDENT LOAN.** This loan is 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%.

Up to
\$4,000 per year
Renewable

***NURSING STUDENT LOAN (NSL).** This loan 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, (\$4,000 per year their last two years) but no more than \$13,000 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 5%. 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. Repayment begins six months after the applicant's student status terminates. Loan terms are similar to the Perkins/NDSL Loan Program.

Up to
\$4,000 per year
Renewable

***STAFFORD GUARANTEED STUDENT LOAN PROGRAM.** This program 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 7% to 10%, do not have to be repaid until six months after student status has terminated.

*Eligible students applying for financial aid will be considered for this program

Category of Borrower	Annual Loan Limits	Aggregate Loan Limits
Freshman or Sophomore	\$2,625	\$ 5,250
Junior or Senior	4,000	17,250
Graduate or Professional	7,500	54,750

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.

Loan initiation and guarantee insurance fees of about 8% are deducted from the loan amount before the check is issued to WWC.

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.

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 Stafford loan the student may borrow. The interest rate is at a variable rate, but will not exceed 12%. Applications and more information are available from the Walla Walla College Student Loan Coordinator.

Up to
\$4,000 per year
Renewable

LOANS TO PARENTS (PLUS). This program allows parents of dependent undergraduate students 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 is at a variable rate, but may not exceed 12%. Applications and more information are available from the Walla Walla College Student Loan Coordinator.

Up to
\$4,000 per year
Renewable

PRIVATE RESOURCE EDUCATION PROGRAM (PREP). PREP is a privately sponsored loan program that helps students and their families finance higher education costs. This program is often used by students and parents who are not eligible to borrow under the Stafford loan program. Interest is dependent upon market conditions at the time the loan is taken out. Principal and most interest payments are postponed while the student is in school. Loan payments may be made over a period of up to ten years.

Up to
\$10,000 per year
Renewable

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 within the following guidelines:

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 schedule 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

Graduate Students must complete a minimum of six hours per quarter. They 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, who 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

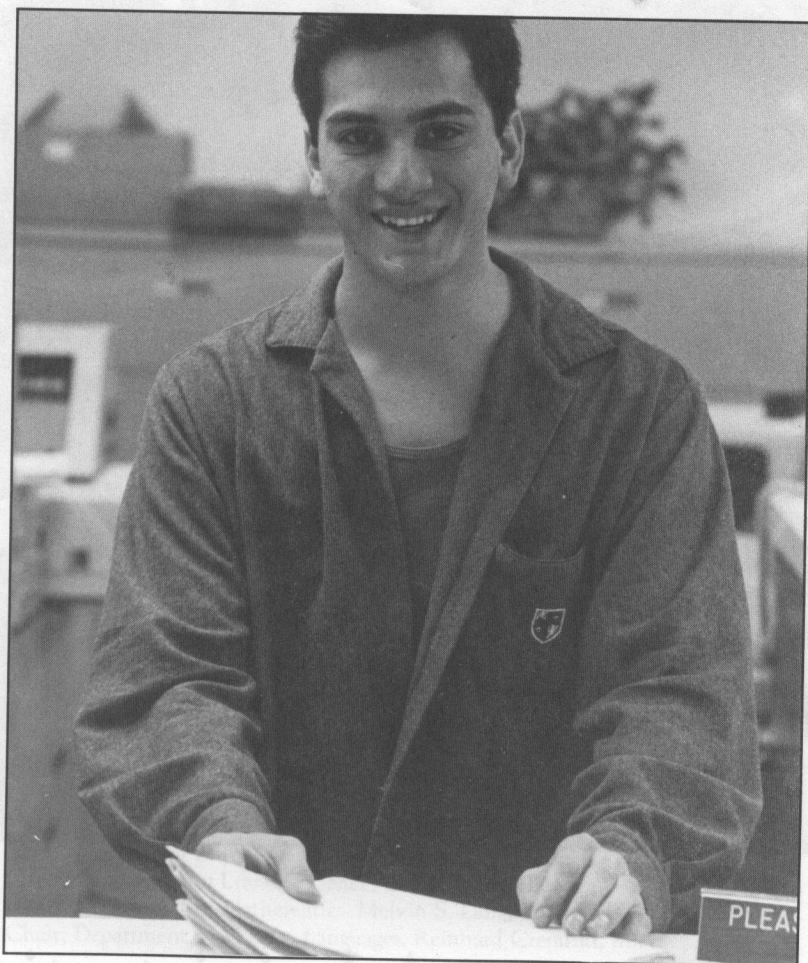
1. Students who fail to maintain "Satisfactory Academic Progress" will be placed on Financial Aid Probation the following quarter. Recipients will receive a letter of warning and will be asked to seek academic counseling. Students must complete a minimum of 12 quarter hours with a 2.00 grade-point average 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

