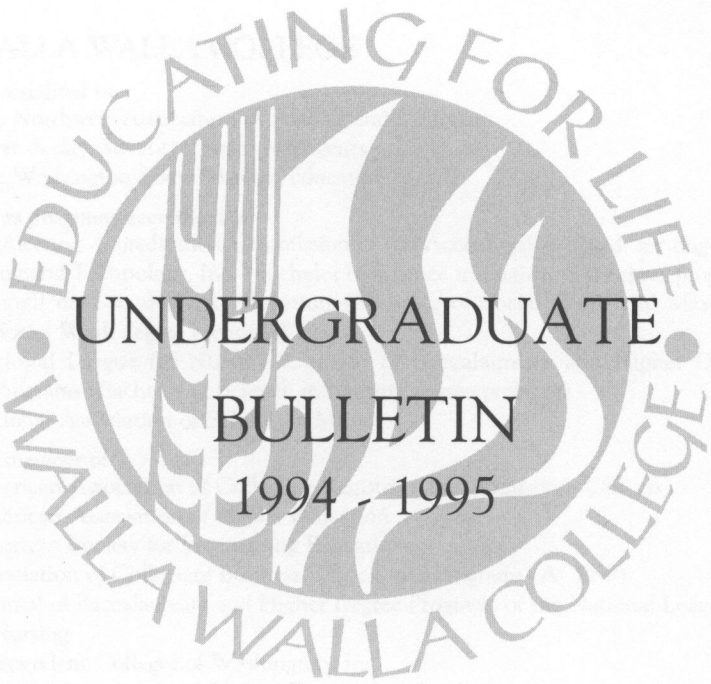
Walla Walla College



1994-1995 BULLETIN



UNDERGRADUATE BULLETIN

1994 - 1995

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

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ABOUT THE COVER

Walla Walla College school colors of green and orange are brilliantly displayed on campus during late summer and fall when the berries burst forth on the Mountain Ash trees. The original school colors of blue and gold, also the colors of Whitman College, were later changed. The planting of the Mountain Ash trees, which began in 1897, is a continuing tradition at Walla Walla College.

Photograph by Fred Vasenius

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 and Master of Social Work degree programs)
National League for Nursing, Council of Baccalaureate and Higher Degree Programs (Bachelor of Science in Nursing degree program)
National Association of Schools of Music

is a member of
American Association of Collegiate Registrars and Admissions Officers
American Association of Higher Education
American Society for Engineering Education
Association of Collegiate Business Schools and Programs (ACBSP)
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
The Washington State Higher Education Coordinating Board's State Approving Agency (HECB/SAA) for enrollment of persons eligible to receive educational benefits under Title 38 and Title 10 USC.
Washington State for training in Vocational Rehabilitation

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, 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.

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WALLA WALLA COLLEGE

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College Place, WA 99324-1198

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Toll Free (Continental U.S.A. and Canada) 1-800-541-8900

ADMISSIONS AND MARKETING

Vice President . . . . . Stephen Payne
Application Blanks for Admission — 509/527-2327
Bulletins
General Information

ACADEMIC RECORDS

Registrar . . . . . Gerald Wasmer
Academic Information — 509/527-2811
Transcripts — or
Transcript Evaluation — 509/527-2812
Transfer Student Information

STUDENT FINANCIAL SERVICES

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

STUDENT ADMINISTRATION

Vice President . . . . . Lisa Bissell Paulson
Automobile Registration — 509/527-2511
Off-Campus Housing
Student Life

RESIDENCE HALL LIVING

Dean of Men . . . . . David Knight
General Information — Sittner Hall/Sittner East
Room Reservations — 509/527-2111

Dean of Women . . . . . _____
General Information — Foreman/Conard Hall
Room Reservations — 509/527-2532

Portland Residence Hall Dean . . . . . Carol Pifer
General Information — Portland Campus
Room Reservations — 503/251-6118

PORTLAND CAMPUS
10355 S.E. Market
Portland, OR 97216
503/251-6115

ROSARIO MARINE STATION
174 Rosario Beach
Anacortes, WA 98221
206/293-2326

Note: Administrative offices are closed from Friday noon until Monday morning and on legal holidays. Administrative officers are available on Sundays by appointment.

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*Concentration available
†Option available

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*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
Elementary Instruction
Junior High Instruction
School Administration
Secondary Instruction in:
Biology, Biophysics, Business, Chemistry, English, Health & PE, History, Technology, Language Arts, Mathematics, Physics, Social Science

Teaching Credentials available in the areas mentioned above.

WALLA WALLA COLLEGE
ACADEMIC CALENDAR 1994-95

AUTUMN QUARTER

September	20-25	T-S	New Student Orientation, Advisement, and Testing
	23	F	New Student Registration
	25	S	Returning Student Registration
	26	M	Instruction Begins
	29	Th	Last Day to Register
	30	F	Portland Campus Registration
October	7	F	Last Day for Registered Students to Add a Class or Change to Audit
November	11	F	Last Day to Withdraw from Classes
	20	S	Thanksgiving Vacation Begins
	27	S	Thanksgiving Vacation Ends (10:00 p.m.)
December	11-14	SMTW	Final Exams

WINTER QUARTER

January	3	T	Registration
	4	W	Instruction Begins
	6	F	Portland Campus Registration
	9	M	Last Day to Register
	17	T	Last Day for Registered Students to Add a Class or Change to Audit
February	6	M	Snow Frolic Day
	21	T	Last Day to Withdraw from Classes
March	12-15	SMTW	Final Exams

SPRING QUARTER

March	26	S	Registration
	27	M	Instruction Begins
March	30	Th	Last Day to Register
	31	F	Portland Campus Registration
April	7	F	Last Day for Registered Students to Add a Class or Change to Audit
May	5	F	Campus Day
	15	M	Last Day to Withdraw from Classes
June	4-7	SMTW	Final Exams
	11	S	Commencement (9:00 a.m.)

SUMMER QUARTER

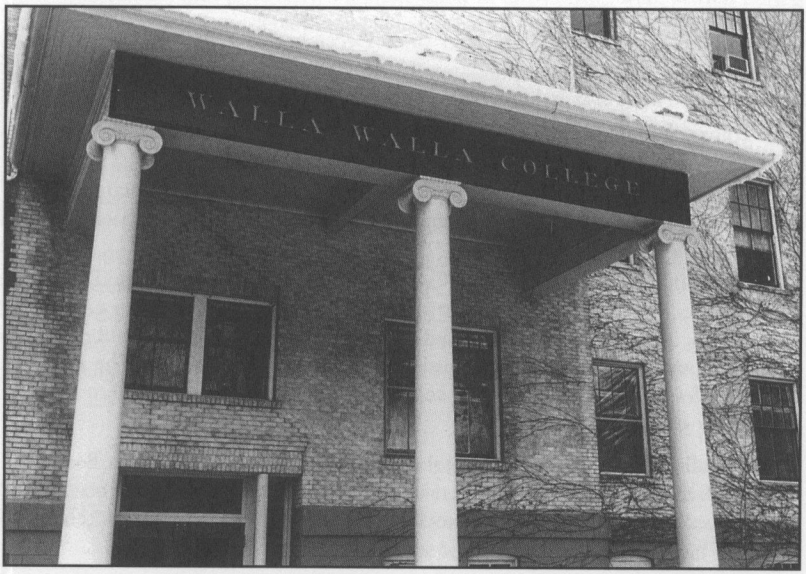
June	18	S	Registration
	19	M	Instruction Begins
July	4	M	Independence Day Holiday
August	11	F	Eight-week Session Ends

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.

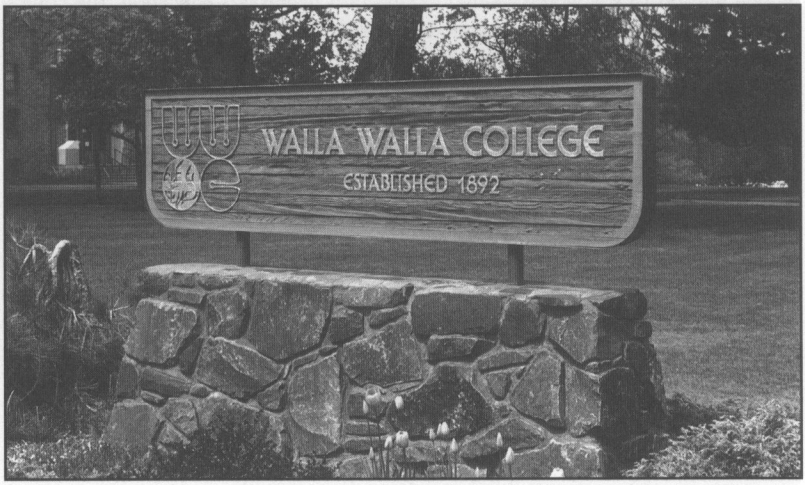
The college is a learning community continuing the Western and Christian heritages. Here, students find personal identity while developing a world view and learning appreciation for other peoples and cultures. In this environment, students grow socially and spiritually as they form friendships and worship 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 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 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 over 100 years is very much alive today.

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	1985-1990
Niels-Erik Andreasen	1990-

*deceased



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, music, meditation and discussion.

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 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.

CHRISTIAN SERVICE VOLUNTEER (CSV) PROGRAM. Through the Chaplain's office, a large number of WWC students take advantage of international student mission and North American taskforce volunteer opportunities. Participating students spend up to one year away from the WWC campus in volunteer service settings around the world.

COLLEGIATE ADVENTIST YOUTH-TO-YOUTH (CAY2Y). Walla Walla College belongs to a federation of college and university Youth-to-Youth organizations promoting healthy lifestyle choices through positive peer interaction.

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

FELLOWSHIP OF CHRISTIAN ATHLETES (FCA). Athletics, Christian life and witness are combined in an active program involving several hundred WWC students each year, under the direction of the Health and Physical Education Department.

MUSIC MINISTRY. The Campus Ministries Music Coordinator and staff maintain a list of talented students and arrange performances both on and off campus.

SABBATH AFTERNOON ACTIVITIES. Involvement is the key objective of the Sabbath Afternoon Activities team, who plan religious programs and Christian outreach.

SERVANTS OF THE MASTER. This organization provides fellowship and worship experiences for returned and prospective Christian Service Volunteers and their friends.

SMALL GROUPS. Encouraging spiritual growth in small groups is vital to the religious life of Walla Walla College. Many groups meet weekly on campus for encouragement and spiritual growth.

TALK IT OUT. A peer-counseling ministry, under the leadership of the Counseling and Testing Center, involves many trained peer-helpers and student counselees who are encouraged to talk about their concerns, pray with peer-helpers, and make life-affirming choices.

TEAM WALLA WALLA. Students wishing to share their talents and Christian faith are invited to become part of a ministry team to present spiritual programs in Northwest churches.

VISION. This touring Christian drama group provides inspirational programs to churches and groups throughout the Northwest.

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 undergraduate 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.

COLLEGE ENTERTAINMENT 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 College Entertainment Series events free with ID card unless otherwise specified.

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 during the school year.

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 soccer.

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 under 22 years of age, or with 120 quarter hours. Campus residence hall options include:

Foreman/Conard Hall. This residence hall complex houses 425 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, fitness center, study areas and small parlors. Foreman/Conard provides laundry and kitchen facilities.

Sittner Hall. Acommodating approximately 425 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 under 22 years of age 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 and manages 150 unfurnished rental units, consisting of studio, one- and two-bedroom apartments, and houses for both single (who have permission to live outside of residence halls) and married enrolled students. The Rental Properties Office is located at 26 N. College Avenue, College Place, WA; telephone: (509)527-2109. Information on apartments in the community can also be obtained at the above rental office.

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 Advisement. 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 Advisement or in the Academic 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 Campus Computer Center operates several computer systems for the use of faculty, staff, and students of WWC. All systems are connected to a campus-wide computer network; consequently all computer systems are available from many locations on campus. Students have access to three clusters of IBM-compatible computers (386 and 486) located in Winters Education Complex, Kretschmar Hall, and Rigby Hall. Scientific and engineering computing is supported on a network of SUN workstations located in Kretschmar Hall.

A wide variety of software applications are available for the use of faculty, staff and students including several popular programs for wordprocessing, spreadsheets, databases, programming languages, graphics, computer-aided design, communications, mathematical computation, and electronic mail.

The College is fully connected to the Internet through its regional affiliate NorthWestNet. Students as well as faculty and staff can use the services of the Internet for a wide variety of activities including global communication, remote computing, research, and file sharing.

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

CAREER DEVELOPMENT CENTER. The Career Development Center assists students by providing 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 exploration and preparation course which helps students identify interests – career values, develop goal-setting and decision-making skills; an interactive computer service providing information about occupations, employment potential, salary range, educational requirements, among other things; career library of up-to-date information on occupations and professions; workshops designed to prepare students for job search and employment; and career information presented by representatives from major employers, professional and graduate schools, at no charge to the student.

Computer tests available: Discover (Utilizing ACT and Myers Briggs scores)
Vocational preference Inventory

Placement Services. The Career Development Center provides assistance for employment opportunities for job search for full time, part time, and for summer employment. Appointments can be made to interview with various companies and professional organizations coming to campus. Individual placement files can be established and maintained at student request.

Cooperative Education. Students in cooperative education programs expand their academic education to the world of work. Most academic departments on campus offer co-op to their majors. Experiences are arranged through the combined efforts of the co-op office, academic adviser and the student. Placements are either full or part-time, alternating or parallel. Duration of an appointment may be for one quarter or several quarters depending on employer needs and student interest. Supervision and evaluation are the joint responsibility of the academic advisor, work supervisor and the co-op coordinator.

Participants in the Cooperative Education Program will have opportunity to gain valuable work experience, earn college credits and enjoy a significant financial advantage. Students also claim added self confidence and a broader view of career options available to them upon graduation as added benefits of their co-op experience. Students wanting further information about placement should contact the Cooperative Education Office at the Career Development Center. Information is also available from faculty/advisers in academic departments. International students must also receive clearance from the International Student Advisor in the Records Office before any Cooperative Education experience is undertaken.

Service Learning. Students may participate in the Student Literacy Corps, a course that involves students in volunteer tutoring experiences in local agencies. The Career Center is involved in the coordination of the placement of a student in a tutoring experience that meets their learning objectives. This is an opportunity to serve the local community by tutoring students who are economically or educationally challenged.

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.

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. The college policy prohibits the use of tobacco, alcohol and other drugs. Recognizing that not all college students make choices consistent with this philosophy, the Student Assistance Program provides individualized assessment, testing, counseling and referral services as well as an active prevention program. 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 remain drug-free.

KGTS. Providing Christian music and programming to Eastern Washington and Northeastern Oregon, KGTS is federally licensed as an educational, community-service station. The goal of the station is to benefit people at each level of their Christian experience—providing a vehicle of growth, stimulating further study of God's Word, and giving encouragement and companionship for its listeners. Owned by Walla Walla College and staffed by students, the station also serves the academic needs of the Communications Department by training students in broadcasting, station management, sales and development, news, engineering, and research. KGTS is funded by listeners, local business underwriters, Walla Walla College and churches.

LIBRARY. The combined WWC libraries contain over 164,000 volumes, with an average of 2,500 volumes added annually and holds almost 1,000 current periodical titles.

Peterson Memorial Library. The main catalog, LaserCat, is computerized using CD-ROM technology. In addition to WWC's holdings, it gives access to collections in over 500 other libraries, mainly in the Pacific Northwest. Avilable computerized resources include *Academic Abstracts*, *Periodical Abstracts OnDisc*, *ERIC* (an abstract covering monographs and periodical articles especially in areas related to education), *Social Sciences Index*, and the *E. G. White Writings on CD-ROM*. LaserCat, *Academic Abstracts*, *ERIC*, *Social Sciences Index*, and the *E. G. White Writings* can also be accessed via the campus computer network. On-line reference searching of indexes and abstracts is available through DIALOG. Reading room accommodations, the open-shelf system, and periodical room enhance

the study experience. Microform readers make accessible microforms of scholarly material. In addition, the library's Media Center provides a small collection of videos and equipment for viewing various media.

Curriculum Library. Located in Smith Hall, this library contains a large selection of elementary and secondary 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 SERVICE. Clinical facilities, registered nurse, nurse practitioner, physician consultations, medication, lab testing, and medical supplies are available for students requiring medical attention. More serious medical and surgical services can be obtained through various outpatient clinics or local hospital facilities. Student Health Service personnel will assist with insurance billing; however, financial responsibility for treatment rests with the student.

Students on the Portland campus receive similar health services through a contracted service with Drs. Luther Johansen and Laurens Johansen. Chronic illnesses may be treated through Portland Adventist Medical Center or any local facility of choice. In case of hospitalization, the student must make financial arrangements with the facility.

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, engineering, computer, technology, modern languages, reading, science, and writing labs offer tutoring to students enrolled in courses. Tutoring in additional areas is available upon sufficient demand. Special services are available for students with learning disabilities. The center also offers classes and seminars to help students improve specific academic skills.

A College Prep Session beginning in late August offers classes for high school deficiencies, study skills, reading, mathematics and writing prep classes.

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 (FERPA) of 1974, provides that the College will make every effort to maintain student records in confidence. No student information other than public information will be given to any third party without the written consent of the student except as noted in the college's Statement of Policy on FERPA. The two major exceptions are:

Faculty and administrative officers who have legitimate need to use student records.

Parents of dependent students. Walla Walla College makes the assumption that all students 23 years of age or less are dependent unless they are married or within thirty days of the commencement of classes they notify the Academic Records Office in writing that they are independent. The college can not honor requests from spouses for copies of students' records.

Students have the right to withhold the disclosure of any or all of the following information which Walla Walla College has designated as "Directory Information": the student's name, telephone number, date of birth, class standing, major field of study, dates of attendance and graduation, degrees and awards conferred, and the most recent previous educational institution attended.

The above information is released except when students indicate in writing to the Academic Records Office that the information is to be withheld. A special form is available at the Records Office for this purpose.

Copies of the Act, amendments subsequent to this Act, U.S. Department of Education guidelines, and Walla Walla College's Statement of Policy on FERPA are available in the Academic Records Office. Students have the right to inspect and review official records, files, and data directly related to them kept by any office of the College. Forms for filing requests to see records are available in the Academic Records Office. Requests will be processed within 45 days from the date of filing.

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 (Walla Walla College is affiliated with the Seventh-day Adventist Church). Students, faculty and staff share in the mutual obligation to uphold the Christian philosophy and policies of the college.

The college maintains a policy of equal educational opportunity for all applicants without regard to gender, race, color, national and/or ethnic origin, age, physical or sensory disability while administering its educational and admissions policies, financial aid, employment programs, student life and services, or any other college-administered program.

BASIC ADMISSION REQUIREMENTS FOR FIRST-TIME FRESHMEN

(International Students Refer to Admission of International Students and Non-Native English Speakers Sections)

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, students should demonstrate scholastic achievement, good character and financial support.

Minimum requirements for admission include:

1. *A grade-point average of 2.00 (except as noted on the following page).
2. Graduation and official transcript from an accredited secondary school or the completion of the GED exams or ACT/SAT tests with satisfactory scores (see Admission by Examination section).
3. Completion of the ACT Test — required for academic advisement (can be taken upon arrival at WWC).
4. Satisfactory personal references.

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

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

* Each year a limited number of students are admitted on provisional/probationary status who lack one or more of the subjects required for entrance or whose grade-point average is below 2.00. Students accepted on such a basis should check with the Director of Academic Advisement about specific requirements for meeting deficiencies. Students need to make up deficiencies during the freshman year to qualify for admission to the second year of studies. Students need to 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.

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

	Semester Credits
* Foreign Language	20
Social Studies	10
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 departments requirements.

Please Note: To ensure academic success, English screening of all applicants is a part of the registration process unless the student has previous satisfactory ACT results. Placement ranges from intermediate English as a Second Language through College Writing to Honors English (requires an application).

ADMISSION PROCEDURE FOR U.S. AND CANADIAN CITIZENS

Prospective students submit an application available from the Office of Admissions and Marketing. Application should be made as early as possible prior to the quarter in which study is to begin. To qualify for preregistration for fall quarter, application files should be complete by July 1. To streamline the actual registration process, all other files should be as complete as possible by August 15.

OFFICIAL TRANSCRIPTS. Request official transcripts from the registrar of each institution attended and have them sent directly to the Admissions Office of Walla Walla College. Undergraduate students must have on file with the college either high school transcripts, GED scores or a letter verifying date of graduation or GED scores from administering institution in order to enroll. Available high school transcripts are required of GED students. Students already holding a baccalaureate degree are not required to submit high school transcripts. Graduates of unaccredited high schools see "Admission by Examination," page 24. Should transcripts not be received in the time-frame described under the section "Registration Without Official Transcripts" (page 27) according to policy voted by the faculty of the college, student status at Walla Walla College will be changed and financial aid may be affected. *Academic records become the property of the college and may be released intra-campus for purposes of academic advisement/evaluation/administration as deemed necessary.*

Transcripts, applications and other credentials submitted for admission will be destroyed after two years if the applicant does not enroll.

APPLICATION FEE. A non-refundable $20 application fee is charged and should be submitted with the WWC Application for Undergraduate Admission/Re-Admission.

LETTER OF ACCEPTANCE. After applicants' transcripts and references have been received and approved by the Admissions Office, prompt notification of acceptance is sent. Applicants should not consider themselves accepted (and should not plan to reside or work on the campus) until an official letter of acceptance is received. Applicants may check on the status of their application by calling 1-509-527-2327 or 1-800-541-8900.

ROOM DEPOSIT. A $150 refundable room deposit is required of residence-hall students. This should be sent to the Accounting Office as soon as possible to reserve a room for the coming term(s). See the Financial Information section of this bulletin for residence hall costs.

COLLEGE ENTRANCE EXAMINATION. ACT (American College Testing Program) test scores are required of entering freshmen and transfer students with fewer than 30 quarter credits and may be taken upon arrival. Students without these test scores will be provisionally registered (provided other criteria are met) until they have taken the ACT during a regularly scheduled on-campus test date the first quarter in residence.

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

MEDICAL INFORMATION. The Student Health Service is directed by a registered nurse. Students are required to complete an insurance form and a Personal Health Assessment record, inclusive of immunization status. Forms are available from the Office of Admissions and Marketing.

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

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	

The Business Department recommends 10 semester credits of Algebra II.

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

Graduates of unaccredited schools or mature individuals without high school diplomas who have not completed secondary school may be admitted to freshman standing on the basis of ACT scores, 21 composite or higher; SAT scores, V+M = 900 or higher; GED average score of 50 on the five sections, with no individual score below 45. All students admitted with GED scores will take placement tests in Math and English to determine appropriate courses.

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. Individuals not seeking or ineligible for regular admission may be admitted as nonmatriculated students and may register for credit for any course for which they have sufficient academic 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 education and who are not candidates for a degree from Walla Walla may be classified as guest students by showing 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 students in secondary school and who have permission from their principal may register for selected Walla Walla College courses.

ADMISSION OF TRANSFER STUDENTS

ACCREDITED COLLEGES. Applicants who have attended accredited institutions of higher education and who have official transcripts showing a minimum grade-point average of 2.00 on all course work taken may be admitted at a level determined by the number of credits transferred. Students transferring from non-accredited 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.

Transfer students must be in good and regular standing from the institution most recently attended when transferring to WWC. A letter of reference is requested from the most recently attended institution when applying to WWC.

COMMUNITY COLLEGES. A maximum of 96 of the 192 quarter hours required for graduation may be transferred from accredited community or two-year colleges (see also Concurrent Registration).

FRESHMAN TRANSFER STUDENTS. Transfer students with less than 36 **transferable** quarter credits are required to meet the regular entrance requirements of first-time freshmen. Students need to make up deficiencies during the first year of enrollment to qualify for continued enrollment.

SENIOR TRANSFER STUDENTS. Transfer students with senior standing are required to be in residence three consecutive quarters and complete a minimum of 36 quarter hours, including nine quarter hours of upper-division work in the major and three upper-division quarter hours in the minor, and meet all degree requirements.

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.

RELIGIOUS STUDIES. Transfer students who have not previously attended SDA colleges please see page 48 of the Bulletin for religious studies requirement.

ADMISSION OF INTERNATIONAL STUDENTS AND NON-NATIVE ENGLISH SPEAKERS

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

Certificate(s) with passing marks is/are required from a four, five or six-year university prep secondary school. Additional requirements include passing scores in government examinations where offered, including English, a natural science, mathematics and two others from: a second language, science, social studies, literature and religious knowledge.

INTERNATIONAL DEPOSIT. Prior to acceptance into any program and before an I-20 form is issued to international students, a $3,000 U.S. deposit is necessary (except Canadian and specified U.S. Trust Territory students). See "International Students" in the Financial section of this bulletin.

ENGLISH AS A SECOND LANGUAGE. If English is not the native language, students will demonstrate ability to pursue studies in the English language by passing either the TOEFL (Test of English as a Foreign Language) or MTELP (Michigan Test of English Language Proficiency) with the following scores (no individual TOEFL score lower than 52):

TOEFL 550 or MTELP 80	See English as a Second Language Program, page 128
TOEFL 500-549 or MTELP 75-79	Advanced-level ESL which provides academic credit for ESL classes
TOEFL 450-499 or MTELP 70-74	Intermediate-level ESL
TOEFL 350-449 or MTELP 60-69	Beginning-level ESL

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

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 by the end of the second 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.

REGISTRATION WITHOUT OFFICIAL TRANSCRIPTS. Walla Walla College recognizes that in some instances a student may not be able to provide an official transcript immediately prior to enrolling at the college. At the college's discretion, some students may be allowed to enroll prior to admission on the basis of work shown on unofficial transcripts. Students who have enrolled directly from high school in this fashion will have a maximum of three consecutive quarters to have their official transcripts received by the Admissions Office. No further enrollment will be allowed until the transcripts are on file. Transfer students allowed to enroll on this basis must have their official transcript(s) on file by the end of their first quarter in order to continue enrollment.

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 College Withdrawal Form to the Academic Records Office.

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

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

ADMISSION TO UPPER DIVISION. A student may register for upper-division courses **provided that he/she has completed ENGL 121, 122, 223, (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-level) courses must submit a petition, a copy of the senior outline, and a current transcript to the Graduate Council for evaluation. Approval to register for a course is given only after determination of the student's eligibility for admission to a gradutate program. Once approval to register is given by Graduate Council, the student must petition the Academic Standards Committee to have the course apply to the undergraduate program. Credits taken without prior submission of a completed graduate application form may not be accepted toward 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 at least 13-16 hours (excluding audit courses) pay a special fee if their total credits exceed 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: Nonmatriculated Admission)

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

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, IP, NC, S, W and X are disregarded in computing the grade-point average. A report of grades earned is sent to students (and in most cases parents) at the end of each quarter.

The following grades and point values are used:

A	— Excellent	4.0 grade points per quarter hou
A–	. . . . .	3.7
B+	. . . . .	3.3
B	— Above Average	3.0
B–	. . . . .	2.7
C+	. . . . .	2.3
C	— Average	2.0
C–	. . . . .	1.7
D+	. . . . .	1.3
D	— Below Average	1.0
D–	. . . . .	0.7
F	— Failure	0.0
S/NC	— Satisfactory/No Credit	0.0

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

In place of grades, the following symbols are used:

I — Incomplete

In the case of incomplete work due to justifiable cause, the teacher may assign a grade of Incomplete, allowing the student an extension of time to complete the course. The Incomplete is not considered a permanent grade, although the permanent record shows it was recorded temporarily. The instructor also submits a grade for the course that the student is assigned if no further work is done, taking into accout all the course requirements. This grade is recorded if the required work is not completed in the allotted time.

In order for a student to receive a grade of Incomplete, the teacher and the student must sign a contract specifying the reasons for the Incomplete, the conditions for replacement of the grade of Incomplete and the alternate grade. Teacher and student retain copies of the contract. A third copy is sent to the Academic Records Office.

The student is responsible to meet the conditions of the contract including submission of all required work to the teacher on or before the published

normal deadline three weeks before the close of the following term (excluding summer session) and extraordinary appeals to the Associate Vice President for Academic Administration.

IP — In Progress
IP grading approved for undergraduate approved courses, particularly courses that extend beyond regular grading periods. Courses to receive IP grading will be approved by Curriculum Committee.

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

X — Unofficial Withdrawal
Indicates that the student discontinued class attendance early in the quarter but failed to withdraw officially.

AU — Audit

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. Grades may be changed only if a teacher or recording error has been made. Students will have until the last day to drop classes during the next regular quarter to report any discrepancies to the Academic Records Office. After that date, no grade changes will be initiated.

ACADEMIC PROBATION

ADMISSION WITH PROBATION. In a few cases, WWC admits students on probation. Students who do not meet all or part of admissions requirements are screened carefully and informed of their probationary status in writing. A letter specifies the conditions for admission. Students may be assigned a special adviser in addition to their regular adviser and must meet all of the conditions set forth in their letters of admission. Students who fail to meet these conditions are subject to dismissal.

ACADEMIC WARNING. A student whose cumulative grade point average is 2.00 or higher, but whose term average is below 2.00 receives a warning letter from the Associate Vice-President for Academic Administration. A copy of the letter is sent to the student's academic advisers to ensure appropriate advisement for the ensuing term.

ACADEMIC PROBATION AND DISMISSAL. When a student's cumulative grade point average falls below 2.00, that student is automatically placed on academic probation. Within 5 working days after quarter grades are issued, probationary status is communicated to the student in writing by the Associate Vice-President for Academic Administration. A copy of the letter is sent to the student's academic adviser.

Academic probation entails the following conditions, each intended to assist a student in improving scholastic performance:

1. enrollment is limited to 12 quarter credits which includes any incomplete that is outstanding. Students are advised to repeat courses with a grade less than C;
2. independent study or correspondence credits are not permitted;

3. a biweekly conference with the academic adviser and a midterm progress report are required;
4. extracurricular activities which necessitate class absences are not permitted;
5. the student is not permitted to hold office in any student organization or serve as a student missionary or taskforce worker; and
6. Students are allowed to preregister for up to 12 hours. However, their registration will be reviewed as soon as grades are available.

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

If a student's cumulative grade point average is below 1.75, the following conditions must be met in addition to those listed above:

1. the student must sign an academic contract and meet all of its requirements;
2. the student must participate in a counseling and/or testing program to confirm an appropriate major; and
3. the student will meet with his/her advisor or sepcial probation advisor on a biweekly basis.

Probationary status typically extends for one quarter, during which the student must demonstrate academic ability and seriousness of purpose. This requirement is met by a grade point average for the quarter of at least 2.3 or C+ average with no F grades.

A student meeting these criteria may continue on academic probation for the ensuing quarter, bound by the conditions outlined above, until such time as the overall grade point average reaches at least 2.00. A student failing to meet these criteria is subject to academic dismissal.

Academic dismissal is by action of the Academic Standards Committee upon review of the student's overall academic progress and written reports from the student's advisers. The Associate Vice-President for Academic Administration notifies the student, in writing, of the committee's decision and the rights and process of appeal.

Following at least six months' absence from the college, a student dismissed for academic reasons may formally apply for readmission. The Admissions Committee will review the application and seek recommendations from the Academic Standards Committee. Convincing evidence will be required which demonstrates the student's commitment and potential for academic success.

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 Associate Vice President 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. Two days is the normal time for providing a transcript. Walla Walla College will fax transcripts at the student's request, but cannot guarantee either privacy or that the receiving institution will accept faxed transcripts. The fee for faxed transcripts is $8 ($12 outside the US or Canada). Transfer credit is not recorded after a student has ceased residence in the College.

ACHIEVEMENT RECOGNITION

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

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

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

CREDIT BY EXAMINATION

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

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

English 121, 122; or HONR 141, 142 College Writing
Students obtaining a 3 or higher on the Advanced Placement Language and Composition examination will be awarded 6 quarter hours as a substitute for ENGL 121, 122 or HONR 141, 142. All students must take ENGL 223 or 323.

English 121, 204: or HONR 141 College Writing
Students obtaining a 3 or higher on the Advanced Placement Literature and Composition examination will be awarded 7 quarter hours for ENGL 121 and ENGL 204. All students must take ENGL 122 or HONR 142 and ENGL 223 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.

Mathematics 181, 281 Analytic Geometry and Calculus I, II
Students obtaining a 3 or higher will be awarded 8 quarter hours for MATH 181 and 281.

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, or HONR 142, and 223 or 323.

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(s), the student will be given credit as specified.

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

TRANSFER CREDIT BY EXAMINATION. Credit earned by examination at other colleges or universities may be transferred provided such credit meets the guidelines used by Walla Walla 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 other approved and accredited correspondence schools. 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

Walla Walla College has an affiliation agreement with Southeast Asia Union College in Singapore. Through this affiliation students at SAUC who are admitted to the program may receive Baccalaureate Degrees from Walla Walla College in Business Administration, Business Education, Elementary Education, English, Teaching English as a Second Language, Office Administration, and Religion. For admission

requirements and procedures, academic requirements and curricula, faculty, and other descriptions of the affiliation program see the SAUC/WWC *Affiliation Bulletin* which is published separately.

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 1, as there are usually more applications than spaces available.

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

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 and professional programs, but also preprofessional and special two-year associate degree curricula for students who may wish to pursue a terminal program of a vocational nature. For a listing of undergraduate areas of study offered see Areas of Study section as listed in this bulletin. For a listing of graduate areas of study offered see the Graduate Bulletin.

GRADUATE DEGREES

Walla Walla 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 from 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' credentials. Students who plan to enter the teaching profession with a denominational or state teaching credential should become thoroughly acquainted with the certification requirements listed in the Education and Psychology section of this bulletin.

BACCALAUREATE DEGREES

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

it allows a greater number of electives. In the tradition of the liberal arts, **all Bachelor of Arts degree majors require foreign language study.**

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

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

The Bachelor of Science in Business Administration degree consists of a four-year program with concentrations available in accounting, computer information systems, economics, management, 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 approved by the Council on Social Work Education, the accrediting body for all social work education programs. It prepares students for entry level positions in a variety of social service agencies. For specific requirements, see the Social Work and Sociology section of this bulletin.

BACCALAUREATE DEGREE REQUIREMENTS

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

A student who is undecided as to a major field of study may, during the freshman year, explore several fields of knowledge without loss of credit if he/she plans his/her choices with an academic adviser. 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 conferred and diplomas issued each quarter. Commencement exercises are held only in June. The deadlines for completion of all work in order to have the degree conferred at the end of the quarter are:

Fall . . . . . December 30, 1994
Winter . . . . . March 24, 1995
Spring . . . . . June 11, 1995
Summer . . . . . August 25, 1995

Students who complete their work Fall or Winter quarter march in the following June graduation. Those anticipating the completion of an approved degree program during the summer may apply to the Academic Records Office requesting participation in the June graduation exercises immediately prior to their last summer in residence.

Residence Requirements:

1. A minimum of 20% of the requirements in each major and minor must be taken on the WWC campus in residence.
2. Degree candidates must be in residence the three quarters preceding graduation.
3. 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 (200 quarter hours, Bachelor of Science in Engineering), including 60 quarter hours in courses numbered 300 or above, and a cumulative grade-point average of 2.00 or above.
2. **Major.** The completion of a major field of departmental specialization (minimum of 45 quarter hours and a cummulative grade-point average of 2.00). A grade lower than C– will not apply toward a major except in engineering (see Engineering section of this bulletin). At least 21 quarter hours in the major must be numbered 300 or above. **Unless otherwise specified all electives applied to the major must be courses offered by the major department. A course may fulfill requirements for several majors or minors, but credit will apply to only one. 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 and a minimum cumulative grade-point average of 2.00, or completion of an Associate of Science degree, provided it is in an area distinct from the major. Three quarter hours must be courses numbered 300 or above. A grade lower than C– will not apply toward a minor. **A course may 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 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 that their senior outlines have been approved.

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 and transfer credit on file in the Academic Records Office three weeks before graduation. **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 Degree	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 General Studies Honors section of this Bulletin.

SPECIFIC COURSES FOR GENERAL STUDIES

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

APPLIED ARTS AND SCIENCES 2-6

Courses in the applied arts and sciences should enhance the student's artistic and technical skills.

Applied Arts: 0-6

ART	161, 162, 163	Design	3, 3, 3
ART	184, 185, 186	Intro to Drawing	2, 2, 2

ART	194, 195, 196	Intro to Painting	2, 2, 2
ART	201	Calligraphy	2
ART	244, 245, 246	Commercial Art	2, 2, 2
ART	264, 265, 266	Introduction to Sculpture	2, 2, 2
ART	284, 285, 286	Introduction to Pottery	2, 2, 2
ART	294, 295, 296	Introduction to Printmaking	2, 2, 2
COMM	231	Broadcast Techniques & Announcing	4

All 100 and 200 level MUPF courses. This includes participation in performance ensembles and introductory study in instrument or voice. Class instruction is acceptable.

Applied Sciences: 0-6

ACCT	201, 202, 203	Principles of Accounting	4, 3, 3
ACCT	205, 206		5, 5
AUTO	114,	Introduction to Auto Mechanics	3
AUTO	134, 135	Internal Combustion Engine	2, 1
AUTO	145, 146	Power Train	2, 1
AUTO	156, 157	Fuel and Electrical Systems	2, 1
AVIA	142, 143	Private Pilot Flight Training	3, 3
CIS	260	Intermediate Database Applications	2
CIS	270	Intermediate Spreadsheet Applications	2
CIS	280	Intermediate Word Processing	2
CPTR	105	Personal Computing	3
CPTR	141	Introduction to Programming (Pascal)	4
CPTR	142	Data Structures	4
DRFT	121, 122	Technical Drafting and Design	3, 3
DRFT	226	Architectural Drawing	3
ELCT	241	Fundamentals of Electronics	5
ENGR	121, 122, 123	Intro to Engineering	2, 2, 2
FINA	101	Personal Finance	2
GBUS	105	Keyboarding	1-2
GBUS	106	Machine Transcription	1
GBUS	108	Business Calculators	1
GRPH	211, 212, 213	Graphic Communication Processes	3, 3, 3
GRPH	264	Screen Printing	2
GRPH	261	Desktop Publishing	2
TECH	124	Introduction to Technology	1
TECH	137	Oxyacetylene Welding and Cutting	2
TECH	138	Shielded Metal Arc Welding	2
TECH	139	Specialized Welding	2
TECH	221, 222, 223	Wood Products and Processes	2, 2, 2
TECH	241, 242, 243	Fabrication and Machining of Metals	2, 2, 2
LIBR	111	Introduction to Library Resourses	2
PHTO	156	Principles of Photography	3

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 reqirement.)

Activity Courses: 2-4

ALL PEAC 107-195 Activity Courses

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

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

HISTORY and SOCIAL SCIENCE 12-20

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

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

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

History: 8-12

HIST	120, 121, 122	History of Western Civilization	4, 4, 4
HIST	221, 222	History of the United States	4, 4
HIST	242	Modern East Asian History	4
HIST	274, 275	History of England	4, 4
HIST	284, 285	History of Latin America	4, 4
HIST	321	Contemporary Issues	2

Social Science: 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	210	Foundations of Education	3
**ENVI	385	The Environment and Man	4
GBUS	361	Business Law I	4
PSYC	130	General Psychology	4
PSYC	444	Social Psychology	3
PSYC	455	History & Systems of Psychology	3
SOCI	204	General Sociology	4
SOCI	225	Marriage and Family Life	2
SOCI	236	Racial and Ethnic Relations	3
SPCH	401	Introduction to General Semantics	2

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

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

HUMANITIES 12-16

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

Fine Arts: 0-8

ART	251	Introduction to Art	4
ART	324, 325	History of Art	3, 3
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	314	Advanced Themes in Literature	4
ENGL	315	Advanced Film Literature	4
ENGL	454	Literature of the Bible	4
ENGL	455	Classical Backgrounds	4
ENGL	456	American Literature & Painting	4
FREN	407	17th & 18th Century French Literature	4
FREN	408	19th Century French Literature	4
FREN	409	20th Century French Literature	4
GRMN	311, 312, 313	Survey of German Literature	3, 3, 3
GRMN	421	18th Century German Literature	4
GRMN	422	19th Century German Literature	4
GRMN	423	20th Century German Literature	4
SPAN	324, 325, 326	Survey of Spanish Literature	3, 3, 3
SPAN	424, 425	Contemporary Spanish Literature	3, 3
SPAN	431, 432, 433	Survey of Latin-American 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, 4
PHIL	306, 307	History of Philosophy	4
PHIL	407	Philosophy of Science	4
PHIL	412	Philosophy of Religion	4
SPCH	341	Argumentation	4

LANGUAGE ARTS 13-21

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

College Writing: 9

ENGL	121, 122	College Writing	3, 3
ENGL	223	Research Writing	3
ENGL	323	Writing for Engineers	3

Speech and Writing: 0-12*

ENGL	324	Essay Writing	3
ENGL	325	Writing for the Professions	3
ENGL	334	Poetry Writing	3
ENGL	335	Narrative Writing	3
ENGL	336	Drama Writing	3
JOUR	245	Newswriting	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 speech and writing area must be selected from **oral** speech 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
GREK	121, 122, 123	Greek I	3, 3, 3
GREK	221, 222, 223	Greek II	3, 3, 3
GRMN	111	Introduction to German	4
GRMN	112, 113	Elementary German	4, 4
GRMN	212, 213	Intermediate German	4, 4
JAPN	131	Introduction to Japanese	4
JAPN	132, 133	Elementary Japanese	4, 4
LATN	211, 212, 213	Latin I	4, 4, 4
LATN	311, 312, 313	Latin II	4, 4, 4
SPAN	121	Introduction to Spanish	4
SPAN	122, 123	Elementary Spanish	4, 4
SPAN	222, 223	Intermediate Spanish	4, 4

**B.A. degree requires twelve hours of same language or two years of same language in secondary school.

MATHEMATICS and NATURAL SCIENCE 12-16

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

Mathematics: 4-8

MATH 105	Mathematics with Applications	4
MATH 206	Applied Statistics	4
MATH 112, 113	Elementary Mathematics	3, 3
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
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 science.

