

6-1991

Central Washington University 1991/93 Undergraduate/Graduate Catalog

Central Washington University

Follow this and additional works at: <https://digitalcommons.cwu.edu/catalogs>

Recommended Citation

Central Washington University, "Central Washington University 1991/93 Undergraduate/Graduate Catalog" (1991). *Course Catalogs*. 188.

<https://digitalcommons.cwu.edu/catalogs/188>

This Book is brought to you for free and open access by the University Archives and Special Collections at ScholarWorks@CWU. It has been accepted for inclusion in Course Catalogs by an authorized administrator of ScholarWorks@CWU. For more information, please contact scholarworks@cwu.edu.

...since 1891



Central
Washington
University

Ellensburg,
Washington

1991/93
Undergraduate
Graduate
Catalog



© Randy Hayes, 1991

■ BENJAMIN F. BARGE
1891-1894

▲ P.A. GETZ
1894-1898

● GEORGE H. BLACK
1916-1930

■ WILLIAM E. WILSON
1898-1916

INFORMATION DIRECTORY

Admissions Office, Mitchell Hall	963-1211
Cashiers Office, Mitchell Hall, 2nd Floor	963-2224
Central Switchboard, 11th & D St.	963-1111
Continuing Education, Barge 301	963-1501
Dean of Students, SUB Main Office	963-1515
Extended University Programs, Barge 301	963-1501
Fifth Year Certification, Black Hall 216	963-2661
Financial Aid, Barge Hall 209	963-1611
Graduate Office, Bouillon, 2nd Floor	963-3101
General Advisement, Academic Advisement Center, SUB	963-3409
Housing Office, Button Hall	963-1831
Library	963-1777
Placement Office, Barge 105	963-1921
Registrar, Mitchell Hall, 1st Floor	963-3001
'REGI'	963-7344
Student Employment, Barge 205	963-3008
Student Financial Services, Mitchell Hall, 2nd Floor	963-3546
Summer Session, Barge 401	963-2636
Veterans Office, Mitchell Hall, 1st Floor	963-3028

A LETTER TO THE CENTRAL COMMUNITY:



Any anniversary--and particularly a centennial--gives us the opportunity to take stock, remember our triumphs, analyze our shortcomings and plan for the challenges of our second century.

Chartered by the state legislature in 1890 as Washington State Normal School, Central built its reputation early as the premier Northwest institution for teacher preparation. Renamed Central Washington College of Education in 1937, Central achieved state college status in 1961 and became Central Washington University in 1977.

During Central's first 100 years, a lot more than name changes have happened. Tens of thousands of students have studied with Central professors, graduated and gone on to accomplish important work in education, business, science, the arts and technology.

Our mission at Central remains constant, from that day in September 1891--when the first normal school students arrived on the Ellensburg campus--to today. We are here to offer students the opportunity for a high-quality education that prepares them for a rewarding life and a fulfilling career beyond the campus.

Specifically, Central's ambition for our second century is to be the finest comprehensive state university in the Pacific Northwest. While our faculty continually assess and revise our curricula to ensure that we offer our students current, relevant and challenging coursework, we remain committed to a common education foundation in the arts and sciences

From the first, Central has depended on all its individual members. Faculty, staff, administrators and students contribute to the learning environment that makes this assemblage of departments and buildings a real community.

Our faculty continue to excel in teaching, research and public service. Their interests and activities extend beyond the confines of classrooms and laboratories in Ellensburg and at our extended degree centers on community college campuses in Yakima, Lynnwood, Seattle and Tacoma. Through their dedicated work, our faculty and students touch the lives of citizens throughout the Pacific Northwest and our nation.

Central students have always been our most important constituency, and they bring great pride to the campus. They come to the university after successful high school and community college careers, and they go on to distinguish themselves as citizens:

who discover new truths,
who develop new interconnections,
who care about their neighbors, nation and planet,
who value wisdom, and
who create the future.

I invite all of you to celebrate with us Central's 100th birthday, and to play an important part in our second century.

Sincerely,

Donald L. Garrity

CENTRAL WASHINGTON UNIVERSITY
1991/93
UNDERGRADUATE/GRADUATE CATALOG

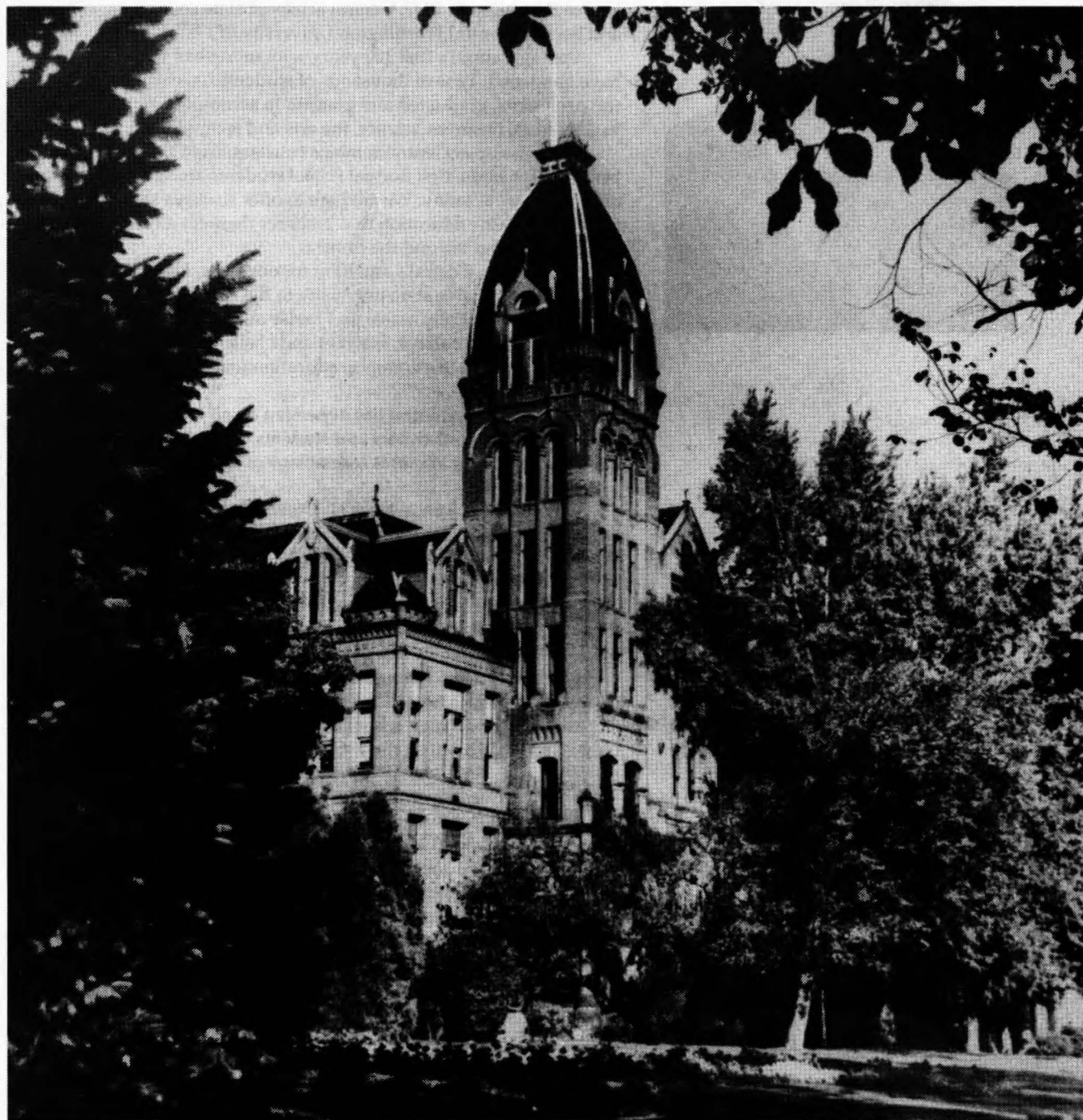


TABLE OF CONTENTS

UNIVERSITY CALENDAR.....	6	UNDERGRADUATE ADMISSIONS	
THE UNIVERSITY		Philosophy and Procedures.....	23
HISTORY, MISSION AND ROLES.....	9	Application Deadline Dates.....	23
ACCREDITATION AND MEMBERSHIP.....	10	Required Transcripts.....	24
AFFIRMATIVE ACTION PROGRAM.....	10	Required Tests.....	23
INSTRUCTION AND RESEARCH RELATED SERVICES		Required High School Courses.....	24
Academic Skills Development Program.....	10	Admission Decision.....	25
Archival Services.....	10	Alternative Admission Procedures.....	25
Central Safety Center.....	10	Freshman Student Eligibility.....	24
Central Washington Archaeological Survey.....	10	Transfer Student Eligibility.....	24
Geographic Information Systems Laboratory.....	11	Readmission of Former Students.....	24
Central Washington University Library.....	11	International Students.....	25
Information Resources.....	11	Provisional Enrollment.....	24
Cooperative Education and Internships.....	11	Nonmatriculant Status.....	24
English As a Second Language.....	12	High School Enrichment Program.....	24
Extended University Programs.....	12	Campus Visits.....	26
Honor Societies.....	13	Accepting the Offer of Admission.....	25
International Programs.....	13	Application Procedures.....	25
Organization Development Center.....	13	International Baccalaureate.....	25
Summer Session.....	13	SOURCES OF ACADEMIC CREDIT	
Testing and Evaluation.....	13	Community College Credit.....	28
Veterans Affairs.....	13	Concurrent Enrollment.....	30
STUDENT SERVICES		Associate of Arts Transfer Degrees.....	28
Access Program.....	14	Advanced Placement Credit.....	27
Career Planning and Placement.....	14	Military Service Credit.....	28
Student Housing.....	16	Non-U.S. College/University.....	28
Student Health and Counseling Center.....	16	College Level Examination Program (CLEP).....	28
Disabled Student Service.....	14	Industrial Experience.....	29
Drug and Alcohol Program.....	14	ACADEMIC REGULATIONS	
Financial Aid.....	14	GENERAL REGULATIONS.....	29
Minority Retention Program.....	15	Advising and Orientation.....	29
Residence Living.....	15	Quarter Credit.....	29
Student Activities.....	15	Classification of Students.....	29
Application Deadlines and Procedures for		Registration.....	29
Financial Aid.....	15	Student Study Loan.....	30
Student Employment.....	16	Course Withdrawal.....	30
Scholarships.....	15	Withdrawal from the University.....	31
Womens Resource Center.....	17	Academic Advising.....	29
TUITION AND FEES		Proficiency Requirements.....	30
SCHEDULE OF TUITION AND FEES.....	19	Credit by Examination - Course Challenge.....	33
FULL-TIME UNDERGRADUATE STUDENTS.....	19	Course Challenge List.....	34
PART-TIME UNDERGRADUATE STUDENTS.....	19	Credit for Industrial Experience.....	34
FULL-TIME GRADUATE STUDENTS.....	19	College Level Examination Program (CLEP).....	34
TUITION REFUND SCHEDULE.....	20	Seniors in Graduate Courses.....	30
MISCELLANEOUS FEE SCHEDULE.....	21	Class Attendance.....	33
FINANCIAL OBLIGATION.....	21	Catalog Choices and Limitations.....	30
		Auditors.....	30
		Withdrawal From The University Due to	
		Military Exigency.....	31