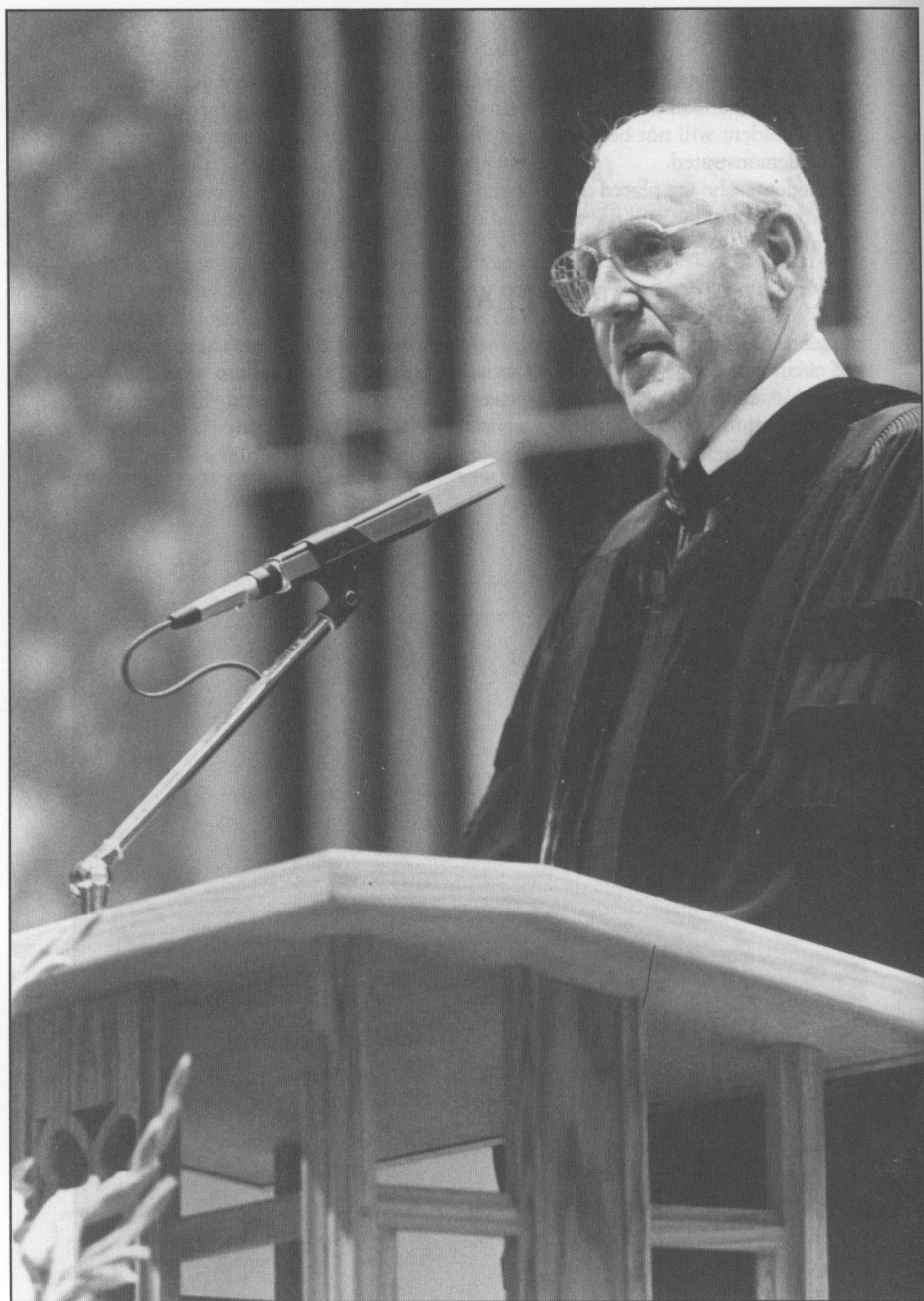
of 12 hours with a 2.00 GPA on hours attempted. If a student is awarded aid during Financial Aid Hold, but final grades do not show satisfactory progress, the student will not be eligible for Financial Aid until satisfactory progress can be demonstrated.

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 satisfactory academic progress. The letter should be accompanied by supporting documentation from the academic adviser, health center, or dean.





Administration

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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

Director, Institutional Research, Robert W. Gardner, Ph.D.
Director, Admissions and Marketing, Douglas A. Botimer, B.A.
Director, Technical Services Shop, James Forsyth, M.A.
Director, Teaching Learning Center, Dale Hepker, Ph.D.
Director of Career Development and Cooperative Education,
Sergio Hernandez, Ed.S.
Director of Academic Advisement, Betty Duncan, B.A.
Director of Libraries, Carolyn Gaskell, M.A.
Director of Marine Station, Larry McCloskey, Ph.D.
Director of Summer Session, Melvin S. Lang, Ph.D.
Manager, KGTS Station, Kevin Krueger, B.A.

COLLEGE ADVANCEMENT ADMINISTRATION

Director, Alumni, Paul Turpel, B.A.
Director, Development, Paul Turpel, B.A.
Director, College Relations, Gary Tetz, B.A.

FINANCIAL ADMINISTRATION

Controller and Assistant Treasurer, James Hall, M.B.A.
Director of Campus Computer Center, Michael Bell, M.S.E.E.
Director of Buildings and Grounds, Daryl Burghart
Director of Personnel Services, Carolyn Dickinson, B.S.
Director of Student Financial Services, Cassie Ragenovich, B.S.

AUXILIARY

Manager, College Bookstore, Barbara Bigger, M.A.
Manager, Rental Properties, William Adams

WESTWIND DIVERSIFIED

President, Manford Simcock, M.A.
College Farm, Larry Adams, M.A.
College Place Bindery, Ivan Groulik
Color Press, Harold Kehney, B.S.B.A.
College Dairy, Darral Payne, M.A.

STUDENT SERVICES

Chaplain, John Cress, M.Div.
Consulting Physician, A. D. Selfa, M.D.

Dean of Men, Lynn Prohaska

Dean of Women, Ilo Hutton

Director of Counseling Services, Karen MacIvor, M.Ed.

Director of Food Service, Shirley Messinger

Director of Health Services, Peggy Miller, R.N., A.R.N.P.