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.

A minimum of 6 quarter hours must be from courses numbered 300 and above.

Religion requirements for transfer students from non-SDA colleges:
Students transferring from regionally-accredited schools (non-SDA) who are in residence at Walla Walla College for three quarters are required to take nine hours of coursework in religion, of which three hours must be in RELB courses and of which three hours must be upper division. For these students a maximum of three hours may be transferred upon initial admission.

Students in residence at Walla Walla College for four-to-six quarters are required to take twelve hours of religion credits, of which six hours must be RELB courses and of which six hours must be upper division. For these students, a maximum of six hours

may be transferred upon initial admission. Students transferring from regionally-accredited schools (SDA) must meet all religion requirements of Walla Walla College and may tranfer any amount of religion credits according to current policy.

Students transferring from non-regionally-accredited schools may transfer up to six hours of religion credits by means of validation exams and the approval of the School Theology and the Academic Standards Committee. In such cases, however, students will still need to meet the RELB and upper division requirements described above.

Biblical Studies: 6-20

RELB	104	The Ministry of Jesus	4
RELB	105	The Sermon on the Mount	2
RELB	106	The Parables of Jesus	2
RELB	111	Messages of the Old Testament	4
RELB	216	Messages of Paul	4
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(4), 3(4), 3(4)
RELB	464, 465, 466	New Testament Epistles	3, 3, 3

Electives in Religion or Theology: 0-14

RELH	205	Biblical Archaeology	3
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	110	Seventh-day Adventist Belief and Practice	4
RELT	201	The Christian Way of Salvation	4
RELT	202	Fundamentals of Christian Belief	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	Christian Discipleship	3
RELT	340	Theology of Spiritual Care	4
RELT	404	Approaches to Biblical Interpretation	2
RELT	412	Philosophy of Religion	4
RELT	413	God and World	3
RELT	418	Aesthetics and Spirituality	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.

This program is a separate track of general studies and not a major or a minor in itself. 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. Western Thought I, team taught by history and English faculty, will provide general studies history and literature credits. Western Thought II, team taught by science and humanities faculty, will provide general studies laboratory science and humanities credits.

Students finishing the program with a 3.25 cumulative honors G.P.A. receive a six hour tuition grant and, at graduation, are designated as "General Studies Honors Graduates."

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.

Students not currently in the Honors Program may petition the General Studies Honors Committee to enter a specific honors class. Petitions must be submitted to the Honors Committee chair prior to the close of registration. Class size permitting, students may be admitted on the basis of grade-point average, ACT scores, and writing skills.

Program Requirements. The following requirements must be met to complete the honors program: a cumulative grade-point average of 3.25 or better in honors courses, and completion of at least 35 quarter hours of honors courses (listed below) including HONR 131, 132, 133; HONR 311, 312, 313; HONR 496, 497, 498.

HONORS COURSES

HISTORY AND SOCIAL SCIENCE

HONR 131, 132, 133 WESTERN THOUGHT I **4, 4, 4**
Integration of Western history and literature with added emphasis on philosophical concepts and their relationships to events. Satisfies 8 hours of general studies history and 4 hours of literature.

HONR 349 RELIGION IN A SOCIAL CONTEXT **4**
Study of religion in its social setting, including the nature and role of religious symbol systems, the importance of religion in the creation of social values, the function of religion in social change, and the institutionalization of religion. Satisfies 4 hours of general studies social science or 4 hours religion.

HUMANITIES

HONR 311, 312, 313 WESTERN THOUGHT II 4, 4, 4
Study of historical science and its relationship to the humanities in the Western world from the classical period to the present; includes study of mathematics, science, visual arts, and music in both classroom and laboratory settings. Satisfies 8 hours laboratory science and 4 hours humanities (fine arts) or 8 hours humanities (4 fine arts, 4 philosophy) and 4 hours science. Must be taken in sequence. Prerequisites: HONR 131, 132, 133; MATH 123 or 181.

LANGUAGE ARTS

HONR 141, 142 COLLEGE WRITING 3, 3
Advanced college writing designed to integrate writing with readings of significant classic and contemporary texts which complement the general studies honors curriculum.

RELIGION

HONR 281, 282, 283 THE NEW TESTAMENT AND ITS ENVIRONMENT 2, 2, 2
Study of certain New Testament themes in the light of first-century Jewish and Hellenistic culture and thought. HONR 281 is a prerequisite for either HONR 282 or 283.

HONR 349 RELIGION IN A SOCIAL CONTEXT 4
Study of religion in its social setting, including the nature and role of religious symbol systems, the importance of religion in the creation of social values, the function of religion in social change, and the institutionalization of religion. Satisfies 4 hours of general studies social science or 4 hours religion.

SEMINAR

HONR 496, 497, 498 HONORS SEMINAR 1, 1, 1
Seminar that seeks to integrate learning and religious faith. Students present formal papers based on reading, research, and dialogue with faculty. Must be taken in sequence. Applies towards overall general studies requirements, but not to the minimum in any specific area. Prerequisite: Completion of 32 hours of HONR classes or senior standing.

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, including a minimum of 9 quarter hours earned in the concentration.

General Requirements:

1. A minimum of 96 quarter hours must be completed.
2. A cumulative grade-point average of 2.00 (C) 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 courses which may apply to the requirements, see Specific Courses for General Studies section of this Bulletin.
5. A course may fulfill requirements for one or more concentrations but credit will apply to only one concentration.
6. Students must have all transcripts for correspondence and transfer credit on file in the Academic Records Office 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 that their senior outlines have been approved.

General Studies Requirements for the Associate Degree:

Areas	Hours Minimum/Maximum in specific subject areas	Hours Minimum/Maximum in general areas
Applied Arts and Sciences		0-2
Health and Physical Education		0-2
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		9-12
ENGL 121, 122, 223	9	
Speech and Writing	0-4	
Foreign Language	0-4	

Mathematics and Natural Science 0-8
Mathematics 0-8
Science 0-8

Religion and Theology 6-8
Biblical Studies 4-8
Electives in Religion or Theology 0-4

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

PREPROFESSIONAL PROGRAMS

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

Architecture (2)*
Chiropractic (2)
Dentistry (3)
Dental Hygiene (2)
Law (4)
Medicine (4)
Medical Technology (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 (4)

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

TRANSITIONAL COURSES

The transitional courses are 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, GNRL 100, MDEV 003, and RDNG 100. Students are registered for these courses 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 Study Load section of this Bulletin).

The Director of Academic Advisement 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:

001-100 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 a course is the "quarter hour," and one quarter hour represents one recitation period per week for one quarter or three clock hours of laboratory work.

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

The 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.

When courses specify that they are offered odd or even years, "odd or even" refers to the year in which the academic Bulletin takes effect.

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, but will apply to Financial aid minimums.

100 EXPERIENTIAL PROGRAM 6; 18
Programs with qualified supervision and structured experience including Student Missionary, Task Force and Cooperative Education. 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 department faculty and the Academic Standards Committee and should indicate the methods of evaluation. May not be substituted for existing courses in the major or minor.

479 DIRECTED RESEARCH/PROJECT 1-3; 6

Individual research, and/or laboratory work, or technical project in the major. (Some departments may allow this course on the minor.) A project proposal is required to define the scope of the work and the method of reporting. Requires permission of the department faculty with a copy of the proposal sent to the 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. See individual departments for specific course description.

495 COLLOQUIUM 0

496; 497; 498 SEMINAR 1-4; 4

ART

Tom Emmerson, Chair; Kenneth 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. All senior art majors are also to prepare a slide portfolio of their art work as part of the senior comprehensive. The slides should consist of 20 color transparencies in the 35mm format.

Core Requirements:

ART	161, 162, 163	Design	9
ART	184, 185, 186	Introduction to Drawing	6
ART	194, 195, 196	Introduction to Painting	12
ART	264, 265, 266	Introduction to Sculpture	
ART	284, 285, 286	Introduction to Pottery	
ART	294, 295, 296	Introduction to Printmaking	
ART	324, 325, 326	History of World Art	9
			36

CONCENTRATION: Commercial Art

ART	244, 245, 246	Commercial Art	6
ART	314, 315, 316	Advertising Design	9
ART	317, 318	Printmaking	4
ART	307, 308	Drawing	*4
ART	319	Printmaking	
			23

*2 hours must be upper division.

Cognates: Commercial Art

HIST	120, 121, 122	History of Western Civilization	8
GRPH	261	Desktop Publishing	2
PHTO	156	Principles of Photography	3
PHTO	355	Advanced Photography	3

CONCENTRATION: Fine Art

ART	304, 305, 306	Fine Arts Design	9

Electives chosen from courses listed below (limited to 5 areas):

ART	264, 265, 266	Introduction to Sculpture	
ART	284, 285, 286	Introduction to Pottery	
ART	307, 308, 309	Drawing	*14
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. 23

Cognates: Fine Art

ENGL	455	Classical Backgrounds	4
HIST	120, 121, 122	History of Western Civilization	8
RELH	205	Biblical Archaeology	3
RELT	246	Christian Ethics	
or			4
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, 326	History of World Art	9
		Electives	9

Approval of art adviser required. 33

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.

ART 251 INTRODUCTION TO ART 4
Introduction to art for liberal arts students who wish to better understand and appreciate the visual arts of painting, sculpture, architecture, printmaking and the minor arts. Will not apply toward a major or minor in art.

ART 264, 265, 266 INTRODUCTION TO SCULPTURE 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 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, 326 HISTORY OF WORLD ART 3, 3, 3
Chronological study of the great periods in the history of art, their causes and developments; includes discussion of the relation between art and society and the implications of aesthetic understanding in each period. Prerequisites: HIST 121, 122.

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; 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 395 METHODS OF TEACHING ART 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. Will not apply toward a major or minor in art.

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

Susan Dixon, Chair; Joe Galusha, Scott Ligman, Larry McCloskey, Jim Nestler, Joan Redd, Malinda Saturno.

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 (Biology) sections.

Major Requirements:

BIOL	101, 102, 103	General Biology	12
BIOL	250	Biostatistics	4
BIOL	351	Research Methods I	1
BIOL	352, 353	Research Methods II, III	2
BIOL	392	Cell Biology	4
BIOL	393	Genetics	4
BIOL	394	Developmental Biology	4
BIOL	446	General Ecology	4
BIOL	454	Research Methods IV	1
BIOL	455	Research Methods V	1
BIOL	483	Philosophy of Origins and Speciation	3
BIOL	495	*Colloquium	0
		Electives	22
			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 360, 426, 463; and one course from the following: BIOL 374, 384, 389, 403, 462, 475; and one course from the following: BIOL 401, 413, 449, 464, 466, 468.

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

Cognates:

CHEM	141, 142, 143	General Chemistry	9
CHEM	144, 145, 146	General Chemistry Laboratory	3
CHEM	321, 322, 323	Organic Chemistry	11
CHEM	325, 326	Introduction to Organic Laboratory	2
CPTR	105	Personal Computing	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.

BIOL	101, 102, 103	General Biology	
or			
BIOL	105, 106	Biology for General Studies	12
and			
BIOL	103	General Biology	
		One of the following botanical courses: BIOL 360, 401, 413, 426, 463	3-5
		One of the following zoological courses: BIOL 374, 384, 389, 403, 449, 462, 464, 468, 475	3-5
		Electives	5-9
			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 microorganisms. 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 apply to a biology minor with the addition of BIOL 103.

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. Students taking both BIOL 101, 102, 103, and BIOL 201, 202 will receive only 16 credits toward graduation.

BIOL 222 MICROBIOLOGY 5
Study of the nature and control of bacteria and other disease-producing organisms; consideration of their relationship to human disease and the basic concepts of immunology. One laboratory per week. Does not apply to biology major. 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; CPTR 105 or permission of instructor.

BIOL 296 CURRENT TOPICS IN BIOLOGY 1
An informal study of current topics in biology. Students will read scientific articles and lead and participate in weekly discussions. Designed for sophomore biology majors and minors. Prerequisites: BIOL 103 and permission of instructor. Graded S or NC.

BIOL 101, 102, 103 or 105, 106, 103 are prerequisites for all upper-division courses.

BIOL 351 RESEARCH METHODS I 1
Introduction to the principles of scientific research and the function of the scientific methods. Graded S or NC.

BIOL 352 RESEARCH METHODS II 1
Emphasizes literature research and retrieval, oral critiques of research papers, and selection of a research area/problem and adviser. Prerequisite: BIOL 351. Graded S or NC.

BIOL 353 RESEARCH METHODS III 1
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. Registration: Spring quarter, junior year, strongly recommended.

BIOL 360 SURVEY OF THE PLANT KINGDOM 4
Study of life histories, internal anatomy, and physiology of the various members of the plant kingdom. One laboratory per week. Offered on demand.

BIOL 374 ANIMAL BEHAVIOR 4 or 5
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 odd years only.

BIOL 384 SOCIOBIOLOGY 3
A study of current concepts and ideas relating to the origin and structure of social behavior in animals. Special attention is focused on the adaptive significance of species—specific behavior in a wide variety of environments. Offered even years only.

BIOL 389 NATURAL HISTORY OF VERTEBRATES 4 or 5
Study of vertebrates with emphasis on natural history, ecology, physiology, and taxonomy. Two laboratories per week. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.) Offered every 3 - 4 years at Marine Station. A weekend field trip is required. Offered odd years only.

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

BIOL 392 CELL BIOLOGY 4
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. Priority will be given to biology majors, followed by bioengineering and health science majors and biology minors. Corequisite: CHEM 321 and permission of department.

BIOL 393 GENETICS 4
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. Corequsite: Organic Chemistry. Prerequisites: BIOL 250, 392 and CHEM 321; or permission of department.

BIOL 394 DEVELOPMENTAL BIOLOGY 4
Principles of development of plants and animals. Emphasizes problems of growth, differentiation, and morphogenesis. Laboratory work consists of both descriptive and experimental analysis of development. One laboratory per week. Prerequisites: BIOL 392, 393 and CHEM 322; or permission of department.

BIOL 395 METHODS OF TEACHING BIOLOGY 3
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 even years only.

BIOL 401 PLANT PHYSIOLOGY 4
A study of the principles of plant physiology. One laboratory per week. Prerequisite: BIOL 392. PHYS 213, 216 strongly recommended. Offered on demand.

BIOL 403 ORNITHOLOGY 4 or 5
Study of native birds of North America, with emphasis on physiology, identification, migration, and life histories. Two laboratories per week. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.) A weekend field trip is required. Offered even years only.

BIOL 407 PHILOSOPHY OF SCIENCE (or PHIL 407) 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.

BIOL 413 PLANT TISSUE CULTURE 3
A study of various techniques to establish and to maintain plant tissue cultures. One laboratory per week. Offered odd years only.

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. (College Place campus — 4 quarter hours; Marine Station — 5 quarter hours.) Offered on demand.

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. BIOL 250, BIOL 393, and a minimum of one field natural history course recommended.

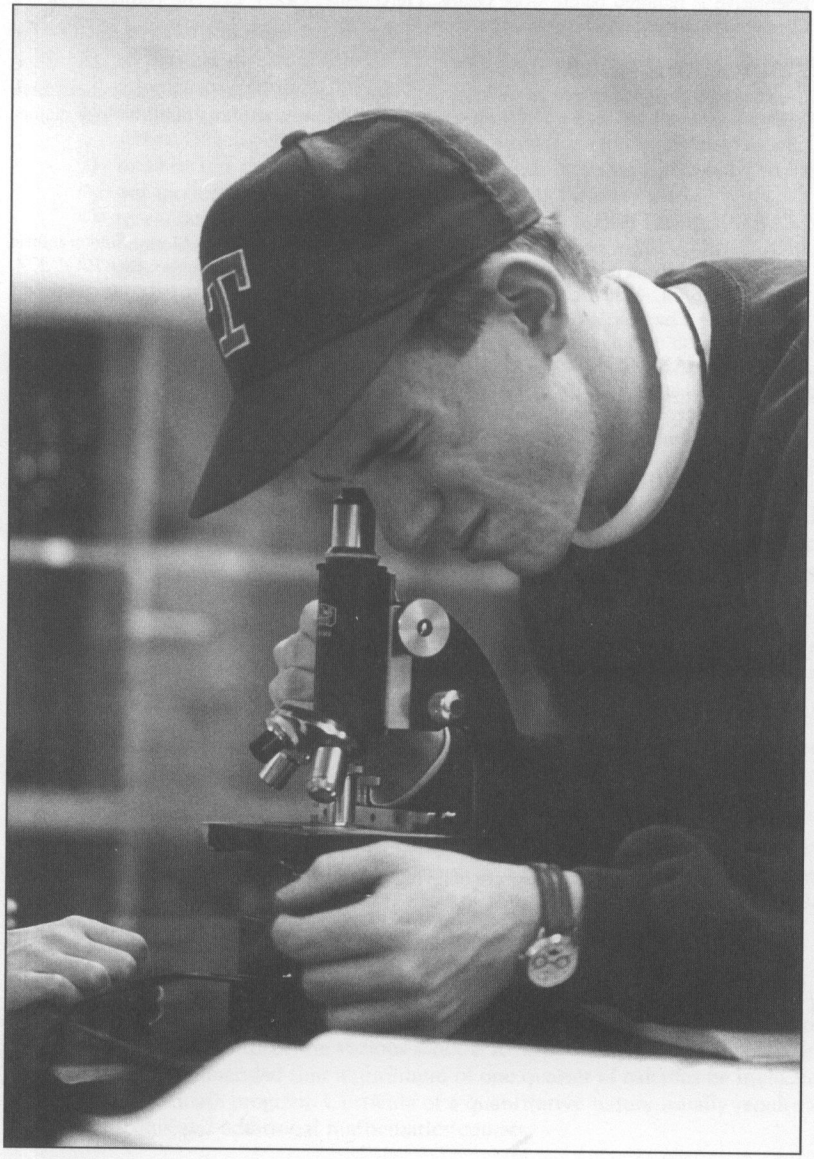
BIOL 449 VERTEBRATE HISTOLOGY 4
Study of the microscopic anatomy of vertebrate cells, tissues, and organs, including reference to their functions. Two laboratories per week.

BIOL 454 RESEARCH METHODS IV 1
Collection and analysis of data for the senior thesis. Prerequisite: BIOL 353 and permission of research adviser.

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 351; BIOL 352; BIOL 353; BIOL 454).

BIOL 464 ANIMAL PHYSIOLOGY 4
Study of animal physiology with emphasis on integration of vertebrate organ systems. One laboratory per week. Prerequisite: BIOL 392. PHYS 213, 216 strongly recommended.

BIOL 466 IMMUNOLOGY 4
Study of the molecular and cellular bases of the immune response including clinical applications. One laboratory per week. Prerequisites: BIOL 392, 393.



BIOL 483 PHILOSOPHY OF ORIGINS AND SPECIATION 3
Comparison of the various theories on the origin and history of living organisms in light of present scientific knowledge in biochemistry, paleontology, morphology, geology, genetics, and other related areas. For majors and minors only. Recommended for senior year.

BIOL 494 COOPERATIVE EDUCATION/RESEARCH 0
Specialized field or laboratory experience at an off-campus academic, industrial, or government site. A contractual arrangement between student, faculty adviser, and off-campus representative is required before work begins. Prerequisite: 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 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 426,). Normally a maximum of two of the following courses are taught during a summer; see annual Marine Station bulletin.

BIOL 458 MARINE BIOLOGY* 5
An integrated approach to understanding the marine environment primarily from an ecological perspective. Included are principles of basic oceanography, plankton biology, deep–sea biology, and shallow–water marine communities. Research project and field trips required.

BIOL 460 MARINE ECOLOGY* 5
Study of interspecific, intraspecific, and community relationships demonstrated by marine organisms.

BIOL 462 ICHTHYOLOGY* 5
Systematic study of the fishes found in Puget Sound, with a survey of the fishes of other waters.

BIOL 463 MARINE PHYCOLOGY* 5
A systematic survey of marine algae, covering the principles of their classification, natural history, ecology, physiology, and practical use.

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

BUSINESS

Wong Yew-Chong, Chair; Clarence Anderson, Norman Anderson, Michael Buck (on leave), Sam Chuah, John Haney, Julie Scott, JoAnn Wiggins.

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 keyboarding 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, computer information systems, economics, management, or marketing. No minor is required.

The department offers a Bachelor of Science degree in Business Education for students who wish to teach business subjects in high school or in corporate training and development programs. 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.

An Associate of Science degree is available for those students who, for a variety of reasons, may find it impossible to complete a four-year program without an interruption. This program provides students an opportunity to gain the basic knowledge and skills required for initial job placement.

Minors are available in business, computer information systems, and economics.

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.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION (B.S.B.A.)

A student seeking the BSBA degree must complete 64 quarter hours of core requirements and a 41 quarter hour concentration in one area of business. In addition, students must complete the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Business Achievement Test. All Business students must demonstrate skills in keyboarding and business calculators during their first year of enrollment in the business program. Skills may be demonstrated by passing a proficiency examination or an appropriate class.

Core Requirements:

Lower Division Courses:

ACCT	201, 202, 203	Principles of Accounting	10
or			
ACCT	205, 206	Principles of Accounting	
CIS	120	Computer Principles	2
CIS	250	Business Graphics	2
or			
CIS	260	Intermediate Database Applications	
or			
CIS	270	Intermediate Spreadsheet Applications	
ECON	211	Principles of Macroeconomics	4
ECON	212	Principles of Microeconomics	4
GBUS	263	Business Statistics	4

Upper Division Courses:

CIS	301	Computer Information Systems	3
FINA	351	Financial Management	4
GBUS	361, 362	Business Law I, II	8
GBUS	366	Operations Management and Production	4
GBUS	370	Business Communications	4
GBUS	463	Business Environment and Ethics	3
MGMT	371	Management and Organizational Behavior	4
MGMT	489	Business Strategy and Policies	4
MKTG	381	Marketing	4
			64

Cognates:

CPTR	105	Personal Computing	3
MATH	121	Fundamentals of Mathematics I	4-8
and			
MATH	123	Survey of Calculus	
or			
MATH	181	Analytic Geometry and Calculus I	
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)	10
			41

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. No more than 2 credits of ACCT 494 may count as accounting electives.

CONCENTRATION: Computer Information Systems (CIS)

(For both options)

CIS	130	Intro to Business Applications Programming	4
CIS	260	Intermediate Database Applications	2
CIS	270	Intermediate Spreadsheet Applications	2
CIS	315	Systems Analysis and Design	3
CIS	350	Telecommunications	4
CIS	480	Seminar in CIS	3
			18

Option 1

(Preparation for Programming and Systems Analysis)

CIS	230	Intermediate Business Applications Programming	4
CIS	330	Advanced Business Applications Programming	4
CIS	415	Advanced Systems Analysis and Design	3
CIS	440	Database Management Systems	4
		Electives	8
			23

Option 2

(Preparation for Software Support and Systems Management)

CIS	250	Business Graphics	2
CIS	280	Intermediate Word Processing	2
CIS	340	Records Management	3
CIS	360	Office Systems	4
CIS	460	Advanced Office Systems	3
GRPH	261	Desktop Publishing	2
		Electives	7
			23

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

CONCENTRATION: Economics

ECON	341	Managerial Economics	4
ECON	343	Intermediate Macroeconomics	4
ECON	441	Money and Banking	4
MKTG	451	Research Methods	4
		Electives (6 must be upper division)	25
			41

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

CONCENTRATION: Management

ACCT 331, 332	Managerial Cost Accounting	6
ECON 341	Managerial Economics	
or		4
ECON 343	Intermediate Macroeconomics	
MGMT 372	Human Resources Management	4
MGMT 476	Motivation and Leadership	4
MKTG 451	Research Methods	4
MKTG	An approved MKTG course	4
	Electives	15
		41

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. The management concentration allows flexibility in creating specific management emphases. Through the careful selection of electives, an emphasis in health care operation, personnel/behavioral management, or quantitative/financial skills can be tailored to the needs of the individual student.

CONCENTRATION: Marketing

ECON 341	Managerial Economics	4
MKTG 383	Advertising and Sales Promotion	4
MKTG 384	Consumer Behavior	3
MKTG 451	Research Methods	4
MKTG 479	Directed Research/Project	2
MKTG 489	Marketing Issues and Strategies	4

Three of the following courses are required:

MKTG 385	Professional Selling	
MKTG 481	Public Relations	
MKTG 485	Retailing	12
MKTG 486	Marketing of Non-Profit Organizations	
MKTG 488	International Marketing	
	Electives	8
		41

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

MAJOR IN BUSINESS EDUCATION (Bachelor of Science)

A student majoring in business education must complete 87 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Students seeking certification should consult with the certification office in the Department of Education and Psychology for updated information regarding certification.

ACCT 201, 202, 203	Principles of Accounting	
or		10
ACCT 205, 206	Principles of Accounting	
ACCT 222	Accounting Projects	2
BUED 395	Methods of Teaching Business Educ Subjects	4
BUED 493	Training & Development in Business & Industry	4
BUED 494	Cooperative Education	1

CIS	120	Computer Principles	2
CIS	130	Intro to Business Applications Programming	4
CIS	260	Intermediate Database Applications	2
CIS	270	Intermediate Spreadsheet Applications	2
CIS	280	Intermediate Wordprocessing	2
CIS	301	Computer Information Systems	3
CIS	340	Records Management	3
CIS	360	Office Systems	4
ECON	211	Principles of Macroeconomics	4
ECON	212	Principles of Microeconomics	4
GBUS	105	Keyboarding	2
GBUS	106	Machine Transcription	1
GBUS	107	Business Dictation	1
GBUS	108	Business Calculators	1
GBUS	160	Introduction to Business	4
GBUS	361	Business Law I	4
GBUS	370	Business Communications	4
GBUS	463	Business Environment and Ethics	3
MGMT	371	Management and Organizational Behavior	4
MGTG	381	Marketing	4
		Electives	8
			87

Cognates:

CPTR	105	Personal Computing	3
MATH	206	Applied Statistics	4
PSYC	489	Vocational Development Theory	3
			10

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 administration must complete 63 quarter hours in the major, the required cognates, a minor, the general studies program which includes a foreign language, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Business Achievement Test. All business students must demonstrate skills in keyboarding and business calculators during their first year of enrollment in the business program. Skills may be demonstrated by passing a proficiency examination or an appropriate class.

Core Requirements:

Lower Division Courses:

ACCT	201, 202, 203	Principles of Accounting	10
or			
ACCT	205, 206	Principles of Accounting	
CIS	120	Computer Principles	2
ECON	211	Principles of Macroeconomics	4
ECON	212	Principles of Microeconomics	4
GBUS	263	Business Statistics	4

Upper Division Courses:

FINA 351	Financial Management	4
GBUS 361	Business Law I	4
GBUS 370	Business Communications	4
GBUS 463	Business Environment and Ethics	3
MGMT 371	Management and Organizational Behavior	4
MKTG 381	Marketing	4
	Electives (12 must be upper division)	16
		63

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	
PSYC 130	General Psychology	4
SPCH 101	Fundamentals of Speech Communication	4

BUSINESS (Associate of Science)

A student specializing in business must complete 46 quarter hours in the area, the required cognates, the general studies program, and all associate degree requirements as outlined in this bulletin. All business students must demonstrate skills in keyboarding and business calculators during their first year of enrollment in the business program. Skills may be demonstrated by passing a proficiency examination or an appropriate class.

Core Requirements:

ACCT 201, 202, 203	Principles of Accounting	
or		10
ACCT 205, 206	Principles of Accounting	
CIS 120	Computer Principles	2
ECON 211	Principles of Macroeconomics	4
FINA 101	Personal Finance	2
GBUS 361	Business Law I	4
	Electives	24
		46

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 105	Mathematics With Applications	
or		
MATH 117	Precalculus	4-5
or		
MATH 121	Fundamentals of Mathematics I	

MINOR IN BUSINESS

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
		Electives (8 must be upper division)	12
			30

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

MINOR IN COMPUTER INFORMATION SYSTEMS

CIS	120	Computer Principles	2
CIS	130	Intro to Business Application Programming	4
CIS	260	Intermediate Database Applications	2
CIS	270	Intermediate Spreadsheet Applications	2
CIS	301	Computer Information Systems	3
CIS	315	Systems Analysis and Design	3
CPTR	105	Personal Computing	3
		Electives (4 must be in Accounting)	11
			30

MINOR IN ECONOMICS

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)	14
			30

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

ACCOUNTING (ACCT)

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.

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 CIS 120 or equivalent are required prerequisites. Permission of instructor is required. Prerequisite: ACCT 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 206.

ACCT 331, 332 MANAGERIAL COST ACCOUNTING 3, 3
Study of standards and budgets for control, cost-volume-profit relationships, discretionary and committed costs, application of overhead and analysis of variances, accounting systems for accumulating cost data, responsibility centers and controllable costs, long-range planning, and capital budgeting; quantitative techniques and computer problems applied to cost accounting. Prerequisite: ACCT 203 or 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 strongly 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 206. Will be offered 1995-96.

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 1-4
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. No more than 2 credits may be counted as electives in the BSBA accounting concentration. No credit will be allowed toward the major for the BA in Business. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director.

BUSINESS EDUCATION (BUED)

BUED 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.

BUED 493 TRAINING AND DEVELOPMENT IN BUSINESS 4
This class examines needs and characteristics of adult learners and the role of business in training. Students will develop, implement, and evaluate training seminars.

BUED 494 COOPERATIVE EDUCATION/INTERNSHIP 1-4
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. No credit will be allowed toward the major for the BA in Business. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director.

COMPUTER INFORMATION SYSTEMS (CIS)

CIS 120 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 prerequisite: CPTR 105.

CIS 130 INTRODUCTION TO BUSINESS APPLICATIONS PROGRAMMING 4
An introductory course in program design, development and structure for business applications, using the BASIC language. Prerequisite: CIS 120.

CIS 230 INTERMEDIATE BUSINESS APPLICATIONS PROGRAMMING 4
Continuity with CIS 130 with additional business programming concepts and techniques, using COBOL. Prerequisite: CIS 130.

CIS 250 BUSINESS GRAPHICS 2
The use of graphic packages for business applications of presentations, training, and communication. Prerequisite: CPTR 105 or permission of instructor.

CIS 260 INTERMEDIATE DATABASE APPLICATIONS 2
An intermediate exposure to business database applications. This course emphasizes the application of current database software to business projects and problems. Students will learn the capabilities of database management systems, and will build small databases for several specific business applications and problems. Prerequisite: CPTR 105 or equivalent, or permission of instructor.

CIS 270 INTERMEDIATE SPREADSHEET APPLICATIONS 2
An intermediate exposure to business spreadsheet applications. Students will learn the capabilities of spreadsheet programs and will apply these programs to several specific business projects and problems. This course emphasizes business applications and problem solving. Prerequisite: CPTR 105 or equivalent, or permission of instructor.

CIS 280 INTERMEDIATE WORD PROCESSING 2
This course develops proficiencies in word processing features and terminology through problem solving applications. Prerequisite: CPTR 105.

CIS 301 COMPUTER INFORMATION SYSTEMS 3
An overview of Computer Information Systems; 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 CIS 120 or a programming language. ACCT 203 or 206 and MGMT 371 strongly recommended.

CIS 315 SYSTEMS ANALYSIS AND DESIGN 3
A study of the systems development life cycle of analysis, design, development, implementation and evaluation. This course emphasizes analysis, with application in computer information systems within organizations. Prerequisite: CIS 130.

CIS 330 ADVANCED BUSINESS APPLICATIONS PROGRAMMING 4
Continuity with CIS 230 with advanced business programming and a focus on file updating using COBOL. Prerequisite: CIS 230.

CIS 340 RECORDS MANAGEMENT 3
A systematic approach to managing records with consideration given to planning, organizing, staffing, directing, and controlling the cycle utilizing current technology and the study of future trends. Incorporates a functional management approach to the implementation and operation of records management system. Prerequisites: CIS 260 and 270.

CIS 350 TELECOMMUNICATIONS 4
Study of telecommunication technology, ethics, and devices as part of an integrated system. Includes telephone-related services, voice mail, teleconferencing, facsimile transmission, electronic mail, networking, technologies, data communications, telecommuting, and data security. Prerequisite: CPTR 105 or permission of instructor.

CIS 360 OFFICE SYSTEMS 4
Study of the interrelationship of people, organizations, and technologies that form information systems within business, along with trends that will influence future development and management of office systems, Managerial, technical, and administrative support systems are analyzed to strengthen productivity and communication for both centralized support services and end-user applications. Prerequisites: CIS 315, 340, and 350, or permission of instructor.

CIS 415 ADVANCED SYSTEMS ANALYSIS AND DESIGN 3
An advanced course in systems analysis and design as applied to computer information systems within organizations. This course emphasizes the design phase of the systems development life cycle, prototyping and the use of case tools. Prerequisite: CIS 315.

CIS 440 DATABASE MANAGEMENT SYSTEMS 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: CIS 260. CIS 301, 315 strongly recommended.

CIS 460 ADVANCED OFFICE SYSTEMS 3
Analyze models and develop strategies for implementing office systems. Includes strategic planning for organization and administrative support; current and future systems design; staff selection; training; hardware-software selection; and system integrity and privacy issues; along with environmental issues related to safety, health, and welfare of employees. Prerequisite: CIS 360.

CIS 480 SEMINAR IN COMPUTER INFORMATION SYSTEMS 3
An advanced class that covers the trends and future developments in Computer Information Systems. A capstone course that ties together CIS topics and concepts in a theoretical setting. Prerequisites: CIS 301, 330, 440, AND permission of instructor.

CIS 494 COOPERATIVE EDUCATION/INTERNSHIP 1-4
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. No credit will be allowed toward the major for the B.A. in Business. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director.

CPTR 141 INTRODUCTION TO PROGRAMMING (Pascal) 4
See the Computer Science section of this bulletin

CPTR 142 DATA STRUCTURES 4
See the Computer Science section of this bulletin

GRPH 261 DESKTOP PUBLISHING 2
See the Technology section of this bulletin.

ECONOMICS (ECON)

ECON 211 PRINCIPLES OF MACROECONOMICS 4
Deals with basic concepts in macroeconomics, studies the measurement of aggregate economic activities such as the level of employment, price level, and growth of gross national product, uses simple mathematical models to explain economic variations and implications of government's macroeconomic policies. Prerequisite: MATH 121 or permission of instructor.

ECON 212 PRINCIPLES OF MICROECONOMICS 4
Deals with basic concepts in microeconomics, studies the theory of consumer behavior and production, applications in factor markets, and implications of market failures. Prerequisites: MATH 121 or permission of instructor.

ECON 341 MANAGERIAL ECONOMICS 4
Explores how managers make economic decisions at every level of production: determine consumer demand for the firm's product, the cost of production, impact of economic variables on revenues and profits, level of employment that maximizes profits, and the firm's response to external stimuli such as government regulations, competitor's pricing strategies, and environmental issues. Prerequisites: ECON 212 and MATH 123 or permission of instructor.

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.

ECON 455 PUBLIC FINANCE 4
Governmental expenditures, taxation, public data, and public financial administration; public policies on expenditures, taxation, and debt management and their relation to business fluctuations. Prerequisites: ECON 211, 212.

ECON 488 INTERNATIONAL ECONOMICS 4
Studies alternative theories on trade, analyzes theoretical impact of trade on employment, economic growth and welfare, and the implications of protectionism on the economy; also studies the foreign exchange systems, and the conduct of monetary policy in an open economy. Prerequisites: ECON 211, 212, and GBUS 263 or permission of instructor.

ECON 494 COOPERATIVE EDUCATION/INTERNSHIP 1-4
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. No credit will be allowed toward the major for the BA in Business. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director.

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. Prerequisite: ACCT 203 or 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 prerequisite: FINA 351. Will be offered 1995-96.

GENERAL BUSINESS (GBUS)

GBUS 105 KEYBOARDING 1-2
Introduction or review of touch keyboarding for the beginning typist. Individualized instruction places emphasis on basic techniques, speed, and accuracy. Basic word processing and formatting skills are developed. Not open to challenge examination.

GBUS 106 MACHINE TRANSCRIPTION 1
Laboratory practice in transcribing letters from machine dictation. Students reinforce skills in punctuation. grammar, spelling, and proofreading. Prerequisite: GBUS 105 or equivalent.

GBUS 107 BUSINESS DICTATION 1
A laboratory course designed to develop proficiency in the use of dictation equipment.

GBUS 108 BUSINESS CALCULATORS 1
A laboratory course designed to develop proficiency in the use of electronic calculators.

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
Survey of descriptive and inferential statistics with emphasis on business and economics applications. Includes probability, probability distributions, sampling distributions, estimation and hypothesis testing. Prerequisite: MATH 123 or 181.

GBUS 361 BUSINESS LAW I 4
An introduction to the United States legal system, the legal environment and the types and sources of laws. Also covered are contracts, agency and business organizations.

GBUS 362 BUSINESS LAW II 4
Studies government regulation of business and relevant sections of the Uniform Commercial Code including sales, banking, documents of title, commercial paper and secured transactions. Prerequisite: GBUS 361.

GBUS 365 PRINCIPLES OF INSURANCE 4
Study of insurance contracts, underwriting organizations and insurance representation and procedures.

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 370 BUSINESS COMMUNICATIONS 4
Study of the principles basic to effective communication in the business setting, with emphasis on individual and group business writing and presentations. Prerequisite: keyboarding proficiency or GBUS 105.

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 2
Class designed to prepare students to meet the demands of the professional business world. Topics include: self-assessment and career goals, resume development, interviewing, researching organizations, wardrobe assessment, and problems with entry, expectations, and work adjustment. Prerequisite: Senior standing.

MANAGEMENT (MGMT)

MGMT 275 MANAGEMENT OF SMALL BUSINESS 3
Introduction to various concepts peculiar to the small business enterprise. Recommended prerequisite: ACCT 203 or 206.

MGMT 371 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR 4
Introduction to the concepts of effective management in organizational settings from an individual and macro-systems perspective. Primary emphases include the organizational processes necessary for organizational effectiveness (planning, organizing, directing, and controlling), the nature of individual and group behavior, and the role of management in facilitating a mutually satisfying fit between employee needs and organizational requirements.

MGMT 372 HUMAN RESOURCES MANAGEMENT 4
A survey of the objectives and problems associated with personnel management in organizations. Topics include studies in human resources planning and forecasting, job analysis and evaluation, personnel recruitment, selection and assessment, training and development, performance evaluation, compensation and benefits, grievance procedures and disciplinary actions. Prerequisite: MGMT 371.

MGMT 373 INTRODUCTION TO HEALTH CARE ORGANIZATIONS 2
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 prerequisites: ACCT 203 or 206 and MGMT 371. Will be offered 1995-96.

MGMT 475 HEALTH CARE ORGANIZATION AND MANAGEMENT 2
Analysis of health care organization with emphasis on organizational functions, structure, financial planning, and financial controls. Prerequisites: ACCT 203 or 206; MGMT 371, 373. Will be offered 1995-96.

MGMT 476 MOTIVATION AND LEADERSHIP 4
Advanced topics dealing with individual and organizational factors affecting employee motivation, performance, and satisfaction. Specific attention given to group dynamics, reward systems, and leadership roles. Case studies. Recommended prerequisite: MGMT 371.