GRADING PRACTICES	
Grading Systems	31
Grade Point Average	32
Statute of Limitations on Grade Changes	32
Repetition of Courses	32
Credit/No Credit Option	32
Grade Reports to Students	32
Grade Appeal Procedure	32
Grade Appeal Procedure	32
Honor Roll	32
Graduation with Distinction	35
Scholastic Standards	32
Academic Forgiveness	33
Class Attendance	33
Athletic Participation	33
Academic Appeal	34
Required Participation Assessment Activities	34
Application to Major Requirement	34
UNDERGRADUATE STUDIES	
DEGREE PROGRAMS	45-47
GRADUATION REQUIREMENTS FOR THE	
BACHELOR'S DEGREE	35
Concurrent Baccalaureate Degrees	36
Second Baccalaureate Degree	36
GENERAL EDUCATION PROGRAM	37
Special Rules	38
BACHELOR OF ARTS, BACHELOR OF MUSIC	
AND BACHELOR OF SCIENCE DEGREES	45
BACHELOR OF ARTS IN EDUCATION DEGREE	45
Admission to Teacher Education	41
Admission Requirements	41
Recommendations	42
History Requirements	42
Major and Minor Concentrations	42
Certification	43
Initial Certificate	43
Continuing Certification	43
Requirements for Certification in more than one Teaching Specialty	43
DIVISION OF INSTRUCTION	
COLLEGE OF LETTERS, ARTS AND SCIENCES	39
SCHOOL OF BUSINESS AND ECONOMICS	40
SCHOOL OF GRADUATE STUDIES	40
SCHOOL OF PROFESSIONAL STUDIES	41
UNDERGRADUATE PROGRAMS AND	
COURSES	
ACCOUNTING	49
AEROSPACE STUDIES (AFROTC)	51
ANTHROPOLOGY AND MUSEUM OF MAN	53
ART	57
ASIAN STUDIES	63
BIOLOGICAL SCIENCES	63
BUSINESS ADMINISTRATION	70
BUSINESS EDUCATION AND	
ADMINISTRATIVE MANAGEMENT	77
CHEMISTRY	83
COMMUNICATION	86
COMPUTER SCIENCE	91
THE WILLIAM O. DOUGLAS	
HONORS COLLEGE	96
DRAMA	97
ECONOMICS	100
EDUCATION	105
ENERGY STUDIES	116
ENGLISH	117
ENVIRONMENTAL STUDIES	121
ETHNIC STUDIES	122
EXPLORATORY STUDIES	122
FASHION MERCHANDISING	122
FLIGHT TECHNOLOGY PROGRAM	123
FOREIGN LANGUAGES	128
GEOGRAPHY AND LAND STUDIES	132
GEOLOGY	137
GERONTOLOGY	140
HISTORY	141
HOME ECONOMICS, FAMILY AND	
CONSUMER STUDIES	145
HUMANITIES	152
INDIVIDUAL STUDIES PROGRAM	152
INDUSTRIAL AND ENGINEERING	
TECHNOLOGY	152
INTERNATIONAL PROGRAMS	163
LATIN AMERICAN STUDIES	163
LAND STUDIES PROGRAM	164
LAW AND JUSTICE PROGRAM	164
MATHEMATICS	167
MEDICAL TECHNOLOGY	171
MILITARY SCIENCE (ARMY ROTC)	171
MUSIC	174
PHILOSOPHY	182
PHYSICAL EDUCATION, HEALTH AND	
LEISURE SERVICES	185
PHYSICS	199
POLITICAL SCIENCE	201
PSYCHOLOGY	203

RELIGIOUS STUDIES	207	GEOLOGY	258
SAFETY EDUCATION PROGRAM.....	207	HISTORY.....	258
SCIENCE EDUCATION.....	209	HOME ECONOMICS FAMILY AND	
SOCIAL SCIENCE.....	210	CONSUMER STUDIES	259
SOCIOLOGY	211	INDIVIDUAL STUDIES PROGRAM.....	261
WOMEN STUDIES.....	216	INDUSTRIAL AND ENGINEERING	
PREPROFESSIONAL PROGRAMS	216	TECHNOLOGY	262
GRADUATE STUDIES		LIBRARY.....	263
Graduate Student Definition.....	225	MATHEMATICS.....	263
Graduate Admissions and Records.....	225	MUSIC	265
Graduate Studies and Research Office	225	ORGANIZATION DEVELOPMENT.....	269
Certification and Fifth Year Office	225	PHILOSOPHY.....	270
Programs of Graduate Study	225	PHYSICAL EDUCATION, HEALTH AND	
Graduate Certificate Programs	226	LEISURE SERVICES.....	270
APPLICATION AND ADMISSION TO		POLITICAL SCIENCE	273
GRADUATE STUDIES		PSYCHOLOGY.....	273
General	227	RESOURCE MANAGEMENT	278
Foreign Graduate Students	227	SCIENCE EDUCATION	279
Application for Study Leading to a		SOCIAL SCIENCE.....	280
Master's Degree.....	227	SOCIOLOGY	280
Admission Procedures	228	UNIVERSITY PERSONNEL	
Application for Study Leading to		TRUSTEES.....	281
Post-Baccalaureate Certification and		ADMINISTRATION	
Non-Degree Study	228	Executive Offices.....	281
Graduate Student Service Appointments	228	Attorney General's Office	281
GENERAL MASTER'S DEGREE REGULATIONS.....	231	Academic Administration	281
Advancement to Candidacy.....	234	Student Services	282
Graduate Certificate Programs	235	Business Administration.....	282
GRADUATE PROGRAMS AND COURSES		EMERITUS FACULTY	283
ALLIED HEALTH SCIENCES PROGRAM.....	237	DISTINGUISHED PROFESSOR AWARDS	286
ANTHROPOLOGY AND MUSEUM PROGRAM.....	237	FACULTY	288
ART.....	237	APPENDIXES.....	299-310
BIOLOGICAL SCIENCES.....	240	INDEX.....	311-314
BUSINESS ADMINISTRATION.....	242	CAMPUS MAP.....	315
BUSINESS EDUCATION AND			
ADMINISTRATIVE MANAGEMENT	242		
CHEMISTRY.....	244		
COMMUNICATION.....	245		
COMPUTER SCIENCE	245		
COUNSELING	245		
DRAMA.....	245		
ECONOMICS	246		
EDUCATION	246		
ENGLISH	255		
FOREIGN LANGUAGES	257		
GEOGRAPHY AND LAND STUDIES	258		

FALL QUARTER

Date admissions process for Fall Quarter
should be completed
Advising and orientation of new students
Registration
Classes begin
Change of Class Schedule Period
Uncontested Withdrawal Deadline
Advising Week
Veterans Day Holiday
Pre-registration for Winter Quarter
Thanksgiving Recess (begins NOON Wednesday)
Final Exam Week

1991-92

May 1
September 16
September 16, 17
September 18
September 18-24
November 1
November 4-8
November 11
November 12-27
November 27, 28, 29
December 2-6
(54 1/2*)

1992-93

May 1
September 21
September 21, 22
September 23
September 23-29
November 5
November 2-6
November 11
November 9-24
November 25, 26, 27
December 7-11
(54 1/2*)

WINTER QUARTER

Date admissions process for Winter Quarter
should be completed
Advising and orientation of new students
Registration
Classes begin
Change of Class Schedule Period
Martin Luther King Jr's. Day Holiday
Uncontested Withdrawal Deadline
Advising Week
President's Day Holiday
Pre-registration for Spring Quarter
Final Exam Week

October 1
January 6
January 6
January 7
January 7-13
January 20
February 14
February 18-21
February 17
February 24 - March 6
March 16-20
(52*)

October 1
January 4
January 4
January 5
January 5-11
January 18
February 12
February 16-19
February 15
February 22 - March 5
March 15-19
(52*)

SPRING QUARTER

Date admissions process for Spring Quarter
should be completed
Advising and orientation of new students
Registration
Classes begin
Change of Class Schedule Period
Uncontested Withdrawal Deadline
Advising Week
Pre-registration for Fall Quarter
Memorial Day Holiday
Final Exam Week
Commencement

February 1
March 30
March 30
March 31
March 31 - April 6
May 8
May 11-15
May 18-29
May 25
June 8-12
June 13
(53*)

February 1
March 29
March 29
March 30
March 30 - April 5
May 7
May 10-14
May 17-28
May 31
June 7-11
June 12
(53*)

SUMMER QUARTER

Date admissions process for Fall Quarter
should be completed
Registration (first, second, full and 6 weeks)
Classes begin
Change of Class Schedule Period
Independence Day Holiday
First Term closes
Registration (Second Term Only)
Classes begin (Second Term)
Change of Class Schedule Deadline (Second Term)
Second and Full Terms Close

June 1
June 22
June 23
June 23-24
July 3
July 22
July 23
July 23
July 24
August 21

June 1
June 21
June 22
June 22-23
July 5
July 21
July 22
July 22
July 23
August 20

1890

The Washington State Normal School at Ellensburg established by legislature in conformance with the Statehood Enabling Act.

1890

Temporary classroom space for the Normal School acquired from the Ellensburg School District.





1891

Legislative appropriation passed to allow \$15,000 for operating expenses.

1891

Benjamin Franklin Barge appointed as principal of the Normal School.

1891

Classes opened in four rooms on the second floor of the Washington Public School.

Beginning enrollment: 51 students!

1891

Formal dedication of the Washington State Normal School.

THE UNIVERSITY



HISTORY, MISSION AND ROLES

Central Washington University is one of six state-supported institutions offering baccalaureate and graduate degrees. The University has its own governing board, the board of trustees, with seven members appointed by the governor and approved by the state legislature. Established in 1890 as Washington Normal School by the first legislature to fulfill the intent of the Federal Statehood Enabling Act for the establishment and maintenance of its various institutions of higher education, it became Central Washington College of Education in 1937, Central Washington State College in 1961 and Central Washington university in 1977.