Residence Hall Dean (Portland Campus), Carol Pifer



INSTRUCTIONAL FACULTY†

Larry Aamodt, *Assistant Professor of Computer Science/Engineering* (1989)

B.S. 1976, Walla Walla College

Terrie Dopp Aamodt, *Associate Professor of English* (1979)

B.A. 1976, Columbia Union College

M.A. 1978, The College of William and Mary

Ph.D. 1986, Boston University

Norman Anderson, *Assistant Professor of Accounting* (1987)

B.S. 1971, Henderson State College

C.P.A. 1973, State of California

J.D. 1976, Southern Methodist University

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 Bazy, *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

Kieth E. Boyson, *Assistant Professor of Industrial Technology* (1989)

B.S. 1972, Atlantic Union College

M.A. 1981, Andrews University

†Dates in parenthesis indicate the beginning year of employment at Walla Walla College.

- Gary Brendel, *Professor of Education and Psychology* (1980)
 B.A. 1966, Union College
 M.A. 1969; Ed.D. 1985, University of Denver
- 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
- Michael E. Brown, *Assistant Professor of Biology/Chemistry* (1989)
 B.S. 1979, Columbia Union College
 Ph.D. 1987, Loma Linda 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 Accounting* (1987)
 B.S. 1982, Union College
 M.B.A. 1984, University of Nebraska
 C.P.A. 1987, State of Nebraska
- *David Bullock, *Assistant Professor of Communications* (1984)
 B.A. 1976, Walla Walla College
 M.A. 1985, Washington State University
- 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
- Linda M. Casebolt, *Instructor in Nursing* (1986)
 B.S. 1982, Walla Walla College
 M.S. 1987, Oregon Health Sciences University
- Charles C. Choo, *Lecturer in Physics*
 B.S. 1982, University of Maryland
 Ph.D. 1988, University of Notre Dame
- Douglas R. Clark, *Professor of Theology* (1987)
 B.A. 1970, Walla Walla College
 M.Div. 1974, Andrews University
 Ph.D. 1984, Vanderbilt University
- Nancy A. Cleveland, *Assistant Professor of Office Administration* (1987)
 B.S. 1976, M.Ed. 1978, Walla Walla 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
- Gerald Colvin, *Professor of Education and Psychology* (1989)
 B.A. 1961, Union College
 Ed.D. /M.Ed. 1968, University of Arkansas
 Ph.D. 1980, University of Georgia
- Mark J. Copsey, *Assistant Professor of Library Science* (1984)
 B.A. 1981, Andrews University
 A.M.L.S. 1983, University of Michigan
- *On leave

- 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
- Reinhard Czeratzki, *Associate Professor of Modern Languages* (1967)
 B.A. 1964, Atlantic Union College
 M.A. 1967, Middlebury College
- Richard Daley, *Associate Professor of Chemistry* (1988)
 B.S. 1970, Southern Adventist College
 M.S. 1973, University of Tennessee
 Ph.D. 1976, Emory University
- Donald Dawes, *Associate Professor of Industrial Technology* (1976)
 B.S. 1961, Walla Walla College
 M.Ed. 1966, Oregon State University
- Loren Dickinson, *Professor of Communications* (1962)
 B.A. 1957, Union College
 M.A. 1960, University of Nebraska
 Ph.D. 1968, University of Denver
- Susan C. Dixon, *Associate Professor of Biology* (1981)
 B.S. 1974; M.S. 1976, Walla Walla College
- *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
- Thomas J. Emmerson, *Professor of Art* (1976)
 B.A. 1972, Walla Walla College
 B.F.A. 1974; M.F.A. 1979, Otis Art Institute of Los Angeles County
- Karl F. Feigner, *Assistant Professor of Engineering* (1989)
 B.S. 1977, Oregon State University
- Frances L. Fickess, *Professor of Nursing* (1985)
 B.S. 1956, Columbia Union College
 M.A. 1959, Loma Linda University
 D.N.Sc. 1976, The Catholic University of America
- Allan D. Fisher, *Professor of Industrial Technology* (1980)
 B.A. 1967, M.A. 1968, Pacific Union College
 Ed.D. 1980, Oregon State University
- Garth E. Fisher, *Associate Professor of Industrial Technology* (1975)
 B.S. 1966, Andrews University
 M.S. 1985, Washington State University
- Rob Frohne, *Assistant Professor of Engineering* (1988)
 B.S.E. 1983, Walla Walla College
 M.S.E.E. 1984; Ph.D. 1988, Purdue University
- Robert W. Gardner, *Professor of Sociology* (1971)
 B.A. 1969, Pacific Union College
 M.A. 1971, Loma Linda University
 Ph.D. 1977, University of Utah
- Susan Gardner, *Associate Professor of English* (1987)
 B.A. 1970, Walla Walla College
 M.A. 1975, University of Utah
 Ph.D. 1985, University of Michigan