MGMT 489 BUSINESS STRATEGY AND POLICIES 4
A study of business operations from an integrated viewpoint. Knowledge from the functional areas of business is applied to strategic issues and problems found in several organizational settings. Library research, business simulations, in-depth case analyses, and formal presentations required. Prerequisites: business core requirements completed or concurrently taken.

MGMT 494 COOPERATIVE EDUCATION/INTERNSHIP 1-4
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. No credit will be allowed toward the major for the BA in Business. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director.

MARKETING (MKTG)

MKTG 381 MARKETING 4
Study of consumers, markets, environments, and major marketing methods from the perspective of the marketing manager. Recommended prerequisite: 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 prerequisite: 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 PROFESSIONAL SELLING 4
Study and practice of the basic principles of effective sales presentation development; also considers management of the selling effort. Will be offered 1995-96.

MKTG 451 RESEARCH METHODS 4
Introduction to research methods for business, including design data collection and analysis of surveys. Provides experience in business research activities. Prerequisites: GBUS 263; MKTG 381. Laboratory required.

MKTG 479 DIRECTED RESEARCH/PROJECT 2; 4
Application of marketing techniques to a special project for a local business. Project will usually involve survey research. Prerequisite: MKTG 451, or 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 OF NON-PROFIT ORGANIZATIONS 4
An examination of the unique marketing needs of non-profit institutions, and the application of various strategic marketing methods including research, product/service development, promotion, distribution, pricing and customer service. Recommended prerequisite: MKTG 381. Will be offered 1995-96.

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 ISSUES AND STRATEGIES 4
A capstone course for marketing majors. Develops marketing planning and implementation skills through case and field studies. Also considers current marketing issues. Prerequisites; MKTG 381, permission of instructor, and senior standing.

MKTG 494 COOPERATIVE EDUCATION/INTERNSHIP 1-4
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. No credit will be allowed toward the B.A.in Business. Prerequisites: Approval by departmental faculty; CDEV 210 or permission of the Cooperative Education Director.

CHEMISTRY

Steven Lee, Chair; Michael Brown, Richard Daley, Robert Rittenhouse.

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 54 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. A minor must be chosen for the Bachelor of Arts degree. Senior students are required to take the Graduate Record Examination, general and subject (Chemistry) sections.

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	11
CHEM 335, 336	Microscale Organic Laboratory	4
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	2
	Electives	3
		54

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

Cognates:

CPTR 141	Introduction to Programming (Pascal)	4
MATH 181, 281	Analytic Geometry and Calculus I, II	8
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	

MAJOR IN CHEMISTRY (Bachelor of Science)

A student majoring in chemistry must complete 66 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	11
CHEM 335, 336	Microscale Organic Laboratory	4
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	
CHEM 496, 497	Chemistry Seminar	2
	Electives	14
		66

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

Cognates:

CPTR 141	Introduction to Programming (Pascal)	4
MATH 181, 281-283	Analytic Geometry and Calculus, I-IV	16
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 28 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	11
CHEM 325, 326	Introduction to Organic Laboratory	2
	Electives	3
		28

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 is on electrochemistry, optical spectroscopies, and separations techniques. Consideration is given to both the instrumentation and techniques of interest in chemical analysis. One laboratory per week. Prerequisite: CHEM 264.

CHEM 321 ORGANIC CHEMISTRY 4
Study of principles of organic chemistry and their applications to the preparation, properties, and reactions of organic compounds. Prerequisite: CHEM 143.

CHEM 322, 323 ORGANIC CHEMISTRY 4, 3
Study of principles of organic chemistry and their applications to preparation, properties, and reactions of organic compounds. Spectroscopic analysis of organic compounds. Prerequisite: CHEM 321. Corequisite: CHEM 325, 326 or CHEM 335, 336..

CHEM 325, 326 INTRODUCTION TO ORGANIC LABORATORY 1, 1
Introduction to microscale techniques of preparation, purification, and identification of organic compounds. Includes spectroscopic techniques. Intended for non-majors. One laboratory per week. Corequisite: CHEM 322, 323.

CHEM 335, 336 MICROSCALE ORGANIC LABORATORY 2, 2
The use of microscale techniques for the preparation, purification and identification of organic compounds. Includes spectroscopic techniques. Intended for majors and interested students. Two laboratories per week. Corerequisite: CHEM 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 253; CHEM 265; CPTR 134 or 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 request of the Education Department. Prerequisite EDUC 392, Prerequisite or corequisite CHEM 322.

CHEM 427 ORGANIC STRUCTURE AND MECHANISMS 3
In-depth study of the structures of organic molecules and the theories of reaction mechanisms. One laboratory per week. Prerequisite: CHEM 323. Offered odd years only.

CHEM 428 POLYMER CHEMISTRY 3
An introduction to polymers, their characterization and synthesis. One laboratory per week. Prerequisite: CHEM 323. Offered even years only.

CHEM 431 BIOCHEMISTRY 4
An introduction to the chemistry of biomolecules. The molecular interactions of proteins and the nucleic acids. Study of catalytic activity and mechanisms of enzymes. The structure and function of biological membranes. The one laboratory per week concentrates on biochemical methods and preparations. Prerequisite: CHEM 323. BIOL 392 strongly recommended.

CHEM 432 BIOCHEMISTRY OF METABOLISM 4
An introduction to the metabolism of carbohydrates, lipids, and amino acids in living systems. The one laboratory per week concentrates on biochemical methods and preparations, including instrumental applications. Prerequisite: CHEM 431. Offered odd years only.

CHEM 435 BIOCHEMISTRY OF NUCLEIC ACIDS 4
An introduction to the biosynthesis of purine and pyrimidine nucleotides. RNA and protein synthesis, mechanism of DNA repair, recombination, Recombinant DNA technology including protein synthesis, cloning, construction and use of cDNA libraries and site-directed mutagenesis. The one laboratory per week concentrates on molecular biology techniques. Prerequisite: CHEM 431. Offered even years only.

CHEM 442 INORGANIC CHEMISTRY 4
Study of the physical and chemical properties of inorganic and coordination compounds. Emphsis is placed on the use of molecular orbital, ligand field and crystal field theories as tools to understanding the structure and reactivity of inorganic compounds. One laboratory per week. Prerequisites: CHEM 143, 351 or permission of instructor. Offered even years only.

CHEM 461 ANALYTICAL INSTRUMENTAL METHODS II 4
The study of mass spectrometric, nuclear magnetic resonance and surface or thermal analysis techniques for analytical studies. One laboratory per week. Prerequisite: CHEM 265. Offered odd years only.

CHEM 479 DIRECTED RESEARCH/PROJECT 1-3
Original investigation of a chemical research problem carried out under the direction of an assigned faculty member. Most projects involve one laboratory period per week per credit hour.

CHEM 494 COOPERATIVE 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

David Bullock, Chair; Loren Dickinson, James Hannum, Nancy Semotiuk, Rodney Vance.

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, communications, and drama.

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 marketing.

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 61 hours, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general section, and complete a senior project.

Core Requirements:

COMM 145	Mass Communication Media	4
COMM 231	Broadcast Techniques and Announcing	4
COMM 235	Introduction to Video	4
COMM 357	Communication Law and Ethics	4
COMM 495	Senior Project	1
COMM 496, 497	Seminar in Mass Media	3
JOUR 245	Newswriting	4
JOUR 246	Reporting Methods	3
SPCH 101	Fundamentals of Speech Communication	4
		31

CONCENTRATION: Journalism and Public Relations

COMM 333	Principles of Development	4
JOUR 247	Copy Editing	3
JOUR 257	Photojournalism	2
JOUR 341	Magazine Article Writing	4

JOUR 451	Publication Production	4
MKTG 481	Public Relations	4
	Electives (3 must be writing; 4 may be COMM)	9
		30

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

CONCENTRATION: Media

COMM 301	Audio Production	4
COMM 302	Video Production	4
COMM 303	Video Production	4
COMM 352	Broadcasting and Society	4
MKTG 381	Marketing	
or		
MKTG 383	Advertising and Sales Promotion	4
or		
MKTG 481	Public Relations	
	Electives (3 must be writing; may include COMM, JOUR and the following:)	10
SPCH 107	Voice and Articulation	
SPCH 211	Oral Interpretation	
SPCH 242	Acting	
SPCH 252	Play Performance	
SPCH 253	Technical Production	
SPCH 363	History of Dramatic Arts	
SPCH 365	Play Direction	
		30

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

Cognates:

ART 244	Commercial Art	
or		2-3
GRPH 295	Printing Layout and Design	
GRPH 271	Desktop Publishing	2
CPTR 105	Personal Computing (or proficiency)	
or		0-3
CIS 280	Intermediate Word Processing	
PHTO 156	Principles of Photography	3

MAJOR IN SPEECH COMMUNICATION (Bachelor of Arts)

A student majoring in Speech Communication must complete 50 quarter hours in the major, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general section, and a departmental comprehensive exam.

Major Requirements:

COMM 145	Mass Communication Media	4
JOUR 245	Newswriting	4

SPCH	101	Fundamentals of Speech Communication	4
SPCH	107	Voice and Articulation	4
SPCH	211	Oral Interpretation	4
SPCH	310	Interpersonal and Nonverbal Communication	3
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.)	21
			50

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

MINOR IN COMMUNICATIONS

A student minoring in communications must complete 30 quarter hours.

	Electives (selected from COMM, JOUR, SPCH; 9 must be upper division)	30

In addition to courses from the department, a maximum of 10 credits may be selected from the following:

ENGL	215	Introduction to Film Literature	4
PHTO	156	Principles of Photography	3
MKTG	383	Advertising and Sales Promotion	4
MKTG	481	Public Relations	4
GRPH	271	Desktop Publishing	2

Approval of communications adviser required.

MINOR IN SPEECH COMMUNICATION

A student minoring in speech communication must complete 27 quarter hours:

SPCH	101	Fundamentals of Speech Communication	4
		Electives (9 must be upper division)	23
			27

Approval of speech communication adviser required.

MINOR IN DRAMA

A student minoring in drama must complete 30 quarter hours.

ART	161	Design	3
SPCH	242	Acting	4
SPCH	252	Play Performance	2
SPCH	253	Technical Production	2
*SPCH	363	History of Dramatic Arts	4
*SPCH	365	Play Direction	3
		Electives	12
			30

A minimum of 2 hours required for SPCH 252 and 253. Additional hours may apply as electives. 9 of the 30 hours must be upper division.

Electives may be chosen from the following:

ART	244	Commercial Art	2

COMM 302	Video Studio Production	4
ENGL 215	Introduction to Film Literature	4
*ENGL 336	Drama Writing	3
*ENGL 445	Shakespeare	4
*ENGL 455	Classical Backgrounds	4
*ENGL 464	Development of English Drama	3
PEAC 181	Fencing	1
SPCH 107	Voice and Articulation	4
SPCH 211	Oral Interpretation	4

*Classes alternate

Aproval of drama adviser required.

MINOR IN JOURNALISM

A student minoring in journalism must complete 27 quarter hours.

COMM 145	Mass Communication Media	4
JOUR 245	Newswriting	4
JOUR 246	Reporting Methods	3
	Electives (9 must be upper division; minimum of one additional writing course)	16
		27

Approval of journalism adviser required.

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 BROADCAST TECHNIQUES AND ANNOUNCING 4

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

COMM 235 INTRODUCTION TO VIDEO 4

An introduction to the video medium as a means of personal expression and communication. Emphasis is on the effective use of the camcorder to convey one's personal perspective of ideas and events. Both in-camera and elementary post production editing are covered as are basic principles of filmic language and aesthetics. Limited enrollment.

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 VIDEO STUDIO PRODUCTION 4

Study and experience in multi-camera studio production for television and other video applications. Course covers basic studio and control room techniques including camera operation, lighting, and switching. Emphasis is on multi-camera directing, production planning and visual aesthetics. Includes an introduction to single camera production and video editing. Prerequisites: COMM 231 or 235 or permission of instructor.

COMM 303 VIDEO FIELD PRODUCTION 4
Study and experience in single-camera production, directing and video editing of interview, documentary drama, news and montage with music segments. Includes an introduction to A/B roll special effects editing with time code. Prerequisite: COMM 302.

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 BROADCASTING AND SOCIETY 4
Study of the development and operation of broadcast, cable, and related media and their impact on society. Includes an introduction to audience analysis and an overview of world systems of broadcasting. Offered even years only.

COMM 357 COMMUNICATION LAW AND ETHICS 4
Study of legal and ethical issues affecting mass communication media professionals, including libel, privacy, confidentiality, obscenity, access, advertising, and broadcast ethics and regulation.

COMM 401 ADVANCED VIDEO PRODUCTION 4
The course emphasizes advanced production techniques using film style, single camera production, project planning, budgeting and management. Post production techniques include A–B roll match frame/special effects editing with time code. Multitrack audio sweetening and layback. Student creates a professional quality project for a designated use. Prerequisites: COMM 301, 302, 303.

COMM 410 VIDEO POST PRODUCTION OPERATIONS 1
Experience and in–depth study of the operation of communication department post production video and audio facilities. Prerequisites: COMM 301, 302.

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 0-4
Practical experience in news reporting and editing, public relations, broadcasting or media production. The student works under the co-direction of professionals in participating agencies and the department. 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.

JOURNALISM (JOUR)

JOUR 245 NEWSWRITING 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 247 COPY EDITING 3
Introduction to the practice of copy editing for print; includes practice in editing copy for content and style, page editing, and design. Prerequisite: JOUR 245 or permission of instructor.

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 156 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 350, WRITING FOR PUBLIC INFORMATION 3
An application of news writing principles to public information in the nonproft sector. Course includes preparing press releases and in-depth analysis of public information strategies, crisis management, special event planning and press relations. Prerequisite: JOUR 245. Offered even years only.

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 cutline 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.

ENGL 215 INTRODUCTION TO 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 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.

GBUS 370 BUSINESS COMMUNICATIONS 4
See the Business section of this bulletin.

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 4
Study of the various types of interpretative literature with a view toward its understanding for the purpose of public presentation. Includes reading from the printed page with fluency and effectiveness, and Readers' Theatre script preparation and presentation.

SPCH 242 ACTING 4
Exploring and developing the clarity, range, and control of verbal and nonverbal language in creating and effectively communicating dramatic characters, modern and classical. Recommended Prerequisite: SPCH 107.

SPCH 252 PLAY PERFORMANCE 1-4; 4
Analysis, rehearsal, and performance of a play chosen by the instructor. May be taken only by permission of the instructor.

SPCH 253 TECHNICAL PRODUCTION 1-4; 4
Design, construction, and/or coordination of a technical aspect of the production of a play chosen by the instructor. May be taken only by permission of the instructor.

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.

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. Prerequisite: SPCH 242 or permission of instructor. 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. Offered on demand.

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. Offered even years only.

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

COMPUTER SCIENCE

Anthony Aaby, Chair; Larry Aamodt, John Haney, James Klein, Gary Rittenbach.

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

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.

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. Senior students are required to take the Graduate Record Examination, general and subject (Computer Science) sections.

Major Requirements:

CPTR	141	Introduction to Programming (Pascal)	4
CPTR	142, 143	Data Structures and Algorithms	8
CPTR	215	Assembly Language Programming	3
CPTR	221, 222	Programming Languages	6
CPTR	352	Operating System Design	4
CPTR	445	Interdisciplinary Applications	3
CPTR	495	Colloquium	0
		Electives	20
			48

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

Cognates:

ELCT	241	Fundamentals of Electronics	4
MATH	206	Applied Statistics	4
MATH	181, 281, 282	Analytic Geometry and Calculus I, II, III	8
MATH	250	Discrete Mathematics	4
MATH	289	Linear Algebra and Its Applications	3

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. Senior students are required to take the Graduate Record Examination, general and subject (Computer Science) sections.

Major Requirements:

CPTR	141	Introduction to Programming (Pascal)	4

CPTR	142, 143	Data Structures and Algorithms	8
CPTR	215	Assembly Language Programming	3
CPTR	221, 222	Programming Languages	6
CPTR	345	Theory of Computation	4
CPTR	350	Computer Architecture	4
CPTR	351	Memory and I/O Systems	3
CPTR	352	Operating System Design	4
CPTR	454	Design and Analysis of Algorithms	4
CPTR	495	Colloquium	0
CPTR	496, 497, 498	Seminar	3
ENGR	354	Digital Logic Circuits	3
		Electives	15
			61

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

Cognates:

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
PHYS	251, 252, 253	Principles of Physics	9
PHYS	254, 255, 256	Principles of Physics Laboratory	3

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	141	Introduction to Programming (Pascal)	4
CPTR	142, 143	Data Structures and Algorithms	8
CPTR	215	Assembly Language Programming	3
		Electives	38
			53

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

Cognates:

MATH	206	Applied Statistics	4
MATH	117	Precalculus	5-8
or			
MATH	121, 122	Fundamentals of Mathematics I, II	
MATH	250	Discrete Mathematics	4
MATH	289	Linear Algebra and Its Applications	3

MINOR IN COMPUTER SCIENCE

A student minoring in Computer Science must complete 30 quarter hours.

COMPUTER SCIENCE (CPTR)

CPTR 105 PERSONAL COMPUTING 3

An introduction to 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. Does not apply toward a major or minor in computer science.

CPTR 141 INTRODUCTION TO PROGRAMMING (Pascal) 4

Introduction to programming using the Pascal language. Intended as the first course for all students wanting to learn how to program. Covers both modern programming principles and Pascal specifics: problem analysis and decomposition, program design, procedural abstraction, testing and debugging, documentation, Pascal syntax and Pascal semantics. Laboratory work required.

CPTR 142, 143 DATA STRUCTURES AND ALGORITHMS 4, 4

Topics include lists, stacks, queues, trees, graphs, ADTs, sorting and searching, efficiency notations, and hashing. Laboratory work required. Prerequisite: CPTR 141.

CPTR 211 DIRECTED STUDY IN PROGRAMMING LANGUAGES 1-2

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. Does not apply toward a major or minor in computer science. Prerequisite: CPTR 141 or permission of instructor.

CPTR 215 ASSEMBLY LANGUAGE PROGRAMMING 3

Introduction to computer architecture, machine language, and assembly language. Laboratory work required. Prerequisite: CPTR 141.

CPTR 221, 222 PROGRAMMING LANGUAGES 3, 3

History; virtual machines; representation of data types; sequence control; data control, sharing, and type checking; run-time storage management; finite state automata and regular expressions; context-free grammars and pushdown automata; language translation systems; semantics; programming paradigms; and distributed and parallel programming constructs. Prerequisite CPTR 143; CPTR 215 strongly recommended.

CPTR 324 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 141. Offered even years only.

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 odd years only.

CPTR 350 COMPUTER ARCHITECTURE 4

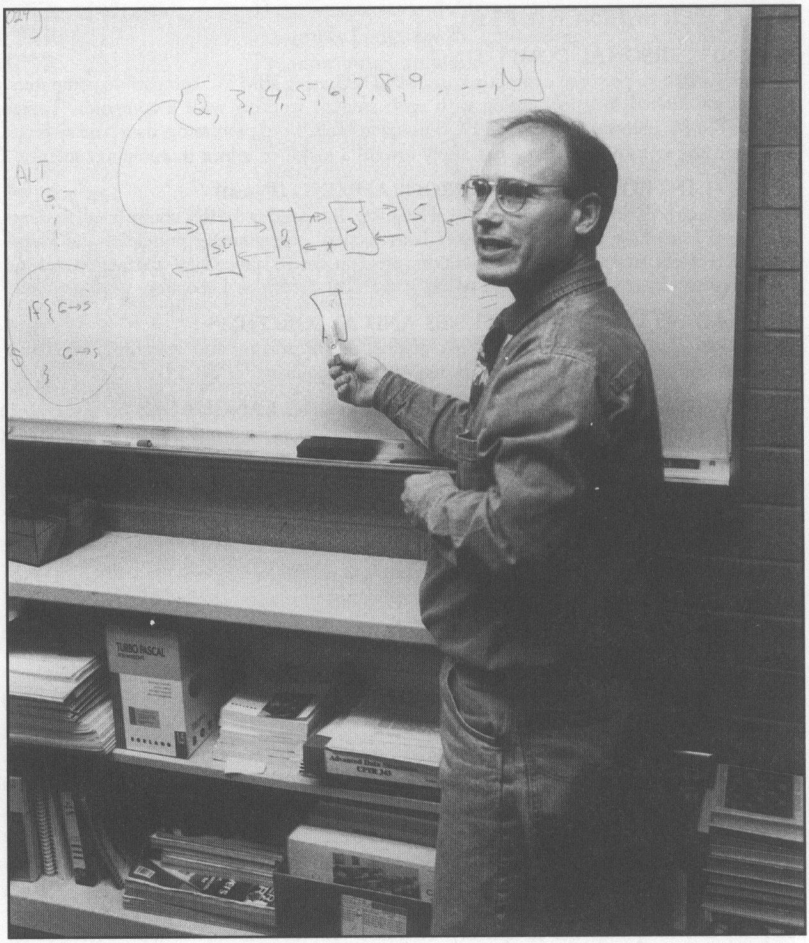
Study of the organization and architecture of computer systems with emphasis on the classical von Neumann architecture. Topics include instruction processing, addressing, interrupt structures, memory management, microprogramming, procedure call implementations, and multiprocessing. Laboratory work required. Prerequisites: CPTR 215, ENGR 354.

CPTR 351 MEMORY AND I/O SYSTEMS 3

Study of interfacing techniques used in computer systems. Topics include random, semi-random, sequential, and direct-access methods; caching; synchronous and asynchronous transfer; and characteristics of I/O devices. Laboratory work required. Prerequisites: CPTR 142; 350.

CPTR 352 OPERATING SYSTEM DESIGN 4

History, evolution, and philosophies; tasking and processes; process coordination and synchronization; scheduling and dispatch; physical and virtual memory organization; device management; file systems and naming; security and protection; communications and networking; distributed operating systems; and real-time concerns. Laboratory work required. Prerequisite: CPTR 215.



CPTR 355 COMPUTER GRAPHICS 4
Introduction to the production of graphical representations of 2- and 3-dimensional objects using the computer. Theory and application of matrix transform methods to manipulate 2- and 3-dimensional data structures. Graphical operations include scaling, translation, rotation, and reflection. Prerequisites: CPTR 141; MATH 117 or equivalent. Offered odd years only.

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 141; MATH 181 and 289 or equivalent; BIOL 350 or GBUS 263 or MATH 315 or equivalent.

CPTR 395 METHODS OF TEACHING COMPUTER SCIENCE 4
Methods, materials, and techniques of teaching computer science on the secondary level. Requires observation, demonstration, and class presentation. Will not apply toward a major or minor in computer science. Offered odd years only (Summer Session).

CPTR 445 INTERDISCIPLINARY APPLICATIONS 3
Topics selected from but not limited to: computational linguistics, computational biology, scientific visualization, expert systems, fine art, (algorithmic music composition, algorithmic art), multimedia, and computer aided instruction. Prerequisite: CPTR 141 or permission of instructor. Offered even years only.

CPTR 454 DESIGN AND ANALYSIS OF ALGORITHMS 4
Application of techniques using asymptotic notations, unit costs, and recurrence relations to the analysis of algorithms. Covers basic design strategies by 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 143 and MATH 250.

CPTR 460 PARALLEL AND DISTRIBUTED COMPUTATION 4
Concurrency and synchronization; architectural support; programming language constructs for parallel computing; parallel algorithms and computability; messages vs. remote procedure calls vs. shared memory models, structural alternatives; coupling; naming and winding; verification, validation, and maintenance issues, fault tolerance and reliability; replication and avoidability; security; standards and protocol; temporal concerns; data coherence; load balancing and scheduling; appropriate applications. Prerequisites: CPTR 143, MATH 289. Offered odd years only.

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 143. Offered even 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 143, CDEV 210 or permission of the Cooperative Education Director and approval of major advisor one quarter in advance of registration. Graded S or NC.

CPTR 495 COLLOQUIUM 0
Presentation and discussion of current topics of interest within the computer science profession. Computer science degree candidates must satisfactorily complete four quarters, at least one of which must be during the senior year. Graded S or NC.

CPTR 496, 497, 498 SEMINAR 1, 1, 1
Presentation and discussion of current topics of interest with computer science. Each student is required to conduct an approved design project from conception to final oral and written reports. Prerequisite: Senior standing in computer science.

COMPUTER INFORMATION SYSTEMS (CIS)

See the Business section of this bulletin.

CIS 120 COMPUTER PRINCIPLES 2

CIS 301 COMPUTER INFORMATION SYSTEMS 3

CIS 315 SYSTEMS ANALYSIS AND DESIGN 4

CIS 415 ADVANCED SYSTEMS ANALYSIS AND DESIGN 4

CIS 440 DATABASE MANAGEMENT SYSTEMS 4

CIS 494 COOPERATIVE EDUCATION/INTERNSHIP 0-4

EDUCATION AND PSYCHOLOGY

Merle Greenway, Chair; Austin Archer, Cleona Bazzy, Ralph Coupland, Todd Morton, Daniel Nelson, Steve Pawluk, Gail Rittenbach, Verlie Ward.

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

For a description of programs leading to a master's degree in education or counseling and guidance, 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). Students must also obtain satisfactory recommendations from college faculty acquainted with their abilities.

A student majoring in elementary education must complete 55 quarter hours in the major, the required cognates, as well as an approved second major or two approved minors. A minimum grade point average of not less than 2.75 is required in all courses that apply to these requirements; any course graded lower than a C cannot apply. Senior students are required to take the Graduate Record Examination in both general and subject (Education) sections.

Practicum experiences in elementary education, early childhood, and special education may require a formal application, moral character clearance, and/or fingerprint checks. Contact the department for details.

Major Requirements:

Phase I

Phase I must be completed with a minimum grade-point average of 2.75 before a student may proceed to Phase II. Students may request permission to begin Phase II during the last quarter of Phase I.

EDUC 210	Foundations of Education	3
EDUC 247	Elementary School Exploratory	1
PSYC 215	Developmental Psychology	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 2.75 in the major and minor areas is required. A minimum grade-point average of 2.50 in College Writing is also required.

EDUC 360	Elementary Curriculum and Instruction: Reading and Language Arts	6

EDUC	373	Elementary Curriculum and Instruction: Mathematics	4
EDUC	382	Elementary Curriculum and Instruction: Social Studies	2
EDUC	383	Elementary Curriculum and Instruction: Science	2
EDUC	390	Measurement and Evaluation in Education	3
EDUC	405	Classroom Organization and Management	3
EDUC	410	Philosophy of Education	3
EDUC	425	Legal and Ethical Aspects of Education	3
EDUC	444	Teaching Culturally Diverse Students	2
EDUC	480	Student Teaching in the Elementary School	12
EDUC	496	Senior Seminar	1
SPED	310	Foundations of Special Education	3
			55

See Notes on Certification for additional information about state teacher certification.

Cognates:

ART	395	Methods of Teaching Art	3
HLTH	395	Methods of School Health Instruction	3
MATH	112, 113	Mathematics for Elementary Teachers (or more advanced mathematics courses)	3, 3
MUED	394	Music in the Elementary School	3
PETH	473	Physical Education in the Elementary School	3

Highly Recommended

SPCH	207	Small Group Communication	3

Additional Requirements for Denominational Certification:

EDUC	381	Elementary Curriculum & Instruction: Religion	2

A total of 18 quarter credits in religion, including:

RELH	457	History of Adventism	2
RELT	202	Fundamentals of Christian Beliefs	4
RELT	317	Inspiration and Revelation	4

Approved Primary and Supporting Endorsements

Elementary education majors will complete a second major or two minors from the following lists, including all courses required for endorsement. If students elect the latter option, at least one of the minors chosen must be in an "academic field" (i.e., other than Early Childhood Education or Special Education). Additionally, each student must complete a minimum of 30 quarter hours in an "academic" minor, even though, in some instances, departmental requirements for the minor may be less. See your adviser for details and an appropriate checksheet.

Majors

Art
Biology
Business Education
Chemistry

Computer Science
English
French
German
Health
History
Mathematics
Music Education
Physical Education
Physics
Psychology
Sociology
Spanish
Speech
Technology Education

Minors

Art
Biology
Chemistry
Computer Science
Drama
*Early Childhood Education
English
French
German
Health
History
Mathematics
Physical Education
Physics
Psychology
Sociology
Spanish
*Special Education
Speech

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

*Early Childhood Education or Special Education may be chosen — not both.

PREPARATION FOR SECONDARY TEACHING

To be admitted into the secondary 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). Students must also obtain satisfactory recommendations from college faculty acquainted with their abilities.

The secondary certification program requires completion of an approved primary endorsement (major) and professional courses as specified. To be recommended for certification, candidates must maintain a grade-point average of not less than 2.75 in professional education/psychology coursework and in all areas of endorsement. No grade lower than C will apply.

Practicum experiences in secondary education and special education may require a formal application, moral character clearance, and/or fingerprint checks. Contact the department for details.

Major Requirements:

Phase I

Phase I must be completed with a minimum grade-point average of 2.75 before a student may proceed to Phase II. Students may request permission to begin Phase II during the last quarter of Phase I.

EDUC 210	Foundations of Education	3
EDUC 267	Middle School Exploratory	1
PSYC 215	Developmental Psychology	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 2.75 is required in professional education/psychology coursework and in all endorsement areas. A minimum grade-point average of 2.50 in College Writing and a C in a general studies mathematics course are also required.

EDUC 365	Instructional Methodology	3
EDUC 367	Instructional Methodology Practicum	1
EDUC 390	Measurement and Evaluation in Education	3
*395	Methods course in major or minor academic field	3
EDUC 410	Philosophy of Education	3
EDUC 425	Legal and Ethical Aspects of Education	3
EDUC 444	Teaching Culturally Diverse Students	2
EDUC 475	Teaching Reading Skills in Content Areas	3
EDUC 481	Student Teaching in the Secondary School	12
EDUC 496	Senior Seminar	1
SPED 310	Foundations of Special Education	3
		48

*See Notes on Certification for additional information about state teacher certification.

Cognate:

MATH 105	Mathematics with Applications (or more advanced mathematics course)	4

Highly Recommended:

SPCH 207	Small Group Communication	3
or		
SPCH 310	Interpersonal and Nonverbal Communication	3

Additional Requirements for Denominational Certification:**

HLTH 110	Wellness for Living	3
or		
HLTH 205	History of Health	2
or		
HLTH 395	Methods of School Health Instruction	3

A total of 18 quarter credits in religion, including:

RELH 457	History of Adventism	2
RELT 202	Fundamentals of Christian Beliefs	4
RELT 317	Inspiration and Revelation	4
	Additional hours in religion	8

**In addition to the courses listed, RELP 395 Methods of Teaching Bible in the Secondary School, must be taken by those planning on an endorsement in Bible.

Approved primary and supporting endorsements

Endorsements typically 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 for a current certification checksheet.

Majors (including courses required for endorsement)

Art
Biology
Business Education
Chemistry
Computer Science
English
French
German
Health
History
Mathematics
Music Education
Physical Education
Physics
Psychology
Sociology
Spanish
Speech
Technology Education

Minors (including courses required for endorsement)

Art
Biology
Chemistry
Computer Science
Drama
English
French
German
Health
History
Mathematics
Physical Education
Physics
Psychology
Sociology
Spanish
Special Education
Speech

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

NOTES ON 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.

Meeting graduation requirements as specified in this bulletin does not guarantee state certification. An application process, including fingerprint clearance, is required.

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.

MINOR IN EARLY CHILDHOOD EDUCATION

A student minoring in early childhood education must complete 27 quarter hours.

CHLD 310	Foundations of Early Childhood Education	3
CHLD 374	Professional Core I: Creative Activities	4

CHLD	376	Professional Core II: The Physical World	4
CHLD	430	Issues & Trends in Early Childhood Education	3
CHLD	438	Intervention in the Preschool Setting	3
CHLD	480	Field Work in Early Childhood Education	4
		Electives	6
			27

Approval of early childhood education adviser required.

Approved electives include:

CHLD	378	Infant & Toddler Care	2
CHLD	455	Language Development in Young Children	2
EDUC	492	Education of the Gifted	3
ENGL	374	Literature for Children	3
PETH	324	Adapted Physical Education & Recreation	3
PETH	473	Physical Education in the Elementary School	3
SOWK	464	Social Work with Children	3
SPCH	310	Interpersonal & Nonverbal Communication	3
SPED	315	Teaching the Preschool Exceptional Child	3
TECH	428	Teaching Technology to Children	3

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 SPECIAL EDUCATION

A student minoring in special education must complete 27 quarter hours.

SPED	310	Foundations of Special Education	3
SPED	373	Management of Exceptional Individuals	4
SPED	430	Issues and Trends in Special Education	3
SPED	433	Assessment of Exceptional Individuals	4
SPED	437	Instruction of Exceptional Individuals	4
SPED	438	Counseling Exceptional Individuals and Their Families	3
		Electives*	6
			27

Approval of special education adviser required.

Approved electives include:

CHLD	374	Professional Core I: Creative Activities	4
CHLD	376	Professional Core II: The Physical World	4
EDUC	492	Education of the Gifted	3
ENGL	374	Literature for Children	3
*PETH	324	Adapted Physical Education and Recreation	3
PSYC	360	Small Group Procedures	3
PSYC	464	Counseling Relationships	3
SOWK	464	Children at Risk	3
SPCH	207	Small Group Communications	3
SPCH	310	Interpersonal and Nonverbal Communication	3

*SPED	315	Teaching the Preschool Exceptional Child	3
SPED	480	Practicum in Special Education	1-4
*SPPA	210	Survey of Speech-Language Pathology	3
TECH	428	Teaching Technology to Children	3

*At least one of these electives must be chosen if a Washington State endorsement is desired.

MAJOR IN PSYCHOLOGY (Bachelor of Arts)

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

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

Although specific requirements for admission to graduate programs in most universities will be met by the general major, the student should realize that 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 45 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination in both general and subject (Psychology) sections.

Major Requirements:

PSYC	130	General Psychology	4
PSYC	215	Developmental Psychology	4
PSYC	366	Theories of Personality	3
PSYC	375	Experimental Psychology	3
PSYC	444	Social Psychology	3
PSYC	455	History and Systems of Psychology	3
PSYC	466	Psychophysiology	4
PSYC	492	Abnormal Psychology	3
PSYC	495	Research Project in Psychology	2
		Electives (13 must be upper division)	16
			45

Electives must be chosen in consultation with the student's adviser and approved by the department chair.

Cognates:

A minimum of 19 quarter hours must be completed, including MATH 206, Applied Statistics, or a more advanced statistics course. 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	374	Animal Behavior	4
CHEM	101, 102, 103	Introductory Chemistry	11
CPTR	105	Personal Computing (or a more advanced computer course)	3
MATH	121, 122	Fundamentals of Mathematics I, II	8
MATH	206	Applied Statistics	4
PHYS	211, 212, 213	General Physics	9
PHYS	214, 215, 216	General Physics Laboratory	3

MINOR IN PSYCHOLOGY

A student minoring in psychology must complete 30 quarter hours:

PSYC	130	General Psychology	4
PSYC	215	Developmental Psychology	4
PSYC	444	Social Psychology	3
PSYC	455	History and Systems of Psychology	3
		Electives (3 must be upper division)	16
			30

Approval of psychology adviser required.

EARLY CHILDHOOD (CHLD)

CHLD 310 FOUNDATIONS OF EARLY CHILDHOOD EDUCATION 3
In-depth study of the historical, philosophical, and psychological bases of early childhood education. Prerequisite: PSYC 215 or permission of instructor.

CHLD 374 PROFESSIONAL CORE I: CREATIVE ACTIVITIES 4
Materials and teaching strategies involving art, music, poetry, storytelling, and dramatic play in early childhood education. Prerequisite: CHLD 310.

CHLD 376 PROFESSIONAL CORE II: THE PHYSICAL WORLD 4
Materials and teaching strategies to acquaint children with the physical world. Includes personal health, nutrition and safety, natural science observation, and simple quantification concepts. Prerequisite: CHLD 310.

CHLD 378 INFANT & TODDLER CARE 2
Group care practices for children from birth to three years of age. Prerequisite: CHLD 310.

CHLD 430 ISSUES & TRENDS IN EARLY CHILDHOOD EDUCATION 3
Current literature and legislation pertaining to early childhood education, and models for delivery of these services. Prerequisite: CHLD 310.

CHLD 438 INTERVENTION IN THE PRESCHOOL SETTING 3
Analysis of the interaction and development of the child within the school, family, and community; approaches to child rearing, management, and guidance. Prerequisite: CHLD 310. Offered odd years only.

CHLD 455 LANGUAGE DEVELOPMENT IN YOUNG CHILDREN 2
Normal development of speech and language in children, including methods of facilitation. Prerequisite: CHLD 310. Offered even years only.

CHLD 480 FIELD WORK IN EARLY CHILDHOOD EDUCATION 2;4
A broad spectrum of closely supervised experience in actual field settings. Prerequisites: CHLD 310, and permission of early childhood advisor.

EDUCATION (EDUC)

EDUC 210 FOUNDATIONS OF EDUCATION 3
Study of social and historical foundations of American education; cultural, political, institutional, and interpersonal influences on school structure, funding, curriculum design, and the practice of teaching.

EDUC 247 ELEMENTARY SCHOOL EXPLORATORY 1
A three-week internship in a multigrade elementary classroom, designed to acquaint the intern with teacher responsibilities for planning, organizing, and launching a new school year. Offered autumn quarter only. Prerequisite: EDUC 210. (S or NC only)

EDUC 267 MIDDLE SCHOOL EXPLORATORY 1
A thirty-hour internship in a middle school classroom. Designed to acquaint the intern with student behavior at the grade level assigned, along with teacher responsibilities for planning, implementing, and managing the instructional program. Conferences with the instructor are required. Prerequisite: EDUC 210. (S or NC only)

EDUC 360 ELEMENTARY CURRICULUM AND INSTRUCTION: READING AND LANGUAGE ARTS 6
Study of language acquisition in elementary-age children, including speaking, thinking, listening, reading, and writing. Philosophy, curriculum, media, and research-based strategies used in teaching reading and language arts; emphasis on holistic approach to language instruction. Practicum required. Prerequisite: Admission to Phase II.

EDUC 365 INSTRUCTIONAL METHODOLOGY 3
Study of research-based models and exemplary practices for teaching in the secondary classroom environment; emphasis on human dynamics, rules and routines, conflict resolution, motivational strategies, eliciting parental support, and professional growth. Prerequisite: Admission to Phase II.

EDUC 367 INSTRUCTIONAL METHODOLOGY PRACTICUM 1
Laboratory practice in selected teaching skills, utilizing videotaped feedback and one-one-one conferencing. One laboratory per week. Prerequisite or Corequisite: EDUC 365.

EDUC 373 ELEMENTARY CURRICULUM AND INSTRUCTION: MATHEMATICS 4
Survey of the curriculum, media, and research-based strategies used in teaching elementary mathematics, including software evaluation for computer-aided instruction (CAI). Practicum required. Prerequisites: Admission to Phase II; MATH 112 and 113 or a more advanced mathematics course.

EDUC 381 ELEMENTARY CURRICULUM AND INSTRUCTION: RELIGION 2
Survey of the curriculum, media, and strategies used in teaching Bible to elementary-age children; emphasis on building and maintaining relationships that provide effective religious instruction. Prerequisite: Admission to Phase II.

EDUC 382 ELEMENTARY CURRICULUM AND INSTRUCTION: SOCIAL STUDIES 2
Survey of the curriculum, media, and research-based strategies used in teaching elementary social studies. Prerequisite: Admission to Phase II.

EDUC 383 ELEMENTARY CURRICULUM AND INSTRUCTION: SCIENCE 2
Survey of the curriculum, media, and research-based strategies used in teaching elementary science; emphasis on science as a process of inquiry. Prerequisite: Admission to Phase II.

EDUC 390 MEASUREMENT AND EVALUATION IN EDUCATION 3
Writing instructional objectives; performance-based measures of student achievement; norm- and criterion-referenced tests; concepts of reliability and validity; item analysis; interpretation of data; sociometric and ethnographic procedures; grading and reporting. Prerequisite; Admission to Phase II.

EDUC 405 CLASSROOM ORGANIZATION AND MANAGEMENT 3
Study of research-based models and exemplary practices for organizing and managing the elementary classroom environment; emphasis on human dynamics, rules and routines, conflict resolution, motivational strategies, and eliciting parental support. Prerequisite: Admission to Phase II.

EDUC 410 PHILOSOPHY OF EDUCATION (or PHIL 410) 3
Study of educational thought and practice from a philosophical perspective: the aims, principles, and theories of education, with special reference to Christian schools.