The mission of Central Washington University is to provide the highest possible quality education on the post-secondary level to all persons who are admitted for study, with particular, but not exclusive attention to the residents of Benton, Chelan, Clark, Douglas, Franklin, Grant, King, Kitsap, Kittitas, Klickitat, Okanogan, Pierce, Snohomish, and Yakima counties. The University's primary purpose is academic; that is, discovering and creating new knowledge, preserving and transmitting it, and applying it to life's experiences. All other areas of the organization complement and support that function. The university is dedicated to providing the best qualified faculty, knowledgeable and imaginative administrators and staff, excellent library resources, and appropriate facilities and instructional equipment. These strengths combined with a well planned curriculum and close personal attention afford the opportunity for quality education to all students who are admitted.

The university offers admission only to applicants who have demonstrated a potential for success. Admission criteria include high school/college courses completed, grade point average, and standardized test scores. Approximately 40 percent of the enrollment is in lower division study and 60 percent in upper division and graduate level.

The mission is manifest through a number of roles, the first of which is instruction — the transmission of knowledge. Organized into degree and certificate programs, this instruction provides theoretical and practical education through the bachelor's and master's levels in the liberal arts and sciences, professional and technical fields, education, business, applied sciences and engineering technologies. Such a multi-dimensional curriculum requires careful balance of the elements, ensuring that each contributes to the others in appropriate and effective ways. The balance will change as the university's capabilities

change, the student population varies, or demands of society change, but the university must provide opportunities for learning to live more fully as well as training to make a living.

Second, the university endeavors to provide students with programs and activities outside the classroom that enhance the academic program and contribute to the development of well-rounded individuals.

Third, the university provides opportunities for faculty and students to engage in both basic and applied research activities. Results of their work are shared with others by means of scholarly publications, presentation of papers at public or professional forums and lecturing.

Fourth, through cooperative efforts with community colleges the educational needs of transfer students are identified and, in some cases, instructional programs are designed specifically to build upon associate degree offerings. Additionally, the university maintains direct transfer agreements with community colleges for the academic transfer associate degree.

Fifth, the university provides degree and non-degree programs to meet the needs of those students who intend to transfer into professional programs at other institutions.

Sixth, the university is responsive to educational needs of adults at sites away from Ellensburg. Off-campus degree and non-degree programs, as well as continuing education offerings, provide access to higher education at convenient times and places for part-time student populations.

Seventh, the university provides public services to citizens of the region and state through its faculty, facilities, and instructional resources. Such services include providing professional consulting, special studies, clinics, laboratories, print and non-print instructional materials and facilities for meetings.

Eighth, the university serves as a cultural center for citizens of the state. Cultural events are provided through sponsoring art exhibits, musical and dramatic performances, special lectures and other such events. The Library provides extensive resources and skilled services to the public as well as to the campus.

Ninth, the university is committed to maintaining and improving its national status as one of the best small comprehensive universities. The university has a reputation for its geographical setting, its strong liberal arts base, its reputation in teacher preparation, its student-faculty rapport, its response to the needs of the people of the Northwest both on and off campus, its active research programs and its concern for the student as a person.

Central will continue to be responsible to all citizens by adjusting services to meet their needs. It is recognized that special groups of students may have educational needs different from others; therefore, a variety of services must be provided. The long term value of the University rests with being able to provide quality education through careful selection of new options for service and continued evaluation of existing programs; the mission and roles direct these efforts.

ACCREDITATION AND MEMBERSHIP

The University is accredited by the Commission on Colleges of the Northwest Association of Schools and Colleges, the regional accrediting association. Some programs have been accredited by specialized accrediting associations, including the National Association of Schools of Music, the National Accrediting Agency for Clinical Laboratory Sciences, the National Recreation and Parks Association, American Medical Association: Committee on Allied Health Education and Accreditation, American Dietetics Association and the University Aviation Association. The electronics engineering technology program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

The university holds membership in the American Council on Education, American Association of State Colleges and Universities, the Association of General and Liberal Studies and the Council of Graduate Schools in the United States.

It is approved by the United States Attorney General for non-quota immigrant studies.

The university is approved by the United States Attorney General for non-quota immigrant studies.

AFFIRMATIVE ACTION PROGRAM

Central Washington University operates under an affirmative action program. In compliance with federal and state requirements, Central Washington University actively recruits minorities, women, Vietnam era veterans, and persons of disability. It will provide equal access to all educational, recreational and related activities and services without regard to race, color, religion, sex, age, national origin, marital status, or the presence of any sensory, physical or mental handicap. Applicable WAC statements appear in Appendix A. The person responsible for institutional compliance with various federal and state laws and institutional policies dealing with discrimination is Nancy E. Howard, director of affirmative action, Bouillon Hall 228, (509) 963-2205.

INSTRUCTION AND RESEARCH RELATED SERVICES

Academic Skills Development Program

The academic skills program helps students improve their skills in writing, reading, and basic mathematics. The program

provides help with spelling, usage, punctuation and other mechanical matters as well as with drafting and editing skills that are basic to writing. Reading improvement help is available to students who have comprehension problems and to those who are able readers but want to increase their reading speed and efficiency. The mathematics improvement program is designed to teach or review arithmetic skills, basic algebra, and work with graphs, measurement, and sets. The program is located in the skills center in the Language and Literature Building.

Archival Services

The archives program, through its Central Washington historical collection of public records, manuscripts and photos, offers both undergraduate and graduate students an opportunity for primary archival research on local and regional topics. The collection is designed to preserve selected evidential materials of historical importance and seeks to encourage original research in the humanities and the social sciences. An archival science course, offered through the history department, introduces the potential researcher to the history, principles and procedures of the archival profession, while the official tie with the state archives in Olympia affords additional opportunities for archival training and internships. Moreover, for the general public, Central's regional archives seeks to serve a broad clientele including: public officials from city, county and state government seeking help on archival records retention; personnel from libraries, museums, local historical societies and private archival collections in need of advice on archival techniques; private citizens and local groups interested in historical architectural preservation in central Washington.

Central Safety Center

The central safety center coordinates the development and implementation of occupational safety and health and traffic safety programs and related research. Grants from the various federal and state agencies provide support for related training and technical assistance for Washington industrial firms and schools. Scholarships are also available for students who major in loss control management or secure a minor in traffic safety education. A student section of the American Society of Safety Engineers (ASSE) is sponsored by the central safety center. For more information contact the central safety center, (509) 963-3218 or 963-1461.

Central Washington Archaeological Survey

The central Washington archaeological survey (CWAS), with offices in Farrell Hall, is a research and public service reporting to the dean of graduate studies and research. An advisory board which includes the dean of graduate studies and research, the dean of the college of letters, arts and sciences, and the chair of the department of anthropology and museum, provides direction and support for CWAS activities. CWAS conducts archaeological reconnaissance and excavation in the central counties of the state, and promotes public involvement in the identification, protection, and interpretation of local archaeological resources. Closely integrated with the academic programs in anthropology, CWAS provides an organizational framework within which faculty and students participate in

research projects funded through external grants and contracts. CWAS cooperates with state and federal agencies, with professional archaeologists throughout the state, and with state and local archaeological societies, for the preservation of prehistoric and historical cultural heritage.

Geographic Information Systems Laboratory

The CWU geographic information systems (GIS) laboratory supports computer hardware/software systems for analysis of spatial data (maps, aerial photos, landsat images, digital terrain data, etc.). The laboratory provides an unusual teaching and research facility for faculty and students from a variety of fields, including anthropology, archaeology, biology, geography, geology, land-use planning, resource management and sociology. Non-credit courses and workshops make these facilities available to professionals beyond the academic community. In addition, the laboratory offers contract and consultation services to public and private agencies concerned with GIS applications. The laboratory is located in Lind Hall.

University Library

The university libraries are an integral part of the instructional program offering print and microformat resources as well as audio-visual media and equipment. Professional and effective services are available to the user at each of the two easily accessed and well planned facilities. The library's collections and services are made available to students and faculty associated with extended degree programs through an automated circulation service installed at each off-campus center.

The library's instructional media center, located partially in Bouillon Hall and in the library, supports the instructional media endeavors by providing comprehensive resources and equipment to faculty and students. At Bouillon Hall, the media production unit provides graphic, photographic and audio assistance and productions. The television unit provides closed circuit television, a video tape instructional library, and other instructional media aids. The film library is located in the library and provides equipment, films, recordings, filmstrips and other instructional media aids. Skilled personnel are available at both sites to offer assistance and advice to students and faculty.

The Library contains more than 500,000 books, 520,000 government documents, 84,000 maps and 14,000 recordings. A rapidly growing microformat collection and subscriptions to more than 2,000 current journals are available to all users. Faculty and staff are available to provide personal service upon request in the reference, document, curriculum, music, and circulation departments. The library provides for user needs through a computer laboratory, individual and group study rooms, music listening facilities and quiet study areas. Library personnel are available during library hours to give assistance with reference, research and the location of materials.

Informal orientation tours are conducted at the beginning of each quarter and upon request.

Information Resources

Information Resources (formerly computer services) provides support to academic and administrative users through the following organizational units: user services, applications development, systems, and operations.

User services' primary responsibility and main objective is to

support end-user computing, both on and off campus. This unit is the support arm of computer services - to assist users with computing questions, be it VAX or microcomputer, hardware or software. Services provided are: consulting, training, VAX accounts, production, software site licenses, CWUsers newsletter, equipment loan program, online documentation, user group support, terminal and microcomputer laboratories, and the micro-evaluation center. The applications development unit develops academic as well as administrative applications. The applications, depending on their use, can operate on the DEC VAXcluster or microcomputers.

Systems and operations is responsible for the DEC VAXcluster (one VAX 8800, one VAX 6410, two VAX 11/785 and four VAX 11/780 computers in a cluster configuration) using VAX/VMS, the VAX 11/750 computer using ULTRIX (unix), and the campus-wide communications network including Ethernet and asynchronous dial-in modem service to the VAXcluster. Access to the VAXs is accomplished via more than 1,100 terminals or microcomputers located throughout the campus. Operations is responsible for the 24-hour per day production activities. Operational functions include services for administrative and academic users through the operation of the VAX computers located in the computer center.

Cooperative Education Program

The cooperative education program is an educational plan designed to integrate classroom study with planned, supervised, and evaluated work experience which links students' academic programs with their career goals and interests. The program is designed to provide students the opportunity of having a series of work experiences prior to graduation. It offers undergraduate and graduate students an opportunity to integrate career, social, and personal development into the educational process.

There are several benefits the program offers to students:

- It allows students the opportunity to see if they have made the right choice.
- It provides those who have made up their minds an opportunity to obtain pre-graduation work experience in their chosen career; and, those who are uncertain, an opportunity to explore a number of career possibilities.
- It provides students a chance to earn money to help finance their education and earn academic credit toward their degree.
- It substantially improves the opportunities for employment upon graduation.

Cooperative education has a profound effect on the way learning takes place. It is interactive and reinforcing. Students better understand what they have learned in the classroom, because they are putting it to the test of a real job. The added ingredient is experience. Cooperative education is highly regarded as a valued pedagogical enterprise.