*On leave

- Carolyn S. Gaskell, *Associate Professor of Library Science* (1978)
 B.A. 1976, Pacific Union College
 M.A. 1977, University of Denver
- Standley L. Gellineau, *Professor of Social Work* (1987)
 B.A. 1970, Oakwood College
 M.S.W. 1972, Virginia Commonwealth University
 D.P.A. 1981, University of Georgia
- *Ann Gibson, *Associate Professor of Accounting* (1983)
 B.A. 1968, Walla Walla College
 M.B.A. 1970, Andrews University
 C.P.A. 1980, State of California
- Terrell D. Gottschall, *Associate Professor of History* (1986)
 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
- Glen Greenwalt, *Associate Professor of Theology* (1978)
 B.A. 1971, Walla Walla College
 M.Div. 1974, Andrews University
- Merle Greenway, *Associate Professor of Education and Psychology* (1988)
 B.S. 1970; M.Ed. 1973, Walla Walla College
 Ed.D. 1981, Andrews University
- Kenneth L. Gruesbeck, *Assistant Professor of Industrial Technology* (1964)
 B.A. 1952, Columbia Union College
 M.Ed. 1977, Walla Walla College
- Gary M. Hamburg, *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.L.S. 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

*On leave

- Solange Henderson, *Associate 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
- Bruce C. Johanson, *Associate Professor of Theology* (1987)
 B.A. 1967, M.A. 1969, Andrews University
 Ph.D. 1986, University of Uppsala
- Gordon O. Johnson, *Professor of Physics* (1974)
 B.S. 1966, Walla Walla College
 M.S. 1967; Ph.D. 1972, California Institute of Technology
- E. Lee Johnston, *Associate Professor of Library Science* (1976)
 B.S. 1960, Loma Linda University
 M.Ed. 1965, University of California, Davis
 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
- Ronald Jolliffe, *Associate Professor of Theology* (1989)
 B.A. 1971, Walla Walla College
 M.Div. 1974, Andrews University
- Jae Won Kim, *Assistant Professor of Business* (1989)
 B. of Commerce 1969, Seoul National University
 M.B.A. 1982, Andrews University
 Ph.D. 1989, Mississippi State University
- James D. Klein, Jr., *Assistant Professor of Computer Science* (1979)
 B.S. 1970, Walla Walla College
 M.S. 1977, University of Colorado
- Lucile Harper Knapp, *Associate Professor of Biblical Studies* (1961)
 B.A. 1947, Walla Walla College
 M.A. 1949, Andrews University
- Curtis Kuhlman, *Instructor in Health, Physical Education and Recreation* (1983)
 B.S. 1981, Loma Linda University
 M.S.T. 1988, Portland State University
- Leonard Laabs, *Associate Professor of Electronics Technology* (1981)
 B.S. 1965; M.Ed. 1967, Walla Walla College
- Dan Lamberton, *Assistant Professor of English* (1981-1983, 1987)
 B.A. 1971, Walla Walla College
 M.A. 1981, University of Montana
- Melvin S. Lang, *Professor of Mathematics* (1967)
 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
- Steven Lee, *Associate Professor of Chemistry* (1983)
 B.S. 1976, Andrews University
 Ph.D. 1981, University of Wisconsin
- Scott Ligman, *Assistant Professor of Biology* (1989)
 B.S. 1980; M.S. 1982, Andrews University
- Kenneth R. MacKintosh, *Professor of Art* (1961)
 B.F.A. 1959; M.F.A. 1961, Otis Art Institute of Los Angeles County
- Carlyle Manous, *Professor of Music* (1987)
 B.A. 1962, La Sierra College
 M.M. 1963; D.M.A. 1971, University of Michigan
- Glenn W. Masden, *Professor of Engineering* (1957)
 B.S.E.E. 1955; M.S.E.E. 1958, University of Colorado
 Ph.D. 1984, Arizona State University
- Lawrence R. McCloskey, *Professor of Biology* (1971)
 B.A. 1961, Atlantic Union College
 M.A. 1965; Ph.D. 1967, Duke University
- Jaydine Merkel, *Assistant Professor of Social Work* (1989)
 B.A. 1976, Walla Walla College
 M.S.W. 1982, University of California, Los Angeles
- Verlene Meyer, *Assistant Professor of Nursing* (1973)
 B.S. 1972, Walla Walla College
 M.N. 1977, University of Oregon
- Samuel Myers, *Associate Professor of Engineering* (1981)
 B.S. 1952, University of California, Los Angeles
 M.A. 1967, Loma Linda University
- Curtis Nelson, *Assistant Professor of Engineering* (1988)
 B.S. 1978, Walla Walla College
 M.S.E.E. 1986, Washington State University
- Sylvia B. Nosworthy, *Associate Professor of English* (1978)
 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, *Associate Professor of Home Economics* (1977)
 B.A. 1969, Walla Walla College
 M.A. 1975, Loma Linda University
- Allan Payne, *Assistant Professor of Industrial Technology*, (1989)
 B.A. 1972, Loma Linda University
 M.A. 1987, Andrews University

- Ralph Perrin, *Associate Professor of Health Science* (1984)
 B.S. 1977, Walla Walla College
 M.P.H. 1980; D.H.Sc. 1981, Loma Linda University
- Leonard Richter, *Professor of Music* (1978)
 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
- Donnie Thompson Rigby, *Professor of Communications* (1958)
 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
 Ed.M. 1979, Oregon State 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, *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
- Kraig S. M. Scott, *Instructor in Music* (1986)
 B. Mus. 1984, Walla Walla College
 M.A. 1986, University of Oregon
- Nancy Semotiuk, *Instructor in Communications* (1989)
 B.A. 1979, Walla Walla College
- 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