EDUC 425 LEGAL AND ETHICAL ASPECTS OF EDUCATION 3
Issues of law and ethics with direct application to the teaching profession, including educational structure and governance, church/state relations, students' rights, teachers' rights and responsibilities, and tort liability. Prerequisite: Admission to Phase II.

EDUC 444 TEACHING CULTURALLY DIVERSE STUDENTS 2
Study of human diversity and its impact on the educational process; emphasis on instructional and management strategies which respect and value cultural, ethnic, and language differences. Prerequisites: Admission to Phase II; EDUC 365 or six hours of elementary methods courses.

EDUC 475 TEACHING READING SKILLS IN THE CONTENT AREAS 3
Introduction to diagnosis, vocabulary, comprehension skills, rate variation, management, and study skills in junior high and secondary reading. Prerequisite: Admission to Phase II.

EDUC 480 STUDENT TEACHING IN THE ELEMENTARY SCHOOL 12
Application of teaching theory in the classroom; full participation in a teaching situation, under the supervision of an experienced teacher. Conferences will be conducted with the student teacher by the cooperating teacher and college supervisor. Scheduled group sessions required. Students enrolled in student teaching may not register for other courses without the written permission of the Education Department. Prerequisites: EDUC 360, 373, 405 and permission of the Education Department. (S or NC only)

EDUC 481 STUDENT TEACHING IN THE SECONDARY SCHOOL 12
Application of teaching theory in the classroom; full participation in a teaching situation, under the supervision of an experienced teacher. Conferences will be conducted with the student teacher by the cooperating teacher and college supervisor. Scheduled group sessions required. Students enrolled in student teaching may not register for other courses without the written permission of the Education Department. Prerequisites: EDUC 365, 367 and permission of the Education Department. (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 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 496 SENIOR SEMINAR 1
Focused examination of specific topics in education; preparation for entrance-to-practice examinations and entry into the job market. Prerequisite: Admission to Phase II and senior standing. (S or NC only)

PSYCHOLOGY (PSYC)

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



PSYC 215 DEVELOPMENTAL PSYCHOLOGY 4
Life from prenatal through adolescent years. Emphasis is placed on the emotional, social, physical, motor, and psychological development of the individual.

PSYC 220 EDUCATIONAL PSYCHOLOGY 3
Study of current research in human development, individual differences, learning, cognition, and motivation, with particular reference to elementary and secondary classrooms; emphasis placed on the application of theory to teacher decision-making and problem-solving.

PSYC 266 DYNAMICS OF BEHAVIOR 3
Introduction to the dynamic mechanisms of human adjustment and behavior.

PSYC 360 SMALL GROUP PROCEDURES 3
Examination of small group process through simulations, confrontation techniques, and role playing. Especially useful for teachers, ministers, nurses, and social workers. Prerequisite: PSYC 130.

PSYC 366 THEORIES OF PERSONALITY 3
Theories of personality development, assessment, and adjustment. Prerequisite: PSYC 130.

PSYC 375 EXPERIMENTAL PSYCHOLOGY 3
Advanced study of experimental design with completion of an individual research proposal. Prerequisites: PSYC 130; MATH 206 or equivalent.

PSYC 425 PSYCHOLOGY OF RELIGION 3
Interpretation of religious behavior and motivation from psychological perspectives.

PSYC 426 INTRODUCTION TO COUNSELING AND GUIDANCE PROFESSIONS 3
Introduction to the philosophy, functions, and organization of counseling and guidance programs in school and community agencies.

PSYC 430 PSYCHOLOGICAL TESTING 3
Principles of test selection, administration, and interpretation; consideration of the contributions and limitations of major types of standardized tests and inventories used in the behavioral sciences. Prerequisites: PSYC 130; MATH 206; and permission of instructor.

PSYC 444 SOCIAL PSYCHOLOGY 3
The dynamics of social interaction and interpersonal behavior with application to contemporary society. Prerequisite: PSYC 130 or permission of instructor.

PSYC 455 HISTORY AND SYSTEMS OF PSYCHOLOGY 3
Historical development of the various systems and theories of psychology. Prerequisite: PSYC 130.

PSYC 464 COUNSELING RELATIONSHIPS 3
Introduction to psychological theory and skills essential for developing effective, helping relationships with individuals and groups. Course is open only to Junior and Senior Psychology majors or minors.

PSYC 465 HELPING SKILLS 1; 3
Training in counseling skills for students planning careers in counseling, deaning, nursing, pastoral or social work, and organizational psychology. Modeling and role play supplemented by group discussion and personal supervision. Prerequisite: PSYC 464 or permission of instructor.

PSYC 466 PSYCHOPHYSIOLOGY 4
Focuses on the physiological substrates of human behavior. Emphasis placed on the structure and function of sensory and effector mechanisms, the nervous system, and the endocrine system as they are involved in behavior. The psychobiology of emotional, learning, and reproductive behavior is also stressed. Prerequisites: PSYC 130; BIOL 101 or 201.

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

PSYC 492 ABNORMAL PSYCHOLOGY 3
Behavioral disturbances, therapeutic measures, and related theories. Prerequisites; PSYC 130; PSYC 215 or 366.

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 RESEARCH PROJECT IN PSYCHOLOGY 2
Execution of the research proposal accepted in PSYC 375. Prerequisite: PSYC 375 and permission of instructor.

PSYC 496 SEMINAR 3; 6
In-depth examination of a specific topic in psychology. Topics may include motivation, sensation and perception, mental health, human sexuality, etc. Prerequisite: upper division major/minor in psychology or permission of instructor. Course is open only to Junior and Senior Psychology majors or minors except by permission of the instructor.

SPECIAL EDUCATION (SPED)

SPED 310 FOUNDATIONS OF SPECIAL EDUCATION 3
An introduction to special education as a field of study and practice in American schools. Examines social and historical foundations, the characteristics of handicapping conditions, and their impact on the educational setting. Prerequisite: PSYC 215 or permission of instructor.

SPED 315 TEACHING THE PRESCHOOL EXCEPTIONAL CHILD 3
Diagnosis and instructional planning on behalf of the preschool (0-6 years of age) exceptional child.

SPED 373 MANAGEMENT OF EXCEPTIONAL INDIVIDUALS 4
In-depth examination and administration of various models and techniques for the management of exceptional individuals within the classroom, home and community. On-site field experience required.

SPED 430 ISSUES AND TRENDS IN SPECIAL EDUCATION 3
A study of current literature pertaining to special education, legislation in relationship to the development and implementation of Individualized Education Programs (IEP's), and models for the delivery of these services.

SPED 433 ASSESSMENT OF EXCEPTIONAL INDIVIDUALS 4
Examination and administration of assessment measures for exceptional individuals. On-site field experience required. Prerequisite: SPED 310.

SPED 437 INSTRUCTION OF EXCEPTIONAL INDIVIDUALS 4
In-depth examination and implementation of effective teaching techniques for exceptional learners. On-site field experience required.

SPED 438 COUNSELING EXCEPTIONAL INDIVIDUALS AND THEIR FAMILIES 3
Consideration and practice of counseling techniques for use with exceptional individuals and their families. Special attention is given to academic, behavioral, and vocational concerns.

SPED 480 PRACTICUM IN SPECIAL EDUCATION 1-4
Provides a broad spectrum of closely supervised experience in actual field settings, including assessment, management, and instruction techniques. Prerequisites: SPED 373, 433, 437, or permission of special education adviser.

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

ENGINEERING

Rod Heisler, Dean; Larry Aamodt, Roger Baltrusch, Fred Bennett, Jon Cole, Carlton Cross, Karl Feigner, Rob Frohne, Victor Graham, Glenn Masden, Ryan Mowat, Curtis Nelson, Don Riley, Robert 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 Edward F. Cross School of Engineering offers curricula leading to two distinct degrees. The Bachelor of Science in Engineering (B.S.E.) degree is designed to prepare students to enter professional engineering practice and, also, to provide undergraduate instruction which will serve as an adequate foundation for graduate studies. This curriculum, which includes elective concentrations in civil, electrical, and mechanical engineering, is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc. (formerly Engineers' Council for Professional Development).

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

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

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

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

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

Affiliation Program. North American Seventh-day Adventist colleges and universities are affiliated with Walla Walla College under a program which 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. All D– and F grades must be repeated to apply towards graduation.

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. Senior students are required to participate in the Senior Engineering Tour and are required to take the Graduate Record Examination, general and subject (Engineering) sections; 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 223. 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	
Social Studies	4-11	10-15
Humanities	4-11	
Total General Studies Requirements	44	

(must include one upper division 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
ENGR 121, 122, 123	Introduction to Engineering	6	r	r	r
ENGR 326	Engineering Economy	3	r	r	r
ENGR 495	Colloquium (3 quarters required)	0	r	r	r
ENGR 396, 496, 497 498	Seminar	3	r	r	r
	Minimum Requirements		16	16	16
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 or ENGR 224, 225	Engineering Mechanics	9	r	r	r
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, 281 282, 283	Analytic Geometry and Calculus I, II, III, IV	16	r	r	r
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,	Mathematics or Science	4	r	r	r

MATH, PHYS	Elective	

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	Principles of Environmental Engineering	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 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.	11

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	
or		4
ENGR 433	Digital Design	
ENGR 451	Electromagnetic Fields	4
ENGR 455	Signals and Systems	4
ENGR 458	Direct Energy Conversion	
or		3
ENGR 460	Polyphase Machines and Power Systems	
ENGR	EE Electives	8
CPTR, ENGR MATH, PHYS	Technical Electives	4

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

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	Machine Element Design 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)

Jon Cole, Chair; Roger Baltrusch, Carlton Cross, Susan Dixon, Rod Heisler, Larry McCloskey.

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 223. A course in speech communication is highly recommended.

Major Requirements:

Core Subjects				28-30
BIOL	101, 102, 103	General Biology	12	
ENGR	221, 222, 223	Engineering Mechanics		
or			9	
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	396, 496, 497	Seminar		
	498	Seminar		
or			3 or 5	
BIOL	251, 352, 353, 354, 455	Research Methods		
Electrical Fundamentals				0-7
ENGR	325	Instrumentation	3	
ENGR	351	Linear Network Analysis	4	
Mechanics and Materials				4-8
BIOL	393	Genetics	4	

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

Electives			24-33
BIOL		Selected Courses	12-21
ENGR	Selected Courses		12-21
		Technical Electives	0-9
		Selected courses from MATH, PHYS, CHEM, CPTR (21 must be upper division)	
			69

Electives must be approved by the Bioengineering Advisor Committee after consideration of the total student program.
*Six Quarters of Colloquium are Required.

Cognates:			
CPTR	141	Introduction to Programming (Pascal)	4
CHEM	141, 142, 143	General Chemistry	9
CHEM	144, 145, 146	General Chemistry Laboratory	3
CHEM	321, 322	*Organic Chemistry	8
CHEM	325	Introduction to Organic Laboratory	1
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

*While the first two quarters are required as cognates for the major, a complete, year long sequence may be necessary to fulfill course prerequisites or requirements for advanced studies.

COMPUTER SCIENCE (CPTR)

See the Computer Science section of this bulletin.

CPTR 141 INTRODUCTION TO PROGRAMMING (PASCAL) 4

CPTR 215 ASSEMBLY LANGUAGE PROGRAMMING 3

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 121 prerequisite to ENGR 123.

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. Prerequisite: MATH 282. PHYS 252 strongly recommended.

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. Corequisite: ENGR 223 or 225. PHYS 251, 252, 253, MATH 289 strongly recommended.

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. MATH 312 strongly recommended.

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 331 strongly recommended.

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, 341. MATH 315 strongly recommended.

ENGR 343 PRINCIPLES OF ENVIRONMENTAL ENGINEERING 4
Assessment of gaseous, liquid and solid wastes from commercial, domestic and industrial sources; quantity and quality; conservation, collection, treatment, disposal and storage; impact on resources and ecosystems; air, water and land. Prerequisites: CHEM 143; ENGR 331. ENGR 364; MATH 312, 315 strongly recommended.

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 123. Corequisite: MATH 281.

ENGR 348 STRUCTURAL ANALYSIS 5
Study of graphical, algebraic, and matrical 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, 322; MATH 289; Corequisite: MATH 312.

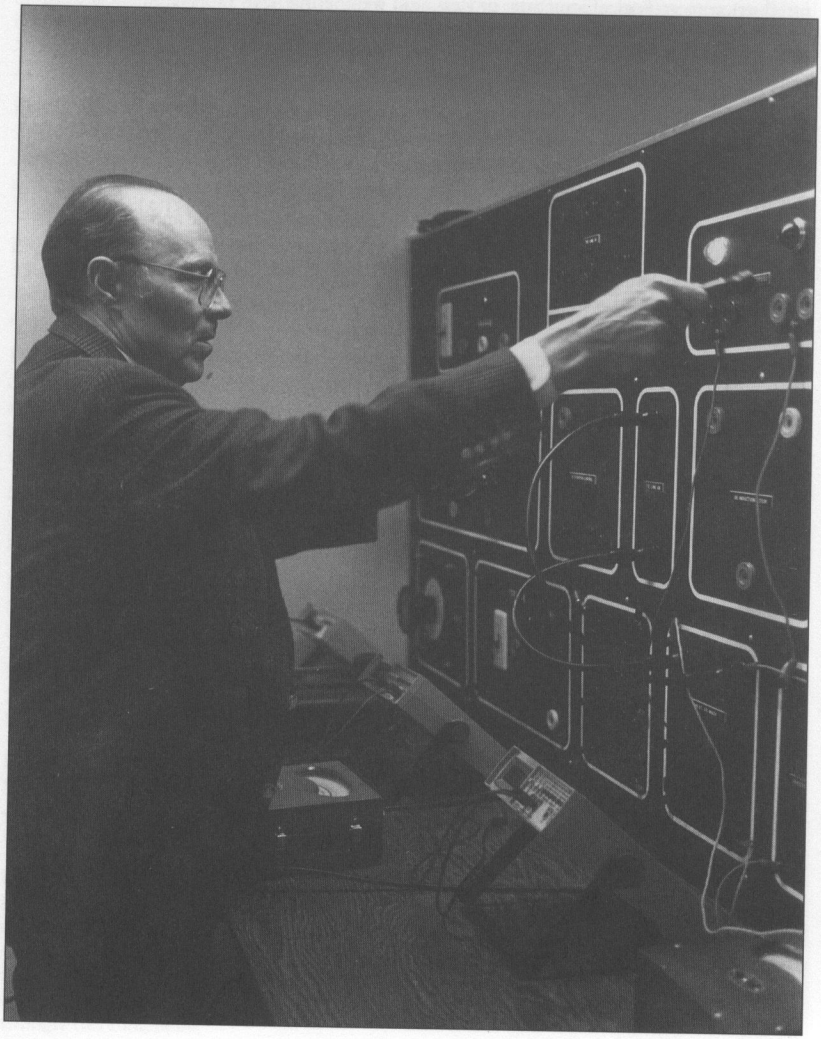
ENGR 351 LINEAR NETWORK ANALYSIS 4
Introduction to linear network theory including Laplace-transform analysis and state-space representations. Fourier analysis of periodic signals. Prerequisites: ENGR 228; MATH 283. Corequisites: MATH 289 and 312.

ENGR 352 FEEDBACK AND CONTROL SYSTEMS 4
Introduction to state-space analysis methods for continous 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. Corequisite: CPTR 215.

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. Prerequisites: CPTR 215, ENGR 228, 354.

ENGR 356, 357, ENGINEERING ELECTRONICS 4, 4
Study of characteristics and applications of discrete and integrated solid-state electronic devices and circuits; large-signal analysis, biasing; small-signal analysis, low and high frequency models, classical amplifier circuits, feedback amplifiers, operational-amplifier circuits; integrated-circuit electronics. Laboratory work required. Corequisite for ENGR 356: ENGR 351. Corequisite for ENGR 357: ENGR 352.



ENGR 364 FLUID MECHANICS LABORATORY 1
Laboratory instruction in fluid mechanics. Incompressible and elementary compressible fluid flow with special application of steady state and conservation principles of mass, momentum, and energy; fluid flow measurements and real fluid phenomena in pipelines; theoretical and experimental analysis of open channel flow. Prerequisite: ENGR 331.

ENGR 365 MACHINE ELEMENT DESIGN LABORATORY 1
Study of the design process. Laboratory instruction in machine element design, form, and function. Machine elements studied include gears, shafts, bearings, links, fasteners, and hydraulic components. Prerequisites: ENGR 321, 322.

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, 352; MATH 289, 312.

ENGR 396 SEMINAR 0
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: Junior standing in engineering.

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 446. ENGR 445 strongly recommended.

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, 442, 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, 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. Prerequisite: ENGR 352. ENGR 455, MATH 315 strongly recommended.

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 456 COMMUNICATIONS SYSTEMS 4
Introduction to analog and digital communication systems, including topics in modulation; baseband and bandpass signals; power spectral density and bandwidth; random processes; noise, signal-to-noise ratio, and error probability; and system performance. Prerequisite: ENGR 455. MATH 315 strongly recommended.

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. Prerequisite: ENGR 357. ENGR 432, 455 strongly recommended.

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, 332.

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 225; MATH 289, 312.

ENGR 462 MACHINE DESIGN 4
Design of machines and machine elements; study of stress failure theories applied to machine elements; industrial design problems; CAD methods. Prerequisites: ENGR 321, 324, 461, 468.

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, 364, 365, 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. Prerequisite: ENGR 352.

ENGR 468 ENGINEERING FINITE ELEMENT METHODS 4
Introduction to finite element methods for the solution of problems in structures, solid mechanics, heat transfer and 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 1, 1, 1
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

Beverly Beem, Chair; Terrie Aamodt, Nancy Cross, Dan Lamberton, David Lennox, Sylvia Nosworthy, Carolyn Shultz, Gary 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 58 quarter hours in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (English) sections.

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
			58

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

Cognates:

HIST	274, 275	History of England	8
SPCH	211	Oral Interpretation	4

Teacher Certification:
Students wishing teacher certification must take the following courses and fulfill certification requirements as listed by the Education and Psychology Department.

ENGL	384	Advanced English Grammars	3
ENGL	374	Literature for Children	3
or			
ENGL	375	Literature for Young Adults	
ENGL	389	Writing Theory	3
ENGL	395	Methods of Teaching High School English	3

MINOR IN ENGLISH

A student minoring in English must complete 30 quarter hours; 10 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
			30

Approval of English adviser required.

GENERAL STUDIES WRITING (ENGL)

ENGL 121, 122, 223; or HONR 141, 142, and ENGL 223 are prerequisites to all upper division writing courses.

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 121 or141. Corequisite: RDNG 100. Credit does not apply toward graduation.

ENGL 121, 122 COLLEGE WRITING 3, 3

Study and practice in the forms of writing necessary for all college writing. The first quarter emphasizes personal and expository writing and an understanding of the writing process; the second quarter emphasizes expository and persuasive writing, analysis, argument, and the development of a clear writing style. Must be taken in sequence. Prerequisite: satisfactory scores on placement tests.

ENGL 223 RESEARCH WRITING 3

A study of library resourses, information gathering techniques, and research writing, including the ethics and style expected in the academic community. Includes a major documented research paper aimed at a scholarly audience. Prerequisite: ENGL 122 or 142 and 36 hours of college classwork completed.

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 LITERATURE 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
Introduction to the study of literature in a basic literary theme or genre. Specific subjects to be studied vary from quarter to quarter; see *Class Schedule*. Will not apply toward an English major. May be repeated for credit when topics vary.

ENGL 215 INTRODUCTION TO FILM LITERATURE 4
An introduction to the history of film development and 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 314 ADVANCED THEMES IN LITERATURE 4
Advanced study of selected literary works that develop oa particular theme or genre. Topics vary from quarter to quarter; see *Class Schedule*. May be repeated for credit when topics vary. Will not apply toward an English major. Prerequisite: General Studies literature. (Will apply towards General Studies)

ENGL 315 ADVANCED FILM LITERATURE 4
Study of selected films with emphasis on criticism of film form or socio-cultural expression. Will not apply toward an English major. Prerequisite: ENGL 215. (Will apply towards General Studies)

WRITING (ENGL)

ENGL 121, 122, 223; or 141, 142, 223 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. Prerequisite: ENGL 223.

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. Prerequisite: ENGL 121, 122.

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. Prerequisite: ENGL 122 or 142 or equivalent.

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. Offered even years only.

ENGL 325 WRITING FOR THE PROFESSIONS 3
Techniques of researching, writing, and presenting proposals, reports, and other documents in such fields as law, business, science, engineering, and education. Designed to aid students in writing papers in their major fields and professional careers.

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 389 WRITING THEORY 3
A study of composition theory and the writing process. Through writing practice, students study the application of this theory to their own work and to the teaching of writing.

LITERATURE AND LANGUAGE (ENGL)

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

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. Offered odd years only.

ENGL 365 AMERICAN REALISM AND NATURALISM 4
Study of major American authors who typify nineteenth-century realism and naturalism. Offered even years only.

ENGL 366 TWENTIETH-CENTURY AMERICAN LITERATURE 4
Study of American literature since 1900; significant works studied in relation to intellectual and historical developments. Offered even years only.

ENGL 384 ADVANCED ENGLISH GRAMMARS 3
Study of traditional, structural, and transformational grammars; taught especially for prospective teachers and writers. Prerequisites: ENGL 121, 122, 223; or HONR 141, 142, ENGL 223.

ENGL 394 DIRECTED READING 1, 2; 3
Independent reading for upper-division students who wish to continue broadening their knowledge of literature in a particular area by extensive reading. Prerequisites: General Studies literature or ENGL 234; admission by permission of instructor.

ENGL 424 DIRECTED ESSAY WRITING 1-2
Refinement of essay writing skills through a writing project chosen in consultation with the instructor. Limited enrollment. Prerequisite: ENGL 324 or permission of instructor upon examination of a portfolio of essays.

ENGL 425 DIRECTED WRITING FOR THE PROFESSIONS 1-2
Refinement of professional writing skills through a writing project chosen in consultation with the instructor. Limited enrollment. Prerequisite: ENGL 325 or permission of instructor upon examination of a portfolio of professional writing.

ENGL 426 DIRECTED NON-FICTION WRITING 1-2
Refinement of non-fiction writing skills through a writing project chosen in consultation with the instructor. Limited enrollment. Prerequisite: one upper division writing class or permission of instructor upon examination of a portfolio of selected writing.

ENGL 434 DIRECTED POETRY WRITING 1-2
Refinement of poetry writing skills through a writing project chosen in consultation with the instructor. Limited enrollment. Prerequisite: ENGL 334 or permission of instructor upon examination of a portfolio of poetry.

ENGL 435 DIRECTED NARRATIVE WRITING 1-2
Refinement of narrative writing skills through a writing project chosen in consultation with the instructor. Limited enrollment. Prerequisiste: ENGL 335 or permission of instructor upon examination of a portfolio of narrative writing.

ENGL 436 DIRECTED DRAMA WRITING 1-2
Refinement of drama writing skills through a writing project chosen in consultation with the instructor. Limited enrollment. Prerequisite: ENGL 336 or permission of instructor upon examination of a portfolio of dramas.

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. May be repeated for credit when topics vary. Offered odd years only.

ENGL 445 SHAKESPEARE 3
Advanced study of selected plays and poems of Shakespeare. Offered even years only.

ENGL 454 LITERATURE OF THE BIBLE (or RELB 454) 4
Study of biblical poetry and prose from a literary perspective. Prerequisite: General studies literature or ENGL 234. Offered odd years only.

ENGL 455 CLASSICAL BACKGROUNDS 4
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. Prerequisite: General studies literature or ENGL 234 or ART 324, 325. Offered even years only.

ENGL 456 AMERICAN LITERATURE AND PAINTING 4
Study of the relationships between American literature and painting from the early national period to the early modern period. Prerequisite: General studies literature or ENGL 234. Offered even years only.

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. Offered odd years only.

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 odd 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 even years only.

ENGL 496, 497 SEMINAR 1, 2
Required of English majors in the senior year. Includes studying research methods, giving oral reports, and writing a major scholarly paper. Research projects relate to a common topic chosen by the instructor.

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 121, 122, 223, or ENGL 141, 142, 223. Will not apply toward an English minor.

ENGL 374 LITERATURE FOR CHILDREN (or LIBR 374) 3
Study of literature for children from early childhood through elementary school. Emphasizes literary and artistic quality and appeal to children. Requires extensive reading of children's books and writing of critical analysis. Applies toward an English minor.

ENGL 375 LITERATURE FOR YOUNG ADULTS (or LIBR 375) 3
Study of literature appropriate for junior high and high school students. Emphasizes literary and artistic quality as well as theory of response to literature. Requires extensive reading of literature for young adults and writing of critical analysis. Applies toward an English minor. Offered odd years only.

ENGL 395 METHODS OF TEACHING HIGH SCHOOL ENGLISH 3
A study of objectives for and methods of teaching language, composition, literature, drama, and media in grades seven through twelve. Students prepare and present lessons, evaluate student work, and create units of study. Prerequisites: ENGL 284, 375, 389. 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.

ENGLISH AS A SECOND LANGUAGE

Pat Gustin, Program Director.

The English as a Second Language (ESL) course of study at Walla Walla College is designed to equip non-native speakers of English to prepare for academic work on the college or university level. The curriculum is based on a Christian view of humankind, recognizing a special endowment for language learning. It views language as primarily a tool for human communication in which meanings are found in the context. It considers effective language learning to be aided by teacher-directed activities or tasks in which learners experience a variety of cognitive demands. It prepares learners to communicate in English with acceptable accuracy, fluency, and appropriacy in all areas—listening and speaking as well as reading and writing. It also will equip them to become independent learners of the language. Because culture is a basic part of all language learning, the program will also help the learners to understand American culture as an integral part of their language-learning experience.

ACADEMIC ADVISEMENT

The academic advisement for ALL ESL students will be assigned to the ESL program no matter what the student's major is. The ESL advisor will consult with the ESL Advisory Committee and the academic department involved in order to design a course that will best aid the student in reaching his or her academic goals. All ESL students will continue to be advised by the academic advisor in the ESL program until such time as they have successfully completed College Writing 121 with at least a C.

ENTRANCE/EXIT REQUIREMENTS

Entering the ESL Program — Transfer Students

From English-medium Secondary Schools (High School or Academy):
Students whose native language is not English who have graduated from an English-medium secondary school will still be required to submit a TOEFL (or Michigan) test score along with their secondary school transcripts as part of the application/admission process. *Students with TOEFL scores 550 or above (with no individual score lower than 52) will be required to take the Walla Walla College English Placement Test including a writing sample.* If they do not qualify for College Writing, they will be placed in an appropriate reading and/or writing class before entering ENGL 121. Students with TOEFL scores under 550 will be admitted as ESL students in accordance with Walla Walla College's acceptance policy.

From Other Colleges/Universities
Students whose native language is not English who have started their college studies elsewhere and have not completed the basic College Writing sequence are required to submit TOEFL scores (or equivalent) even if they are transferring from an English-speaking institution. If their TOEFL score is above 550, (with no individual score lower than 52) they will be required to take the Walla Walla College English

Placement Test, including a writing sample. If they do not qualify for College Writing, they will be placed in an appropriate reading and/or writing class before entering ENGL 121.

The college retains the right to re-test any transfer students (even those indicated above) who experience academic difficulty related to language deficiency; and if their scores indicate a need, they will be placed in the appropriate ESL classes.

TOEFL Requirements: ESL Students will be accepted into the ESL program based on their performance on the TOEFL test. The following TOEFL test results will be the standard norms for admission.

	Beginning	Intermediate	Advanced
Fall	350-449	450-499	500-549
Winter	350-449	475-499*	500-549
Spring	350-449	450-499	500-549
Summer	350-449	450-499	500-549

**Intermediate students with TOEFL scores of 450-474 will not be accepted Winter quarter.*

Placement will be based on more than the TOEFL test. See "Placement Within Walla Walla College ESL Program."

Any student who has not taken a TOEFL test before his or her arrival on the Walla Walla College campus will be given an institutional TOEFL. This test will be offered once each quarter. Entering students, as well as those wishing to re-test for advancement purposes, will be able to take the test at scheduled times.

Length of ESL Program:

The ESL program has three levels—beginning, intermediate and advanced. This program is designed for students to study in each level for two quarters (totalling 18-20 weeks) receiving at least a C grade in all ESL, Adjunct, and other courses for which they are registered. However, it is also recognized that the level at which a student enters a particular course will make a difference in how many quarters he or she will remain at that level. A student entering the Intermediate level with a TOEFL score of 450, for instance, will probably have to study at that level for two quarters. A student entering at 485, however, might possibly move to the advanced level after only one quarter.

Placement within Walla Walla College ESL Program

In addition to the TOEFL test score, placement into the various intermediate or advanced levels of the ESL Program will also be based on the following:

1. An independent grammar test administered by the ESL Program
2. An oral interview administered by the ESL Program
3. A free writing test graded jointly by the English Department and ESL Program

Accelerated Advancment to the Next Level:
A student who wishes to exit a certain level in less than two quarters, may do so as follows:

1. Submit a request in writing to the ESL Committee.
2. Exhibit at least a B in all ESL classes, with a 3.5 average overall.
3. Receive recommendations from the ESL instructors.
4. Have a TOEFL test score high enough to qualify for admittance to the desired level.

Exiting the ESL Program:

Stage One: A student who has fulfilled the following requirements will be allowed to take ENGL 121, Introduction to Research, and 9-12 hours* of content classes. He or she will continue to be advised by the ESL program:

1. Either
   a. TOEFL score of 550 with no individucal score lower than 52.
      OR
   b. ESL English Classes—Complete required classes with at least a B.
      AND
2. Adjunct Program—Complete adjunct classes with at least a C.
3. Recommendation of ESL instructors OR meet the prerequisites for College Writing 121, including a writing sample.

**A student who passes most areas of ESL, but still demonstrates a weakness in a particular area(s), will be retained in the ESL program for classes in that area ONLY.*

Stage Two: A student who has fulfilled the following requirements will be assigned an advisor in his or her major field and will take academic classes:

1. Either
   a. TOEFL score of 550 with no individual score lower than 52.
      OR
   b. ESL English Classes — Complete required classes with at least a B.
      AND
2. Adjunct Program — Complete adjunct classes with at least a C.
3. ENGL 121 (College Writing)—Complete with at least a C.

ACADEMIC PROGRAM

A full class load for an ESL student is generally between 22 and 27 class hours/week in the following areas:

1. ESL English Classes and Lab Work
2. Adjunct Classes
3. ESL Content Classes
4. P.E. Activity and Music Performance Classes (with permission)

Beginning Level:

	Class Hours	Credit Hours	Credit Type
Composition	4	2	100
Grammar	3	2	100
Speaking/Listening	4	2	100
Reading/Vocabulary	5	3	100
American Life & Language	5	2	100
Listening Lab	5	1	100
TOTALS	26	12	

Intermediate Level:

	Class Hours	Credit Hours	Credit Type
ESL Classes	18-22	10-12	#100
Adjunct Classes	0-4	0-4	Toward 192
ESL Content Classes	0-4	0-2	Toward 192*
Content Classes	0-2	0-2	Toward 192
TOTALS	21-28	12-16	

**Toward elective requirement if specific class is approved.*

Advanced Level:

	Class Hours	Credit Hours	Credit Type
ESL Classes	10-16	6-10	Toward 192*
Adjunct Classes	2-4**	2-4	Toward 192
Content Classes	1-4**	1-4	Toward 192
TOTALS	16-22	12-16**	

**These courses will count toward general elective credit.*

***The number of hours a student may take will be determined by overall academic ability, English-language performance, and placement test scores.*

ESL Adjunct Classes

Advanced and upper intermediate students will be a part of the adjunct program. Classes in this program are regular content classes which are taken for credit. The student is concurrently enrolled in an adjunct ESL English class which utilizes the materials from the content class as a base for English instruction. All adjunct classes will be chosen by the ESL faculty. The student receives full academic credit for the content class and receives ESL English credit for the adjunct ESL English class.

Requirements for Adjunct classes for credit will include: 1) Regular attendance at both the content and ESL English classes. 2) Successful completion of regular assignments and tests in the content class. 3) Successful completion of assignments and tests in the adjunct ESL English class. The ESL grade will be based totally on English performance rather than on content knowledge.

The adjunct classes will be chosen from the following approved classes:

CPTR 105	Personal Computing	3
HLTH 110	Wellness for Living	3
FINA 101	Personal Finance	2
GBUS 160	Introduction to Business	4
MUHL 124	Introduction to Music	4
SOCI 204	General Sociology	4
ART 251	Introduction to Art	4
RELB 104	The Ministry of Jesus	4
RELB 105	The Sermon on the Mount	2
RELB 106	The Parables of Jesus	2
MATH 121	Fundamentals of Math I	4
PSYC 130	General Psychology	4

ESL Content Classes

ESL Content classes are not ESL English classes, but rather content classes designed especially for ESL students. Their goal is to present concepts of a collegiate course in a vocabulary that is appropriate for an ESL student.

Lab Work

All ESL students will have 3-5 hours of required lab assignments each week. Some of these may be of a general nature (i.e. talking to a native speaker, attending an English meeting, viewing videos, etc.) Other assignments may be very specific in nature (i.e. listening to a specific tape or watching a video that accompanies a textbook, etc.) These assignments will be assigned by the individual instructors and the students will be expected to arrange for the time to do them on their own

Beginning Level	5 hours/week
Intermediate Level:	4 hours/week
Advanced Level:	3 hours/week

P.E. Activity Classes

Intermediate and advanced ESL students may make a special request to take a Physical Education activity class. Each case will be decided on an individual basis, to be determined by the student's ability and his or her class load.

Music Performance Classes
Intermediate and advanced ESL students may make a special request to take music performance classes. Each case will be decided on an individual basis, to be determined by the student's ability and his or her class load.

Special Needs
Students needing to take the following classes may make a special request to register for them. Permission will be based on TOEFL scores, previous academic record, placement test scores, and English language ability.

ENGR 121	Introduction to Engineering
ENGR 221	Engineering Mechanics
ENGR 222	Engineering Mechanics
ENGR 223	Engineering Mechanics
GBUS 105	Keyboarding (1-2)
MATH 181	Analytical Geometry and Calculus I

Course Descriptions for Beginning Level ESL Courses:

ESLP 010 COMPOSITION I 2
Focuses on the most basic elements of writing--at the word, phrase and sentence level. Prerequisite: TOEFL 325.

ESLP 011 COMPOSITION II 2
Focuses on basic writing skills--at the sentence and simple paragraph level. Prerequisite: TOEFL 375 or ESLP 010.

ESLP 020 GRAMMAR I 2
Focuses on the most basic elements of English grammar. Prerequisite: TOEFL 325.

ESLP 021 GRAMMAR II 2
Focuses on basic English grammar. Prerequisite: TOEFL 375 or ESLP 020.

ESLP 030 SPEAKING/LISTENING I 2
Develops the student's English comprehension via aural/oral English. Prerequisite: TOEFL 325.

ESLP 031 SPEAKING/LISTENING II 2
Develops the student's English comprehension via aural/oral English. Prerequisite: TOEFL 375 or ESLP 030.

ESLP 040 READING I 3
Teaches basic reading (decoding and comprehension skills), with special emphasis on life skills vocabulary development. Prerequisite: TOEFL 325.

ELSP 041 READING II 3
Teaches basic reading (decoding and comprehension) skills with special emphasis on general (pre-academic) vocabulary development. Prerequisite: TOEFL 375 or ESLP 040.

ESLP 050 INTRO TO AMERICAN LIFE AND LANGUAGE I 2
Introduces the student to Amrican life with a focus on basic cultural knowledge, as well as survival skills. Prerequisite: TOEFL 325.

ESLP 051 INTRO TO AMERICAN LIFE AND LANGUAGE II 2
Focuses on general life skills as well as special coping skills for a person from a different cultural backgroud studying in an American college setting. Prerequisite: TOEFL 375 or ESLP 050.

ESLP 060 ESL LAB I 1
Laboratory integrated with Beginning ESL classes. Meets 5 hours/week.

ESLP 061 ESL LAB II 1
Laboratory integrated with Beginning ESL classes. Meets 5 hours/week.

Course Descriptions for Required Intermediate Level ESL Courses:

ESLP 102 WRITING/GRAMMAR I 3
Focuses on writing, using grammar as needed to improve writing skills. Writing assignments will be designed to review most aspects of grammar on the phrase/sentence level, with an introduction to the skills needed for discourse competence at the paragraph level. Prerequisite: TOEFL 450 or equivalent.

ESLP 103 WRITING/GRAMMAR II 3
Focuses on writing, using grammar as needed to improve writing skills. Writing assignments will be designed to help the students build discourse competence by working beyond the sentence level—focusing on paragraphs and short essays. Prerequisite: TOEFL 475 or equivalent or ESLP 102.

ESLP 112 READING-BASED ENGLISH SKILLS I 3
Focuses on integrating reading skills with other English skills taught from that base. The student develops the skills that they need to function effectively in college classes. Prerequisite: TOEFL 450 or equivalent.

ESLP 113 READING-BASED ENGLISH SKILLS II 3
Further develops reading skills integrated with other English skills taught from that base. Students continue to develop their skills so that they can function effectively in college classes. Prerequisite: TOEFL 475 or equivalent or ESLP 112.

ESLP 122 CONVERSATION BASED-ENGLISH SKILLS I 2
An integrated English skills class based on conversation skills—speaking and listening. Included in the activities will be many opportunities to use English formally and informally on both academic and non-academic topics. This will be done through the use of both audio and visual materials, drama, and media. Prerequisite: TOEFL 450 or equivalent.

ESLP 123 CONVERSATION-BASED ENGLISH SKILLS II 2
Focuses on formal and informal English conversation on both academic and non-academic topics. This will be done through the use of audio and visual materials, drama, public speaking, and media. Emphasis will be placed on pronunciation practice and the social implications of language—paralanguage, non-verbal communication, and social appropriacy. Prerequisite: TOEFL 475 or equivalent or ESLP 122.

ESLP 132 ADJUNCT ENGLISH I 2
Teaches English skills and study skills via the adjunct content class in which the student is enrolled concurrently. Students will be helped to develop their vocabulary as well as their ability to read complex material effectively. Writing and speaking assignments will be used to teach the corresponding English skills. Grades will be based on English performance only. Prerequisite: TOEFL 450 or equivalent.

ESLP 133 ADJUNCT ENGLISH II 2
Teaches English skills and study skills via the adjunct content class in which the student is concurrently enrolled. Students will develop their vocabulary as well as their ability to read complex material effectively. Writing and speaking assignments will be used to teach the corresponding English skills. Grades will be based on English performance only. Prerequisites: TOEFL 475 or equivalent or ESLP 132.

ESLP 142 AMERICAN LIFE AND LANGUAGE I 2
Traces American history and culture from a discussion of Native Americans through the Age of Discovery and the Revolutionary Era to the beginning of the nineteenth century. Introduces certain aspects of life in America—holidays, customs, and traditions; as well as some practical life skills. Prerequisite: TOEFL 450 or equivalent.

ESLP 143 AMERICAN LIFE AND LANGUAGE II 2
Presents nineteenth century America through its pioneers, inventors, writers, and politicians. Particular emphasis is given to the American Civil War and its influence on American culture. The course also introduces other aspects of life in America—holidays, customs, and traditions; as well as additional practical life skills. Prerequisite: TOEFL 475 or equivalent or ESLP 142.

ESLP 150, 151 INTERMEDIATE ESL LABORATORY 1, 1
Laboratory integrated with Intermediate ESL classes.

ESLP 198 SYSTEMATIC STUDY SKILLS FOR ESL STUDENTS* 1
Focuses on the specific study skills needed by ESL students to help them succeed in an American college or university. Included are such things as specialized reading skills, thinking skills, test-taking skills, and different cognitive learning styles and social skills Prerequisite: TOEFL 475 or equivalent.

**Required of all intermediate and advanced students*

Course Descriptions for Required Advanced Level ESL Courses:

ESLP 202 WRITING/GRAMMAR III 3
Focuses on writing, using grammar as needed to improve writing skills. Writing assignments will be designed to build discourse competence in writing essays. Prerequisite: TOEFL 500 or equivalent or ESLP 103.

ESLP 203 WRITING/GRAMMAR IV 3
Focuses on writing, using grammar as needed to improve writing skills. Writing assignments will be designed to continue building discourse competence. Assignments will include creative writing and introduction to research witing. Prerequisite: TOEFL 500 or equivalent or ESLP 202.