The cooperative education program is an option that is available in most departments at Central. Generally speaking, students begin their cooperative work assignment in their sophomore or junior year, although seniors can be placed. Students can undertake either part- or full-time work assignments. Work assignments are available during the school year as well as the summer. These positions may be with a single employer

or with different employers; increasing complexity is the critical principle. Salaries vary with the field of work and the intricacy of the job. Volunteer experiences also are available.

University Requirements for student participation include:

- A. Students must be enrolled and pursuing an academic degree.
- B. Students must be in good academic standing which means they cannot be on academic warning or probation and must have a minimum 2.0 cumulative GPA or higher at CWU. (Many employers prefer higher).
- C. Freshmen must have completed at least 30 credits and transfer students at least 15 credits at CWU.
- D. The coop-ed experience must relate to the major, minor, or career objective.
- E. A faculty advisor is required for the experience.
- F. A Cooperative Education Learning Agreement must be approved before a student can register for academic credit.
- H. Some departments have additional requirements. Check with the academic advisor.

Academic credit is available by enrolling in a cooperative education course, numbered 290 (interdisciplinary), 490, and 590. The amount of credit is variable depending on the amount of time a student intends to work, the depth of the work assignment, the breadth of learning, and departmental requirements. The decision on the amount of credit to be granted rests with the faculty. Students must make credit arrangements with a faculty member prior to their cooperative work assignment.

Cooperative work assignments are initiated with a three-way Cooperative Education Learning Agreement that is arranged between the student, the employer/supervisor, and the university. A learning plan will be developed as part of the agreement. This learning plan should be completed before registering for the course and must be completed before the third week of the quarter. Students earn an S or U grade for the cooperative work assignment. An evaluation of the student's performance written by the employer/supervisor should be completed at the end of the work assignment.

Students interested in entering or learning more about the cooperative education program should contact their academic department or visit the cooperative education center, Barge Hall 307, telephone (509) 963-2404.

English As A Second Language

The University English as a Second Language (UESL) Program provides international students whose first language is other than English with regular and special instruction in English. Courses in the five-level curriculum emphasize the communicative aspects of both oral and written English. Students receive 20 hours of instruction per week in reading, writing, integrated grammar, listening comprehension, and speaking. In addition to the core curriculum, students select from elective courses such as TOEFL preparation, research skills, international business, U.S. history and science. Tutoring and laboratory work is provided as needed. Special activities in and out of the classroom foster academic readiness and social interaction.

International students who have been admitted to an undergraduate or graduate degree program may be required to take one or two ESL courses during their first quarter of study. For information, contact the UESL Program Office, Special Services Building 168, 963-1375.

Extended University Programs

Academic programs offered away from campus are administered through the office of extended university programs, 963-1501.

Extended Degree Programs. The university operates extended degree centers at Steilacoom, Lynnwood, South Seattle and Yakima. Students may pursue courses of study leading to bachelor's and master's degrees. The programs are designed to meet the needs of placebound adults who are unable to leave their permanent residences to attend classes on the campus in Ellensburg. Extended degree programs being offered off campus include:

Degree	Location
Accounting	Lynnwood, South Seattle
Administrative Office Management	Yakima (pending HECB approval)
Business Administration	Lynnwood, South Seattle
Early Childhood Education	South Seattle, Yakima
Electronic Engineering Technology	Steilacoom
Law and Justice	Steilacoom, Lynnwood, South Seattle, Yakima (pending HECB approval)
Reading Specialist	South Seattle
School Administration	South Seattle
Special Education	Bremerton, Yakima

Continuing Education Programs. Credit and noncredit courses, seminars and workshops are offered to assist in meeting the continuing education needs of various professions including education, medicine, law enforcement, environmental science, business and industry at locations throughout the state. Personal enrichment courses are offered as a community service. The continuing education programs are offered on a self-support basis.

Honor Societies

Six national honor societies maintain chapters at the university.

The national honor society of Phi Kappa Phi has as its primary objective the recognition and encouragement of superior scholarship in all academic disciplines. Membership is open to undergraduate students, graduate students, and faculty members by invitation and election based on superior scholarship. New members are inducted each spring.

The honor society in education, Kappa Delta Pi, has as its purpose to encourage high professional, intellectual and personal standards, and recognize and honor outstanding achievement in the study of education. Membership is open to undergraduate students, graduate students, and faculty by invitation. New members are inducted quarterly.

Tau Iota is Central's chapter of Phi Alpha Theta, the international honor society in history. Membership is composed of students and professors who have been elected upon the basis of excellence in the study and writing of history. The society's objective is the promotion of the study of history by the encouragement of research, good teaching, publication, and the exchange of learning and thought among historians.

Delta Pi Epsilon is a post-baccalaureate honor society for business educators. Its objectives are to improve business education through research, to recognize exceptional research achievements, and to publicize research in business education. Membership is open to business educators who meet scholastic criteria and exhibit a commitment to research in business education.

Pi Sigma Alpha (Mu Lambda Chapter) is CWU's honor society for students of political science. This is a national honorary first organized in 1920 and with more than 300 chapters throughout the country. Membership is based upon scholastic achievement and a genuine interest in the understanding of politics and political issues.

Psi Chi is the national honor society in psychology, founded in 1929 for the purpose of encouraging, stimulating, and maintaining scholarship in, and advancing the science of, psychology. Membership is open to graduate and undergraduate men and women who are making the study of psychology one of their major interests and who meet the minimum qualifications. Psi Chi is an affiliate of the American Psychological Association and a member of the Association of College Honor Societies.

International Programs

Central Washington University students enjoy a multitude of opportunities for U.S. and overseas study. The office of international programs coordinates bi-lateral and consortia exchange programs with more than 100 universities in approximately 38 countries abroad, including Argentina, Australia, Japan, China, Fiji, Colombia, Chile, Tanzania, Kenya, Togo, Malta, Cyprus, Hungary, Sweden, Finland, Switzerland, Italy, Spain, England, France, and the Soviet Union. These exchange programs generally cost about the same or less than spending a year on campus in Ellensburg.

Central Washington University is also a member of the National Student Exchange program which permits a student to attend colleges and universities in Massachusetts, New York, Florida, South Carolina, Pennsylvania and more than 40 other states in addition to Puerto Rico, Guam, and the U.S. Virgin Islands. Students need only pay in-state Washington

tuition or the in-state tuition of the institution they will attend.

The University cooperates with several other Pacific Northwest institutions in the operation of study abroad sites in Siena (Italy), Avignon (France), Koln (FRG), Athens (Greece), Morelia (Mexico) and London (U.K.). Most classes in these centers are taught in English and receive University credit. A program focusing on international business and the European economic community will be offered in collaboration with Dublin City University in Ireland beginning in 1991 or 1992. Summer programs are available in Spain, Mexico, England, and the Soviet Union. International work/internship opportunities are also available in Turkey, Spain, Thailand, the United Kingdom and several other countries.

Students interested in any study abroad, exchange, or internship opportunity should visit the office of international programs in Barge Hall 103 or call (509) 963-3612.

Organization Development Center

The organization development center has three primary functions. First, it provides a master of science in organization development for students preparing for positions of leadership and management. Second, it provides consultant services for organizations, institutions and agencies needing professional assistance in the accomplishment of their mission. Third, it provides for special seminars, workshops and laboratories for individuals performing managerial tasks. The primary focus of each function is on performance excellence and the practical application of behavioral science knowledge and competencies to the work setting.

For more information contact the director, organization development center (509) 963-2381.

Summer Session

Courses for continuing degree-seeking students are offered during a nine-week session, a six-week session and two four- and one-half-week sessions. Special short workshops and seminars for teachers comprise a summer professional development institute. Summer session courses are offered on a self-support basis.

Testing and Evaluation

This office administers tests to individuals referred by university counselors and psychologists. It also administers and serves as an information source for local and national testing programs, such as SAT, ACT, Graduate Record Examination, Law School Admissions Test, Teacher Education Battery, and the like.

The office is prepared to assist faculty with the scoring of objective tests and student evaluation of instruction.

Veterans Affairs

The office of veterans affairs, located in Mitchell Hall 100, processes all VA forms for veteran students, veteran's dependents and in-service students. Students wishing to receive education benefits from the Veterans Administration must contact the veterans affairs office, and must verify their registration with the office each quarter they receive benefits. Notification is NOT automatically sent to the veterans office when a veteran or other eligible person enrolls.

The office will also assist veterans and their dependents with payment problems and with processing and information pertaining to other veteran's benefits.

STUDENT SERVICES

The vice president for student affairs is responsible for the student support services described in this section. The basic purpose of student affairs is to provide diversified programs necessary for enriching campus life. These programs focus on out-of-classroom educational experiences and are closely correlated with the living-learning environments of residence halls.

The vice president is also responsible for processing student grievances including inquiries about student rights, disciplinary and conduct matters, academic grievances, complaints about other students or university staff, and academic suspension.

Services available to students include:

Access Program

The access program (formerly the educational opportunities program) is one of three programs within the special services unit of student affairs. The access program provides an alternative avenue of admission for certain persons who do not meet the usual criteria for admission and who would be entering Central as freshmen. (All individuals interested in entering CWU through the access program must first complete the regular application process for admission prior to being considered for alternative admission.)

Admission into the access program is limited to individuals who are members of groups traditionally under-represented in the college population (e.g., persons of disability and persons of color) or who are beyond the usual college age at the time of application (e.g., veterans, displaced homemakers, and reentry students). Individuals who have experienced an interruption in the educational process (i.e., have not been enrolled in a formal educational program for one or more years) will be given preference. High school seniors meeting any of the above standards may be considered only if extenuating circumstances resulted in their not realizing their potential while in high school. (An explanation of special circumstances must be included with the Uniform Undergraduate Application to CWU.)

Applicants to the program will be evaluated for evidence of motivation, maturity, and ability to successfully complete college-level work. A personal interview with the access admissions committee is required in order to be considered for admission to access.

Career Planning and Placement

The university maintains a central career planning and placement center for all students and alumni. It provides: (1) an occupational information library, maintained to inform students about career selection, job entrance requirements, and employment opportunities; (2) career counseling services which enable students to discuss their desires and abilities, formulate options open to them, and deliberate on majors and minors needed to achieve career goals; (3) job search workshops which assist students with their career planning and placement through studying the hidden job market, self assessment, job search communication, and interviewing; and (4)

placement opportunities for graduating students and alumni which include on-campus recruiting and direct notification of jobs listed with the career planning and placement center.

Placement files established by graduating students and alumni are made available to prospective employers or graduate schools upon request. Registration forms may be obtained at Barge Hall 105. Alumni services and fee information are available upon request.