*On leave

- 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
- Kevin B. Stokes, *Instructor in Marketing* (1987)
 B.A. 1973, Andrews University
 M.B.A. 1984, University of Bridgeport
- 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 Biblical Studies* (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
- Hillair Thorp, *Instructor in Home Economics* (1989)
 B.A. 1988, Walla Walla College
- Fred W. Troutman, *Associate Professor of Nursing* (1972)
 B.S. 1966, Walla Walla College
 M.S. 1974, Loma Linda University
- 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
 Ed.M. 1963; Ed.D. 1977, Oregon State University
- David A. Wallace, *Associate Professor of Engineering* (1979-1982; 1987)
 B.S.E. 1970, Walla Walla College
 M.S.M.E. 1971, Washington State University
 Degree of Engineer 1974, Southern Methodist University
 Ph.D. 1986, Rensselaer Polytechnic Institute
- Verlie Ward, *Assistant Professor of Education* (1983)
 B.S. 1971, Union College
 M.A. 1977, Andrews University
- Robert E. Weaver, *Instructor in Business* (1989)
 B.A. 1984, Southwestern Adventist College
 M.B.A. 1987, University of Arkansas
- Lois A. Whitchurch, *Assistant Professor of Nursing* (1967)
 B.S. 1965, Walla Walla College
 M.S. 1967, Loma Linda University

- JoAnn Wiggins, *Assistant Professor of Office Administration* (1987)
 B.S. 1982, M.Ed. 1985, Walla Walla College
 Ph.D. 1988, University of Idaho
- Kenneth L. Wiggins, *Professor of Mathematics* (1980)
 B.A. 1968, Walla Walla College
 M.S. 1971; Ph.D. 1974, Montana State University
- Susie Williams, *Instructor in Nursing* (1988)
 B.S. 1987, Andrews University
- Timothy M. 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. 1966, 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
- Caroline Wrightman, *Assistant Professor of Nursing* (1988)
 B.S. 1965, Loma Linda University
 M.N. 1975, University of California, Los Angeles
- Stephen P. Zork, *Assistant Professor of Music* (1989)
 B. Mus. Ed. 1977, Atlantic Union College
 M. Mus. 1988, Pacific Lutheran University

EMERITI

- Irene T. Black, B.A., *Registrar*
- Lewis H. Canaday, Ed.M., *Professor of Industrial Technology*
- George L. Caviness, 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*
- Orpha N. Osborne, B.A., *Doctor of Letters, honoris causa, Registrar*
- 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*

COMMITTEE ASSIGNMENTS

The letters following individual names are used to indicate the authority for the given membership as follows:

- P Appointed by President
- N Appointed by Nominating Committee
- F Elected by Faculty
- Sf Elected by Staff
- S Selected by ASWWC

The last academic year of the term of office is given by the dates in *italics* following the individual names.

ACADEMIC STANDARDS (VIII-23†) (Five-Year Terms)

- Robert Gardner, *ex officio*, chair
- Alden Thompson, *ex officio*
- Duncan Mustard, *ex officio*
- Lucile Knapp, F, 1989-90
- Loren Dickinson, F, 1990-91
- Merle Greenway, F, 1991-92
- Roland Blaich, F, 1992-93
- Rodney Heisler, F, 1993-94

ADMINISTRATIVE COUNCIL (VIII-5†) (One-Year Terms)

- H. J. Bergman, *ex officio*, chair
- Manford Simcock, *ex officio*
- Douglas Botimer, *ex officio*
- John Brunt, *ex officio*
- Robert Gardner, *ex officio*
- Ilo Hutton, *ex officio*
- Walter Meske, *ex officio*
- Lynn Prohaska, *ex officio*
- Alden Thompson, *ex officio*
- Paul Turpel, *ex officio*
- Other members as appointed by the President

ADMISSIONS (VIII-24†) (Two-Year Terms)

- Douglas Botimer, *ex officio*, chair
- Betty Duncan, *ex officio*
- Ilo Hutton, *ex officio*
- Walter Meske, *ex officio*
- Duncan Mustard, *ex officio*
- Lynn Prohaska, *ex officio*
- Cassie Ragenovich, *ex officio*
- Alden Thompson, *ex officio*
- Lee Johnston, F, 1989-90
- Rod Heisler, P, 1989-90
- Gordon Hare, F, 1990-91
- Dan Lamberton, P, 1990-91

COMPUTER USERS

This committee is currently under review.

New membership will be announced.

CURRICULUM (VIII-5†) (Five-Year Terms)

Alden Thompson, *ex officio*, chair

Robert Gardner, *ex officio*

Duncan Mustard, *ex officio*

Gary Brendel, F, 1989-90

Jon Cole, F, 1990-91

Frazier Nyasulu, 1991-92

Gary Hamburg, F, 1992-93

Doug Clark, 1993-94

FACULTY DEVELOPMENT (VIII-21†) (Two-Year Terms)

Loren Dickinson, chair, F, 1989-90

Dan Lamberton, F, 1989-90

Cleona Bazy, F, 1990-91

Tim Windemuth, F, 1990-91

Ernest Brursey, F, 1991-92

Tom Emmerson, F, 1991-92

Dale Hepker, F, 1991-92

Carlyle Manous, F, 1991-92

FACULTY GRANTS (VIII-6†) (Four-Year Terms)

Terrie Aamodt, chair, P

Julie Scott, *ex officio*

Manford Simcock, *ex officio*

Robert Gardner, F, 1989-90

Terry Gottschall, F, 1989-90

Gordon Johnson, F, 1990-91

Sue Dixon, F, 1992-93

FACULTY HANDBOOK (VIII-18†) (Three-Year Terms)

Donald Rigby, chair, P, 1989-90

Claude Barnett, F, 1989-90

Doug Clark, F, 1989-90

Chet Blake, F, 1990-91

Carolyn Gaskell, F, 1991-92

FACULTY INTERDISCIPLINARY COLLOQUIUM (VIII-27†) (Three-Year Terms)

This committee is currently under review.