ESLP 212 ADVANCED ENGLISH SKILLS I 3
An integrated English skills class which will develop reading, vocabulary, speaking, listening, and conversation skills. Included in the activities will be emphasis on academic vocabulary development and reading, lecture-listening practice, public speaking, pronunciation practice, and continued emphasis on social appropriacy. Prerequisite: TOEFL 500 or equivalent.

ESLP 213 ADVANCED ENGLISH SKILLS II 3
An integrated English skills class which will further develop reading, vocabulary, speaking, listening, and conversation skills in specialized academic areas such as business, science and technology, social sciences, humanities, etc. Prerequisite: TOEFL 500 or equivalent or ESLP 212.

ESLP 232 ADJUNCT ENGLISH III 3
Designed to teach English skills via the content class in which the student is concurrently enrolled. Students will develop their vocabulary as well as their ability to read complex materials effectively. Writing and speaking assignments will be used to teach the corresponding English skills. Grades will be based on English performance only. Prerequisite: TOEFL 500 or equivalent or ESLP 133.

ESLP 233 ADJUNCT ENGLISH IV 1; 2
Teaches English skills via the content class in which the student is concurrently enrolled. Students will develop their vocabulary as well as their ability to read complex materials effectively. Writing and speaking assignments will be used to teach the corresponding English skills. Grades will be based on English performance only. May be repeated once to support another content class. Prerequisite: TOEFL 500 or equivalent or ESLP 232.

Course Descriptions for Elective ESL Courses
Upper Intermediate and Advanced Level

ESLP 191 ENGLISH THROUGH DRAMA 1
Students develop English proficiency through simple drama—one-act plays. Prerequisite: TOEFL 475 or equivalent.

ESLP 199 TOEFL PREP 1
Designed to help the upper intermediate or advanced student prepare for the TOEFL test, giving practice and experience in all areas of the test. Prerequisite: TOEFL 475 or equivalent.

ESLP 205 ACQUIRING AN AMERICAN ACCENT 1
Pronunciation practice and drills improving the student's accent. Prerequisite: TOEFL 475 or equivalent.

ESLP 244 AMERICAN LIFE AND LANGUAGE III 2
Familiarizes the student with American history and culture from the post Civil War era to the present. Introduces recent and contemporary Americans from the world of art, politics, business, and science. These influences will be applied to contemporary living in America. Prerequisite: TOEFL 500 or equivalent or ESLP 142 or 143.

ESLP 262 JUDEO-CHRISTIAN BACKGROUNDS I 2
Introduces the ESL student to the backgrounds of the Judeo-Christian religious tradition from the Creation story through the Exodus story. Does not fulfill General Studies Religion requirement. Prerequisite: TOEFL 450 or equivalent.

ESLP 263 JUDEO-CHRISTIAN BACKGROUNDS II 2
Introduces the ESL student to the backgrounds of the Judeo-Christian religious tradition. It covers the time period from the settlement of Canaan by Israel to the end of the Old Testament period. Does not fulfill General Studies Religion requirement. Prerequisite: TOEFL 450 or equivalent.

ESLP 264 CHRISTIAN BACKGROUNDS I 2
Familiarizes the ESL student with the beginnings of the Christian religion from the birth of Christ to his ascension. Does not fulfill General Studies Religion requirement. Prerequisite: TOEFL 450 or equivalent.

ESLP 265 CHRISTIAN BACKGROUNDS II 2
This introductory class familiarizes the ESL student with the beginnings of the Christian church from the ascension of Christ to the end of the first century A.D. Does not fulfill General Studies Religion requirement. Prerequisite: TOEFL 450 or equivalent.

ESLP 292 CURRENT EVENTS 1
Students learn to study and understand current events via newspaper and news magazines, as well as radio and T.V. news broadcasts. Prerequisite: TOEFL 475 or equivalent.

ESLP 293 DIRECTED WRITING—ESL 1
An individualized course in writing. Prerequisite: TOEFL 500 or equivalent and ESLP 201 and 202.

ESLP 294 DIRECTED READING—ESL 1
An individualized course in reading and vocabulary development Prerequisite: TOEFL 500 or equivalent and ESLP 231 and 232.

Required Exit Level Course:

ESLP 235 INTRODUCTION TO RESEARCH 1
Focuses on basic research techniques, including: use of library resources, reading and utilization of scholarly materials; as well as summarizing, paraphrasing, and synthesizing information. Must be taken concurrently with ESLP 121.

HEALTH AND PHYSICAL EDUCATION

Gary Hamburgh, Chair; Curtis Kuhlman, Stan Ledington, Tim Windemuth.

Walla Walla College is one of the church's pioneers in the field of health and physical education. In 1949, this department was the first to graduate a physical education major from an Adventist institution. Since then its graduates have made significant contributions as teachers, researchers, youth leaders, and health educators.

The department offers a major in health or physical education. These programs seek to develop the leadership and professional skills which will enable graduates to promote a healthy Christian lifestyle for others.

The program in health offers concentrations in health promotion or health science. These concentrations will help prepare students to meet the increasing demands for health professionals trained in promoting wellness. The concentration in health promotion is designed for students desiring to pursue graduate work and careers in the areas of health education, community health, school health, health promotion, employee wellness, and other areas of public health. The health science concentration provides a program for students wishing to pursue graduate studies and careers in research, medicine, dentistry, environmental health, nutrition, and other disciplines in the health sciences.

The programs in physical education help prepare professionals who will promote activities that stimulate habits of regular exercise and develop skills and interests for participation throughout life. The curriculum contains three concentrations; Preparation for Teaching, Fitness Management and Physiological Basis of physical education.

MAJOR IN HEALTH (Bachelor of Science)
A student majoring in health must complete 57-68 quarter hours of interdisciplinary courses as listed below, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

Core Requirements:

HLTH 110	Wellness for Living	3
HLTH 205	History of Health	2
HLTH 208	Drugs and Society	3
HLTH 220	Human Nutrition	4
HLTH 238	Health Behavior Change	2
HLTH 315	Etiology of Selected Diseases	3
HLTH 472	Stress Management	3
HLTH 491	Seminar	1
HLTH 427	Fitness Evaluation Techniques	3
PETH 426	Physiology of Exercise	4
		28

CONCENTRATION: Health Promotion (40 credits)

HLTH 217	First Aid	2
HLTH 308	Community Health	3
HLTH 331	Consumer Health	3
HLTH 350	Internship Placement Orientation	0
HLTH 372	Health Promotion and Evaluation	3

HLTH 437	Community Nutrition	3
HLTH 471	Human Sexuality	3
HLTH 475	Programs in Health Promotion	3
HLTH 481	Internship	3 or 12
	Electives	8-17
		40

Electives for both concentrations

Electives must be chosen from HLTH courses or the following:
(approval of health adviser required)

ENVI 385	Environment and Man	4
PEAC 123	Weight Training	1
PEAC 128	Jogging	1
PSYC 442	Motivation	3
PSYC 464	Counseling Relationships	3
PEAC 133	Aerobic Rhythm	1
SOCI 324	Human Development and the Family	4
SOCI 437	Death and Dying	3
SOWK 377	Introduction to Alcoholism and Addiction Treatment	3
MGMT 373	Introduction to Health Care Organizations	2
SOCI 435	Social Gerontology	3
PETH 225	Prevention of Injuries	2
PETH 323	Measurement & Evaluation	3
PETH 325	Kinesiology	3
PETH 324	Adapted Physical Education and Recreation	3

Cognates for Health Promotion Concentration

BIOL 101, 102	General Biology	8
or		
BIOL 201, 202	Anatomy and Physiology	
ENGL 325	Writing for the Professions	3
MATH 206	Applied Statistics	4
MKTG 381	Principles of Marketing	4
or		
MKTG 383	Advertising and Sales Promotion	
PSYC 130	General Psychology	4
SOCI 204	General Sociology	4
SPCH 101	Fundamentals of Speech Communication	4
		31

CONCENTRATION: Health Science (25 credits)

(16 hours selected from the following courses)

BIOL 202	Anatomy and Physiology	4
BIOL 392	Cell Biology	4
BIOL 393	Genetics	4
BIOL 394	Developmental Biology	4
BIOL 449	Vertebrate Histology	4
BIOL 464	Animal Physiology	4

BIOL 222 or BIOL 465	Bacteriology / Microbiology	5
BIOL 466	Immunology	4
CHEM 431	Biochemistry	4
CHEM 432	Biochemistry of Metabolism	4
ENVI 385	Environment and Man	4
		16
	Electives (see Health Promotion Electives)	9
		25

Cognates for Health Science Concentration

BIOL 101, 102, 103	General Biology	12
BIOL 250 or MATH 206 or GBUS 263	Biostatistics / Applied Statistics / Business Statistics	4
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Lab	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Lab	2
MATH 117 or MATH 121, 122	Precalculus / Fundamentals of Mathematics	5 / 8
or MATH 181	Analytic Geometry and Calculus I	4
PSYC 130	General Psychology	4
		49-53

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

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
		27

CONCENTRATION: Preparation for Teaching

PEAC 107-277	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 107, 123, 133, 224, 242, 244, 246, 271, 273, 274, 275, 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
		39

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

Cognates:

BIOL 201, 202	Anatomy and Physiology	8
HLTH 110	Wellness for Living	3
MATH 105 or MATH 206	Mathematics With Applications / Applied Statistics	4

CONCENTRATION: Fitness Management

HLTH 238	Health Behavior Change	2
PEAC 107-277	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
PETH 490	Internship in Fitness Management	12
PETH 278	Programming Intramural and Recreational Activities	2
	Electives	4
		33

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

Cognates:

ACCT 201, 202, 203 or ACCT 205, 206	Principles of Accounting / Principles of Accounting	10
BIOL 201, 202	Anatomy and Physiology	8
CPTR 105	Personal Computing	3
HLTH 220	Human Nutrition	4

HLTH 110	Wellness for Living	3
MGMT 275	Management of Small Business	3
CIS 260	Intermediate Database Applications	
or		2
CIS 270	Intermediate Spreadsheet Applications	
MKTG 383	Advertising and Sales Promotion	4

CONCENTRATION: Physiological Basis

BIOL 201, 202	Anatomy and Physiology	8
BIOL 464	Animal Physiology	4
HLTH 220	Human Nutrition	4
PEAC 107-277	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
		27

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

Cognates:

BIOL 101, 102, 103	General Biology	12
BIOL 392	Cell Biology	
or		4
CHEM 431	Biochemistry	
BIOL 250	Biostatistics	
or		4
PSYC 350	Elementary Statistics	
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Laboratory	2
CPTR 105	Personal Computing	3
HLTH 110	Wellness for Living	3
MATH 117	Precalculus	
or		5-8
MATH 121, 122	Fundamentals of Mathematics I, II	

MINOR IN HEALTH

A student minoring in health must complete 27 quarter hours.

HLTH 110	Wellness for Living	3
HLTH 205	History of Health	2
	Electives	22
		27

Up to 10 hours may be selected from non-HLTH courses in the major requirements or electives listed for the Health Science major with no more than six hours being selected from any one discipline.
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 225	Prevention of Injuries	2
PETH 261	Officiating of Sports Activities	2
PETH 278	Programming Intramural and Recreational Activities	2
PETH 484	Administration of Health, Physical Education, and Recreation	3
	Electives	19
		30

Approval of physical education adviser required.

HEALTH (HLTH)

HLTH 110 WELLNESS FOR LIVING 3
Survey course covering current health issues; emphasizes the promotion of personal well-being.

HLTH 205 HISTORY OF HEALTH 2
Survey of the historical development of health education. Includes secular, biblical and Seventh-day Adventist health history.

HLTH 208 DRUGS AND SOCIETY 3
Study of the use, misuse, and abuse of all classes of drugs, including alcohol and tobacco. Emphasis will be placed on the physiological, sociological, and psychological factors which may lead to drug experimentation and heavy drug use. Prerequisite: BIOL 201, 202 or permission of the instructor.

HLTH 217 FIRST AID 2
Preparation for earning Standard American Red Cross and Cardiopulmonary Resuscitation certificates; prepares the student to deal effectively with minor emergencies, sudden illness, and traumatic injuries. Lecture and laboratory.

HLTH 220 HUMAN NUTRITION 4
Study of fundamental principles and basic vocabulary of nutritional science; interpretation and application of those principles through practical experiences. Covers the many factors associated with food and the digestion of food and the evaluation of current nutrition controversies.

HLTH 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.

HLTH 266 SAFETY EDUCATION 2
Study of safety at work, home, and school with emphasis on personal and community responsibility. Offered odd years only.

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

HLTH 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.

HLTH 315 ETIOLOGY OF SELECTED DISEASES 3
Critical review of the morphology, pathogenesis, and epidemiology of major degenerative diseases. Major emphasis is on prevention, identification of high-risk groups, and early detection with applications to personal and community control programs. Prerequisites: HLTH 110, 220; BIOL 101 or 201.

HLTH 328 BASIC THERAPY 2
Study of simple, nondrug therapeutic health practices; includes legal implications.

HLTH 331 CONSUMER HEALTH 3
Study of advertising techniques and claims concerning a variety of health care products. Analysis will also be made of quackery, various health care services, and the role of the FDA, FTC, and other governmental agencies in protecting the consumer. Offered odd years only.

HLTH 350 INTERNSHIP PLACEMENT ORIENTATION 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.

HLTH 372 HEALTH PROMOTION PLANNING AND EVALUATION 3
Study of methods of determining health needs, organizing community service skills, planning techniques, and program evaluation. Laboratory required. Prerequisite: HLTH 238; 315 or permission of instructor.

HLTH 384 SCHOOL HEALTH PROGRAMS 3
Analysis of the philosophical, organizational, and legal aspects of school health programs.

HLTH 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.

HLTH 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.

HLTH 437 COMMUNITY NUTRITION 3
Survey of current community nutritioin problems and of programs designed to alleviate the problems; food habits of poopulation groups which have a high incidence of malnutrition; implications of fad diets. Field experience included. Prerequisite: HLTH 220 or permission of instructor.

HLTH 471 HUMAN SEXUALITY (or SOWK 471) 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.

HLTH 472 STRESS MANAGEMENT (or SOWK 472) 3
Designed to guide the student in planning practical strategies for personal stress management. A holistic approach emphasizing physical, mental, emotional, and spiritual aspects of a positive Christian lifestyle. The works of Hans Selye and other theoreticians of modern stress management are considered. Students will develop skills in time management, and techniques of meditation and relaxation and exercise. Also considered is the market for stress management education in Employee Assistance Programs. Prerequisite: PSYC 130 or SOCI 204.

HLTH 475 PROGRAMS IN HEALTH PROMOTION 3
Study of the methods of program production in health. Supervised experience in the implementation of health education programs within churches, industries, schools, or hospitals of the community. Laboratory required. Prerequisite: HLTH 372.

HLTH 481 INTERNSHIP IN HEALTH SCIENCE 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: HLTH 350, 427, 475; HLTH 217 or current certification in First Aid and CPR.

HLTH 496 SEMINAR 1
Presentation and discussion of current topics in health science. Prerequisite: Senior standing in Health Science or permission of the instructor.

HLTH 494 COOPERATIVE EDUCATION 0-4
Individual contract arrangement involving students, faculty and cooperating businesses, schools or agencies to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department; CDEV 210 or permission of Cooperative Education Director.

PHYSICAL ACTIVITY COURSES (PEAC)

PEAC 101-197 PHYSICAL ACTIVITY COURSES 1
Motor skills are physiological development; adaptive programs as needed.

PEAC 107 Lifeguard Training
*PEAC 110 Scuba I
*PEAC 111 Scuba II
PEAC 113 Beginning Swiming
PEAC 114 Intermediate Swimming
*PEAC 119 Sailboarding
PEAC 123 Cond. Weight Training
PEAC 127 Tumbling
PEAC 128 Jogging
PEAC 133 Aerobic Rhythm
†*PEAC 136 Ice Skating I
†*PEAC 137 Ice Skating II
PEAC 142 Badminton I
*PEAC 144 Golf I
*PEAC 145 Golf II
PEAC 146 Tennis I
PEAC 147 Tennis II
PEAC 151 Racquetball I
PEAC 152 Racquetball II
*PEAC 157 Backpacking
*PEAC 159 Cycling
*PEAC 163 Rock Climbing
†*PEAC 164 Downhill Skiing I
†*PEAC 165 Downhill Skiing II
PEAC 171 Basketball
PEAC 173 Flagball
PEAC 174 Soccer
PEAC 175 Softball
PEAC 176 Track and Field
PEAC 177 Volleyball I
PEAC 181 Fencing I
†PEAC 190 Independent Activity
PEAC 195 Gymnastics Team

PROFESSIONAL ACTIVITIES (Individual)

PEAC 223 Pro Act Conditioning
PEAC 224 Pro Act Gymnastics I
PEAC 242 Pro Act Badminton I
*PEAC 244 Pro Act Golf (even years)
PEAC 246 Pro Act Tennis (odd years)
PEAC 276 Pro Act Track and Field

PROFESSIONAL ACTIVITIES (Team)

PEAC 271 Pro Act Basketball
PEAC 273 Pro Act Flagball
PEAC 274 Pro Act Soccer
PEAC 275 Pro Act Softball
PEAC 277 Pro Act Volleyball

*Special fee required. See Financial Information
†Graded S or NC.

PHYSICAL EDUCATION THEORY (PETH)

PETH 205 WATER SAFETY INSTRUCTOR'S COURSE 2
Preparation for meeting the requirements of the National Red Cross Certificate to teach swimming and supervise swimming areas. Prerequisite: PEAC 107.

PETH 214 INTRODUCTION TO PHYSICAL EDUCATION AND RECREATION 2

Introduction and orientation to the field of physical education; includes survey of the philosophy and objectives, as well as the professional opportunities and responsibilities, of the physical educator.

PETH 225 PREVENTION OF INJURIES 2

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

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 officiate in the intramural activities sponsored by the department. Lecture and laboratory.

PETH 278 PROGRAMMING INTRAMURAL AND RECREATIONAL ACTIVITIES 2

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

PETH 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 206.

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 350 INTERNSHIP PLACEMENT ORIENTATION 0

(See HLTH 350 for course description.)

PETH 363, 364, 365 COACHING OF TEAM ACTIVITIES 3, 3, 3

Study of materials, methods, strategy and teaching professions; **autumn**, flagball and gymnastics; **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.

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.

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.

PETH 473 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL 3-4
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 PHILOSOPHY

Roland Blaich, Chair; Terrie Aamodt, Terrell Gottschall, Robert Henderson, Janice Staab

The department offers a major in history as well as minors in history and philosophy. In fulfilling the mission of the college, 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. In keeping with this goal, the members of the department support the principle of personal professional development, particularly participation in research and civic responsibilities, as a means of enhancing both teaching and the historical profession.
Students are prepared for further study in teaching, law, government, and church service.

MAJOR IN HISTORY (Bachelor of Arts)
A student majoring in history must complete 54/57 quarter hours in the major, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. Senior students are required to take the Graduate Record Examination, general and subject (History) sections.

Core Requirements:

HIST 120, 121, 122	History of Western Civilization (HONR 131, 132, 133 will fulfill the Western Civilization requirement)	12
HIST 221, 222	History of the United States	8
HIST 297	Historiography	4
	Electives (20 must be upper division)	26
		50

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.

Research Requirements:
Students planning to attend graduate school should take the thesis track.

HIST 396	Introduction to Historical Research	1
HIST 496, 497	Seminar	3
or		
HIST 398	Thesis Research	6
and		
HIST 498, 499	Thesis Seminar (thesis track)	
	(required cognate: at least one year college-level language)	
		4-7

MINOR IN HISTORY
A student minoring in history must complete 28 quarter hours:

HIST 120, 121, 122	History of Western Civilization (HONR 131, 132, 133 will fulfill the Western Civilization requirement)	8-12

HIST 221, 222	History of the United States	8
	Electives (8 must be upper division)	8-12
Approval of history adviser required.		28

MINOR IN PHILOSOPHY

A student minoring in philosophy must complete 28 quarter hours:

PHIL 205	Introduction to Philosophy	4
	Electives (4 must be upper division)	24
Approval of philosophy adviser required.		28

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.

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 242 MODERN EAST ASIAN HISTORY 4
A study of East Asian History since 1800, with particular emphasis on China and Japan.

HIST 321 CONTEMPORARY ISSUES 2; 4
A study of selected contemporary issues reflecting current trends in politics and international relations, global and regional problems, and social and ethical issues. May be repeated for credit. Will apply towards General Studies. Will be offered 1995-96.

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 towards a major or minor in history or political science.

HIST 454 CLASSICAL POLITICAL THOUGHT 4
A survey of political thought from classical Greece through the Enlightenment. Prerequisites: HIST 120, 121 or HONR 131, 132; HIST 297, or permission of instructor. Offered odd years only.

HIST 490 ARCHAEOLOGICAL FIELDWORK 0-4
Participation in an archaeological expedition. Involves all aspects of dig life — stratigraphic excavation employing the most up-to-date methodologies, careful recording and analysis of data in consultation with experts from a wide range of disciplines. Prerequisites: RELH 205 or permission of instructor. Application to the School of Theology is required by March 1 of the year the course is taken. May serve as history elective. Will not apply towards general studies in history.

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.

RESEARCH

Students who elect to take the thesis track should complete their language requirement before the junior year.

HIST 297 HISTORIOGRAPHY 4
A survey of historians and historical writings from classical Greece to the present.

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 398 THESIS RESEARCH 1-2; 3
Research for the Thesis Seminar. To be usually taken Winter and Spring during the junior year, and Autumn during the senior year. May be repeated for credit.

HIST 496, 497 SEMINAR 2, 1
Preparation of the senior seminar paper. Open only to senior history majors. Prerequisites: HIST 396, 398.

HIST 498, 499 THESIS SEMINAR 2, 1
Preparation of the senior thesis. Open to thesis track history majors only. Prerequisites: HIST 396, 398. The thesis title will be included on the student's transcript.

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 375 HISTORY OF MODERN RUSSIA 4
19th and 20th century Russia with an emphasis on social, political and intellectural developments. Prerequisite: HIST 297, or permission of instructor. Offered odd years only.

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. Prerequisite: HIST 121, 122, 297, or permission of instructor. Offered even years only.

HIST 456 MEDIEVAL AND MODERN CHURCH HISTORY (or RELH 456) 4
A survey of the Christian Church from the Council of Chalcedon to the Enlightenment. Prerequisite: HIST 121 or RELH 455, or permission of instructor.

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. Prerequisite: HIST 120, 121, 297, or permission of instructor. 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, 297, or permission of instructor. 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. Prerequisite: HIST 121, 297, or permission of instructor. Will be offered 1996-97.

HIST 467 THE MODERN TRANSITION, 1815-1919 4
Study of Europe against the backdrop of nineteenth century nationalism and imperialism. Prerequisite: HIST 121, 122, 297, or permission of instructor. Will be offered 1996-97.

HIST 468 CONTEMPORARY EUROPE, 1918 TO THE PRESENT 4
Study of Europe from World War I to the present with particular emphasis on the period since 1945. Prerequisite: HIST 122, 297, or permission of instructor. Offered even years only.

AMERICAN HISTORY (HIST)

HIST 224 AMERICAN GOVERNMENT 4
Study of the principles, organization, and development of American national, state, and local government. Does not apply to major or minor.

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.

HIST 424 THE AMERICAN FRONTIER 4
Study of the exploration, settlement, and development of the American west: considers economic, social, cultural, and political factors. Prerequisite: HIST 297, or permission of instructor.

HIST 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. Prerequisite: HIST 297, or permission of instructor. Offered odd 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, 297, or permission of instructor. Offered odd years only.

HIST 445 THE CIVIL WAR AND THE RISE OF INDUSTRIAL AMERICA, 1850-1900 4
Study of the sectional crisis, the war, and its impact on postwar political, economic, and social development. Prerequisite: HIST 221, 222, 297, or permission of instructor. Offered even years only.

HIST 446 HISTORY OF THE PACIFIC NORTHWEST 4
Study of the Pacific Northwest from the age of discovery to contemporary times.

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, 297, or permission of instructor. Offered even years only.

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, 297, or permission of instructor. Offered odd years only.

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 instructor. Will be offered 1995-96.

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 be offered 1995-96.

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.

PHIL 306, 307 HISTORY OF PHILOSOPHY 4, 4
Fall quarter: historical study of major philosophers and philosophical movements from the Pre-Socratics to Modern Philosophy. Winter quarter: modern philosophers since Descartes. Prerequisite: PHIL 205.

PHIL 410 PHILOSOPHY OF EDUCATION (or EDUC 410) 3
See the Education section of this bulletin.

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, 206.

INTERDISCIPLINARY PROGRAMS

BIOPHYSICS

Claude Barnett (Physics), Susan Dixon, (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	351	Research Methods I	1
BIOL	352, 353, 454	Research Methods II, III, IV	3
BIOL	392	Cell Biology	4
BIOL	393	Genetics	4
or			
BIOL	394	Developmental Biology	
BIOL	401	Plant Physiology	4
or			
BIOL	464	Animal 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
			36

Cognates:

CHEM	141, 142, 143	General Chemistry	9
CHEM	144, 145, 146	General Chemistry Laboratory	3
CHEM	321, 322, 323	Organic Chemistry	12
CHEM	325, 326	Introduction to Organic Lab	
or			
CHEM	351, 352, 353	Physical Chemistry	
CHEM	354, 355, 356	Physical Chemistry Laboratory	
CPTR	141	Introduction to Programming (Pascal)	4
CPTR	374	Simulation and Modeling	3
ENGR	228	Circuit Analysis	5-7
and			
ENGR	325	Instrumentation	
or			
ENGR	228	Circuit Analysis	
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

Ron Jolliffe, Chair; Beverly Beem (English), Reinhard Czeratzki (Modern Languages), Roland Blaich (History), Dan Shultz (Music), Douglas Clark (Religion), Thomas Emmerson (Art), Rodney Vance (Communications).

The humanities major is an interdisciplinary program designed for those who want to study the themes and values of the humanities—in history, the visual arts, music, philosophy, religion, and literature—and who wish to tailor their major to meet their interests. It provides a choice of content areas for those interested in teaching 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, one concentration which must be chosen in consultation with the humanities adviser and the chair of the specific area, the general studies program including the general studies requirements below, and all baccalaureate degree requirements as outlined in this bulletin. Any course taken to satisfy core and/or concentration requirements cannot also be counted as satisfying general studies requirements, except as noted.

General Studies Requirements:

The Humanities major assumes certain general proficiences in areas that are integral elements of the General Studies program described in the college bulletin. Consequently, majors in the Humanities program will satisfy portions of their general studies requirements by taking ART 251, Introduction to Art, 4 hours; at least 8 hours from the sequence HIST 120, 121, 122, History of Western Civilization; and

MUHL 124, Introduction to Music, 4 hours. Honors students, however, will satisfy the requirements of the Honors Program.

Core Requirements:

ENGL	207	World Literature	8
ENGL	210, 211, 212	Survey of English and American Literature	
ENGL		One upper-division literature course	4
HIST	465	Renaissance and Reformation	4
HMNT	496	Seminar in Humanities	3
PHIL	205	Introduction to Philosophy	4
ANTH	225	Cultural Anthropology	3-4
or			
*HIST	454	Classical Political Thought	
BIOL	407	Philosophy of Science	4
or			
ENVI	385	Environment and Man	
PSYC	444	Social Psychology	3
or			
PSYC	366	Theories of Personality	
RELH	403	World Religions	3-4
or			
RELT	412	Philosophy of Religion	
			36-38

*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	4
ENGL	324-338	Upper-division writing	3
ENGL		Upper-division literature	8
			22

CONCENTRATION: Fine Arts

ART	324, 325	History of Art	6
MUHL	321, 322, 323	History of Music	12
SPCH	363	History of Dramatic Arts	3-4
or			
ENGL	464	Development of English Drama	
			21-22

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
HIST	454	Classical Political Thought (recommended)	4
HIST	466	Enlightenment and Revolution (recommended)	4
			20

CONCENTRATION: Modern Languages

FREN	307	French Civilization	21
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	
GERM	314	German Civilization	
GRMN	421	18th Century German Literature	
GRMN	422	19th Century German Literature	
GRMN	423	20th Century German Literature	
or			
SPAN	324, 325, 326	Survey of Spanish Literature	
SPAN	330	Iberian Culture and Civilization	
SPAN	331	Spanish-American Culture and Civilization	
SPAN	424, 425	Contemporary Spanish Literature	
SPAN	431, 432, 433	Survey of Latin-American Literature	

CONCENTRATION: Philosophy

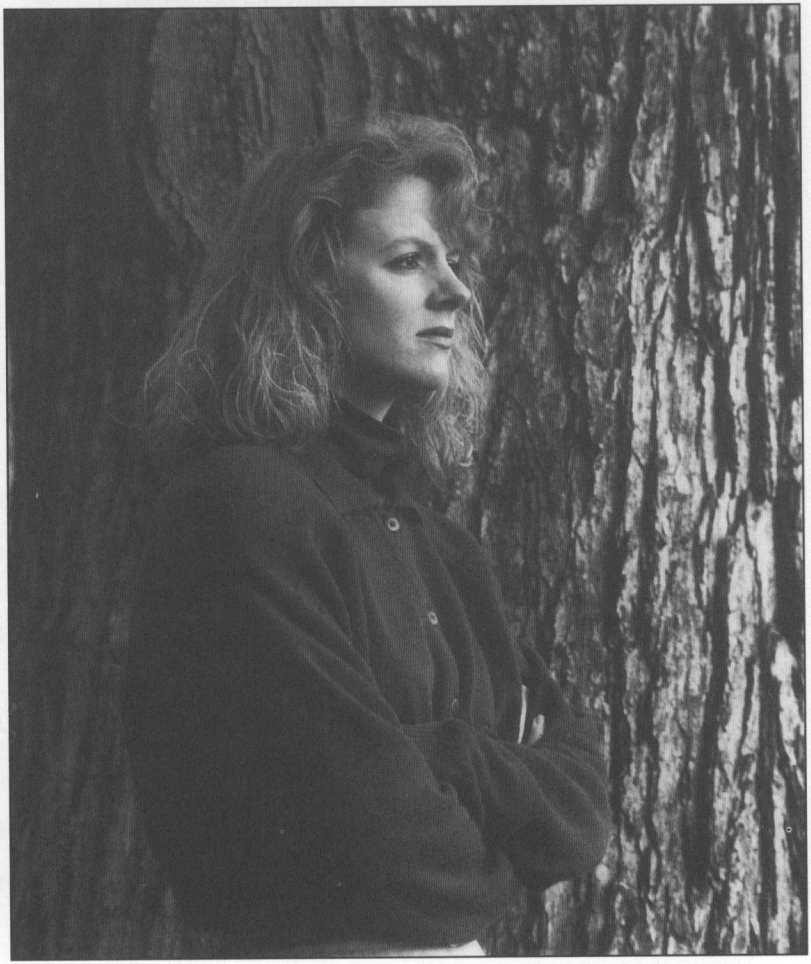
HIST	454	Classical Political Thought	16
PHIL	206	Introduction to Logic	
PHIL	305	Moral Philosophy	
PHIL	306, 307	History of Philosophy	
PHIL	407	Philosophy of Science	
PHIL	412	Philosophy of Religion	
PHIL	440	Problems in Philosophy	

CONCENTRATION: Religious Studies

Twenty total hours are required for the concentration, ten of which may overlap with the general studies requirement in Religion. The concentration cannot include credit from the Biblical Studies (RELB) portion of the general studies offerings in Religion. Because the general studies requirement includes six hours of RELB course work, a student with a religious studies concentration will graduate with a total of at least twenty-six hours of religion. The six hours of Biblical Studies required in the general studies program, must include at least three upper division credits.

RELT	404	Approaches to Biblical Interpretation	11-12
RELH	403	World Religions	
or			
RELT	412	Philosophy of Religion (One of these courses is already required as a humanities cognate, the other is for the Religious Studies concentration.)	
PHIL	305	Moral Philosophy	
or			
RELT	246	Christian Ethics	
RELH/			
RELT	469	Advanced Studies	

RELH	205	Biblical Archaeology	8-9
ENGL	454	Literature of the Bible	
SOCI	449	Sociology of Religion	
RELT	418	Aesthetics and Spirituality	
RELH	455	Early Church History	
HIST	456	Medieval and Modern Church History	
HONR	349	Religion in a Social Context (for general studies honors students only)	
			20



LIBRARY SCIENCE

Carolyn Gaskell, Chair; Mark Copsey, Violet Maynard-Reid.

The minor in Library Science is designed to develop the student's understanding of the basic principles of storage and retrieval of information as well as the organization and management of libraries. Students are prepared for careers in learning resource centers both in denominational and public elementary and secondary schools and as library technicians. The minor also provides a preprofessional curriculum as a 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
LIBR	490	Directed Library Experience	4
		Electives	14
			30

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

ART	201	Calligraphy	2
CPTR	105	Personal Computing	3
SPCH	211	Oral Interpretation	4
SPCH	207	Small Group Communication	3
or			
PSYC	360	Small Group Procedures	3

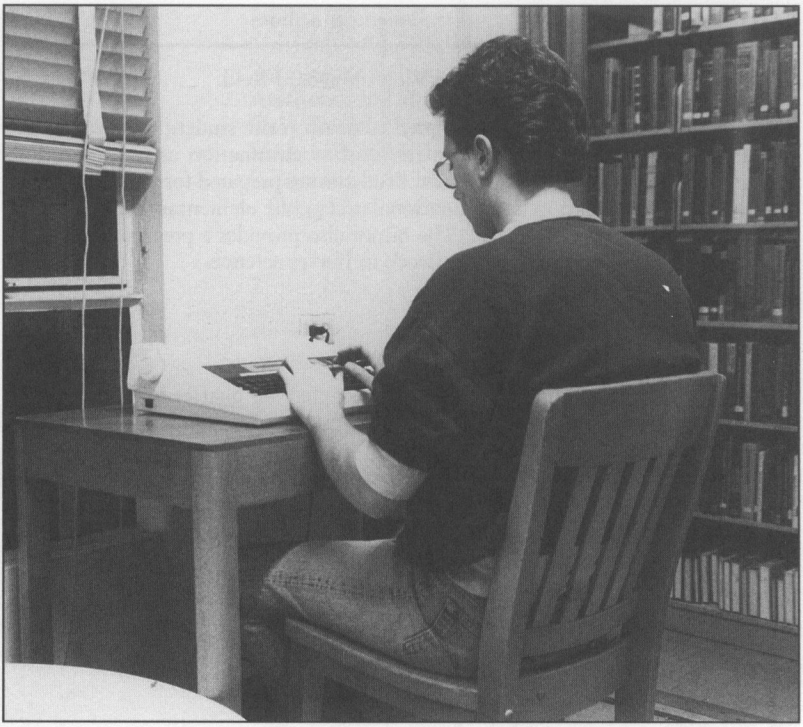
Electives must be chosen in consultation with and approved by the department chair.

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 374 LITERATURE FOR CHILDREN (or ENGL 374) 3
Study of literature for children from early childhood through elementary school. Emphasizes literary and artistic quality and appeal to children. Requires extensive reading of children's books and writing of critical analysis. Applies toward an English minor.

LIBR 375 LITERATURE FOR YOUNG ADULTS (or ENGL 375) 3
Study of literature appropriate for junior high and high school students. Emphasizes literary and artistic quality as well as theory of response to literature. Requires extensive reading of literature for young adults and writing of critical analysis. Applies toward an English minor.

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.

MATHEMATICS

Kenneth Wiggins, Chair; David Jewkes, Ward Soper, Thomas Thompson, Timothy Tiffin.

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. Senior students are required to take the Graduate Record Examination, general and subject (Mathematics) sections.

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	Abstract 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
		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 141	Introduction to Programming (Pascal)	4

MAJOR IN MATHEMATICS (Bachelor of Science)

A student majoring in mathematics must complete the core requirements plus one option, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin. A student contemplating graduate work is encouraged to take a foreign language sequence. Senior students are required to take the Graduate Record Examination, general and subject (Mathematics) sections.

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
		20

OPTION: Preparation for Graduate Study

MATH 451, 452, 453	Advanced Calculus	9
MATH 461, 462	Abstract Algebra	8
	Electives	15
		32

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. Credit will not be given for mathematics courses with numbers below 181.

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	Abstract Algebra	4
	Electives	10
		32

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. Credit will not be given for mathematics courses with numbers below 181. **Students seeking a teaching endorsement should consult with the certification officer in the Education and Psychology Department.**

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	Abstract Algebra	
	Electives	12-13
	Mathematics	
	or	
	Selected courses from MATH, CPTR or ENGR (Courses not in mathematics must be chosen from CPTR 142, 211, 215, 221, 222, 143, 345, 350, 352, 374, 454, or ENGR 454, 455)	20-21
		32-40

Electives must be chosen in consultation with and approved by the academic adviser assigned by the department chair. Credit will not be given for mathematics courses with numbers below 181.

52-60

Cognates:

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

MINOR IN MATHEMATICS

A student minoring in mathematics must complete 28 quarter hours:

Electives (4 must be upper division) 28

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.**

MATHEMATICS (MATH)

A student must meet the college entrance requirements in mathematics before enrolling in a mathematics course numbered above 100. Students who do not meet these requirements may take MDEV 001, MDEV 002 and/or MDEV 003 as needed.

MATH 105 MATHEMATICS WITH APPLICATIONS 4
Introduction to mathematics, including algebraic concepts, systems of equations, linear programing, permutations, combinations, probability, descriptive statistics, and computer applications. Designed to meet the general studies requirement for the baccalaureate degree but will not apply toward a major or minor in mathematics.

MATH 112, 113 MATHEMATICS FOR ELEMENTARY TEACHERS 3, 3
Study of topics in 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. Will not apply toward a major or minor in mathematics.

MATH 117 PRECALCULUS 5
Introduction to college algebra and trigonometry including equations and 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 and MATH 121 or 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 or 122.

MATH 123 SURVEY OF CALCULUS 4
Introduction to calculus, including topics such as functions, limits, derivatives, and integration in one or more variables; applications from business and social sciences. Does not apply toward a major or minor in mathematics. Prerequisite: MATH 117 or 121 or a satisfactory score on a departmental placement examination.

MATH 181 ANALYTIC GEOMETRY AND CALCULUS I 4
Study of functions, limits, continuity, derivatives, definite integrals, and the Fundamental Theorem of Calculus. Prerequisite: MATH 117 or 122 or a satisfactory score on a departmental placement examination.

MATH 206 APPLIED STATISTICS 4
Study of applied statistics, including methods of describing data, distributions, sampling, confidence intervals, hypothesis testing including analysis of variance, correlation and regression. Designed to meet the general studies requirements for the baccalaureate degree, but will not apply toward a major or minor in mathematics. Prerequisite: MDEV 003 or 117 or 121, or a satisfactory score on a departmental placement examination.

MATH 250 DISCRETE MATHEMATICS 4
Introduction to discrete mathematical structures. Topics include combinatories, sets, recursion, and graph theory. Prerequisite: MATH 181.

MATH 281 ANALYTIC GEOMETRY AND CALCULUS II 4
Study of indefinite integrals, calculus of inverse functions, and techniques of integration. Prerequisite: MATH 181.

MATH 282 ANALYTIC GEOMETRY AND CALCULUS III 4
Study of sequences, series, polar coordinates, parametric equations, and vectors. Prerequisite: MATH 281.

MATH 283 ANALYTIC GEOMETRY AND CALCULUS IV 4
Study of differential and integral calculus of multi-variable functions, line and surface integrals, Green's theorem, divergence theorem, and Stokes' theorem. Prerequisite: MATH 282.

MATH 289 LINEAR ALGEBRA AND ITS APPLICATIONS 3
Study of vector spaces, linear transformations, matrices and determinants, with applications. Prerequisite: MATH 117 or 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. Prerequisite: 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 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 141; MATH 283; MATH 289 or permission of instructor. Offered odd years only.

MATH 423 INTRODUCTION TO THE THEORY OF COMPLEX VARIABLES 4
Study of functions of a complex variable, the geometry of elementary functions, integration, power series, calculus of residues, and conformal mapping. Prerequisite: MATH 283. Offered odd years only.

MATH 431, 432 MATHEMATICAL PHYSICS (or PHYS 431, 432) 3, 3
In-depth study of the mathematical foundations of physics and their applications to physical problems. Particular attention is paid to the theory of linear vector spaces in developing tensor analysis group theory and Hilbert Space theory. This course is recommended for students planning to attend graduate school in physics, or having a strong interest in the applications of mathematics to the physical world. Will be offered 1995-96.