Disabled Student Service

The Central Washington University disabled student service was created to make it less difficult for qualified students of disability to participate in programs and activities on an equal basis with other students. It helps students obtain the materials, equipment and assistance necessary to successfully pursue their education. Every attempt is made to minimize functional limitations, encourage independence, and create a sensitive learning environment.

Some accommodations presently available through the disabled student service include: taped textbooks and classroom materials, test access, special registration, handicapped parking permits and student advocacy.

Drug and Alcohol Program

The drug abuse prevention program, education, and referral (D.A.P.P.E.R.) is the primary campus resource for issues related to alcohol and other drug abuse. The prevention program offers services to staff, faculty and students including a resource room, short-term counseling, advising, referral, help in planning an intervention of an abuse problem, aftercare for recovering students and a complete student assistance program. All services are confidential. The coordinator of D.A.P.P.E.R. also serves as the advisor for BACCHUS, an acronym for boost alcohol consciousness concerning the health of university students. The BACCHUS Club cooperates closely with the D.A.P.P.E.R. program. BACCHUS is comprised of student members who are concerned about promoting responsible decisions involving alcohol. BACCHUS members assist the D.A.P.P.E.R. effort by doing residence hall presentations and helping with Drug and Alcohol Awareness Week activities. D.A.P.P.E.R. also coordinates the Central Helpers Program, a peer support counseling referral program.

More information on D.A.P.P.E.R., BACCHUS or Central Helpers is available in the SUB 128.

Financial Aid

Each year about 70 percent of CWU students apply for aid and about 60 percent receive it. To be eligible for aid, a student must be a U.S. citizen, a permanent resident, or a refugee on other than a temporary or student visa. Financial aid is available only to regular degree-seeking students who enroll for at least six (6) undergraduate or five (5) graduate credits each quarter. Many financial aid programs require full-time enrollment.

Students must apply and be accepted for admission to the University to receive financial aid. Students and their families must complete a Financial Aid Form (FAF) of the College Scholarship Service, which is available from local high schools and the office of financial aid. The College Scholarship Service performs the preliminary need analysis for CWU.

Students who apply for fall admission must complete the FAF as soon after the preceding January 1 as possible. In order to receive full financial aid funding consideration, students are encouraged to apply for aid early in the new year. Historically, full financial aid funding has been available to students who apply no later than March 15, and this is used as CWU's priority deadline. Students whose FAF is received after March 15 are still considered for financial aid, however, types of funding available may be limited. Accurate preparation of the FAF and timely responses to requests for information are important.

The notification process begins in May or June after the student's application has been reviewed. Students eligible for financial aid will receive an award letter indicating the types and amounts of financial aid available to them. Final award notification letters are mailed when all regulations and allocations governing the financial aid programs are known.

Financial aid recipients are required to make satisfactory academic progress toward their degree. Generally, students are awarded financial assistance on the basis of being enrolled in and completing at least twelve (12) credits (undergraduate) or ten (10) credits (graduate) per quarter. Undergraduate students must receive a minimum 2.0 grade point average each quarter and maintain a cumulative 2.0 grade point average. Graduate students must receive a 3.0 grade point average each quarter and maintain a cumulative 3.0 grade point average. Students offered aid are sent a copy of the Central Washington University Satisfactory Academic Progress Policies along with their award letter. Additional copies are available from the office of financial aid.

Additional financial aid information is available by contacting the office of financial aid, Barge Hall 209; (509) 963-1611.

Minority Retention Program

The minority retention program was established to provide academic support services to under-represented minority students in an attempt to maximize their potentials for academic success and completion of degrees. Each minority student advisee receives personalized assistance in developing an appropriate, balanced quarterly schedule of courses. The minority student academic advisor monitors the progress of these students and provides individual instruction in academic study skills and time management. Other services include free tutoring and peer advising, assistance in academic planning and personal adjustment, information about financial aid, scholarships, graduate school and employment, and referrals to the minority mentors program.

Residence Living

Primary functions of the office of residence living include selecting, training, supervising and evaluating the residence hall staff; providing crisis intervention; guiding development and implementation of educational, cultural, social and community service programs; and coordinating behavioral problem solving interventions, in cooperation with the office of the vice president for student affairs.

This office is also responsible for the student enrichment program, an innovative program designed to provide a foundation for students in their first year at Central. The program has three main thrusts: academic support, providing recreational and social activities, and a wellness program which serves to assist students in maintaining good overall physical and mental well being.

Another optional residential program is the augmented services program which provides enhanced facilities (exercise room, computer laboratory, and stereo/television lounge). A second part of the program provides certain activities for upper division students to assist them in social and academic adjustment.

Samuelson Union Building

This is the center for student activities and houses several student-related programs including the cafeteria, lounges, games room, two ballrooms, 14 conference rooms, a television room, the university bookstore, scheduling office, academic advising center, and the student affairs office.

Scholarships

Central Washington University has a diversified scholarship program available to students who have demonstrated superior academic performance. Scholarships generally range in award amounts from \$300 to full tuition for the academic year.

Students who have been accepted for admission and have demonstrated financial need through the FAF application process by March 15, and who have a minimum 3.65 grade point average, are automatically considered for a variety of scholarships designated for financially needy students. These scholarships are administered by the office of financial aid.

The university awards merit (no-need) scholarships which are based on academic and/or leadership qualifications. Approximately 65 scholarships are awarded each year, primarily to new students, and range from \$500 to more than \$1,693. Several of the scholarships are renewable for up to four years. Each September information and application forms are sent to all Washington high schools and community colleges. Many students are nominated by their counselors. Students who are recommended will be sent a letter informing them of scholarship opportunities. Application should then be made using forms available through high schools and community college counseling centers. Forms are also available from the office of admissions.

To be considered for an award, applicants must submit the University Merit Scholarship Application Form and supporting documents. Candidates for awards are ranked by various selection committees. Semi-finalists for the Central Investment Fund Scholarships and finalists for the President's Scholarships are invited to campus for an awards banquet in February each year.

The deadline date for submitting applications for the following academic year is mid-December. Notification of awards is made in late winter or early spring. For additional information and applications, contact the office of admissions at (509) 963-1211.

Student Activities

The director of student activities is responsible for coordinating a wide variety of extracurricular activities. Principal among these is serving in a staff advisory position to the board of directors of the associated students of Central Washington University (ASCWU). All regularly enrolled students are members of the ASCWU. Executive responsibility of the association is vested in seven members of the board of directors and the director of student activities. Members of the board of directors are elected by the student body to serve as policy develop-

ment officers. The ASCWU board of directors' constitution provides for the development of committees, agencies, and task forces to help fulfill the students' governmental and extracurricular activity needs. The ASCWU is an integral part of the total decision-making process of Central because it is a vehicle from which students may share their points of view.

The ASCWU supports various forms of entertainment, lecture programs, art shows, films, dances, concerts, special events such as New Student (Wildcat) Week, Homecoming, Parents Weekend, Festival of the Arts, and a variety of clubs and organizations. Recreational activities are also offered for the entire campus community. Programs presently offered include the Tent 'n' Tube Rental Shop, Outdoor Program, Leisure Exploration Service, Intramural Sports, and summer playground.

Other aspects of Student Activities include: advisement and support for University student clubs and day-care service for student parents.

In addition, various academic departments sponsor organizations and activities which foster skill building through performances, such as music (band, orchestra, choir), drama (plays, musicals, operas), communications (weekly newspaper *The Observer*, literary publications, campus radio KCAT).

Student Employment

Approximately 2,000 students are employed each academic year, which provides an opportunity to meet a portion of college expenses and allows students to explore various vocational fields while gaining valuable work experience. The student employment office in the office of financial aid provides listings of available openings for both on and off-campus jobs. Assistance in locating summer employment is also available.

Student Health and Counseling Center

A staff of professionals at the health and counseling center offers a variety of psychological and medical services.

Students are encouraged to be actively involved in their health decisions, to improve their knowledge of stress and stress-related problems, to assume self responsibility, and to adopt health promoting behaviors. Students can benefit from participating in workshops and life planning or career counseling offered by the center's staff.

An outpatient clinic is maintained which is available from 8 a.m. to 5 p.m. on weekdays. It is staffed by a medical doctor, nurse practitioners, physician assistants, and registered nurses who provide routine services and urgent care. Diagnostic laboratory and x-ray services are available.

Appointments are encouraged and can be made by calling 963-1881. Drop-in patients are seen as soon as possible. Urgent medical or crisis situations and students with appointments are given priority. Emergency medical services after 5 p.m. and on weekends are available at the Kittitas Valley Community Hospital Emergency Room at the student's expense. Counseling services are provided by professional counselors. The office hours are from 8 a.m. to 5 p.m. weekdays, and an on-call system is maintained after hours and on weekends.

There is no charge to see a health care provider or a counselor. There are charges for laboratory tests, x-rays and supplies. Students who are registered for six or more credits are eligible for services and are required to pay a mandatory health and counseling fee. A university-sponsored student accident and health insurance plan is recommended to help defray medical costs.

Student Housing

Central is a residential university with most students living on or near the campus. Its variety of residence halls and apartments, assigned without reference to race, creed, religion or color, can house more than 3,300 students.

In the belief that the university is not only an academic, but a total-learning experience, Central requires all freshmen and sophomores who are single and under twenty-one (21) years of age to live in university-operated residences. The halls provide an atmosphere of greater intimacy between students and other university residents which serves to link social and academic learning. Exceptions can be made for students living with relatives, upon application to the auxiliary services office in Barge Hall 201. Residence hall fees include both room and board. Students living off campus or in single-student apartments, though, may purchase food service by contacting the dining services office.

Central's 18 separate on-campus residence facilities offer students a good selection of quality living experiences. Naturally, this number of residences leads to a variety of living environments; quiet residences, "living groups" for upper classmen, activity-oriented residences - the philosophical diversity is ever changing and ever interesting, depending on the occupants of each residence hall. Some halls are co-ed residences.

Equally diverse are the physical layouts of rooms in each residence hall. Central has always been a residential university so the residence halls reflect a variety of architectural styles that span the last 100 years. Some have central baths, some have four-person suites, some have single and double occupancy. The residences are within a few minutes walk of any classroom, library, or dining hall, which ties these communities directly to the academic experience and offers considerable convenience and flexibility to students' daily lives.

Central Washington University housing services currently maintains approximately 500 apartments of one, two or three bedrooms for upper division students as well as faculty and staff. Most are furnished, however there are a few unfurnished apartments in Brooklane Village.

At different times of the year, in different areas of the apartment system, there may be demands for living accommodations that exceed the supply. For this reason apartment assignments are not made immediately upon request. Waiting lists are provided. Applications will be accepted from students who have not yet been officially accepted for admission to Central, but who plan to attend classes during the dates listed on their application forms. To be eligible for apartment housing one must be enrolled in, and must maintain at least seven (7) credit hours of course work or be a full-time member of the faculty or staff. Students who are required to live in residence halls are not eligible to live in the apartments.