FACULTY SENATE (VIII-12†) (Two-Year Terms)

H. J. Bergman, *ex officio*, chair

Alden Thompson, *ex officio*

Robert Gardner, *ex officio*

Carolyn Gaskell, *ex officio*

Manford Simcock, *ex officio*
Glen Greenwalt, F, 1989-90
Dan Lamberton, F, 1989-90
Donnie Rigby, F, 1989-90
Mike Buck, F, 1990-91
Standley Gellineau, F, 1990-91
Curt Nelson, F, 1990-91
All Academic Department Chairs and School Deans
Three students selected by ASWWC

GOVERNMENT (VIII-20†) (Two-Year Terms)

Walter Meske, *ex officio*, chair
Ilo Hutton, *ex officio*
Lynn Prohaska, *ex officio*
Dale Visger, F, 1989-90
Sylvia Nosworthy, F, 1990-91
_____, P, 1990-91

GRADUATE COUNCIL (VIII-24†) (Two-Year Terms)

Gerald Colvin, *ex officio*, chair
Standley Gellineau, *ex officio*
Merle Greenway, *ex officio*
Wilma Hepker, *ex officio*
Duncan Mustard, *ex officio*
Don Rigby, *ex officio*
Alden Thompson, *ex officio*
_____, P, 1990-91
_____, P, 1990-91
_____, P, 1990-91
_____, P, 1990-91
_____, P, 1990-91

GRIEVANCE (VIII-4†) (Two-Year Terms)

_____, chair, N, 1990-91
(_____, alternate)
Wendy Bleth, N 1989-90 (Karen MacIvor, alternate)
Leonard Laabs, 1989-90 (Curtis Kuhlman, alternate)
Carolyn Gaskell, F, 1990-91 (Wilma Hepker, alternate)
Sergio Hernandez, N, 1990-91 (John Wolfswinkel, alternate)
Two Students and alternates selected by the ASWWC

HONORS (VIII-28†) (Four-Year Terms)

Robert Gardner, *ex officio*, chair
Frazier Nyasula, F, 1989-90
Jon Cole, F, 1990-91
All Faculty Teaching in Honors Program
Four Honors Students

LIBRARY (VIII-27†) (Three-Year Terms)

Terry Gottschall, *chair*, N, 1989-90

Carolyn Gaskell, *ex officio*

Frazier Nyasulu, P, 1989-90

Al Grable, F, 1990-91

Carolyn Shultz, F, 1991-92

Mark Copsey, P, 1991-92

Two students selected by ASWWC

MASTER PLANNING

ACADEMIC MASTER PLANNING (VIII-7†) (Four-Year Terms)

_____, *chair*, P

Alden Thompson, *ex officio*

ASWWC President, *ex officio*

James Hannum, N, 1989-90

Ernie Bursey, F, 1991-92

Gordon Johnson, F, 1991-92

FINANCIAL MASTER PLANNING (VIII-8†) (Four-Year Terms)

_____, *chair*, P

Manford Simcock, *ex officio*

Paul Turpel, *ex officio*

James Hannum, N, 1989-90

Fred Bennett, F, 1991-92

PHYSICAL MASTER PLANNING (VIII-9†) (Four-Year Terms)

_____, *chair*, P

Daryl Burghart, *ex officio*

Steven Lee, N, 1989-90

Gene Jacobson, F, 1990-91

_____, F, 1991-92

NOMINATING (VIII-19†) (Three-Year Terms)

H. J. Bergman, *ex officio*

Alden Thompson, *ex officio*

Susan Gardner, F, 1989-90

Terrie Aamodt, F, 1990-91

Ward Soper, F, 1990-91

_____, F, 1991-92

_____, F, 1991-92

PREPROFESSIONAL EVALUATION (VIII-14†) (One-Year Terms)

Robert Gardner, *ex officio*, *chair*

Ilo Hutton, *ex officio*

Walter Meske, *ex officio*

Lynn Prohaska, *ex officio*

_____, P
_____, P
_____, P

PRESIDENT'S CABINET (VIII-5†)

H. J. Bergman, *ex officio chair*

Alden Thompson, *ex officio*

Douglas Botimer, *ex officio*

Robert Gardner, *ex officio*

Walter Meske, *ex officio*

Manford Simcock, *ex officio*

Paul Turpel, *ex officio*

PUBLIC RELATIONS (VIII-11†) (Two-Year Terms)

This committee is currently under review.R

RANK AND TENURE (VIII-22†) (Three-Year Terms)

Dan Schultz, *chair, F, 1990-91*

Alden Thompson, *ex officio non-voting*

JoAnn Wiggins, *F, 1989-90*

Gordon Hare, *F, 1990-91*

Garth Fisher, *F, 1991-92*

Terry Gottschall, *F, 1991-92*

RELIGIOUS INTERESTS (VIII-16†) (One-Year Terms)

_____, *chair, P*

Darold Bigger, *ex officio*

John Brunt, *ex officio*

John Cress, *ex officio*

Ilo Hutton, *ex officio*

Walter Meske, *ex officio*

Lynn Prohaska, *ex officio*

Church Personal Ministries Secretary

Faculty Advisers for SS, ASWWC Religious Activities;

Spiritual Vice Presidents of EMS, AGA, OPS, Village Singles Club,

ASWWC; Senior Sabbath School Superintendent

Two students selected by the ASWWC

STUDENT FINANCIAL AID (VIII-10†) (Two-Year Terms)