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 ABSTRACT ALGEBRA 4, 4, 4
Study of groups, rings, fields, vector spaces, linear transformations, selected topics, and applications. Prerequisite: MATH 289. Offered even years only.

MATH 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 mathematics majors only.

DEVELOPMENTAL MATHEMATICS (MDEV)

MDEV 001 ELEMENTARY ALGEBRA 4
Designed for students who enter college without having met the mathematics entrance requirement of a one-year course in high school algebra. Topics include fractions, radicals, factoring, linear and quadratic equations and graphing. Credit does not apply toward graduation, nor toward financial aid minimum.

MDEV 002 GEOMETRY 4
Designed for students who enter college without having met the mathematics entrance requirement of a one-year course in high school geometry. Topics include angles, polygons, circles, and triangles. Concepts and techniques of proof are integrated into this course. Credit does not apply toward graduation, nor toward financial aid minimum.

MDEV 003 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.

MATHEMATICS EDUCATION (MEDU)

MEDU 395 METHODS OF TEACHING MATHEMATICS 3
Methods, materials, and techniques of teaching mathematics on the secondary school level; requires observation, demonstration, and class presentation. Will not apply toward General Studies or toward a major or minor in mathematics. Offered odd years only.

MEDU 401 PROBLEM SOLVING 4
Study of problem solving methods, particularly as applied in the classroom. Emphasizes problem solving skills and realistic applications of mathematics. Computer usage will be integrated with material chosen from the following; alegbra, geometry, discrete mathematics, probability, number theory, optimization. Prerequisite: MATH 105, or 113, or equivalent. Will not apply toward General Studies or toward a major or minor in mathematics. Offered odd years only, Summer quarter.

MEDU 402 STATISTICAL METHODS 4
Study of statistical methods, emphasizing confidence intervals, regression, correlation, analysis of variance, and chi-square. Some descriptive statistics and elementary probability will be included as a basis for the inferential statistics. Credit will not be allowed for both MATH 206 and MEDU 402. Prerequisite: MATH 105, or 113, or equivalent. Will not apply toward General Studies or toward a major or minor in mathematics. Offered even years only, Summer quarter.

MODERN LANGUAGES

Solange Henderson, Chair; Reinhard Czeratzki.

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 who have not had residence in a country in which their language is spoken are required to spend their sophomore or junior year abroad. Language minors are required to spend a minimum of one quarter abroad. Academic credit will be granted for these studies so that a student may be able to complete a full college year abroad. Prospective ACA students must have completed one year of college French, German, or Spanish or the equivalent with a grade-point average of 3.00. Applicants should consult with their major professors, the 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 beyond FREN 103, GRMN 113, or SPAN 123 in the major, the required cognates, the general studies program, and all baccalaureate degree requirements as outlined in this bulletin.

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

MAJOR IN FRENCH

Major Requirements:

FREN 202, 203	Intermediate French	8
FREN 407	17th and 18th Century French Literature	4
FREN 408	19th Century French Literature	4
FREN 409	20th Century French Literature	4
	Electives (21 must be upper division literature)	25
		45

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

Cognates:

ENGL 284	Advanced English Grammars	
or		
ENGL 485	Linguistics	3
or		
MDLG 395	Methods of Teaching Modern Languages	

MAJOR IN GERMAN

Major Requirements:

GRMN 212, 213	Intermediate German	8
GRMN 421	18th Century German Literature	4
GRMN 422	19th Century German Literature	4
GRMN 423	20th Century German Literature	4
	Electives (21 must be upper division)	25
		45

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

Cognates:

ENGL 284	Advanced English Grammars	
or		
ENGL 485	Linguistics	3
or		
MDLG 395	Methods of Teaching Modern Languages	

MAJOR IN SPANISH

Major Requirements:

SPAN 222, 223	Intermediate Spanish		8
SPAN 324, 325, 326	Survey of Spanish Literature	3-9	
SPAN 424, 425	Contemporary Spanish Literature	3-6	12
SPAN 431, 432, 433	Survey of Latin-American Literature	3-9	
	Electives (21 must be upper division)		25
			45

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

Cognates:

ENGL 284	Advanced English Grammars	
or		
ENGL 485	Linguistics	3
or		
MDLG 395	Methods of Teaching Modern Languages	
HIST 284	History of Latin America	
or		4
HIST 285	History of Latin America	

Language majors in the Adventist Colleges Abroad program must take a minimum of twelve credit hours of upper division Modern Language literature courses at Walla Walla College.

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 academic adviser required.

ENGL 234, Literary Analysis, is a prerequisite to upper-division literature classes.

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 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
(ACA Program in France)
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**
(ACA Program in Austria)
Survey of German literature from the eighth century to the present, supplemented by readings from representative masterpieces of the language.

GRMN 314, GERMAN CIVILIZATION **4**
Study of the development of the cultural, social and political life in German-speaking lands as reflected in architecture, art, history, literature, music, and philosophy. Lectures, films, reports.

GRMN 317, 318, 319 ADVANCED GERMAN **3, 3, 3**
(ACA Program in Austria)
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 German literature.

JAPANESE (JAPN)

JAPN 131 INTRODUCTION TO JAPANESE **4**
Introduction to spoken and written Japanese, emphasizing vocabulary building and practical conversation skills. Language laboratory required.

JAPN 132, 133 ELEMENTARY JAPANESE **4, 4**
Elementary study of Japanese, including basic grammar, continued vocabulary building and development of conversation and writing skills. Language laboratory required. Prerequisite: JAPN 131 or equivalent.

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.

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
(ACA Program in Spain)
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, CONTEMPORARY SPANISH LITERATURE 3, 3
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

Dan Shultz, Chair; Kandice Dickinson, Carlyle Manous, Debra Richter, Leonard Richter, Kraig Scott, Glenn Spring.

Instruction and experiences in music are provided to prepare students for careers in music, guide in the development of performance skills, increase aesthetic sensitivity, and enhance the cultural setting of both campus and community.

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

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

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. Senior students are required to take the Graduate Record Examination, general and subject (Music) sections.

General Studies Requirements:

ENGL 121, 122,	College Writing	6
ENGL 223	Research Writing	3
HIST 120, 121, 122	History of Western Civilization	8
HLTH	*Health	2
PEAC	Physical Activity Courses	2
PSYC 130	General Psychology	4

	Mathematics and Natural Science (as required by general studies)	12
RELB, RELH, RELT	*Religion and Theology	18
		54

*Denominational Certification requires specific classes. See Education and Psychology section of this bulletin.

Core Requirements:

MUCT 121, 122, 123	Theory I	12
MUCT 221, 222, 223	Theory II	12
MUCT 424	Form and Analysis	3
MUCT 425	Orchestration	3
MUCT 426	Counterpoint	3
MUHL 134	The Art of Listening	3
MUHL 321, 322, 323	History of Music	12
MUPF 361	Basic Conducting	2
MUPF	Organizations	11
MUPF	Recital	
		61

Certification Requirements: Music Education

Students wishing teacher certification must take the following courses and fulfill certification requirements as listed by the Education and Psychology Department.

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

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	Aplied Music[1]	20
MUPF	Additional Keyboard Performance Studies (Students whose primary area is organ will take piano and/or harpsichord; those whose primary 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, 8 of which must be upper division, in one applied field. The upper division hours must be distributed over at least three quarters. 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 fewer 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.) Senior students are required to take the Graduate Record Examination, general and subject (Music) sections.

General Studies Requirements:

ENGL 121, 122,	College Writing	6
ENGL 223	Research Writing	3
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
RELB, RELH, RELT	Religion and Theology	16
		62

Core Requirements:

MUCT 121, 122, 123	Theory I	12
MUCT 221, 222, 223	Theory II	12
MUCT 335	Composition	3
MUCT 424	Form and Analysis	3
MUCT 425	Orchestration	3
MUCT 426	Counterpoint	3
MUHL 134	The Art of Listening	3
MUHL 321, 322, 323	History of Music	12
MUPF 361	Basic Conducting	2
MUPF	Conducting (other)	2
MUPF	Organizations	12
MUPF	*Applied Music (one area)	48
MUPF 487	Recital (junior and senior year)	
		115

*Twenty hours in the primary performance area must be upper division and must be distributed over at least five quarters. A maximum of 3 hours of MUPF 127 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 methods class related to their performance area.

MAJOR IN 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. Senior students are required to take the Graduate Record Examination, general and subject (Music) sections.

Major Requirements:

MUCT 121, 122, 123	Theory I	12
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
MUPF 487	*Recital	0
	*A conducting or composition recital, or research project, as approved by the music faculty, may be substituted for the senior recital.	
	Electives[2]	6
		66

1. A maximum of 3 hours of MUPF 127 may apply on the major. Six hours in the primary performance area must be upper division and must be distributed over at least three quarters. With music faculty permission, students may substitute additional hours in upper division theory and composition for this requirement, once upper division performance status is attained.
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	12
MUHL 124 or MUHL 134	Introduction to Music / The Art of Listening	3-4
	*Applied Music (3 must be upper division)	8
	Electives (2 must be upper division; a solo recital is required.)	6-7
		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 121, 122, 123 THEORY I **4, 4, 4**

Intensive study of traditional harmonic concepts up to and including secondary dominants. Aural skills (sightsinging and ear training) are integrated throughout. Prerequisite: 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 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. Offered odd years only.

MUCT 426 COUNTERPOINT **3**
Study of the more intricate forms of contrapuntal writing such as motet, canon, and fugue. Prerequisites: MUCT 221, 222, 223 or permission of instructor.

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. Offered even years only.

MUED 261, 262 BRASS TECHNIQUES AND METHODS **1, 1**
Class instruction in the performance and teaching of brass instruments. 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 odd years only. By permission only.

MUED 354 VOCAL TECHNIQUES AND METHODS **3**
Study of vocal production and instruction, including a survey of materials. Offered odd years only.

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.

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 even 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 COLLEGIATE CHORALE 1
A large choir which performs major choral works and sings for church services.

MUPF 245 I CANTORI 1
A select touring choral group which performs sacred and secular repertoire as well as dramatic musical works from all eras. Participation in Collegiate Chorale, MUPF 215, required.

MUPF 255 CONCERT BAND 1
A traditional concert band which performs locally on a quarterly basis and occasionally tours.

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 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.

PERFORMANCE STUDIES (Lessons)

One to four hours of performance studies may be earned each quarter. Nine 30-minute lessons per quarter and daily practice totaling 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; satisfies credit requirements for minor performance studies only. Prerequisites: 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, completion of piano proficiency requirements, 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 JUNIOR/SENIOR RECITAL 0
Preparation of materials for recital in consultation with music staff member. Graded S or NC.

NONDEPARTMENTAL

COOPERATIVE EDUCATION

Crystal Wood, Director.

In selected programs, students may blend their academic study with career-related, paid, productive employment in business, industry, government, or social agencies. Co-op 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.

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.

TEACHING LEARNING CENTER

Dale Hepker, Director.

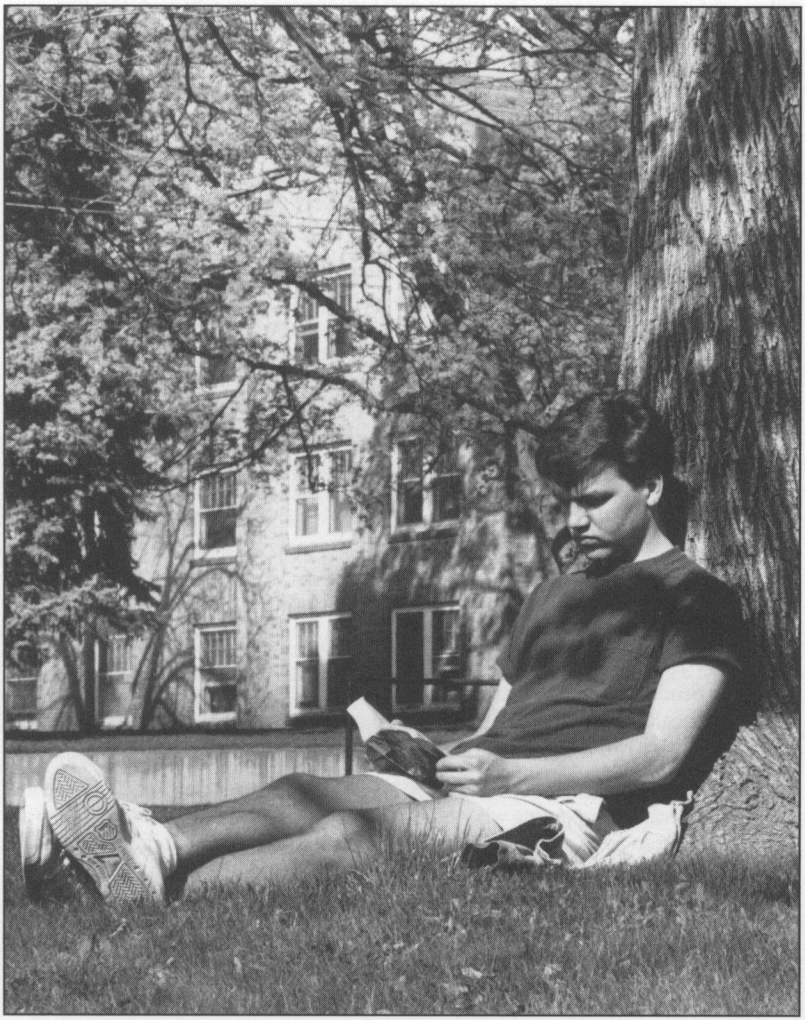
GENERAL (GNRL)

GNRL 100 PRINCIPLES OF SYSTEMATIC STUDY 2
Study of systematic and practical techniques used in college work

READING (RDNG)

RDNG 100 DEVELOPMENTAL READING **2, 2, 2; 6**
Individualized instruction in reading, including comprehension, vocabulary, speed, and study skills essential for success in college studies. This course may be taken for up to six quarter hours during three quarters with materials being chosen to suit the individual's progress. Credit does not apply toward graduation.

RDNG 191 ANALYTICAL READING SKILLS **2**
Study of advanced vocabulary, with emphasis on the student's major field, critical reading and review writing, speed, and specialized study skills.



NURSING

Fred Troutman, Interim Dean; Launa Rae Cafferky, Heidi Hart, Trudy Klein, Verlene Meyer, Dora Sue Redford, Karen Tetz, Lois Whitchurch, Lynn Wagner, Susan Williams.

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 Office of Educational Policy and Planning.

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 Students. Applicants must be enrolled in good standing at an NLN-accredited baccalaureate school of nursing, or have been enrolled and in good standing within the past two years. Other admission criteria apply.

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 equivalency and 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.

PROGRESSION IN THE PROGRAM

Admission to Clinical Nursing Courses. Admission to NRSG 211, 212, and 213 is subject to approval of the School of Nursing. Criteria for admission to clinical courses include:

1. Admission to the college as a student in good standing.
2. Cumulative grade-point average of 2.50.
3. Students with a cumulative grade-point average of less than 2.50, but more than 2.25, may be admitted to NRSG 211 on a probationary basis.
4. Computer literacy.

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 a C– 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 in a nursing course is granted at the discretion of the faculty in response to student petition.

A passing grade in a course cannot be achieved without the successful completion of the clinical portion. An unsatisfactory clinical grade or a grade below C in the theory portion of any clinical course requires that the total course be repeated, both theory and clinical, prior to further progression in the program.

Students 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:

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

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
HLTH 220	Human Nutrition	4
MATH 206	Applied Statistics	4
PSYC 130	General Psychology	4
SOCI 204	General Sociology	4
SOCI 324	Human Development and the Family	4
or		
PSYC 215	Developmental Psychology	
SPCH 101	Fundamentals of Speech Communication	4

General Studies:

	*Physical Education (activity courses)	2
	*History	8
	*Humanities (fine arts, literature, philosophy)	12
ENGL 121, 122	College Writing	6
ENGL 223	Research Writing	3
	*Religion and Theology (minimum of 4 quarter hours in Biblical Studies)	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

Each student is provided with a copy of The School of Nursing 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 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 344	Nursing of the Family	8
NRSG 354	Pathophysiology I	4
NRSG 355	Pathophysiology II	4
NRSG 421	Nursing of the Chronically Ill	8
NRSG 425	Gerontology in Nursing	2
NRSG 431	Nursing Management	4
NRSG 433	Topics in Nursing	2
NRSG 433	Topics in Nursing	
or		
NRSG 490	Nursing Practicum	2
or		
NRSG 494	Cooperative Education	
NRSG 435	Critical Care Nursing	4
NRSG 441	Community Health Nursing	8
NRSG 445	Issues and Trends in Nursing	3
		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 (or demonstrated proficiency)	3
HLTH 220	Human Nutrition	4
MATH 206	Applied Statistics	4
PSYC 130	General Psychology	4
SOCI 204	General Sociology	4
SOCI 324	Human Development and the Family	4
or		
PSYC 215	Developmental Psychology	
SPCH 101	Fundamentals of Speech Communication	4

NURSING (NRSG)

NRSG 210 INTRODUCTION TO NURSING 3

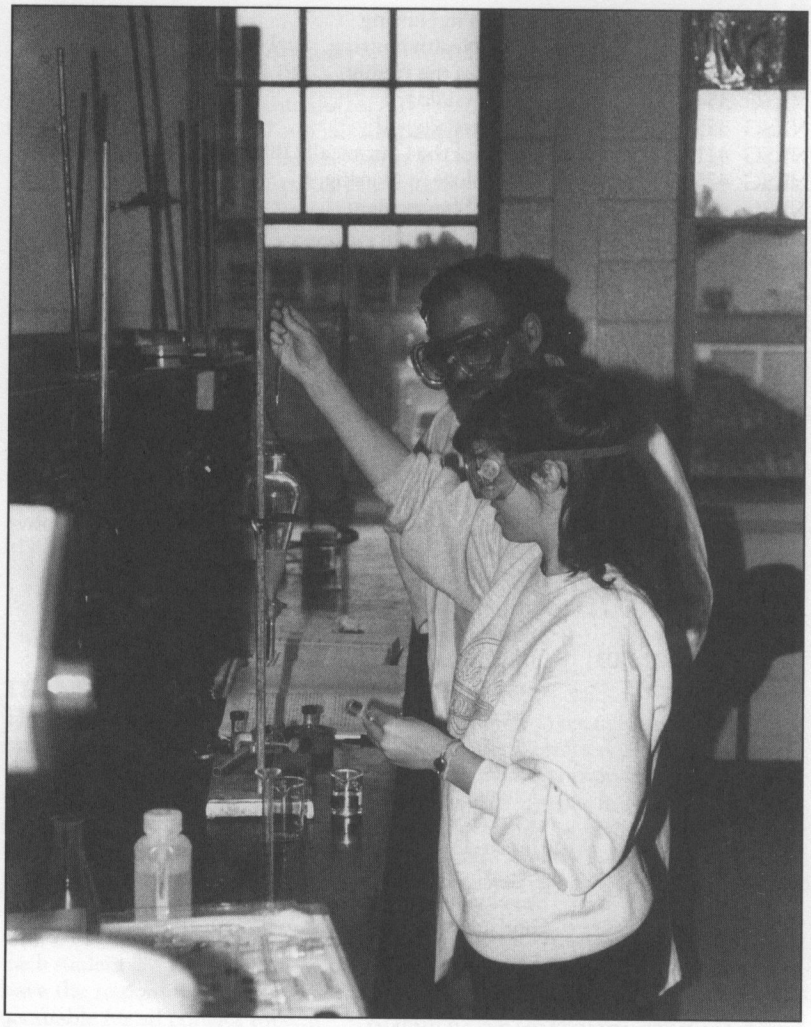
Introduction to professional nursing practice, education, and health maintenance. Includes concepts on historical perspectives, current trends, human needs, nursing process, and lifestyle practices necessary to prevent illness. Provides basis for developing effective communication skills and helping 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; HLTH 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 310 TRANSITIONS 2
Facilitates the transition of the reqistered nurse and non-baccalaureate transfer student. Focus is on selected concepts, models, theories, and processes related to professional nursing.

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. Prerequisite or Corequisite: NRSG 354.

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 206 or equivalent; ENGL 223.

NRSG 331 MENTAL HEALTH NURSING 8
Nursing care of clients within the context of the family experiencing alterations in psychosocial behavior. Students participate in small group process. Practicum included. Prerequisite: NRSG 213. Prerequisite or Corequisite: NRSG 354.

NRSG 344 NURSING OF THE FAMILY 8
Emphasis is on childbearing and childrearing with focus on the child from conception through adolescence. Application of concepts of growth and development of the child and family is included. Lecture with practicum that includes hospital, community and home settings. Prerequisite NRSG 213. Prerequisite or corequisite: NRSG 354.

NRSG 354 PATHOPHYSIOLOGY I 4
Emphasizes understanding diseases of body systems and treatment as a basis for nursing assessment and intervention. Prerequisite: NRSG 213.

NRSG 355 PATHOPHYSIOLOGY II 4
Focuses on complex changes of interrelated body systems to facilitate advanced nursing assessment and intervention. Prerequisite: NRSG 354.

NRSG 421 NURSING OF THE CHRONICALLY ILL 8
Nursing care of clients experiencing long term alterations in health. Emphasis on concepts related to chronic illness applied in a variety of clinical settings to clients of different ages. Practicum required. Prerequisites: NRSG 321, 331, 344. Prerequisite or Corequisite: NRSG 355.

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, 331, 344.

NRSG 433 TOPICS IN NURSING 1-3; 6
Study of current topics of interest in professional nursing. May include papers or other projects. (Up to six credits may apply toward the major.)

NRSG 435 CRITICAL CARE NURSING 4
Nursing care of clients experiencing life threatening alterations in body systems. Practicum included. Prerequisites: NRSG 321, 331, 344. Prerequisite or corequisite: NRSG 355.

NRSG 441 COMMUNITY HEALTH NURSING 8
Study and application of nursing, public health, and organizational theories through use of the nursing process to communities, populations, and subpopulations at risk within the community. Health beliefs and special needs of groups from diverse cultures are explored. Practicum included. Prerequisites: NRSG 321, 331, 344.

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; 6
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. Graded S or NC.

PHYSICS

Gordon Johnson, Chair; Claude Barnett, Fred Liebrand.

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. Senior students are required to take the Graduate Record Examination, general and subject (Physics) sections.

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	
or		
PHYS 421	Classical Mechanics	
and		
PHYS 422	Quantum Mechanics	8
or		
PHYS 401	Electricity and Magnetism	
and		
PHYS 431	Mathematical Physics	
and		
PHYS 414 or 415 or 416	Experimental Physics	
PHYS 417, 418, 419	Physics Seminar II	3
		48

*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 141	Introduction to Programming (Pascal)	4
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. Senior students are required to take the Graduate Record Examination, general and subject (Physics) sections.

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 417, 418, 419	Physics Seminar II	3
PHYS 421	Classical Mechanics	4
PHYS 422, 423	Quantum Mechanics	8

Option 1 Experimental Emphasis

PHYS 401, 402	Electricity and Magnetism	8
PHYS 414, 415, 416	Experimental Physics	3

or

Option 2 Theoretical Emphasis

PHYS 401	Electricity and Magnetism	4
PHYS 431, 432	Mathematical Physics	6
PHYS 414 or 415 or 416	Experimental Physics	1
		63

*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 141	Introduction to Programming (Pascal)	4
ENGR 228	Circuit Analysis	4
ENGR 325	Instrumentation	
or		
ENGR 354	Digital Logic Circuits	3
or		
CPTR 331	Computers in the Laboratory	

PHYSICS

Gordon Johnson, Chair; Claude Barnett, Fred Liebrand.

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. Senior students are required to take the Graduate Record Examination, general and subject (Physics) sections.

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	
or		
PHYS 421	Classical Mechanics	
and		
PHYS 422	Quantum Mechanics	8
or		
PHYS 401	Electricity and Magnetism	
and		
PHYS 431	Mathematical Physics	
and		
PHYS 414 or 415 or 416	Experimental Physics	
PHYS 417, 418, 419	Physics Seminar II	3
		48

*Students who have completed PHYS 211, 212, 213 may meet the PHYS 251, 252, 253 requirement by passing a department examination.

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 206 or equivalent; ENGL 223.

NRSG 331 MENTAL HEALTH NURSING 8
Nursing care of clients within the context of the family experiencing alterations in psychosocial behavior. Students participate in small group process. Practicum included. Prerequisite: NRSG 213. Prerequisite or Corequisite: NRSG 354.

NRSG 344 NURSING OF THE FAMILY 8
Emphasis is on childbearing and childrearing with focus on the child from conception through adolescence. Application of concepts of growth and development of the child and family is included. Lecture with practicum that includes hospital, community and home settings. Prerequisite NRSG 213. Prerequisite or corequisite: NRSG 354.

NRSG 354 PATHOPHYSIOLOGY I 4
Emphasizes understanding diseases of body systems and treatment as a basis for nursing assessment and intervention. Prerequisite: NRSG 213.

NRSG 355 PATHOPHYSIOLOGY II 4
Focuses on complex changes of interrelated body systems to facilitate advanced nursing assessment and intervention. Prerequisite: NRSG 354.

NRSG 421 NURSING OF THE CHRONICALLY ILL 8
Nursing care of clients experiencing long term alterations in health. Emphasis on concepts related to chronic illness applied in a variety of clinical settings to clients of different ages. Practicum required. Prerequisites: NRSG 321, 331, 344. Prerequisite or Corequisite: NRSG 355.

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, 331, 344.

NRSG 433 TOPICS IN NURSING 1-3; 6
Study of current topics of interest in professional nursing. May include papers or other projects. (Up to six credits may apply toward the major.)

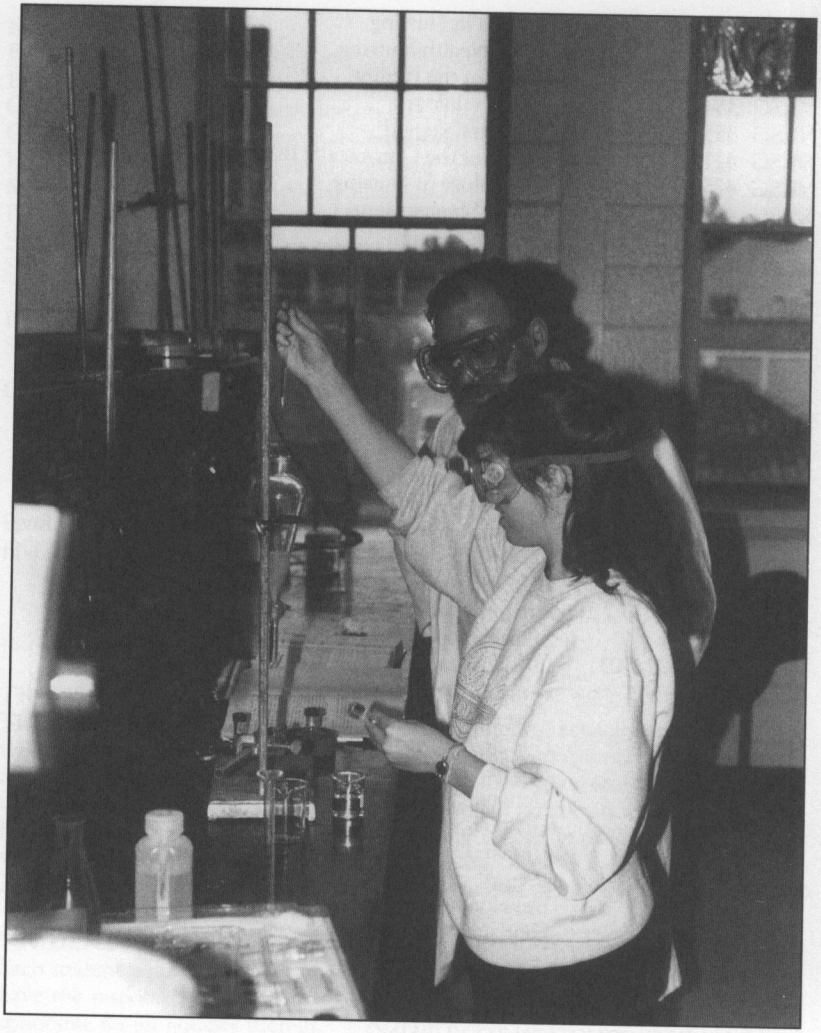
NRSG 435 CRITICAL CARE NURSING 4
Nursing care of clients experiencing life threatening alterations in body systems. Practicum included. Prerequisites: NRSG 321, 331, 344. Prerequisite or corequisite: NRSG 355.

NRSG 441 COMMUNITY HEALTH NURSING 8
Study and application of nursing, public health, and organizational theories through use of the nursing process to communities, populations, and subpopulations at risk within the community. Health beliefs and special needs of groups from diverse cultures are explored. Practicum included. Prerequisites: NRSG 321, 331, 344.

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; 6
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. Graded S or NC.



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 310 TRANSITIONS 2
Facilitates the transition of the registered nurse and non-baccalaureate transfer student. Focus is on selected concepts, models, theories, and processes related to professional nursing.

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. Prerequisite or Corequisite: NRSG 354.

NRSG 325	Research in Nursing	3
NRSG 331	Mental Health Nursing	8
NRSG 344	Nursing of the Family	8
NRSG 354	Pathophysiology I	4
NRSG 355	Pathophysiology II	4
NRSG 421	Nursing of the Chronically Ill	8
NRSG 425	Gerontology in Nursing	2
NRSG 431	Nursing Management	4
NRSG 433	Topics in Nursing	2
NRSG 433	Topics in Nursing	
or		
NRSG 490	Nursing Practicum	2
or		
NRSG 494	Cooperative Education	
NRSG 435	Critical Care Nursing	4
NRSG 441	Community Health Nursing	8
NRSG 445	Issues and Trends in Nursing	3
		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 (or demonstrated proficiency)	3
HLTH 220	Human Nutrition	4
MATH 206	Applied Statistics	4
PSYC 130	General Psychology	4
SOCI 204	General Sociology	4
SOCI 324	Human Development and the Family	4
or		
PSYC 215	Developmental Psychology	
SPCH 101	Fundamentals of Speech Communication	4

NURSING (NRSG)

NRSG 210 INTRODUCTION TO NURSING 3

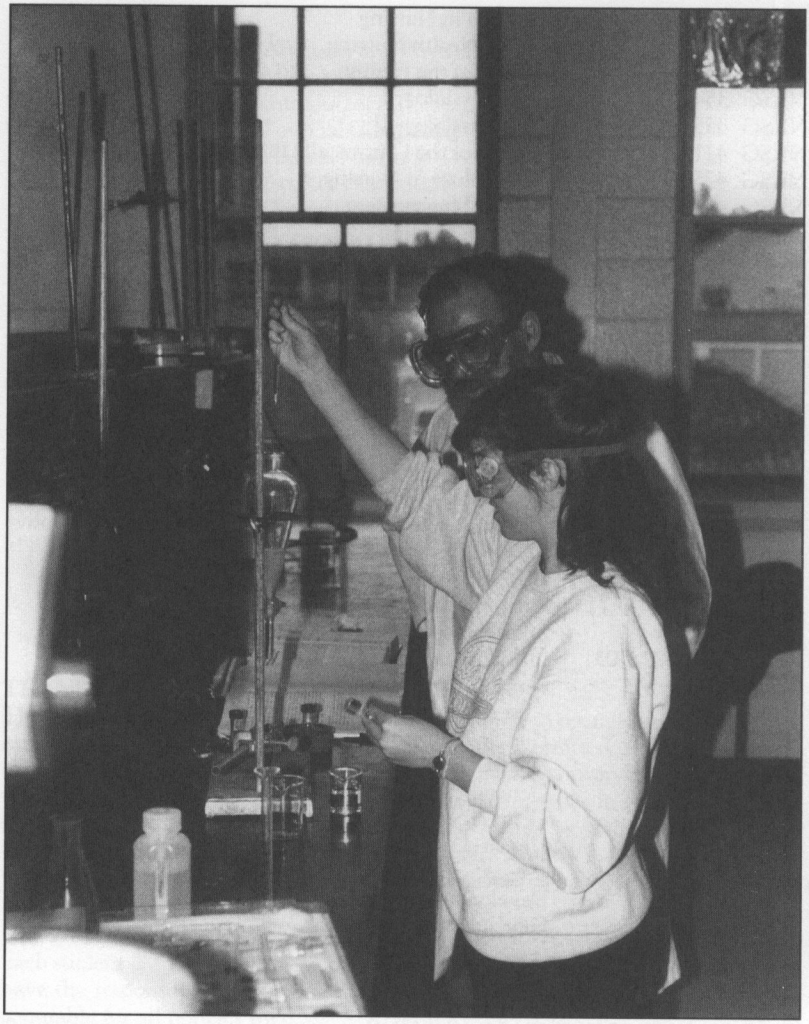
Introduction to professional nursing practice, education, and health maintenance. Includes concepts on historical perspectives, current trends, human needs, nursing process, and lifestyle practices necessary to prevent illness. Provides basis for developing effective communication skills and helping 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; HLTH 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.

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Study and application of nursing, public health, and organizational theories through use of the nursing process to communities, populations, and subpopulations at risk within the community. Health beliefs and special needs of groups from diverse cultures are explored. Practicum included. Prerequisites: NRSG 321, 331, 344.

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; 6
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. Graded S or NC.

PHYSICS

Gordon Johnson, Chair; Claude Barnett, Fred Liebrand.

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. Senior students are required to take the Graduate Record Examination, general and subject (Physics) sections.

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	
or		
PHYS 421	Classical Mechanics	
and		
PHYS 422	Quantum Mechanics	8
or		
PHYS 401	Electricity and Magnetism	
and		
PHYS 431	Mathematical Physics	
and		
PHYS 414 or 415 or 416	Experimental Physics	
PHYS 417, 418, 419	Physics Seminar II	3
		48

*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 141	Introduction to Programming (Pascal)	4
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. Senior students are required to take the Graduate Record Examination, general and subject (Physics) sections.

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 417, 418, 419	Physics Seminar II	3
PHYS 421	Classical Mechanics	4
PHYS 422, 423	Quantum Mechanics	8

Option 1 Experimental Emphasis

PHYS 401, 402	Electricity and Magnetism	8
PHYS 414, 415, 416	Experimental Physics	3

or

Option 2 Theoretical Emphasis

PHYS 401	Electricity and Magnetism	4
PHYS 431, 432	Mathematical Physics	6
PHYS 414 or 415 or 416	Experimental Physics	1
		63

*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 141	Introduction to Programming (Pascal)	4
ENGR 228	Circuit Analysis	4
ENGR 325	Instrumentation	3
or		
ENGR 354	Digital Logic Circuits	
or		
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 (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 101, 102 PHYSICAL GEOLOGY 4, 4

Study of the earth, its composition and structure, and the processes operating to give its present form. Includes the following topics: types of rocks and how they are formed, erosion, glaciation, relative dating techniques, plate tectonics, volcanism, and seismology. Laboratory experience is integrated with the class work. Must be taken in sequence. Prerequisite: permission of instructor. *Course not available for dual credit. If counted toward high school graduation, it will not be counted as college credit. Offered only on the campus of Walla Walla Valley Academy.*

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 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, 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 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; Corequisite: PHYS 315; PHYS 313 strongly recommended.

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. Will be offered 1995-96.

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 for PHYS 322: PHYS 316. Will be offered 1995-96.

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. Offered on demand.

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. Will be offered 1995-96.

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 431, 432 MATHEMATICAL PHYSICS (or MATH 431, 432) 3, 3
In-depth study of the mathematical foundations of physics and their applications to physical problems. Particular attention is paid to the theory of linear vector spaces in developing tensor analysis group theory and Hilbert Space theory. This course is recommended for students planning to attend graduate school in physics, or having a strong interest in the applications of mathematics to the physical world. Will be offered 1995-96.

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

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). All programs should be planned in consultation with and approved by the assigned academic adviser.

ARCHITECTURE

Fred Bennett, Tom 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, 325	History of Art	6
CPTR 105	Personal Computing	3
ENGL 121, 122	College Writing	6
ENGL 223	Research Writing	3
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.

CHIROPRACTIC

Steven Lee, Academic Adviser.

Two years of college work are generally required, including one year of biology and at least one year of chemistry. Students should obtain a bulletin from each chiropractic college where they may wish to apply for information on specific entrance requirements. Of the dozen approved schools in the United States, Western States Chiropractic College in Portland, Oregon, is the only one in the Northwest. The admission requirements of Western State Chiropractic College presently include one-year courses in general chemistry, organic chemistry, general biology, and general physics.

DENTISTRY

Roger Baltrush, Academic Adviser.

The minimum requirement for admission to dentistry is 144 quarter hours. However, most dental schools expect candidates to have completed a bachelor's degree. The following courses are basic requirements for Loma Linda University School of Dentistry:

BIOL 101, 102, 103	General Biology	12
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Laboratory	2
ENGL 121, 122	College Writing	6
ENGL 223	Research Writing	3
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:

HLTH 220	Human Nutrition	4
	Two psychology courses	

The Pre-Dental student should choose a major and plan for a degree even though she/he may be accepted to dentistry prior to completion of degree requirements.

DENTAL HYGIENE

Curtis Kuhlman, Academic Adviser.

Loma Linda University

Students planning for careers in dental hygiene must complete 48 or 96 quarter hours with a cumulative grade-point average of 3.00 or more before seeking admission to the various dental hygiene programs. Most community college programs lead to the terminal A.S. degree, but still require one year of basic courses, including all of the sciences, before beginning the two year program. The B.S. programs have 96 hours of prerequisites. Courses required for admission to Loma Linda University are as follows.

COMMUNICATION SKILLS	(13 hours)	
ENGL 121, 122	College Writing	6
ENGL 223	Research Writing	3
SPCH 101	Fundamentals of Speech Communication	4
NATURAL SCIENCE	(24 hours)	
BIOL 201, 202	Anatomy and Physiology	8
BIOL 222	Microbiology	5
CHEM 101, 102, 103	Introductory Chemistry	11
HUMANITIES	(16 hours) Courses selected from the following (must be in a minimum of two areas): history, fine arts (theory), literature, philosophy, language arts.	
SOCIAL SCIENCES	(12 hours)	
PSYC 130	General Psychology	4
SOCI 204	General Sociology	4
	Economics or Anthropology	4
PHYSICAL EDUCATION		3
RELIGION		8
ELECTIVES	(meet 96 quarter hour requirement)	
CPTR 105	Personal Computing (highly recommended)	

The Dental Hygiene Candidate Aptitude Test (DHCAT) must be taken no later than December of the year of application to Loma Linda University. The B. S. degree is awarded by Loma Linda University.

LAW

Terrell Gottschall, Academic Adviser.

There is no specific curriculum for prelaw students. Courses designed to develop skills in oral and written communication and the ability to reason and think analytically are strongly recommended. This would include, for example, course work in history, political science, economics, english and speech.

Most law schools require a bachelor's degree and a satisfactory grade-point average and score on the Law School Admission Test (LSAT) for admission. Law schools vary in the levels of achievement required for admission. Students planning to study law are encouraged to consult with the prelaw adviser.

MEDICINE

Stan Ledington, 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	11
CHEM 325, 326	Introduction to Organic Laboratory	2
MATH 121, 122	Fundamentals of Mathematics I, II	4-8
or		
MATH 117	Precalculus	
or		
MATH 181	Analytical Geometry and Calculus I	
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	
	Religion	16

Also recommended are:

BIOL 394	Developmental Biology	4
BIOL 465	Bacteriology	5
BIOL 449	Histology	4
BIOL 466	Immunology	4
CHEM 431	Biochemistry	4
CHEM 433	Biochemical Laboratory Methods	1
MATH 181	Analytical Geometry and Calculus I	4

If applying to a medical school other than Loma Linda University, the student should refer to the bulletin of that institution for specific entrance requirements.

MEDICAL TECHNOLOGY

Steven Lee, Academic Adviser.

Students interested in entering the field of medical technology should be aware that entry can be made through several different types of programs. There are three common types of programs available through our sister SDA institutions and in the Pacific Northwest. They are briefly summarized below:

a. Two plus two program. In this program entry is made into a combined classroom/clinical program following two years of undergraduate study. A bachelors of science degree is awarded at the completion of the two year clinical program.
b. Three plus one program. In this program entry is made into a clinical program following three years of undergraduate study. A bachelors degree is awarded at the completion of a one year clinical program.
c. Four plus one program. In this program a student completes a bachelors degree in any major, while taking a core of classes in preparation for the clinical training. Following graduation the student then enters a one year clinical training program.

Entry into a clinical program is competitive. Applicants are selected on the basis of such qualities as scholarship, integrity, dependability, and motivation for medical technology.