Each tenant (lessee) is required to sign a lease which provides for renting an apartment on a month-to-month basis. A lessee may terminate a lease by giving written notice at least 20 days prior to the first day of a month it is being vacated. Rental payments are due on the first of the month but are payable by the 10th day of the month. When a tenant moves in during a month the rent is pro-rated for the first month and the full rent for the next month is due on the first day. Pets are not allowed in any area of CWU housing.

For specific information regarding either residence halls or apartments, write to: The Housing Director, Barge Hall 103.

Women's Resource Center

The women's resource center, located in the special services building, offers services and support in academic, personal and professional development. In addition to assisting students through workshops, advocacy, counseling and support groups, the center provides information and referral regarding campus/community resources. The center sponsors a wide variety of seminars, colloquia, panel discussions, cultural events, and films, with special emphasis each March on Women's History Month celebration. These programs and services are available to the general public as well as to the campus community. The center operates a library which contains a significant collection of books, periodicals, bibliographies and other reference materials on women's issues, and a lounge. For more information call (509) 963-2127.

1892

First commencement exercises for 13 seniors held.

1893

The legislature granted \$25,000 for salaries and current expenses.

1894

Principal Barge resigned.

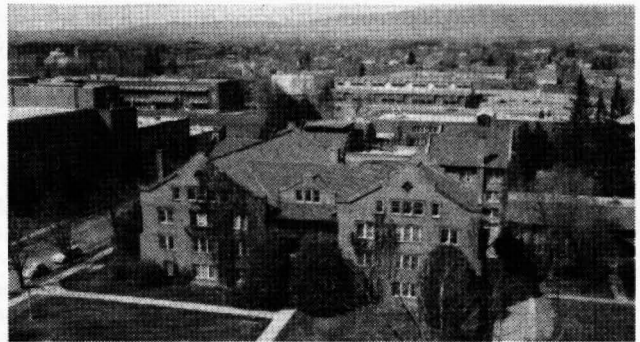


1894
Mr. P. A. Getz appointed principal of the Washington State Normal School.

1894
Completion of the Normal School's first building, now called Barge Hall.



TUITION AND FEES



General tuition and fee rates are established by the state legislature and miscellaneous fees are set by the board of trustees. All fees are subject to change without notice.

Undergraduate students registering for 10-18 credits:

- Tuition Fees for *Residents of the State of Washington\$449.50
- Service and Activity Fees87.50
- Total \$537.00**

- Tuition Fees for *Residents of the State of Washington
- **S.E. Asia Veterans\$99.00
- Service and Activity Fees54.00
- Total \$ 153.00**

- Tuition Fees for Nonresidents of the State of Washington\$ 1,795.50
- Service and Activity Fees87.50
- Total \$1,883.00**

Undergraduate students registering for nine credits or less:

- Resident - for each credit\$54.00
Minimum of \$108.00
- Nonresident - for each credit\$188.00
Minimum of \$ 376.00
- Maximum Fee for Resident S.E. Asia Veterans\$ 153.00

Graduate students registering for 10-18 credits:

- *Resident Graduate - Advanced Degree Enrollment Tuition, Service and Activities
- Total \$ 868.00**

- *Resident Graduate - Nonadvanced Degree Enrollment Tuition, Service and Activities
- Total \$537.00**

- Nonresident Graduate - Advanced Degree Enrollment Tuition, Service and Activities
- Total \$2,633.00**

- Nonresident Graduate - Nonadvanced Degree Enrollment Tuition, Service and Activities
- Total \$1,883.00**

Graduate students registering for nine credits or less:

- Resident* - Graduate - Advanced Degree Enrollment, for each credit\$87.00.
Minimum of \$174.00
- Resident Graduate - Nonadvanced Degree Enrollment, for each credit\$ 54.00.
Minimum of \$108.00
- Nonresident Graduate - Advanced Degree Enrollment, for each credit\$263.00.
Minimum of \$526.00
- Nonresident Graduate - Nonadvanced Degree Enrollment, for each credit\$188.00.
Minimum of \$376.00

Students registering for more than 18 credits:

- Undergraduate, Resident each credit\$43.00
- Undergraduate, Nonresident each credit\$170.00
- Graduate, Resident Nonadvanced Degree each credit\$43.00
- Graduate, Nonresident, Nonadvanced Degree each credit\$170.00
- Graduate, Resident Advanced Degree each credit\$76.00
- Graduate, Nonresident Advanced Degree each credit\$245.00

All courses taught through continuing education are self-supporting. The waiver for South East Asia veterans, University staff and senior citizens does not apply. Full fee paying students must make additional payments at the rate established for each continuing education course in which they enroll.

*Resident and Nonresident Status

Washington state law on resident classification for tuition and fee purposes, RCW 28B.15.012 et seq., requires that a student (a)(i) have established a bona fide domicile in the state of Washington, primarily for purposes other than educational, for at least one year immediately prior to the beginning of the quarter for which he or she registers at the university, and (ii) be financially independent, or (b) be a dependent student, one or both of whose parents or legal guardians have maintained a bona fide domicile in the state of Washington for at least one year prior to the beginning of the quarter for which the student registers at the university. The term "domicile" denotes a person's true, fixed, and permanent home and place of habitation. It is the place where he or she intends to remain, and to which he or she expects to return when he or she leaves without intending to establish a new domicile elsewhere.

Any change of residency status for a given quarter must be based on written evidence provided by the student on the residency classification questionnaire which may be obtained in the Office of Admissions on or before the first class day of the quarter for which a change of residency is sought. The burden of proof in all cases rests with the student.

In accordance with RCW 28B.15.014, certain nonresidents are exempted from paying nonresident tuition and fees. To be eligible for such an exemption, a nonresident student must provide documented evidence that he or she resides in the state of Washington, and (a) holds a graduate service appointment, designated as such by the university, involving not less than 20 hours per week; (b) is employed for an academic department in support of the instructional or research programs involving not less than 20 hours per week; or (c) is a faculty member, classified staff member, administratively exempt employee holding not less than a half-time appointment, or the spouse or dependent child of such a person.

All residence questions should be directed to the office of admissions.

In addition, the Washington State Higher Education Coordinating Board has entered into reciprocity agreements with the states of Idaho and Oregon and the province of British Columbia whereby a waiver of payment of the non-resident portion of tuition and fees for residents of these states or province attending Central Washington University can be made. For further details on such waivers, undergraduates should contact the office of admissions (Mitchell Hall) and graduate students should contact the office of graduate admissions and records (Bouillon Hall).

Senior citizens are encouraged to take advantage of the large variety of courses offered at the University. Persons 60 years of age or older may register the first day of class on a space available basis. The fee is \$5 for a maximum of two courses, not to exceed six credits. Credits may not be applied towards meeting requirements for any degree or for increments on any wage or salary scale.

**Southeast Asian Veterans: Chapter 279 - Laws of the State of Washington, 1971 - 1st Exec. Session provides a special exemption from the 1971 increase in tuition and fees for persons who (a) have served in the Southeast Asia theater of operation, (b) between a period commencing August 5, 1964, and a date not yet set, and (c) who qualify as a resident student under R.C.W.28B.15.012. The children of any veteran who was a Washington Domiciliary and who within the past eleven years has been determined by the federal government to be a prisoner of war (POW) or missing in action (MIA) in Southeast Asia including Korea, or who, shall become so hereafter, shall be admitted to Central Washington University without the necessity of paying tuition or fees, provided that such student shall meet standard admission requirements. Contact the Office of Admissions for exemption procedures.

Chapter 332 - Laws of the State of Washington, 1977, 1st Extraordinary Session defines as Southeast Asian Veterans "those persons who have been on active federal service or a member of the armed military or naval forces of the United States between a period commencing August 5, 1964, and ending May 7, 1975. In addition, they must qualify as resident students and be enrolled in state institutions of higher education on or before the effective date of this 1977 amendatory act." Contact the Office of Admissions and Records for exemption procedures.

The university offers educational benefits for CWU academic, administrative and classified employees and state classified employees. A full-time employee who has met university admission requirements and filed proof of eligibility with the office of the registrar no less than fifteen working days prior to the beginning of each academic term may take up to six credit hours of course work for a nominal fee each quarter (summer excluded). Enrollment is based on a space available basis only. Consult the educational benefits policy for CWU staff and state classified employees for specifics.

Tuition Refund Schedule

- A continuing student will receive 100 percent of tuition and fees if withdrawal occurs prior to the sixth day of instruction.
- A student will receive 50 percent of tuition and fees if withdrawal from the university occurs on or after the sixth day of instruction and within 30 calendar days of the first day of classes.
- There is no refund for individual class withdrawals after the change of schedule period.
- There is no refund of tuition and fees if withdrawal occurs after the 30th calendar day of instruction.
- Students who are found not eligible to register will be given total refund of all payments and charges.
- Prepayments are not refundable.
- Tuition and fees may be refunded to students unable to complete course work as a result of being called to active duty in the Armed Forces of the United States.

Miscellaneous Fee Schedule

- Application For Admission Fee. \$25.
- Confirmation of Acceptance of Admission Fee. \$55.
- Health and Counseling Fee. \$21 per quarter for all campus-based students enrolled for six or more credit hours. Provides out-patient clinical services of the Student Health Center.
- Auditor's Fee (without credit). A student enrolling as an auditor is charged regular fees.
- Breakage Fee. Students enrolled in certain courses are required to pay for any equipment they break. Fees are variable according to the item broken.
- Credit by Examination Fee. Students applying to challenge a course will be assessed a nonrefundable fee of \$15 per credit, with a minimum of \$30 per course.
- Graduation Fees. The fee for a non-teaching baccalaureate degree is \$16. The fee for a teaching baccalaureate degree is \$38. (Note: Traditional regalia is available through the university bookstore. Arrangements should be made by February 15.)
- Transcript Fee. \$3 for each copy. \$10 for on demand, express mail or FAX copies. All fees are due in advance.
- Health and Accident Insurance. Group insurance is optional. An additional premium will allow student dependents to be covered by medical facilities other than the student health center which is reserved for student use only. For further information, inquire at the university cashier's office.
- Student-in-Training (Liability) Insurance. In order to register for certain courses, a student must arrange for individual student-in-training (liability) insurance purchased either through the CWU business office or through some other agency. Information regarding types of coverage available may be obtained from department chair, program directors or from the CWU insurance office.
- International Studies Fee. A fee not to exceed \$100 per student per quarter for students participating in international programs.
- Master's Thesis Binding Fee. Students submitting a thesis as part of the requirements for the master's degree pay a fee of \$48 for binding of three copies of their thesis. Additional copies are bound at the rate of \$16 each.
- Parking. Students using the university's parking facilities must purchase a campus parking permit.
- Supply and Equipment Fees. Students enrolling in certain courses are charged for supplies and equipment not furnished by the university as part of the course.
- Degree Evaluation Fees. For evaluation other than one senior evaluation, \$5.
- Computer Use Fee. \$18 per quarter for use of university microcomputers and computer terminals by students.