Cassie Ragenovich, *ex officio chair*

Ilo Hutton, *ex officio*

Duncan Mustard, *ex officio*

Lynn Prohaska, *ex officio*

_____, *P, 1990-91*

_____, *P, 1990-91*

Two students selected by the ASWWC

***STUDENT LIFE (Two-Year Terms)**

This committee is currently under review.
New membership will be announced

SUMMER SESSION (VIII-10†) (Two-Year Terms)

Melvin Lang, *ex officio*, chair

Merle Greenway, *ex officio*

Don Rigby, *ex officio*

_____, N, 1990-91

_____, N, 1990-91

TEACHER EDUCATION COUNCIL (VIII-26†) (Three-Year Terms)

Merle Greenway, *ex officio*, chair

Alden Thompson, *ex officio*

Merlene Olmsted, N, 1989-90

Dan Shultz, F, 1989-90

Susan Gardner, F, 1990-91

Harold Ochs, F, 1990-91

Tim Windemuth, F, 1990-91

Ward Soper, F, 1991-92

Dale Visger, N, 1991-92

_____, F, 1991-92

One professional educator from outside the college

One graduate student

TECHNICAL SERVICES SHOP USERS (VIII-11a†)

Steven Lee, chair

James Forsyth, *ex officio*

Gary Rittenbach, *ex officio*

Michael Bell

Garth Fisher

Robert Gardner

Gordon Johnson

Sam Myers

†Walla Walla College Faculty Handbook page number.

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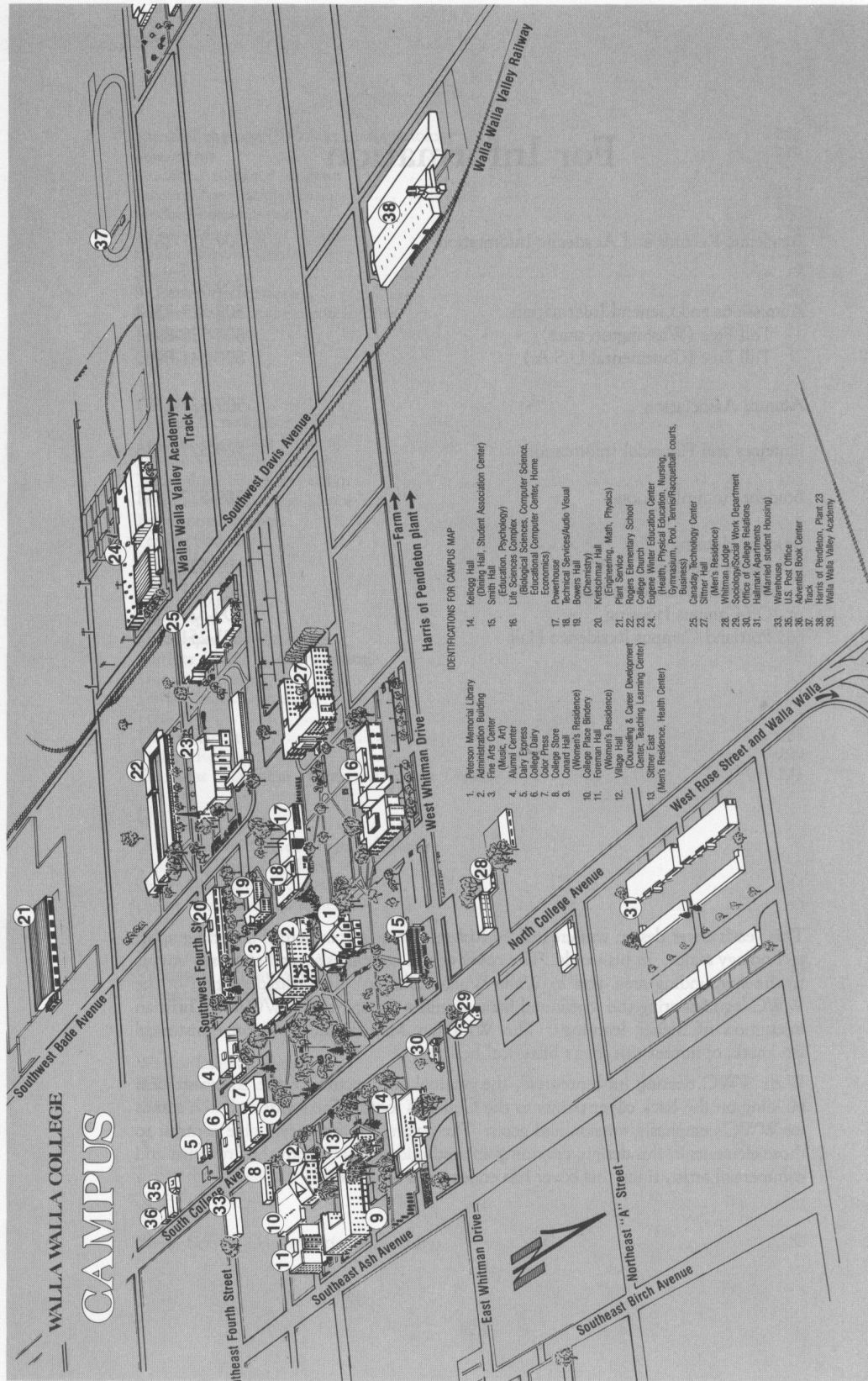
For Information

Academic Records and Academic Information	509-527-2811
	or
	509-527-2812
Admissions and General Information	509-527-2327
Toll Free (Washington state)	800-572-8964
Toll Free (Continental U.S.A.)	800-541-8900
Alumni Association	509-527-2631
Finances and Financial Information	509-527-2815
Student Administration	509-527-2511
Student Housing	
Men's Residence Hall	509-527-2111
Women's Residence Hall	509-527-2532
Off-Campus Housing	509-527-2109
Portland Campus Residence Hall	503-251-6118

This year's cover design was created by *Richard James*, a commercial art and graphic technology major. In his words: "The cover design combines several elements unique to the surrounding area, and to Walla Walla College. The stylized portion of the WWC logo featuring the wheat and flame signifies the spirit of WWC as a Christian institution of higher learning. The Whitman Monument, a national historical landmark, optimizes this area's historical heritage.