The exact entry requirements into these programs vary. Students interested in this major should contact institutions offering the clinical program early in their college

career in order to plan a course schedule. In general the course requirements will include:

BIOL	101, 102, 103	General Biology
BIOL	222	Microbiology
or		
BIOL	465	Bacteriology
BIOL	466	Immunology
CHEM	141, 142, 143	General Chemistry
CHEM	144, 145, 146	General Chemistry Lab
CHEM	321, 322, 323	Organic Chemistry
CHEM	325, 326	Introduction to Organic Lab

One college level class in mathematics.

NURSING

See Nursing section of this Bulletin.

OCCUPATIONAL THERAPY

Curtis 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
ENGL	121, 122	College Writing	6
ENGL	223	Research Writing	3
MATH	206	Applied Statistics	4
PSYC	130	General Psychology	4
SOCI	224	Human Development and the Family	4
SPCH	101	Fundamentals of Speech Communication	4
		Anthropology, Sociology	12
		Select an additional behavioral science course.	
		Chemistry, Physics or Physical Science	8-12
		Select at least one science sequence. Science must include laboratory.	
		Humanities	16
		Select from at least two subject areas: fine arts, foreign language, literature, philosophy.	
		Math	
		Two years of high school mathematics or equivalent	
		Religion	8
		Physical Education	3
		Electives	
		To meet the minimum of 96 quarter hours. Courses in applied art, general crafts, and behavior science are recommended.	

In addition to the above Loma Linda University requires: A documented minimum of 80 hours of volunteer or employee work experience in an occupational therapy department before acceptance. Occupational Therapist Assistant program also available at Loma Linda University.

OPTOMETRY

Gordon 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	College Writing	6
ENGL 223	Research Writing	3
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 required courses will include some or all of the following:

BIOL	101, 102, 103	General Biology	12
BIOL	201, 202	Anatomy and Physiology	8
BIOL	222	Microbiology	5
CHEM	321, 322, 323	Organic Chemistry	11
CHEM	325, 326	Introduction to Organic Laboratory	2
A course in statistics			
An additional psychology course			

Students may also wish to request the booklet *Admissions to Schools and Colleges of Optometry*, available from the American Optometric Association, 243 N Lindbergh Blvd., St, Louis, MO 63141.

OSTEOPATHY

Stan Ledington, Academic Adviser.

Schools of osteopathic medicine usually require a degree from an accredited college. The course requirements are essentially the same as for medical schools. (See the medical requirements listed previously in this section of the bulletin.)

PHARMACY

Steven Lee, Academic Adviser.

At least 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	11
CHEM	325, 326	Introduction to Organic Laboratory	2
ENGL	121, 122	College Writing	6
ENGL	223	Research Writing	3
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

Steven Lee, Timothy Tiffin, Ward Soper, Academic Advisers.

Most programs now offer the degree in physical therapy at the master's level and require three years of a bachelor's degree prior to acceptance. Loma Linda Univer-

sity (LLU) and Andrews University (AU) offer the master's degree with admission after two years of college. Students should consult the current bulletin of the school of interest for specific entrance requirements. Courses with grades below C do not count on the program and students who have not taken a high school American History and Health class must take these courses in addition to those below. Courses at Walla Walla College necessary to meet the entry requirements for LLU and AU are:

BIOL 201, 202	Anatomy and Physiology (preferred)	8
or		
BIOL 101, 102, 103	General Biology	12
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	College Writing	6
ENGL 223	Research Writing	3
MATH 117	Precalculus	4-5
or		
MATH 121	Fundamentals of Mathematics	
MATH 206	Applied Statistics	4
PEAC	Physical Education Activity Courses	3
ECON or SOCI	Economics or General Sociology	4
PHYS 201, 202	Invitation to Physics	6
PHYS 204, 205	Invitation to Physics Laboratory	2
PSYC 130	General Psychology	4
PSYC 215	Development Psychology	4
SPCH 101	Fundamentals of Speech	4
	Humanities	AU 4; LLU 16
	Religion	AU 9; LLU 8
	Fundamentals of Christian Beliefs required for AU, Christian Ethics recommended for LLU	
	Electives	
	To meet the minimum of 96 quarter hours for AU or 98 for LLU.	

Both programs require a minimum of 80 hours of documented volunteer/work experience, with a Physical Therapist which must include at least 20 hours in acute care, and two other clinical settings. LLU requires scores from the Allied Health Professions Admission Test (AHPAT) before application and AU requires scores from the Nelson-Denny reading test only if you are accepted. See your adviser for recent changes in progam requirements..

PHYSICAL THERAPY ASSISTANT

Steven Lee, Timothy Tiffin, Ward Soper, Academic Advisers.

The increased demand for physical therapists has created a demand for physcial therapy assistants. These programs are usually a two year total and students receive an Associate Degree upon completion. Loma Linda University (LLU) offers this program with one year of college prerequisite courses and one year of training at

LLU. Courses with grades below C do not count on the program. Courses at Walla Walla College which meet these prerequisites are:

BIOL	201, 202	Anatomy and Physiology	8
or			
BIOL	101, 102, 103	General Biology	12
ENGL	121, 122	College Writing	6
ENGL	223	Research Writing	3
PHYS	201	Invitation to Physics	3
PHYS	204	Invitation to Physics Laboratory	1
PSYC	130	General Psychology	4
PSYC	215	Developmental Psychology	4
SPCH	101	Fundamentals of Speech	4
		Humanities Elective Select from fine arts, foreign language, literature, philosophy	4
		Mathematics: (Two years of high school math)	
		Physical Education or Health	2
		Religion	4
		Electives To meet minimum of 48 quarter hours	

A minimum of 80 hours of documented volunteer/work experience, with a Physical Therapist which must include at least 20 hours in acute care, and two other clinical settings. Either ACT or SAT scores are required for application to LLU. See your adviser for recent changes in program requirements.

PUBLIC HEALTH

Stan Ledington, Academic Adviser.

Since the field of public health includes such a wide variety of career disciplines, the training opportunties offered by Schools of Public Health present a striking array of distinctly different program tracks.

Students preparing to enter graduate professional programs in public health should realize that the various career options require different types of preparation, and that they have a significant advantage if they anticipate prerequisite differences early. While no particular group of prerequisites can be considered constant for all program tracks, students will find that certain basic public health elements are fundamental to all. Therefore, the applicant who has included in his undergraduate preparation courses in general statistics, epidemiology, public health administration, environmental health, and behavioral science may benefit from advanced standing and/or course waivers for these requirements once accepted into the graduate program.

RADIOLOGICAL TECHNOLOGY

Curtis Kuhlman, Academic Adviser.

The minimum requirement for admission to the study of radiological technology is 41 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
CPTR 105	Personal Computing	3
	Medical Terminology (not available at WWC)	
ENGL 121, 122	College Writing	6
ENGL 223	Research Writing	3
PHYS 201, 202 and PHYS 204, 205	Invitation to Physics / Invitation to Physics Laboratory	8
PSYC 130 or SOCI 204	General Psychology / General Sociology	4
	Math (two years of high school math)	
	Religion	4
SPCH 101	Fundamentals of Speech Communication	4
	Electives	
	To meet the minimum of 41 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
Typing

For those students planning for further academic work, a B.S. degree requires 16 units of humanities and 12 units of social sciences. Other clinical specialties require General Chemistry, and most highly recommend General Physics.

RESPIRATORY THERAPY

Curtis Kuhlman, Academic Adviser.

The minimum requirement for admission to the study of respiratory therapy is 48 quarter hours. The following courses are to be included for the Associate of Science degree from Loma Linda University:

BIOL 101, 102, 103 or BIOL 201, 202	General Biology / Anatomy and Physiology	8-12
BIOL 222	Microbiology	5
CHEM 101, 102	Introductory Chemistry	8
ENGL 121, 122	College Writing	6
ENGL 223	Research Writing	3
PHYS 201, 202 and PHYS 204, 205 or PHYS 211, 212 and PHYS 214, 215	Invitation to Physics / Invitation to Physics Laboratory / General Physics / General Physics Laboratory	8

PSYC 130	General Psychology	}	4
or			
SOCI 204	General Sociology	}	
	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

Loren Dickinson, 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

*These courses may help fulfill elective speech pathology hours.

†Required

To be eligible for admission, the applicant must have completed a minimum of 96 quarter hours. The minimum subject requirements are:

College Writing	9
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.	
Speech	4
Natural Science	
Anatomy and Physiology recommended	
Mathematics (Math 206 strongly recommended)	
Two years of high school mathematics or equivalent (excluding arithmetic and business mathematics), with grades of C or better.	
Social Sciences	12
Religion	16
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.	
Physical Education Courses	3
Electives	
Sufficient to meet the minimum of 96 hours. (Computer science/word processing course recommended.)	

VETERINARY SCIENCE

James Nestler, 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	12
BIOL 393	Genetics	4
CHEM 141, 142, 143	General Chemistry	9
CHEM 144, 145, 146	General Chemistry Laboratory	3
CHEM 321, 322, 323	Organic Chemistry	11
CHEM 325, 326	Introduction to Organic Laboratory	2
CHEM 431, 432	Biochemistry	8
ENGL 121, 122	College Writing	6
ENGL 223	Research Writing	3
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:

Electives highly recommended by the WOI Regional Program include:

BIOL 222	Microbiology	5
BIOL 250	Biostatistics	4
BIOL 394	Developmental Biology	4
BIOL 464	Animal Physiology	4
CPTR 105	Personal Computing	3
Total hours required (electives additional)		90

Nonacademic Requirements:

Veterinary Aptitude Test or Graduate Record Examination (General Test)

Veterinary Medical Exposure and Animal Experience

Applicants must have some hours of veterinary medical exposure (may include biomedical research, academic medicine, or private practice) and experience with animals by November 1 of the year of applicaton.

RELIGION

Douglas Clark, Dean; Darold Bigger, Ernest Bursey, Douglas Clark, Glen Greenwalt, Bruce Johanson, Ronald Jolliffe, Pedrito Maynard-Reid, Alden Thompson, Larry 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. In addition to completing the requirements of the Bachelor of Arts degree with a theology major, students interested in ministry in the SDA church must be advanced to candidacy by the theology faculty in order to receive departmental recommendation for ministry. 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 Languages 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:

GREK 121, 122, 123	Greek I	9
GREK 221, 222, 223	Greek II	6-9*
HEBR 331	Introduction to Hebrew	3
HEBR 332, 333	Elementary Hebrew	6
	Electives (12 must be upper division)	18-21
		45

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

*Dependent on Greek proficiency examination score.

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
RELT 404	Approaches 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; 301; 302; 303; 304; 305; 312), and at least 6 hours in New Testament studies (RELB 104, 105, 106; 216; 313; 434, 435, 436; 464, 465, 466).

RELH 402	Modern Denominations	3
or		
RELH 403	World Religions	
RELT 246	Christian Ethics	4
RELT 330	Christian Discipleship	3
RELT 496	Seminar in Christian Ethics	2
	Electives	18
		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

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 132	Documents of Faith	3
RELB 223	Exegesis of Romans (Greek)	3
RELB 423	Hebrew Exegesis	3
RELH 131	Roots of Religious Faith	3
RELH 455	Early Church History	3
RELH 457	History of Adventism	2
RELP 150	Ministerial Orientation	0
RELP 234	Faith in Action	3
RELP 235	Personal Ministry	3
RELP 236	Public Ministry	3
RELP 380	Pastoral Administration	3
RELP 480	Pastoral Care and Counseling	3
RELP 494	Cooperative Education	0
RELP 496	Seminar in Pastoral Problems	2

RELT 133	Faith Seeking Understanding	3
RELT 456, 457	Systematic Theology I & II	6
RELT 496	Seminar in Christian Ethics	2
	Electives (8 must be upper division)	15
		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
GREK 121, 122, 123	Greek I	9
GREK 221, 222, 223	Greek II	9†
HEBR 331	Introduction to Hebrew	3
HEBR 332	Elementary Hebrew	3
SPCH 101	Fundamentals of Speech Communication	4
SPCH 381, 382, 383	Biblical Preaching	6
	One Philosophy Course*	

†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

*The requirement for one philosophy course will be waived for Honors students who complete the entire sequence of Western Thought I & II.

NOTES ON ADVANCEMENT TO CANDIDACY

Advancement to candidacy typically takes place during the junior year, except for those students transferring from other colleges or those changing majors close to the beginning of their junior year. In oder to be evaluated, students must have successfully completed the lower division sequences of RELH 131, RELB 132, RELT 133, RELP 234, 235, 236, ENGL 224, and GREK 121, 122, 123.

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 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.

RELB 111 MESSAGES OF THE OLD TESTAMENT 4
Survey of basic themes of the Old Testament.

RELB 132 DOCUMENTS OF FAITH 3
Examination of the identity, nature, and role of divine revelation in guiding the life of faith and ministry. Focuses on the role of Scripture and the writings of Ellen G. White in Adventism.

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: GREK 221, 222, 223 and/or the successful completion of the Greek proficiency examination.

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 and theological 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 and theological 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 revelance 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 and of how these Biblical views have been understood in prominent Christian traditions down to modern times. (Offered on the Portland campus.)

RELB 423 HEBREW EXEGESIS 3
Exegetical study of selected Old Testament passages based on Hebrew text. Prerequisites: HEBR 331, 332.

RELB 434 GOSPELS 3 or 4
An exegetical reading of the gospel of Mark that attends to literary devices, dominant themes and relevance. (College Place Campus—3 quarter hours; Portland Campus—4 quarter hours.)

RELB 435 GOSPELS 3 or 4
Exegetical examination of the gospels of Matthew and Luke including Synoptic comparisons with attention to dominant themes of each gospel. (College Place Campus—3 quarter hours; Portland Campus—4 quarter hours.)

RELB 436 GOSPELS 3 or 4
An exegetical reading of the gospel of John that attends to literary devices, dominant themes and relevance. (College Place Campus—3 quarter hours; Portland Campus—4 quarter hours.)

RELB 454 LITERATURE OF THE BIBLE (or ENGL 454) 4
Prerequisite: General Studies literature or ENGL 234. See the English section of this Bulletin.

RELB 464 NEW TESTAMENT EPISTLES 3
Exegetical study of 1 & 2 Thessalonians, and 1 & 2 Corinthians, within their historical contexts. Students who have taken RELB 216 should not register for this course without special permission.

RELB 465 NEW TESTAMENT EPISTLES 3
Exegetical study of Colossians, Philemon, Ephesians, Philippians, 1 & 2 Timothy, Titus, Hebrews, James, 1 & 2 Peter, Jude, and 1, 2, & 3 John, within their historical contexts. Students who have taken RELB 216 should not register for this course witout special permission.

RELB 466 NEW TESTAMENT EPISTLES 3
Exegetical study of Galatians and Romans, 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.

RELIGIOUS HISTORY (RELH)

RELH 131 ROOTS OF RELIGIOUS FAITH 3
Exploration of the personal and corporate roots of Christian, and more specifically, Adventist faith, especially as these give rise to the call to the ministry. Addresses the role of meditation, prayer, autobiography, story, and sacred memory in spiritual formation.

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 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 mankind, 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. Open only to departmental majors. 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: RELH 205 or permission of instructor. Application to the School of Theology is required by March 1 of the year the course is taken.

SOCI 449 SOCIOLOGY OF RELIGION 2
See the Social Work and Sociology section of this bulletin.

MISSIONS (RELM)

RELM 233 INTRODUCTION TO CROSS-CULTURAL MINISTRY 3
Study of the major issues involved in communicating Christianity in other cultures with the aim of preparing the student for actual field work. This prerequisite for student missionaries is also open to other interested students.

PROFESSIONAL (RELP)

RELP 150 MINISTERIAL ORIENTATION 0
Ministerial orientation seminar offered the autumn quarter by the theology staff and visiting lecturers which includes the many facets of the ministerial profession. Required of all freshman and transfer theology majors. Graded S or NC.

RELP 234 FAITH IN ACTION 3
Relates active participation in the life of faith to pastoral ministry. Involves participation in and evaluation of personal and corporate acts of memory, celebration, witness, visitation, and social concern. Will be offered 1995-96.

RELP 235 PERSONAL MINISTRY 3
Study of the skills of personal ministry, including relational evangelism, pastoral visitation, evangelistic Bible study. Combines theory and practice to aid in successfully applying the art as well as teaching it to others. Open only to theology majors. Prerequisite: RELP 234. Will be offered 1995-96.

RELP 236 PUBLIC MINISTRY 3
Participation in the public outreach of the church. Integrates evangelistic and social ministries. Includes lab experience in actual outreach. Will be offered 1995-96.

RELP 241, 242, 243 PERSONAL MINISTRY 2, 1, 1
Study of the skills of personal ministry, including individual or small group evangelism and pastoral visitation; combines theory and practice to aid in successfully applying the art as well as teaching it to others. Open only to theology majors. Prerequisite: RELT 143.

RELP 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.)

RELP 380 PASTORAL ADMINISTRATION 3
Study of theological and psychological principles of administration applied to the church. Emphasizes Adventist church policy and programs, materials, and methods that can be used in preserving and fostering the life of the church.

RELP 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 observation in the schools along with microteaching, giving opportunity to demonstrate competency. Prerequisites: EDUC 390.

RELP 480 PASTORAL CARE AND COUNSELING 3
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.

RELP 483 ADVANCED PASTORAL CARE 3
Study of the role of the pastor in relationship to his/her ministering to families; includes study of the pastor as premarital counselor, as marriage and family counselor, and as marriage and family life enrichment leader. Prerequisite: RELP 480 or permission of instructor.



RELP 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.

RELP 494 COOPERATIVE EDUCATION 0-3
Individual contract arrangement involving students, faculty, and cooperating institutions to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. For all Theology majors this is a non-credit experience required for three consecutive quarters. Prerequisites: Approval of the major adviser; CDEV 210 or permission of the Cooperative Education Director. Graded S or NC.

RELP 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 110 SEVENTH-DAY ADVENTIST BELIEF AND PRACTICE 4
A general introduction to the Adventist community in its historical and contemporary contexts. This course is not open to Adventist students.

RELT 133 FAITH SEEKING UNDERSTANDING 3
Thoughtful evaluation of the claims of faith. Addresses questions of faith, reason, authority, and imagination in the life and ministry of the Seventh-day Adventist Church.

RELT 201 THE CHRISTIAN WAY OF SALVATION 4
Study of the Christian offer of salvation as found through Jesus Christ and the church; considers not only the future, but also contemporary moral and social dimensions of salvation.

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 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 CHRISTIAN DISCIPLESHIP 3
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 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.

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 418 AESTHETICS AND SPIRITUALITY 3
The practice of spirituality through the arts. The course explores the role of aesthetics in the devotional life. Journaling and sketching constitute significant course components.

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 495 COLLOQUIUM 0
Lecture series designed to enrich the professional and spiritual development of students in religion and theology. All Religion and Theology majors must satisfactorily complete six quarters, at least one of which must be during their senior year. Requirement must be completed at least one quarter before graduation. Graded S or NC.

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 (GREK, HEBR, LATN)

GREK 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.

GREK 221, 222, 223 GREEK II 3, 3, 3
Continued reading in the Greek New Testament with emphasis upon principles of interpretive translation. The book of Revelation and selections from the Gospels are used in developing facility in translation.

GREK 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.

GREK 342 READINGS IN THE GREEK NEW TESTAMENT 2; 8
Reading in selected sections of the Greek New Testament.

GREK 344 THE GREEK OLD TESTAMENT 2
Translation of selected narrative portions from the Septuagint and comparison with the Masoretic Text. Also includes translation of selected portions of Hebrews with attention to Old Testament citations.

HEBR 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.

HEBR 332, 333 ELEMENTARY HEBREW 3, 3
Study of Hebrew grammar and syntax advancing to reading and exegesis of selected Hebrew Bible passages. Prerequisite: HEBR 331.

HEBR 451 READINGS IN HEBREW 2; 6
Selected reading in the various sections of the Hebrew Bible. Prerequisites: HEBR 332, 333.

LATN 211,212,213 LATIN I 4, 4, 4
Introduction to the elements of classical Latin with experience in translation. Prerequisites: A score of 50 percentile on the ACT composite score and 50 percentile on the ACT English scores or successful completion of ENGL 121, 122. Offered odd years only.

LATN 311,312,313 LATIN II 4, 4, 4
Continued reading in Latin authors with emphasis upon grammar and syntax. Offered even years only.

SOCIAL WORK AND SOCIOLOGY

Wilma Hepker, Chair; Demetra Andreasen, Cindee Bailey, Darold Bigger, Jack Ellis, Ted Ernst, Cindy Fleischer, Doug Fleischer, Standley Gellineau, Kevin Grussling, Marja McChesney, Marilyn Schwisow-Montenegro, Sharon Pittman, Solomon Wako (on leave).

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. Senior students are required to take the general section of the Graduate Record Examination and the department comprehensive examination.

Major Requirements:

Social Work

SOWK 264	Introduction to Social Work	3
SOWK 266	Social Welfare as a Social Institution	3
SOWK 350	Field Practicum Orientation	1
SOWK 371	Social Work Practice with Individuals	4
SOWK 372	Social Work Practice with Small Groups	4
SOWK 373	Social Work Practice with Marriage/Family	3
SOWK 375	Social Welfare Policy and Services	3
SOWK 465	Administration and Community Planning	3
SOWK 466	Comparative Theories of SocialWork Practice	3
SOWK 490	Field Practicum	14
SOWK 491	Practice Within an Ecological Perspective	3

SOWK 495	Colloquium (required of all Social Work juniors and seniors while in residence)	0

Sociology

SOCI 204	General Sociology	4
SOCI 236	Racial and Ethnic Relations	3
SOCI 324	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

Electives (17 Total)

Psychology	3-7
Social Work	6-14
Anthropology, Corrections, Sociology	0-8
	82

Electives must be chosen in consultation with and approved by the social work adviser.

Cognates:

BIOL 101 or BIOL 105 or BIOL 201	General Biology / Biology for General Studies / Anatomy and Physiology	4
HIST 224 or ECON 211	American Government / Principles of Macroeconomics	4

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
		45

Electives may be chosen from the following courses: All SOCI prefixes, ANTH 225, CORR 285, CORR 365, CORR 385, CORR 387, SOWK 266 and SOWK 465.

Approval of sociology adviser required.

Cognate:

MATH 206	Applied Statistics	4

MINOR IN SOCIAL WORK

A student minoring in social work must complete 30 quarter hours:

SOCI 204	General Sociology	4
SOCI 324	Human Development and the Family	4
SOWK 264	Introduction to Social Work	3
SOWK 266	Social Welfare as a Social Institution	3
	Electives	16
		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
		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 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.

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 PRACTICUM ORIENTATION 1
A field practicum orientation seminar intended to make students aware of agency possibilities, application and evaluation procedures, contracts, and the field instruction learning process. Prerequisites: SOWK 371, 372; Prerequisite or Corequisite: SOWK 373.

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. Prerequisites: PSYC 130, SOCI 204, 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, 372.

SOWK 375 SOCIAL WELFARE POLICY AND SERVICES 3
Study of social welfare policy and its impact upon clients, social workers, and social services. Introduces students to the process of policy formulation and acquaints them with different frameworks for policy analysis. Includes a study of legislative advocacy, lobbying, and empowerment of clients through social and political action. Encourages student participation in local and national advocacy organizations that seek policy change to enhance client and social service functioning. Prerequisite: SOWK 266 or permission of instructor.

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 prerequisite: HLTH 208.

SOWK 464 CHILDREN AT RISK 3
Study of intervention strategies when working with children at risk, in social services, school, medical or community settings. Specific issues discussed include: child abuse and neglect, behavior management, family and child assessment, teen pregnancy and suicide, adoption and out-of-home placement, legal implications of working with children, and counseling techniques. Prerequisite: PSYC 130 or SOCI 204.

SOWK 465 ADMINISTRATION AND COMMUNITY PLANNING 3
Macro practice course with emphasis upon the planning and administration of social service organizations. Study of community organization, organizational analysis, management skills, program planning and evaluation. Enhances student understanding of the agency and community context within which client services are provided. Prerequisite or Corequisite: 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, 266, 371, 372; SOWK 373 or permission of instructor.

SOWK 471 HUMAN SEXUALITY (or HLTH 471) 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 (or HLTH 472) 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, 371.

SOWK 490 FIELD PRACTICUM 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 practicum 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 Practicum 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. Includes required weekly integrative seminar. Prerequisites: SOCI 204; SOWK 264, 266, 350, 371, 372, and permission of instructor. Corequisite or prerequisite: SOWK 373. Fourteen quarter hours are required for a social work major.

SOWK 491 PRACTICE WITHIN AN ECOLOGICAL PERSPECTIVE 3
Integrative course to assist social work majors in applying theory to practice and 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. Ethical and value dilemmas in practice will be explored. Prerequisites: SOWK 264, 371, 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.

Please see the *Graduate Bulletin* for a listing of Social Work graduate courses.

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 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 324 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.

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. Offered odd years only.

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 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. Will be offered 1995-96.

SOCI 451 RESEARCH METHODS 4
Introduction to the principles of research design; data collection through surveys and other methods; scaling, sampling; computer assisted statistical analysis. Statistics highly recommended. Laboratory required.

SOCI 452, 453 RESEARCH PRACTICUM I, II 1, 1
Directed design and execution of an empirical research project over a two quarter period.

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 contempory research in the social sciences and have influenced public policy. Offered odd years only.

SOCI 494 COOPERATIVE EDUCATION 0-2
Individual contract arrangement involving students, faculty, and cooperating institutions to gain practical experience in an off-campus setting. Allows the student to apply advanced classroom learning. Prerequisite: Approval by department and permission of Cooperative Education Director.

TECHNOLOGY

Chet Blake, Chair; Don Dawes, Garth Fisher, Allan Payne, William Rouse, Marshall Rub.

The Technology Department provides quality technological instruction in a Christian environment, preparing students to work in the service industries as technologists, entrepreneurs, or teachers of technology education.

The four-year 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.

Courses in technology provide non-majors with the opportunity of developing occupational skills in a second field or strengthening their background in the applied arts technologically oriented society.

Programs leading to the Bachelor of Science degree in Technology include a core of 30 credit hours and concentrations in the following technology areas: automotive, aviation, biomedical electronics, electronics, graphics, and technology specialist.

The **Associate of Science** degree in Technology is offered with concentrations in automotive, aviation, electronics, and graphics. 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 students who wish to complete their 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.

TECHNOLOGY (Bachelor of Science)
A student majoring in technology 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:
The technology core consists of a group of studies which emphasize the enduring fundamentals common to the many branches of technology. These studies will help provide career mobility within the specific technology. They will also provide the wealth of understanding necessary to be effective in the chosen concentration.

DRFT 121, 122	Technical Drafting and Design	4
ELCT 241	Fundamentals of Electronics	4
TECH 124	Introduction to Technology	1
TECH 235, 236, 237	Materials and Processes	6
TECH 325	Power and Energy	3
TECH 335	Computer Applications in Technology	3
TECH 356, 357	Management in Technology	4

TECH 364	Occupational Health & Safety	2
TECH 497	Senior Seminar	1
TECH 498	Senior Problem Phase I	1
TECH 499	Senior Problem Phase II	1
		30

CONCENTRATION: Automotive Technology

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 & Electrical Systems Theory	2
AUTO 157	Fuel & Electrical Systems Laboratory	2
AUTO 314	Engine Diagnosis & Tune-up	2
AUTO 315	Engine Diagnosis & 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 252	Solid State Devices	4
TECH 280	Practicum (in automotive)	2
TECH 480	Advanced Practicum (in automotive)	3
	Electives	9
		48

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

Cognates:

ACCT 201	Principles of Accounting	4
CPTR 105	Personal Computing	3
MGMT 275	Management of Small Business	3-4
or		
MGMT 371	Management & Organizational Behavior	
	Business Electives	4

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.

CONCENTRATION: Aviation Technology

AVIA 124	Introduction to Aviation	2
AVIA 141	Private Pilot Lectures	4
AVIA 142	Private Pilot Flight Training	3
AVIA 143	Advanced Private Flight Training	3
AVIA 234	Meteorology	2
AVIA 256	Principles of Aircraft Maintenance	4
AVIA 262	Instrument Flight Training	3
AVIA 263	Advanced Instrument Flight Training	3
AVIA 335	Commercial Flight Training	4
AVIA 336	Advanced Commercial Flight Training	5
AVIA 357	Commercial and Flight Instructor Lectures	4
AVIA 358	Flight Instructor-Airplane Flight Trng	3
AVIA 361	Instrument & Flight Instructor Lec	5

AVIA 458	Flight Instructors-Instrument Flight Training	3
	Electives	5
		53

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

Cognates:

ACCT 201	Principles of Accounting	4
CPTR 105	Personal Computing	3
MGMT 275	Management Small Business	
or		3-4
MGMT 371	Management & Organizational Behavior	
	Business Electives	4

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.

CONCENTRATION: Biomedical Electronics Technology

ELCT 242	Electronic Circuit Analysis	5
ELCT 252	Solid State Devices	4
ELCT 253	Electronic Amplifier Circuits	5
ELCT 263	Electronic Circuits	4
ELCT 297, 298	Electronics Fabrication	2
ELCT 326	Hospital Safety	2
ELCT 331, 332	Medical Electronics	10
ELCT 362	Digital Integrated Circuits	5
ELCT 372	Computer Circuits and Systems	4
ELCT 381, 382	Television Systems and Circuits	8
ELCT 490	Directed Hospital Experience	12-16
TECH 280	Practicum (electronics)	3
TECH 480	Advanced Practicum (medical elec)	0-2
TECH 494	Cooperative Education	0-2
		68

Cognates:

BIOL 201, 202	Anatomy and Physiology	8
CPTR 105	Personal Computing	3
MATH 117	Precalculus	
or		5-8
MATH 121, 122	Fundamentals of Mathematics I, II	
CHEM 101, 102	Introductory Chemistry	
or		
PHYS 201, 202	Invitation to Physics	8
and		
PHYS 204, 205	Invitation to Physics Laboratory	

CONCENTRATION: Electronics Technology

ELCT 242	Electronic Circuit Analysis	5
ELCT 252	Solid State Devices	4
ELCT 253	Electronic Amplifier Circuits	5
ELCT 263	Electronic Circuits	4
ELCT 297, 298	Electronics Fabrication	2

ELCT 362	Digital Integrated Circuits	5
ELCT 372	Computer Circuits and Systems	4
ELCT 381, 382	Television Systems and Circuits	8
TECH 280	Practicum (electronics)	3
TECH 480	Advanced Practicum (electronics)	2
	Electives	4
		46

Cognates:

CPTR 105	Personal Computing	3
CPTR 141	Introduction to Programming (Pascal)	4
MATH 117	Precalculus	5-8
or		
MATH 121, 122	Fundamentals of Mathematics I, II	
PHYS 211, 212, 213	General Physics	9
PHYS 214, 215, 216	General Physics Lab	3

CONCENTRATION: Graphics Technology

GRPH 211, 212, 213	Graphics Communication Processes	9
GRPH 261, 262	Desktop Publishing	4
GRPH 264	Screen Printing	2
GRPH 272, 273	Computer Composition	4
GRPH 274	Computer Graphic Design	2
GRPH 295	Printing Layout and Design	3
GRPH 324	Production Printing Methods	2
GRPH 325	Estimating and Cost Analysis	3
GRPH 331	Advanced Halftone Photography	2
GRPH 421	Color Separations	3
PHTO 156	Principles of Photography	3
TECH 480	Advanced Practicum (in graphics)	5
TECH 494	Cooperative Education	6
		48

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

Cognates: (Choose Business or Commercial Art emphasis)

Business Emphasis

ACCT 201	Principles of Accounting	4
CPTR 105	Personal Computing	3
MGMT 275	Management of Small Business	3-4
or		
MGMT 371	Management & Organizational Behavior	
	Business Electives	4

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
ART 244, 245, 246	Commercial Art	6
ART 314, 315, 316	Advertising Design	9

CONCENTRATION: Technology Specialist

For students who have career goals or special interests in areas other than those provided for in one of the established concentrations, a special individualized concentration is available.

AUTO 114	Personal Car Care	
or		
AUTO 134	Internal Combustion Engine Theory	3
and		
AUTO 135	Internal Combustion Engine Laboratory	
AVIA 124	Introduction to Aviation	2
GRPH 261	Desktop Publishing	2
TECH 280	Practicum (in technology)	6
TECH 480	Advanced Practicum (in technology)	6
TECH 494	Cooperative Education	10
	Electives	26
		55

An individualized concentration must be planned to meet the career goals of the student, before the beginning of the junior year with the assistance of his or her adviser.

The concentration must be approved by the department faculty.

Cognates:

ACCT 201	Principles of Accounting	4
CPTR 105	Personal Computing	3
MGMT 275	Management of Small Business	
or		3-4
MGMT 371	Management & Organizational Behavior	
	Business Electives	4

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.

TECHNOLOGY (Associate of Science)

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

Core Requirements:

The technology core consists of a group of studies which emphasize the enduring fundamentals common to the many branches of technology. These studies will help provide career mobility within the specific technology. They will also provide the wealth of understanding necessary to be effective in the chosen concentration.

DRFT 121, 122	Technical Drafting and Design	4
TECH 124	Introduction to Technology	1
TECH 125	Measurements in Technology	3
TECH 364	Occupational Health and Safety	2
		10

CONCENTRATION: Automotive Technology

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 & Electrical Systems Theory	2
AUTO 157	Fuel & Electrical Systems Laboratory	2
AUTO 286	Engine Rebuilding Laboratory	2
AUTO 314	Engine Diagnosis & Tune-up	2
AUTO 315	Engine Diagnosis & Tune-up Laboratory	2
AUTO 345, 346	Automotive Service	4
AUTO 347, 348	Automotive Service Laboratory	4
AUTO 366	Computerized Engine Controls	3
ELCT 241	Fundamentals of Electronics	4
ELCT 252	Solid State Devices	4
TECH 280	Practicum (in automotive)	2
	Electives	3
		42

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

Cognates:

CPTR 105	Personal Computing	3

CONCENTRATION: Aviation Technology

AVIA 124	Introduction to Aviation	2
AVIA 141	Private Pilot Lectures	4
AVIA 142	Private Pilot Flight Training	3
AVIA 143	Advanced Private Flight Training	3
AVIA 234	Meteorology	2
AVIA 256	Principles of Aircraft Maintenance	4
AVIA 262	Instrument Flight Training	3
AVIA 263	Advanced Instrument Flight Training	3
AVIA 335	Commercial Flight Training	4
AVIA 336	Advanced Commercial Flight Training	5
AVIA 357	Commercial & Flight Instructor Lectures	3
AVIA 361	Instrument & Flight Instructor Lectures	4
	Electives	7
		47

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

Cognates:

CPTR 105	Personal Computing	3

CONCENTRATION: Electronics Technology

ELCT 241	Fundamentals of Electronics	4
ELCT 242	Electronic Circuit Analysis	5
ELCT 252	Solid State Devices	4
ELCT 253	Electronic Amplifier Circuits	5
ELCT 263	Electronic Circuits	4
ELCT 297, 298	Electronics Fabrication	2
ELCT 362	Digital Integrated Circuits	5
ELCT 372	Computer Circuits and Systems	4

ELCT 381, 382	Television Systems and Circuits	8
TECH 280	Practicum (in electronics)	3
	Electives	3
		47

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

Cognates:

CPTR 105	Personal Computing	3

CONCENTRATION: Graphics Technology

GRPH 211, 212, 213	Graphic Communication Processes	9
GRPH 261, 262	Desktop Publishing	4
GRPH 264	Screen Printing	2
GRPH 272, 273	Computer Composition	4
GRPH 274	Computer Graphic Design	2
GRPH 295	Printing Layout and Design	3
GRPH 324	Production Printing Methods	2
PHTO 156	Principles of Photography	3
TECH 280	Practicum (in graphics)	6
TECH 494	Cooperative Education	6
	Electives	3
		44

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

Cognates:

CPTR 105	Personal Computing	3

MINOR IN AVIATION

A student minoring in aviation must complete 30 quarter hours:

AVIA 124	Introduction to Aviation	2
AVIA 141	Private Pilot Lectures	4
AVIA 142	Private Pilot Flight Training	3
AVIA 143	Advanced Private Flight Training	3
TECH 124	Introduction to Technology	1
	Electives (3 must be upper division)	17
		30

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

MINOR IN GRAPHIC ARTS

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

GRPH 211, 212, 213	Graphic Communication Processes	9
GRPH 261, 262	Desktop Publishing	4
GRPH 264	Screen Printing	2
GRPH 272, 273	Computer Composition	4
GRPH 274	Computer Graphic Design	2
GRPH 331	Advanced Halftone Photography	2

TECH 124	Introduction to Technology	1
PHTO 156	Principles of Photography	3
	Electives (must have GRPH or PHTO prefix and be upper-division)	3
		30

Approval of graphics technology adviser required.

MINOR IN TECHNOLOGY

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

DRFT 121, 122	Technical Drafting and Design	4
TECH 124	Introduction to Technology	1
TECH 125	Measurements in Technology	3
TECH 235, 236, 237	Materials and Processes	6
	Electives (3 must be upper division)	16
		30

Approval of technology adviser required.

AUTOMOTIVE (AUTO)

AUTO 114 PERSONAL CAR CARE 3

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

AUTO 134 INTERNAL COMBUSTION ENGINE THEORY 2

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

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, 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, 135, 156, 157. Corequisite: AUTO 315.

AUTO 315 ENGINE DIAGNOSIS AND TUNE-UP LABORATORY 1, 2; 2
Laboratory study and application of diagnostic principles in trouble shooting repairs and tune-up automotive engines; includes experience with the Sun Road-A-Matic (a computerized dynamometer) and the Sun Model 1115 Performance Analyzer. Corequisite: AUTO 314.

AUTO 345, 346 AUTOMOTIVE SERVICE 2, 2
Study of automotive service operation as related to auto air conditioning, the power train, brake systems, suspension and wheel alignment, and general services. Two lectures per week. Prerequisites: AUTO 145; AUTO 146 or equivalent. Corequisites: AUTO 347, 348.

AUTO 347, 348 AUTOMOTIVE SERVICE LABORATORY 1-2; 2. 1-2; 2
Laboratory study and application of automotive service techniques; includes a broad range of live service experiences. Corequisites: AUTO 345, 346.

AUTO 365 DIESEL ENGINES 3
Study of diesel engine theory; includes types of engines, fuel injection systems, air induction systems, exhaust systems, cooling systems, starting, and controls. Two lectures and one laboratory per week. Prerequisites: AUTO 156, 157. 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.

AVIA 140 INTRODUCTION TO FLIGHT 1
An economical introduction to the principles and experience of flight. The student will learn to maneuver an airplane safely in coordinated flight. Does not apply toward a major or minor in Technology.

AVIA 141 PRIVATE PILOT LECTURES 4
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
Instruction in the flying skills and practical knowledge necessary for solo flight. Corequisite: AVIA 141 or permission of instructor.

AVIA 143 ADVANCED PRIVATE FLIGHT TRAINING 3
Flight instruction in specialty landings, night flight, and cross country flight. Includes supervised solo practice of flight maneuvers. Prerequisite: AVIA 142 or permission of instructor.

AVIA 144 SPECIAL PRIVATE FLIGHT TRAINING 1-3
Supervised flight instruction in solo cross country flying and a review of the flying skills necessary to pass the federal oral and practical exams. Prerequisite: AVIA 143 or permission of instructor.

AVIA 234 METEOROLOGY 2
Study of the atmosphere, winds, moisture, temperature, air masses and fronts, and weather forecasting with emphasis on aviation weather.

AVIA 256 PRINCIPLES OF AIRCRAFT MAINTENANCE 4
Study of the routine maintenance and inspections that can be performed by the pilot.

AVIA 262 INSTRUMENT FLIGHT TRAINING 3
Flight instruction in basic attitude flying, instrument navigation, and cross country flying skills.

AVIA 263 ADVANCED INSTRUMENT FLIGHT TRAINING 3
Instruction in instrument departure and approach procedures. Includes PIC cross country flying required for the instrument rating. Prerequisite: AVIA 262, or permission of instructor.

AVIA 264 SPECIAL INSTRUMENT FLIGHT TRAINING 1-3
Experience in instrument cross country flights under actual or simulated conditions. Completion of the instrument cross country requirements and final preparation for the FAA oral and practical tests. Prerequisite: AVIA 263 or permission of instructor.

AVIA 335 COMMERCIAL FLIGHT TRAINING 4
Study of procedures in cross-country and night flight.

AVIA 336 ADVANCED COMMERCIAL FLIGHT TRAINING 5
Instruction in the maneuvers and skills required for the commercial license. Prerequisite: AVIA 335 or permission of instructor.