Financial Obligation

Admission to or registration with the university, conferring of degrees and issuance of academic transcripts may be withheld for failure to meet financial obligations to the university.

1895

School's first yell composed.



1896

A remodeled three-story brick building located at Fifth and Main Streets used as the first women's dormitory.

1986

Earliest record of football played at the school.

1898

Principal Getz resigned.

UNDERGRADUATE ADMISSIONS



This section gives information about admission to undergraduate programs. The office of admissions provides prospective students with a Viewbook that highlights the academic programs and student services, CWU-Washington Community College Transfer Policies Guide which indicates course equivalencies that can be applied to the transfer degree program at Central, departmental factsheets that describe the academic programs, a tuition fee and cost information sheet, merit scholarship information, and appropriate application packets for undergraduate admissions.

Philosophy and Procedures

Admission is competitive as the university typically admits approximately 70 percent of freshman applicants. For the class of 1990, there were 3,062 applicants who applied, and 1,175 enrolled. The average grade point average (GPA) for entering freshmen was 3.12. Of the 1,109 freshmen who enrolled fall, 1989, 92 percent enrolled as continuing students the fall of 1990.

Although there are state-mandated admissions standards and prescribed courses, admission to the university is not rigid because the minimum requirements vary from year to year and there are alternative admissions programs. The university is particularly interested in students with strong academic backgrounds and seeks applicants from a variety of races, classes, ethnic and economic backgrounds, anticipating that all will contribute significantly to a mutually beneficial education, both in and out of the classroom.

The philosophy of admissions is consonant with the mission of a state comprehensive university, which is that residents of the state who meet the minimum admissions standards should have equal access. In keeping with the historical mission of the university and its commitment to access, the admissions office operates under a "rolling admissions" procedure. This procedure will be explained by using fall quarter as an example. Freshmen may apply for fall quarter admission anytime after the completion of their junior year in high school. From December 1 until late winter (typically February, but the date varies), the admissions office will offer admission to students who have all their credentials on file and meet the university's minimum admissions standards. Depending on the number of applications and time it takes to review them, students are typically notified within two weeks. Therefore, the admission process is "rolling" with offers of admission made to all qualified candidates who apply until the number of available seats at the university projected for fall quarter are filled.

The admissions office evaluates the academic record of applicants to determine GPA, courses taken and results of either the American College Test (ACT) or the Scholastic Aptitude Test (SAT). It is recommended that an essay, no longer than one page indicating personal and career goals, be included when applying to the University. This is especially encouraged for students who are scholarship candidates or who feel they might have an academic deficiency. If necessary, applicants will be asked to submit information describing personal qualities that will be used to judge whether or not a student can profit from the educational/social experience at Central and contribute positively to the campus community. The information requested on the admission application form is vital to the personal approach that is taken in the admissions process. Central wishes to view the total person and let all the information contribute to the right admission decision.

To ensure full consideration for admission, a student should apply and complete the admissions process prior to the deadline dates for each quarter. These dates are subject to change, so it is important to determine exact dates for each quarter. Completed files will be carefully evaluated and admissions notification letters will be sent accordingly. Since the numbers of applications usually exceed the available openings, it must be noted that very few candidates are offered admission after the publicized rolling admission dates.

Any candidate who is offered admission is required to submit a confirmation of admission deposit, which indicates their intention to enroll. Full details regarding the deposit are specified in the confirmation to enroll section of the admission packet. If students wish to decline or cancel their offer of admission, they should write a letter stating so before May 1, or as soon as possible. An offer of admission is valid only for the term indicated on the acceptance letter. Admitted students who desire to enter Central for a term other than that indicated on the acceptance letter must formally reapply.

Freshman Student Eligibility

To establish first-time freshman eligibility, students must have completed the prescribed set of high school courses, the minimum grade point average, and acceptable standard test scores. Offers of acceptance will be made to students who have an appropriate Admissions Index, which is a combination of high school grade point average and test scores that yield at least a 65 percent probability of achieving a "C" or better at the end of their freshman year of study.

In addition to the required list of college preparatory high school courses, the university recommends students take addi-

tional courses which would improve their changes of performing well in university-level course work. Below are the required and recommended list of courses:

	Required	Recommended
English	4 years	4 years
Mathematics	3 years, including algebra and geometry	3 years, including algebra, geometry, advanced algebra, trigonometry
Social Studies	3 years	3 years, including U.S. History & Government
Science	2 years, including 1 year of laboratory science	3 years, including biology, chemistry or physics
Foreign Language	2 years of a single foreign language	3 years of a single foreign language
Fine & Performing Arts	1 year of art or music or an additional year of any of the above categories	2 years, 1 year of art and 1 year of music

Applications received after the deadline dates will be held and reviewed only if enrollment limitations have not been reached. High school students may submit an application and be admitted as early as December 1 of the senior year. Early decisions for admission will be based on completion of the junior year or the 6th semester academic record. Students are admitted conditionally pending graduation from high school and receipt of final high school transcript. Accepted students must maintain the academic standards held during the time of acceptance and complete all required courses.

Transfer Student Eligibility

Eligibility for admission of transfer students will be based on priority admissions as follows: 1) first priority is given to transfer students with an academic transfer (normally Associate of Arts) degree from a Washington community college whose cumulative GPA is at least 2.0 in all transferable courses, and who apply prior to the admission deadline; 2) second priority is given to all transfers with more than 90 credits currently completed, and a cumulative GPA of 2.2 or higher; 3) third priority is given to all transfers with more than 60 credits and cumulative GPA of 2.5 or higher. Transfer students enrolled at a community college who have earned less than 40 transferable credits are encouraged to continue their studies at the school they are currently attending, unless they have a combination of 2.5 GPA or higher in the work completed and meet freshman admissions requirements. The university will accept academic credit earned at other accredited institutions which is essentially equivalent in level and nature to that offered at CWU. Toward this end, the university endorses the policy contained in the pamphlet of the Intercollege Transfer and Articulation Among Washington Public Colleges and Universities, published by the higher education coordinating

board. The policy deals with the rights and responsibilities of transfer students and the review and appeal process in transfer disputes. For more detailed information, contact the dean of undergraduate studies. Of the 2,033 transfer applicants for 1990, 73 percent were offered admission with an average entering GPA of 3.2.

Readmission of Former Students

Former students who have not enrolled at Central for one year (except summer quarter) or have attended another college or university, must reapply for admission. Students must submit official transcripts for any college work completed since their last enrollment at CWU. Readmitted students will be offered admission based on their total academic portfolio.

Provisional Enrollment

Students unable to submit all necessary materials prior to registration may be allowed to enroll as provisional students on a space available basis. This status is available for one quarter during which time students must complete the regular admission process and receive a favorable admissions decision. Provisional applicants must sign a contract that guarantees the office of admissions that the credentials not available at the time of enrollment will be received within four weeks or as otherwise stated on the admission contract and the student will satisfy all requirements for admission to the university.

Nonmatriculating Students

Students who are not seeking a degree or certificate may request enrollment as a nonmatriculant. These students must have the approval from the registrar, and may be allowed to enroll, if space permits, for a maximum of nine credits each quarter as long as they remain in good standing. Credits earned in this status may not be applied to any degree or certificate unless the student applies and is accepted to the University, in which case a maximum of 45 credits may be applied. Students with this status are not eligible for most financial aid, veteran's benefits, credit evaluations, and other services provided to the matriculating students.

High School Enrichment Students

Students who wish to enter Central Washington University before graduating from high school may apply for admission under one of the following options: 1) Students who wish to enroll as a full-time student at the completion of their junior year must have a superior college preparatory course record, high GPA, and a score of at least 27 on the ACT exam or a combined score 1200 on the SAT, including a 600 on the verbal section. Additionally, they must be recommended by their high school principal and have parental approval, if under 18 years of age. The applicants will be required to meet with the director of admissions who will make an enrollment decision; 2) Students who wish to enrich their high school program may take one or more college level course(s) while still enrolled in high school. This opportunity is available to students who have completed their junior year and have at least a 3.2 cumulative grade point average. Courses taken will be with the advice and consent of the high school principal/counselor and the director of admissions.

International Students

Central Washington University welcomes qualified students from other countries. Students demonstrating the greatest potential for success at the university level may be admitted after a thorough review and evaluation of the entire academic background.

Because educational systems vary widely around the world, there is no single, uniform admission requirement for international students; however, they must meet the following minimum requirements for admission purposes:

1. Completion of the academic coursework and national examinations necessary to satisfy admission requirements to colleges and universities in their native country.
2. Adequate financial support, verified by the Confidential Financial Statement form and a current bank letter or scholarship award.
3. If English is not the first language, competency in English must be demonstrated through a score of 525 or higher on the Test of English as a Foreign Language (TOEFL), or transferable English composition courses which would meet the general education writing requirement (see page 37). Competency in English is required before an I-20 is released. In addition, all international students are required to have their English proficiency evaluated at the beginning of the first quarter on campus. Once accepted, each international student shall be evaluated by the ESL staff whether additional English-as-a-Second-Language coursework will be required during the first quarter of attendance at CWU.
4. International students transferring from U.S. institutions must have a minimum grade point average of 2.50 in transferable courses and meet the academic requirements for college entrance in their native country.

In addition to submitting the University's International Student Application for Admission and the \$25 application fee, students must arrange to have official transcripts sent directly to the office of admissions from all secondary schools and colleges attended. Examination results, such as General Certificate of Education, Ordinary and Advanced Level scores, West African School Certificate, Hong Kong Certificate of Education or Advanced Level Certificate, etc., should be sent directly from the testing center in charge of administering the examinations. Personal student papers, photostats, or attested copies are not accepted for admission or evaluation purposes. All documents should be sent well in advance (9 to 12 months) of the quarter for which the applicant seeks admission.

Concurrent Enrollment: F-1 students enrolled at CWU who plan to take courses at another institution must complete the concurrent enrollment form signed by the international student advisor and the dean of undergraduate/graduate studies. CWU requires a minimum course load of 12 credits for undergraduates and 10 credits for graduates at CWU except during the vacation quarter. Students who do not have permission to attend another institution will not be granted transfer credit for the courses and are considered out-of-status according to the regulations of the Immigration and Naturalization Services.