With WWC nearing its centennial, the original architecture of the administration building on the back cover points to the College's roots. The stylized church stands for WWC's emphasis, mission and goals. The colors, red and green, give contrast to those elements in this design, providing an aesthetic appeal to both the fine artist and commercial artist, since this cover has endeavored to do both."

WALLA WALLA COLLEGE CAMPUS



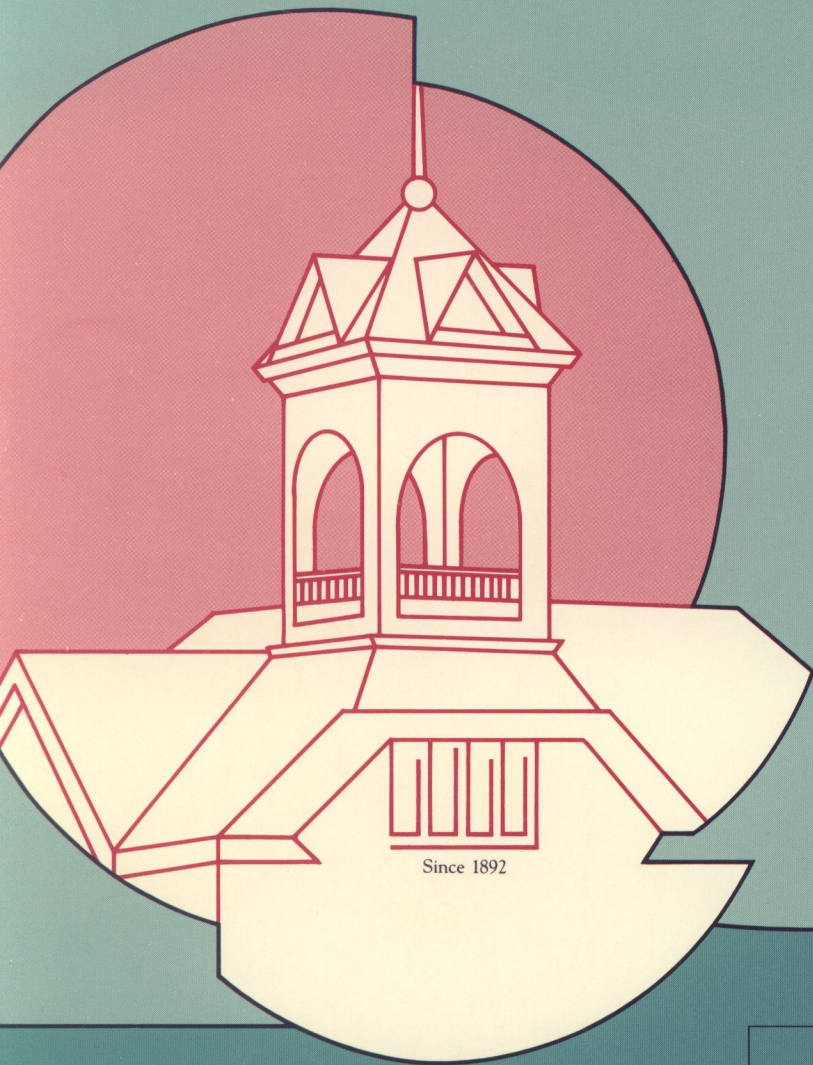
IDENTIFICATIONS FOR CAMPUS MAP

1. Peterson Memorial Library
2. Student Union Building
3. Fine Arts Center (Music, Art)
4. Alumni Center
5. Dairy Express
6. Dairy Express
7. Dairy Express
8. College Store
9. Conrad Hall
10. College Pharmacy
11. Foreman Hall (Women's Residence)
12. Village Hall (Women's Residence)
13. Village Hall (Women's Residence)
14. Kellogg Hall (Student Association Center)
15. Smith Hall (Education, Psychology)
16. Life Sciences Complex (Biological Sciences, Computer Science, Chemistry, Computer Center, Home Economics)
17. Powerhouse
18. Bowers Hall
19. Bowers Hall
20. Kretschmar Hall (Engineering, Math, Physics)
21. Plant Service
22. Rogers Elementary School
23. Rogers Elementary School
24. Eugene Winter Education Center (Health, Physical Education, Nursing, Gymnasium, Pool, Tennis/Facquetball courts, Track)
25. Candy Technology Center
26. Sitter Hall (Men's Residence)
27. Sitter Hall (Men's Residence)
28. Whitman Lodge
29. Whitman Lodge
30. Office of College Relations
31. Hallmark Apartments (Married student housing)
32. Whitman U.S. Post Office
33. Whitman U.S. Post Office
34. Whitman U.S. Post Office
35. Whitman U.S. Post Office
36. Whitman U.S. Post Office
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