AVIA 337 SPECIAL COMMERCIAL FLIGHT TRAINING 1-5
Instruction in advanced aircraft systems, right seat flying, mountain flying and complex aircraft operations. Prerequisite: AVIA 336 or permission of instructor.

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 COMMERCIAL AND FLIGHT INSTRUCTOR LECTURES 3 or 4
Advanced navigation, maneuvers, airport and charts. Instructing and application of FAA regulations. Prepares student to pass FAA Commercial and Flight Instructor written examinations.

AVIA 358 FLIGHT INSTRUCTOR-AIRPLANE FLIGHT TRAINING 3
Study of the standards for acceptable performance for the Federal Aviation Administration Flight Instructor.

AVIA 361 INSTRUMENT AND FLIGHT INSTRUCTOR LECTURES 4-5
Study of aerodynamics, performance, weight and balance navigational instrumentation, IFR charts, regulation and procedures with the fundamentals of instruction. Prepares student to pass FAA Instrument and Instrument Instructor written examinations.

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 airplane to meet the proficiency requirements 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 DRAFTING AND DESIGN 2, 2
Introduction to technical drafting and design: includes board and computer (CADD) drafting with emphasis on drafting fundamentals, visualization, principles and elements of design and analysis. Specific design applications to each technological area. One lecture and 3 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.

ELECTRONICS (ELCT)

ELCT 241 FUNDAMENTALS OF ELECTRONICS 4
Study of fundamentals of electronics technology, including Ohms Law, series and parallel DC circuits, resistive capacitive and inductive AC circuits, motors and generators, and an introduction to semiconductors. Laboratory work will emphasize the use of basic electronic test equipment. Three lectures and one laboratory per week.

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 SOLID STATE DEVICES 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.

ELCT 253 ELECTRONIC AMPLIFIER CIRCUITS 5
Application and analysis of discrete bipolar junction and field effect transistor amplifiers including biasing systems, DC load line analysis class of operation, AF and RF amplifier, and amplifier frequency response. Application and analysis of operational amplifiers, differential amplifiers, comparators, integrators and differentiators. Four lectures and one laboratory per week. Prerequisite: ELCT 252.

ELCT 263 ELECTRONIC CIRCUITS 4
The study and application of electronic circuits, active filter circuits, oscillators, timing circuits, phase lock loop circuits, voltage regulators and special purpose integrated circuit devices. Three lectures and one laboratory per week. Prerequisite: ELCT 253.

ELCT 297, 298 ELECTRONICS FABRICATION 1, 1
Individualized study in the techniques of electronics fabrication, including chassis construction, printed circuit board construction, and electronic packaging. One laboratory per week. May enroll in ELCT 297 and ELCT 298 concurrently. Prerequisite: ELCT 241.

ELCT 326 HOSPITAL SAFETY 2
Study of codes and regulations pertaining to hospital safety; equipment and techniques involved in leakage current test, conductivity testing in operating rooms, testing of pressure safety devices, radiation safety devices, radiation safety checks, and the correct handling of explosive gases. Prerequisites: ELCT 332.

ELCT 331, 332 MEDICAL ELECTRONICS 5, 5
Study of the use, calibration, and maintenance of electromechanical equipment used in the diagnostic and therapeutic phases of medicine and the clinical laboratory; includes patient care and monitoring equipment, cardiovascular measurements, measurements of physical variables, biotelemetry, and computer applications in medicine. Four lectures and one laboratory per week. Prerequisites: ELCT 253; BIOL 202.

ELCT 362 DIGITAL INTEGRATED CIRCUITS 5
Study of basic principles and applications of digital I.C.'s; includes characteristics of logic families and application of I.C. gates, clocks, 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 372 COMPUTER CIRCUITS AND SYSTEMS 4
Study of theory and application of digital and analog systems; includes computer circuitry, interface devices, and physical systems control. Laboratory emphasizes construction and troubleshooting techniques. Three lectures and one laboratory per week. Prerequisite: ELCT 362.

ELCT 381, 382 TELEVISION SYSTEMS AND CIRCUITS 4, 4
Study of television transmission principles, the theory and operation of monochrome and color television receiver circuits, community antenna television systems, and closed-circuit television systems; emphasizes the use of logical systems and circuit analysis techniques in troubleshooting. Must be taken in sequence. Three lectures and one laboratory per week. Prerequisite: ELCT 253.

ELCT 490 DIRECTED HOSPITAL EXPERIENCE 4-16
Full-time work experience with supplementary training in the biomedical electronics department of an approved hospital; taken only after completion of all course work required for the biomedical electronics program. Application must be made during the first two weeks of the quarter prior to the actual field experience.



GRAPHICS (GRPH)

GRPH 211, 212, 213 GRAPHIC COMMUNICATION PROCESSES 3, 3, 3
Study of the use of graphics for effective communication, including basic typography and design with type and graphic elements, copyfitting, electronic composition, offset lithography, photolithography and the reproduction of tones.

GRPH 261, 262 DESKTOP PUBLISHING 2, 2
The study and use of microcomputer and peripherals for design of publications. Includes text manipulation, graphics generation, visual layout, and laser printing. Prerequisite: CPTR 105 or permission of instructor.

GRPH 264 SCREEN PRINTING 2
Screen printing technology--Applications, components and techniques, survey of various materials and equipment used in screen printing. Production of screen printed products. One lecture and one laboratory per week.

GRPH 272, 273 COMPUTER COMPOSITION 2, 2
Application of microcomputers and software programs to the design of graphic images for graphic communications. Special attention is given to new software features and effective design practices. One lecture and lab per week. Prerequisite: CPTR 105 or permission of instructor.

GRPH 274 COMPUTER GRAPHIC DESIGN 2
Congruing graphical images and manipulating them into visual media. One lecture and one laboratory per week. Prerequisites: GRPH 261, 262.

GRPH 295 PRINTING LAYOUT AND DESIGN 3
Study of the basic principles of design as applied to composition, layout, and arrangement in printing. Includes both hand and computer applications. Lectures, demonstrations, and assigned individual and group projects. Prerequisite: GRPH 211.

GRPH 324 PRODUCTION PRINTING METHODS 2
The operation and maintenance of the offset press, with related information on papers, inks, and finishing operations. Laboratory experiences support lecture/theory content. One lecture and one laboratory per week. Prerequisite: GRPH 213.

GRPH 325 ESTIMATING AND COST ANALYSIS 3
An examination of the operations involved in producing graphic materials for the purpose of determining both individual and overall costs will be undertaken. Effective use of press equipment, cost and price determination, and financial structure of the printing concern will be studied. Both the Franklin catalog and the micro-computer applications will be investigated in regard to estimating.

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 213.

GRPH 421 COLOR SEPARATIONS 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 213 or equivalent. Offered odd years only.

PHOTOGRAPHY (PHTO)

PHTO 156 PRINCIPLES OF PHOTOGRAPHY 3
Study of the basic principles of color and black-and-white photography; includes practice of exposure, development, contact printing and enlarging, and study of various types of equipment. 35 mm camera required. Automatic cameras must have an override to manual operation. Two lectures and one laboratory per week.

PHTO 255 INTERMEDIATE PHOTOGRAPHY 3
Exploration of the technical and aesthetic aspects of photography. Includes tinting and toning black-and-white prints, adding color selectively to black-and-white prints, print retouching, storing, mounting, and framing prints. Two lectures and one lab per week. Prerequisite: PHTO 156.

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 255.

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.

TECHNOLOGY (TECH)

TECH 124 INTRODUCTION TO TECHNOLOGY 1
A study of current technology as it relates to society and the individual. Includes the study of technology in the broad areas of communication, transportation, construction, and manufacturing.

TECH 125 MEASUREMENTS IN TECHNOLOGY 3
Applications of measurement principles and problem solving techniques encountered in technology. Problems selected will relate to the student's technical concentration.

TECH 137 OXYACETYLENE WELDING AND CUTTING 2
Study of oxyacetylene and oxyfuel applications and practice in developing skills in oxyacetylene welding and cutting with fuel gases.

TECH 138 SHIELDED METAL ARC WELDING 2
Study of shielded metal arc welding theory and hands-on laboratory experiences to develop mastery of arc welding processes.

TECH 139 SPECIALIZED WELDING 2
Study of gas tungsten arc welding (tig), gas metal arc welding (mig), flux core arc welding, and shielded metal arc pipe welding. Prerequisites: TECH 137, 138, or permission of instructor.

TECH 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.

TECH 235, 236, 237 MATERIALS AND PROCESSES 2, 2, 2
Study of various methods for processing metallic, polymeric and ceramic materials. Major families of processes and materials are explored as they relate to a broad understanding of modern technology. These may be taken in any sequence.

TECH 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.

TECH 280 PRACTICUM 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.

TECH 325 POWER AND ENERGY 3
A study of the various forms of power, its generation, application, and implications for technology. Compares available resources and conservation of energy.

TECH 335 COMPUTER APPLICATIONS IN TECHNOLOGY 3
A study of the applications of computers and microprocessor board controllers in industrial production and process control.

TECH 356, 357 MANAGEMENT IN TECHNOLOGY 2, 2
Theory and practice of modern production/operations management. Includes facility design, personnel management and financial systems. Application of modern analytical techniques to the solution of practical problems in technology.

TECH 364 OCCUPATIONAL HEALTH AND SAFETY 2
Introduction to federal, state, and local safety codes applying to materials, material handling, and equipment commonly encountered by the technologist. Includes a study of codes from Occupational Safety and Health Act (OSHA), Washington Industrial Safety and Health Act (WISHA), National Fire Protection Association (NFPA), and Department of Transportation (DOT). Emphasis on the handling of hazardous wastes and the impact on ones health and the environment.

TECH 398 MACHINE AND TOOL MAINTENANCE 1, 2; 2
Methods of care and maintenance of tools, machines, and supplementary equipment. Selection may be made in any field offered. Prerequisite: adequate background in chosen fields. One laboratory per credit per week. One or two hours any quarter; maximum, two.

TECH 428 TEACHING TECHNOLOGY TO CHILDREN 3
Study of technology, as applied to the elementary grades, covering the broad areas of manufacturing, transportation, construction, and communication. Emphasis on methods of application, materials and processes. Offered Summer only.

TECH 480 ADVANCED PRACTICUM 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.

TECH 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.

TECH 497 SENIOR SEMINAR 1
Presentation and discussion of current topics of interest within technology. Prerequisite: Senior standing in technology.

TECH 498 SENIOR PROBLEM PHASE I 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 faculty. The basic research, plan and procedures to be presented to adviser and chair.

TECH 499 SENIOR PROBLEM PHASE II 1
Completion of Phase I with presentation of completed work to the Technology Department faculty.

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 employment section of this Bulletin.

TELEPHONE:	Direct	Toll Free
Financial Aid Applications & Processing	509-527-2315	1-800-656-2315
Financial Counselors (planning, information, payment plans)	509-527-2815	1-800-656-2815
Student Employment	509-527-2357	1-800-656-2357
Fax	509-527-2253	

Estimated Undergraduate Student Budgets

DORMITORY STUDENT

	Per Year	Per Quarter
Tuition (full-time, 16 hours)	$10,671	$3,557
Student Association Fee	111	37
Health Service Fee	60	20
Accident Insurance (required)†	105	35
Room Rent	1,692	564
Cafeteria (average)†	1,455	485
Books (average)†	705	235
TOTAL	$14,799*	$4,933*

*Students will have additional expenses for transportation, personal needs, and any expenses above the listed estimates.
†Estimate.

NON-DORMITORY STUDENT
(Does not include living expenses)

	Per Year	Per Quarter
Tuition (full-time, 16 hours)	$10,671	$3,557
Student Association Fee	111	37
Health Service Fee	60	20
Accident Insurance (required)†	105	35
Books (average)†	705	235
TOTAL	$11,652*	$3,884*

*Students will have additional expenses for transportation, personal needs, and any expenses above the listed estimates.
†Estimate.

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 REGULAR PAYMENT PLAN: Before registering, dormitory students pay for tuition, student association fees, health service fee, required insurance, room, average textbooks, and estimated cafeteria charges ($4,933) plus previous balance; non-dorm students pay for tuition, student association fees, health service fee, required insurance, and average textbook charges ($3,884) 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: The quarter's expenses, less any awarded financial aid, are divided into three equal payments. These expenses include tuition and required fees, textbooks, plus room and estimated cafeteria charges for dorm students. The first payment, plus any previous balance, is due on the 15th prior to the first day of classes. The second and third payments are due the following two months.

	Autumn	Winter	Spring
Down Payment + Previous Balance	September 15	December 15	March 15
Second Payment	October 15	January 15	April 15
Third Payment	November 15	February 15	May 15

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.

EXPENSES

Tuition (Undergraduate Students)

1-12 quarter hours	$ 283.00 (per quarter hour)
13-16 quarter hours	3,557.00 (per quarter)
above 16	246.00 (per quarter hour)
Courses numbered 001-099	142.00 (per quarter hour)

Tuition (Graduate Students)

$283 per quarter hour

Tuition (English as a Second Language Program)

Beginning and Intermediate level	$2,830.00 (per quarter)
Advanced level	Regular Undergraduate Tuition

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, as space is available, will be charged one-fourth the regular tuition rate. Those wanting only to sit in on classes, as space is available and with permission of instructor, under the "Senior Citizen Class Visitor Program" pay $100 for the quarter.

Student Association Fee

A $37 per quarter Student Association fee is charged to all undergraduate students registered for six or more quarter hours. It provides for student publications and membership in the Student Association. Students who are charged dues for less than three quarters will need to pay an additional fee if they wish to receive the yearbook and/or video. Graduate students and others who are exempt from paying Student Association fees may purchase publications for an amount set by the ASWWC Editors.

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. Commuter students either on Portland campus or accepted in a graduate degree program are exempt from this fee.

Residence Halls

For dual occupancy, the room rental charge for each student per quarter is:

Conard Hall	$540
Foreman Hall	564
Sittner Hall	540
Sittner East	540
Hansen Hall (Portland Campus)	564

When rooms are available, single occupancy is permitted at an extra cost of $150 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.

Birch Street Apartment		
Two bedroom	$350	per month plus electricity
Hallmark Apartment		
One bedroom	$190	per month plus electricity
Two bedrooms	$250	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 $150 per person 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 $280, which may be used in either serving area. A 20% discount will be applied to all food charges above $375 per quarter. A typical dorm student spends about $400 to $525 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 $225-$275 for such purchases each quarter.

Senior Class Dues

The senior class will vote the amount of their dues each year. The dues cover the class gift, senior activities and pictures. Students will pay directly for caps, gowns, tassels, announcements, etc.

All undergraduate students who graduate are automatically members of the senior class, and will be assessed senior class dues during the spring quarter prior to the student's graduation.

Aviation

A student who registers for a flight training class will receive scholarship money in an aviation account equal to 75% of 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

Plane Rental Fees:

*Cessna 150	$35 an hour
*Cessna 152 (non-instrument)	$38 an hour
*Cessna 152 (instrument)	$39 an hour
*Piper Arrow	$62 an hour
*ATC 610 Simulator	$12 an hour
Instruction (Dual and Ground)	
*Primary	$18 an hour
*Advanced	$20 an hour
Student Pilot Insurance per quarter	$10.50

*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 $144 per quarter, plus tuition, for nine half-hour lessons, or $288 per quarter, plus tuition, for nine one-hour lessons. When lessons are not taken for credit, the lesson fee is $180.00 per quarter for nine half-hour lessons, or $360 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

Band or Orchestral instruments (per quarter for students desiring lessons and not possessing their own instruments.)	75

Laboratory Fees (per quarter)

ACCT 335	$ 10
ACCT 423, 424	25
ART 194, 195, 196	20
ART 264, 265, 266	15
ART 284, 285, 286	20
ART 317, 318, 319	20
ART 364, 365, 366	15
ART 374, 375, 376	20
HLTH 315	15
HLTH 328	10
TECHNOLOGY	lab fees to be announced

Physical Education Fees

Backpacking	$ 25
Cycling	45
†*Golf I	70
† Golf II	120
† Golf, Pro-Act	120
*Ice Skating	20
Prevention of Injury	30
Rock Climbing	45
† Sailboarding	130
†*Scuba I (includes field trip for certification)	275
†*Scuba II	190
*Ski Instructor	40
*Skiing (Bluewood)	30
*Skiing (Cross Country)	30
†*Skiing (Mount Hood)	105

*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
Approved changes in registration after the deadline (Drop/Add)	20.00
Change in Registration (Drop/Add) after the 100% refund period	10.00
Field trips - teachers will notify students of special fees to cover expenses.	
ID Card Replacement	10.00
Late Registration	50.00
Nursing, per clinical laboratory credit hr.	15.00
Out-of-Schedule Examination (per exam)	50.00
Returned Check	15.00
Transcript, first copy	free
Transcript, additional copies each	3.00
Transcript, degree holding alumni	free

Transcript, same day service, each copy	5.00
Transcript, FAX	
United States	8.00
Foreign	12.00

*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

ACT	13.50
Business Achievement Test	14.00
Challenge Exam	
Credit Fee	40.00/Credit hr.
Examination Fee	20.00
National League of Nursing Exam	50.00
CLEP	38.00
*Graduate Record Exam	
General	44.00
Subject	44.00
Validation Exam	
Validation Fee	3.00/Credit hr.
Examination Fee	20.00
Waiver Exam	15.00

* The Educational Testing Service charges an additional 7.00 for tests taken during the summer.

Student Insurance

Walla Walla College provides injury and accident insurance on a mandatory basis at an estimated cost to the student of $35 per quarter. In addition, WWC offers major medical insurance at an additional estimated cost of $300 per quarter. Insurance claims are made through the Student Health Center.

The accident insurance is not refundable if a student drops after the fourth day of classes. No changes or refunds are allowed on the major medical insurance after the first two weeks in the quarter.

Walla Walla College requires all students from foreign countries to have major medical insurance coverage.

Graduate Students

For additional financial information on the Graduate Program see the Graduate Bulletin.

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 will be refunded to the original source.

1. The amount to be refunded to the Title IV Aid Programs will be the lesser of:
   A. Title IV aid awarded multiplied by the amount of refund divided by the total aid awarded.
   B. Title IV aid less earned College Work Study.
2. The amount to be refunded to the WWC aid programs will be:
   Total Aid Refund less Title IV refund

A detailed copy of the Financial Aid Refund Policy can be obtained by contacting Student Financial Services.

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. All enrolled students will receive a copy of their statement in their campus mailbox each month. Students may request one copy to be mailed to a third party, such as a parent.

It is expected that statements will be paid within ten days from the time of mail-

ing. The College operates on a cash basis and is dependent upon prompt payment of accounts.

Checks, or 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 and signed by the student.

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 $3,000 (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.

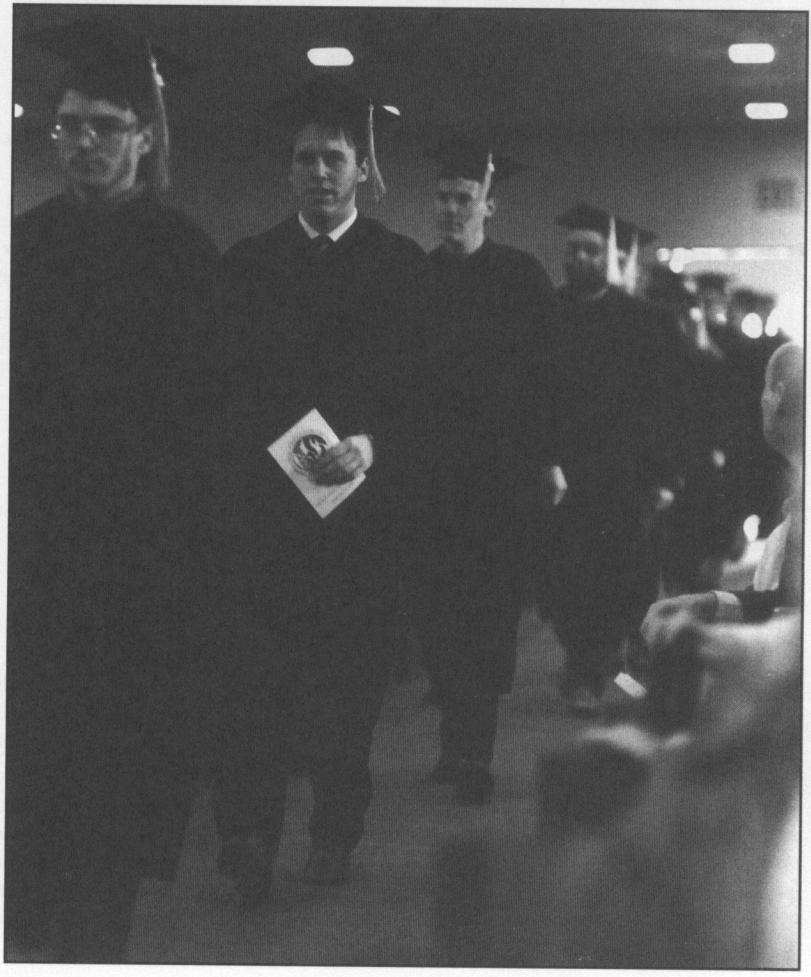
International students on student visas do not qualify for the majority of loans and grants described in this bulletin. International students may accept employment on campus only; however, spouses and children who are not students may not accept employment under any circumstances. To determine ability to meet educational costs, the College requires applicants to submit a declaration of finances before final acceptance is given.

International students who have provided documentation showing sufficient personal/family funds to pay for their education will be expected to use the Regular payment plan.

Walla Walla College requires all students from foreign countries to have major medical insurance coverage.

CHANGE IN EXPENSES

Because of possible fluctuation in the economy, the College Board of Trustees reserves the right to adjust costs and policies 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 comparitively 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 and student 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 grants, scholarships, and discounts to which they are entitled, the college will award additional aid based on need, according to the following priority:

1. Part-time employment for the academic year: $2,000
2. Loans
3. Other grants and scholarships.

SUMMER SAVINGS. Each aid recipient is expected to have at least $1,700. Applicants who are able to secure better jobs will be expected to have increased summer savings.

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 on a quarterly and annual review. A detailed copy of the Financial Aid Academic Progress Policy can be obtained by contacting Student Financial Services.
3. Repayment of any loans received after ceasing to be at least a half-time student. For sample repayment schedules see the student loan section of this Bulletin, or contact the Loan Billing and Collections Office of the college.

WHAT SHOULD A STUDENT DO TO APPLY?

1. Complete the Free Application for Federal Student Aid (FAFSA). Mail it to the Federal Student Aid Processor. To meet the priority deadline, the FAFSA 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. 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. This is required even if no financial aid was received at another school.
4. About 3 weeks after you mail your FAFSA, you will receive your Student Aid Report (SAR) from the central processing center. These are several colored sheets of paper. This report should be reviewed for accuracy, signed, and mailed to WWC. Priority deadline is April 1.
5. The Federal Government selects 30% of the financial aid applications for a verification process. If you are selected, you will be notified, and be required to complete a verification statement, and submit tax papers. (Dependent students will be required to submit their parents' tax papers also).

The above deadlines are very important for students wishing to receive a full financial aid package. We recommend students and parents do not use estimated information on the FAFSA. Students (and parents of dependent students) should complete their tax papers before filling out the FAFSA. Students using estimated information should plan on at least a month's delay on their award.

Eligibility for aid is based on individual financial need. A financial aid award letter will be sent after the student has a completed financial aid file. In most cases, a student will be offered a package of financial aid including several forms of assistance.

A detailed copy of the Financial Aid Award Policy can be obtained by contacting Student Financial Services.

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 to the student's account 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.

Students who do not supply necessary information for each type of aid will not receive assistance until the information is received. The award will be forfeited if the information is received after the program deadline.

WHAT GRANTS AND SCHOLARSHIPS ARE AVAILABLE?

MAXIMUM GRANT:

Up to $2,300 per year Renewable

***FEDERAL PELL GRANT.** This program is made available to undergraduate students by the U.S. Department of Education.

Up to $2,000 per year Renewable

***FEDERAL SUPPLEMENTAL EDUCATION OPPORTUNITY GRANT (SEOG).** This grant is made available to undergraduate students by the U.S. Department of Education.

$2,520 per year Renewable

***WASHINGTON STATE NEED GRANT.** The State of Washington has 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. Because of state funding limitations students should meet the priority deadline to be considered for this grant.

$500-$1,000 per year Nonrenewable

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. The total academic scholarship and Educational subsidy cannot exceed cost of tuition.

3.50 to 3.74 Grade-point average	$ 500
3.75 to 4.00 Grade-point average	1,000

$1,000-$1,500 per year Renewable

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

The total academic scholarship and Educational subsidy cannot exceed cost of tuition.

*Eligible students applying for financial aid will be considered for this program

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, ACT scholarship and WWC Merit Award. The total academic scholarship and Educational subsidy cannot exceed cost of tuition.

$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 complete and sign a request form, available from the Student Financial Services Office.
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. The total academic scholarship and Educational subsidy cannot exceed cost of tuition.

$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.

$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. The total academic scholarship and Educational subsidy cannot exceed cost of tuition.

ACT Composite Score	SAT Verbal & Math Scores	Amount
30+	$1,280+	$1,500[1]
29	1,210 - 1,279	1,000[1]
27-28	1,130 - 1,209	1,000[2]
24-26	1,010 - 1,129	500[2]

[1]Renewable (12 quarters total) if maintaining 3.50 Cumulative GPA

[2]Non-renewable

Up to
$300 per year
Renewable

***NPUC GRANT.** The North Pacific Union Conference of Seventh-day Adventists provides funds for this grant. Applicants must be baptized Seventh-day Adventists having home church membership in the NPUC or having been graduated from an academy within the NPUC. Grants are awarded on the basis of need.

Up to
$1,000 per year
Renewable

***CARRIE WELCH CHALLENGE GRANT.** This grant was established by the Carrie Welch Trust Estate as a grant for Washington State residents. Grants are awarded on the basis of need.

Up to
$4,500 per year
Renewable

***WALLA WALLA COLLEGE GRANT.** This grant is awarded to the most needy students.

Up to
$2,000 per year
Renewable

CANADIAN 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.

$750-$1,000
per year

EMPLOYMENT AWARD. Walla Walla College distributes a number of awards to students each spring to recognize outstanding work programs. 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.

*Eligible students applying for financial aid will be considered for this program.

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.

Variable
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.

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. Additional scholarships are offered through the generosity of alumni and friends of Walla Walla College. The following is a partial list and amounts vary. Unless otherwise noted, these scholarships are for returning students, and are announced at awards chapel in the spring. For further information contact the Student Financial Services Office at Walla Walla College.

Alice I. Bowden Theology Scholarship
Albert and Reta Graham Scholarship
Associated Students of Walla Walla College Scholarship
A.J. & Gladys Christiansen Premed/Theology Scholarship
Bangert Business Award
Breese-Trefz Scholarship
Business Department Chair Award
C. W. Shankel Chemistry Scholarship
Carlos Ayala Modern Languages Scholarship
Charles Horowitz Broadcast Journalism Award
*Chevron Merit Award
Class of '55 Scholarship
Class of '65 Scholarship
Class of '66 Scholarship
Class of '71 Scholarship
Class of '78 Scholarship
Class of '83 Scholarship
Class of '84 Scholarship
Class of '89 Edwin Zaugg Scholarship
*Clyde & Mary Harris Grant
†College Days Award
Communications Drama Award
Communications Scholarship

Dan Ochs Theology Scholarship
Degering Educational Scholarship
Deming Worthy Student Employment Award
Donald W. Rigby Biology Award
Dr. Anah Wineberg Winton Scholarship
Edward F. Cross Engineering Scholarship
Eleanor Schofield Education Scholarship
Engineering Scholarship
English Merit Scholarship
*EOG Scholarship (Washington State)
Faculty/Staff Scholarship
*Farmers Insurance Group Business/Math Scholarship
*First Interstate Bank Freshman Business Scholarship
George Bowers Chemistry Scholarship
George Caviness Modern Languages Scholarship
Glenna Barstad Scholarship
#Graduate Dean's Award
Helen Kendall Women in Business Scholarship
Honors Program Scholarship
Humanities Scholarship
Jack Miles Memorial Health Science Scholarship
Jenson Math Scholarship
Jess Hutson Memorial Scholarship
John E. Bregar Memorial Scholarship
John V. Jones Foundation Scholarship
Joseph & Beth Murray Dorm R.A. Scholarship
Joseph L. Stubblefield Trust Scholarship
Lewis Canaday Technology Scholarship
*Lewiston/Clarkston Scholarship
Lilah Risinger Mathematics Scholarship
Louise Bowden Allen Theology Scholarship
Lovyl T. and Mary Hagle Scholarship
Llewellyn and Vivian Nixon Scholarship
Luella Latham Kretschmar Engineering/Mathematics/
Physics Scholarship
Mathematics Scholarship
Matiko Theology Award
Messingers/Loewen Scholarship
*Minority Teachers Scholarship
Murray and Ilene Johnstone Business/Math Scholarship
Nursing Scholarship
Oland Hubbs Theology Scholarship
Orilee Robbins Theology Scholarship
Orval Patchett Modern Language Scholarship
Pauline Hart Social Work Scholarship

*Eligible students are contacted and encouraged to apply
†Awarded at College Days
#Awarded at Graduation

*Peggy Kaye Nursing Grant
Percy W. Christian History Award
Richard & Dena Hammill Education/Theology Scholarship
Robert Koorenny Scholarship
Robert L. Reynolds History Scholarship
Robert L. Spies Memorial Scholarship
Rotary Scholarship
Schlotthauer Math Scholarship
Springer Engineering Scholarship
Standard Printing Scholarship
Theology Scholarship
UPS Foundation Award
Vera Hubbs Business Scholarship
Vivienne Bietz Scholarship
Walla Walla College Alumni Scholarship
Warren Matheson Education/Medical Arts Christian Service Scholarship
*Washington Automobile Dealers Association Scholarship

*Eligible students are contacted and encouraged to apply

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 $2,000.

Walla Walla College offers an on-campus work program. During fall, winter, and spring quarters, Walla Walla College tries to provide all students residing in college housing (dorms, married student housing, etc.) 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.

International 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

FEDERAL 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 students attending 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 $3,000 per year Renewable

***FEDERAL 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 $15,000 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.

Up to $3,000 per year Renewable

***INSTITUTIONAL LOANS.** Through the generous gifts of friends of the College various loan funds have been established. Repayment begins nine months after the applicant's student status terminates. Loan terms are similar to the Federal Perkins/NDSL Loan Program.

Andrew and Evelyn Fisher Loan
Bertha Gray Loan
†Bertha Schneider Theology Loan
Carmen Ekine Loan

Carrie Welch Loan
Class of 1924 Loan
Class of 1958 Loan
Class of 1961 Loan
Class of 1976 Loan
†Clifford Graves Loan
Elvin Gaines Loan
Eng Saw Chinese/Asian Loan
Engineering Loan
†George Bowers Loan
Harold Chastain Theology Loan
†Hyretha Smith Loan (various majors)
Idaho Laymen's Worthy Student Loan
International Student Loan
†J. G. Mehling Business Loan
John Potts Loan
†John E. Weaver Education Loan
†Mary Koorenny Business Loan
Nursing Loan
Orpha Osborne Loan for Seniors
Robert G. Wirth Loan
Roy Carpenter Loan
Ruth Burgeson English Loan
Starr-Larrabee Memorial Loan
Wade Barnes Education Loan
Walla Walla College Loan
William Grettner Loan
Women in Ministry Loan
Women's Loan
Worthy Student Loan

†Juniors and Seniors Only

***FEDERAL STAFFORD STUDENT LOAN PROGRAM .**

Up to
$5,500 per year
Renewable

This program allows a student to borrow directly from commercial lenders and credit unions. These loans, which have an annual interest rate of 7% to 10%, do not have to begin principal repayment until six months after student ceases to be enrolled at least half-time.

There are two kinds of Stafford Loans: subsidized and unsubsidized. On a subsidized loan, the US Government will pay the interest while the student is in school. On an unsubsidized loan, the student is responsible for the interest, and may either make payments, or have the interest added to the principal of the loan. Eligibility for the interst subsidy is determined by the standard US Government formula for financial aid.

*Eligible students applying for financial aid will be considered for this program

In addition to the limits printed below, graduate students and independent undergraduate students may borrow additional unsubsidized Stafford loans. The borrowing limit is $4,000 per year for freshmen and sophomores; $5,000 per year for juniors and seniors. Undergraduate students have a total limit of $23,000. Graduate students may borrow $10,000 per year up to $73,000.

Students receiving a Stafford Loan will need to complete a separate application form. Loan origination and guarantee insurance fees of about 4% are deducted from the loan amount before the funds are issued to WWC.

Aviation majors are prohibited from receiving Stafford loans until they have completed their private pilots license and have a class two medical certificate.

Interested applicants may obtain further information from the Walla Walla College Student Loan Coordinator.

Category of Borrower	Annual Loan Limits	Aggregate Loan Limits
Freshman	$2,625	$ 2,625
Sophomore	3,500	6,125
Junior or Senior	5,500	23,000
Graduate or Professional	8,500	65,000

Up to $15,500 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 parent may borrow the total cost of attendance minus other financial aid. Repayment usually begins within sixty days after disbursement; principal payments may be deferred while the student is enrolled. The interest rate is at a variable rate, but will not exceed 10%. Applications and more information are available from the Walla Walla College Student Loan Coordinator.

Up to $10,000 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.

SAMPLE LOAN PAYMENTS

	Perkins & Institutional Loans	Nursing Student Loan	Stafford Loan			
Interest Rate	5%	5%	7%	8%	9%	10%
Loan Balance						
$1,000	40	15	50	50	50	50
2,000	40	25	50	50	50	50
3,000	40	35	50	50	50	50
4,000	45	45	50	50	55	55
5,000	55	55	60	65	65	70
6,000	65	65	70	75	80	80
7,000	75	75	85	85	90	95
8,000	85	85	95	100	105	110
9,000	100	100	105	110	115	120
10,000	110	110	120	125	130	135
15,000	160	160	175	185	195	200

ADDITIONAL INFORMATION:

If you would like more detailed financial information write or phone Student Financial Services Office.



WALLA WALLA COLLEGE
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Niels-Erik Andreasen, Secretary

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Chair, Department of Business, Wong Yew-Chong, Ed.D.
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Chair, Department of Health, and Physical Education,
Gary M. Hamburgh, Ph.D.
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Chair, Department of Social Work and Sociology, Wilma M. Hepker, Ph.D.
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Dean, Graduate Studies, Joseph Galusha, D.Phil.
Acting Dean, School of Nursing, Fred Troutman, M.S.
Assistant Dean, School of Nursing, Trudy L. Klein, M.S.
Dean, School of Theology, Douglas R. Clark, Ph.D.

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Director of Career Development and Cooperative Education, _____
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Director of Libraries, Carolyn Gaskell, M.A.
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Director, Planned Giving, Allan Fisher, Ed.D.
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Director of Student Financial Services, Cassie Ragenovich, B.S.

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Manager, Rental Properties, William Adams

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College Dairy, _____
Dairy Express, The Scoop, Westwind Travel
Color Press, Harold Kehney, B.S.B.A.
Little Folks Academy, Lynette Hubbard

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Consulting Physician, A. D. Selfa, M.D.
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Dean of Women, _____
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Director of Food Service, Kelly Triplet
Director of Health Services, Brenda Pierce, B.S.N.
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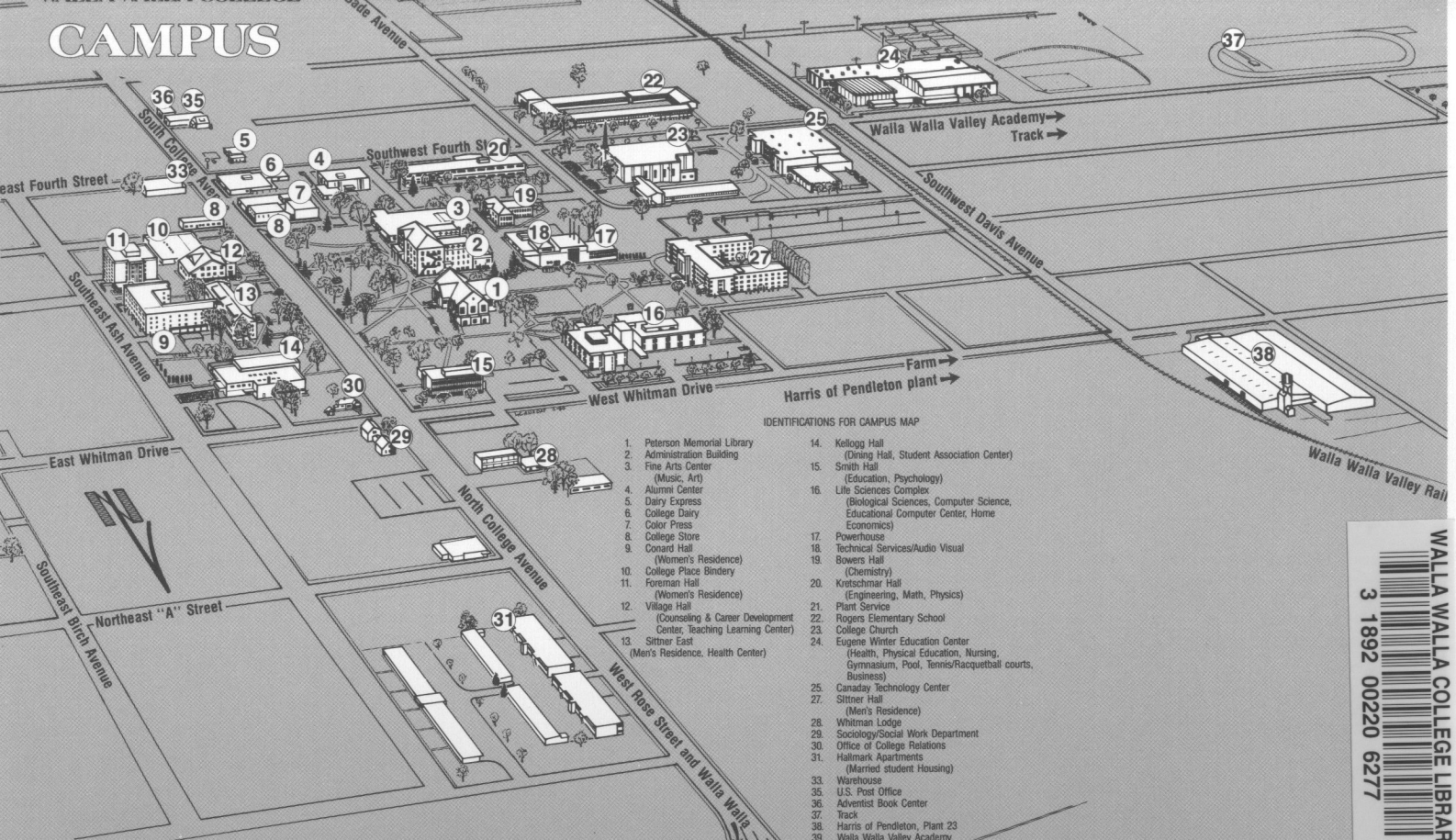
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CAMPUS



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1. Peterson Memorial Library
2. Administration Building
3. Fine Arts Center (Music, Art)
4. Alumni Center
5. Dairy Express
6. College Dairy
7. Color Press
8. College Store
9. Conard Hall (Women's Residence)
10. College Place Bindery
11. Foreman Hall (Women's Residence)
12. Village Hall (Counseling & Career Development Center, Teaching Learning Center)
13. Sittner East (Men's Residence. Health Center)
14. Kellogg Hall (Dining Hall, Student Association Center)
15. Smith Hall (Education, Psychology)
16. Life Sciences Complex (Biological Sciences, Computer Science, Educational Computer Center, Home Economics)
17. Powerhouse
18. Technical Services/Audio Visual
19. Bowers Hall (Chemistry)
20. Kretschmar Hall (Engineering, Math, Physics)
21. Plant Service
22. Rogers Elementary School
23. College Church
24. Eugene Winter Education Center (Health, Physical Education, Nursing, Gymnasium, Pool, Tennis/Racquetball courts, Business)
25. Canaday Technology Center
27. Sittner Hall (Men's Residence)
28. Whitman Lodge
29. Sociology/Social Work Department
30. Office of College Relations
31. Hallmark Apartments (Married student Housing)
33. Warehouse
35. U.S. Post Office
36. Adventist Book Center
37. Track
38. Harris of Pendleton, Plant 23
39. Walla Walla Valley Academy

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