Alternative Admissions

Freshman applicants who do not meet regular admissions requirements may be considered for admission to the access alternative admissions program. The files of students seeking admission to Access will be reviewed by the director of admissions and the director of special services. Students applying to this program are encouraged to make an appointment for an interview with the admissions review committee. At the time of the interview, the students will complete a supplemental admissions application form and write a goals and objectives statement. Once the initial interview process is completed, the admissions review committee will determine which students will be admitted. The letter of acceptance for alternative admissions through access will also include a contract that details special stipulations and restrictions that need to be followed by the students during their first four quarters of enrollment. Alternative admissions for transfer applicants with fewer than 40 transferable quarter credits is the same as all Access candidates. Additionally, transfer students who have at least a "C" cumulative GPA may be offered alternative admissions based on the total review of their academic portfolio.

Applicants who are 18 years of age but who have not graduated from high school may be considered for admission based on their General Education Development Certificate and ACT or SAT test scores.

Accepting the Offer of Admissions

Once students are admitted, they must confirm their intention to enroll (for on-campus study) by submitting a \$55 nonrefundable admission confirmation payment. This payment should not be made until it is requested by the office of admissions (when students are officially notified of their admission) and is due by May 1 for fall quarter, July 1 for winter quarter, and November 1 for spring quarter. The confirmation fee will be applied toward the student's first quarter tuition. The university will only guarantee registration positions to students who submit their prepayment prior to the above-mentioned deadline dates.

Application Procedures

Students seeking admission to Central Washington University need to submit the undergraduate application for admission, along with a \$25 nonrefundable application processing fee. Freshman candidates will need to submit an official high school transcript and ACT or SAT scores. Transfers and returning students will need to submit transcripts from all schools attended. Applicants must be aware of the deadline dates for rolling admissions, which are: March 1 for fall quarter, July 1 for winter quarter, and November 1 for spring quarter. Students will be admitted on a rolling basis. Freshman candidates should include courses in progress on the admission application. Once all credentials are on file, the office of admissions will notify students of the admissions decision.

Admissions Decisions

Students can be admitted with dean's distinction, indicating that the student has been recommended to the Douglas Honors College based on their outstanding academic record, or they typically may be offered regular admission if all requirements are satisfactorily completed at the time of admissions. Very rarely students may be offered admission on probation, which

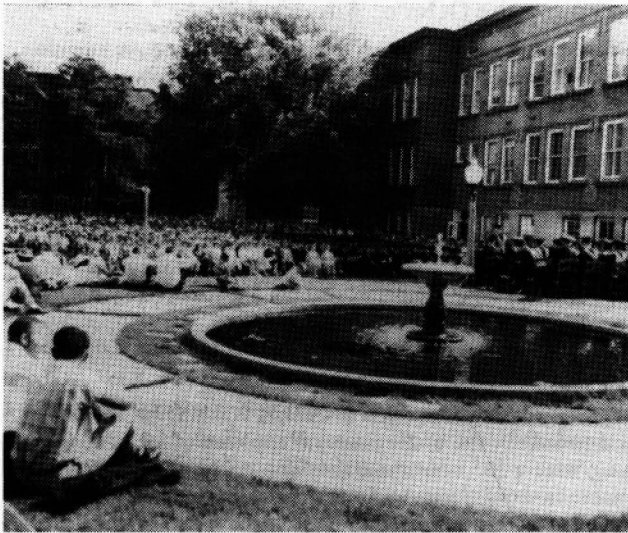
would place marginal students on academic probation at entry to the university. Students may also be offered alternative admission through the access program or by the admissions review committee.

Campus Visit

Prospective students are encouraged to visit Central's campus through the "Central Sampler" visitation program. Students have an opportunity to experience the academic and social aspects of campus. The sampler program includes a tour of the campus and a residence hall, and meetings with professors, coaches and administrators. There is a nominal \$9 fee for the visit program which includes overnight accommodations in the Conference Center on Thursday, and breakfast and lunch on Friday. Please contact the office of admissions for more information, dates, and a Sampler brochure.

International Baccalaureate

Central Washington University recognizes the international baccalaureate (IB) program for admission purposes and, on a case by case basis, may use IB results for advanced placement or award of degree credits. Such determinations are made at the discretion of the university.



1898

William E. Wilson appointed as new principal.

1899

First issue of the Normal Outlook published

1901

The faculty chose cardinal to be the school color. This color later considered red, and still later, crimson.

TRANSFER CREDIT



The university recognizes college credit from a number of sources including that earned at other institutions, military service, and by examination.

Advanced Placement Credit

Students may receive credit or advanced placement, or both, depending upon the scores achieved in the College Entrance Examination Board Advanced Placement Test (AP). Students must request that their AP test scores be sent to the office of admissions and records at Central. Listed below are departmental policies regarding credit and/or placement on the basis of AP test scores:

Art	AP 3, 4, 5	No credit or advanced placement.
Biology	AP 3	Credit for BISC 104.
	AP 4, 5	Credit for any two of BISC 104, 111, 112.
Chemistry	AP 3	Exempt from CHEM 181, 181.1; credit awarded upon successful completion of CHEM 182.
	AP 4	Exempt from Chem 181, 181.1, 182, 182.1; credit for both courses awarded upon successful completion of CHEM 183 and CHEM 184.
	AP 5	Exempt from CHEM 181, 181.1, 182, 182.1, 183; credit for all courses to be awarded upon successful completion of one of CHEM 251 and 251.1; CHEM 361; CHEM 311; CHEM 345.
Computer Science	AP 3, 4, 5	Credit for CPSC 110.

English	AP 3, 4, 5	Credit for ENG 101
Foreign Languages	AP 3	Credit for 251. (all)
	AP 4	Credit for 251, 252.
	AP 5	Credit for 251, 252, 253.
U.S. History	AP 3	Credit for either HIST 143 or HIST 144.
	AP 4	Credit for either HIST 143 or HIST 144, with exemption for majors in the other. (Majors will be required to take an additional 5 credits of upper division U.S. History.)
	AP 5	Credit for HIST 143 and HIST 144.
European History	AP 3	Credit for either HIST 102 or HIST 103.
	AP 4, 5	Credit for either HIST 102 or HIST 103 with exemption for majors in the other. (Majors will be required to take 5 additional credits in upper division non-Western history.)
Mathematics AB	AP 3, 4, 5	Credit for Math 172.1.
Mathematics BC	AP 3, 4, 5	Credit for Math 172.1 and Math 172.2.
Music	AP 3, 4, 5	No credit or advanced placement.
Physics B	AP 4, 5	Exemption from PHYS 111, 112, 113.
Physics C (Mechanics)	AP 4, 5	Exemption from PHYS 211.

Physics C (E and M)	AP 4, 5	Exemption from PHYS 212.
Political Science American Government	AP 5	Waive POSC 210
Comparative Politics	AP 5	Waive POSC 360

College Level Examination Program (CLEP)

Credits awarded for successful completion of CLEP tests will be accepted only if they are part of an associate degree in a direct transfer agreement with a Washington state community college.

Industrial Experience

Credit may be earned for industrial experience. For specific information see the vocational-technical trade and industrial major, page 156.

Military Service Credit

Upon submission of the DD214 or 295, matriculated students may receive up to 30 lower division elective credits for completion of military schools as recommended by the American Council on Education.

Non-U.S. College/University

Credit will be accepted from non-U.S. institutions of higher education when (1) it has been earned at an institution linked to CWU either by a bilateral or consortial (e.g., ISEP) agreement or when an institution has been certified by the CWU office of international programs as a legitimate, recognized institution of higher education (tertiary level) within a particular country, and (2) the student has received a passing grade recognized by the institution, and (3) an official record or transcript has been received by the university.

Transfer Credit

The university reserves the right to accept or reject credits earned at other collegiate institutions. In general, it is the university's policy to accept credits earned at institutions fully accredited by their respective regional accrediting association, provided that such credits have been earned through university-level courses. In no cases may a student transfer more than 135 credits, including no more than 90 from a community college. Credits are evaluated toward meeting degree requirements by the admissions and records office staff based upon official transcripts.

Transfer course equivalents to university courses apply toward the baccalaureate degree exactly as do their counterparts taken at the university. Other transfer courses that are not exact equivalents are also accepted and allowed as general electives in the degree program.

Credits earned at institutions which are not fully accredited by a regional accrediting association are not accepted. Consideration for exception to this policy may be made by written petition to the dean of undergraduate studies after demonstrating success at the university by earning a minimum of 45 cred-

its with a cumulative GPA of at least 2.5.

The university endorses the Policy on Inter-College Transfer and Articulation Among Washington Public Colleges and Universities published by the Higher Education Coordinating Board. The policy deals with the rights and responsibilities of transfer students and the review and appeal process in transfer credit disputes. For more detailed information, contact the dean of undergraduate studies.

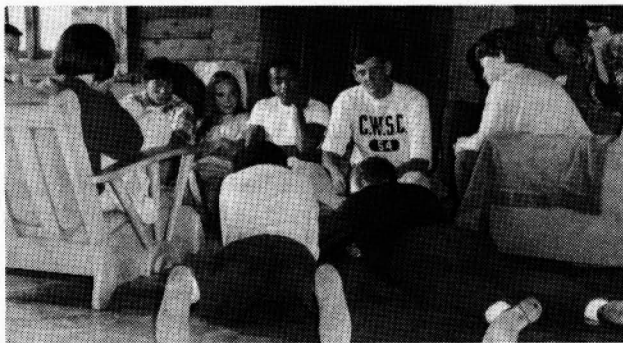
The university will accept a maximum of 90 community college credits. Additional course work which exceeds that amount may be used to meet specific requirements but additional credits will not be allowed. Credits earned in courses numbered 100 and above will be accepted provided the courses require university-level study. Credits earned in courses numbered below 100 may be allowed to fulfill specific requirements with approval of the appropriate chair. Credits earned in lower division courses (normally numbered 100/200) will not be allowed toward meeting the university's upper division credit requirement.

Academic associate degrees which are part of direct transfer agreements between the university and Washington community colleges will meet the general education requirement of a bachelor's degree. Community colleges offer several kinds of associate degrees, therefore students who plan to transfer to the University should check with their counselors to make sure they are enrolled in the one which is a part of the agreement. Students who earned the Associate of Arts degree prior to the date of direct transfer agreement between the university and individual community colleges may petition the dean of undergraduate studies for acceptance of their degree to meet general education requirements.

Credit for work taken while simultaneously enrolled at Central Washington University and other educational institutions will be accepted on transfer ONLY when prior approval for that enrollment was obtained from the dean of undergraduate studies.

If a transfer student without an AA degree from a Washington state community college wishes to complete such a degree in order to have it satisfy the general education program requirements at Central, he/she must complete it by the time they have completed 45 credits or one calendar year, whichever comes later, after initial enrollment.

ACADEMIC REGULATIONS



Academic Advising and Orientation

All new students are required to participate in the university's orientation program conducted each quarter prior to the beginning of classes. Information about academic schedules, student services and activities, as well as other aspects of the university's general program is offered.

The faculty believes that students should have faculty advisors to help them achieve their educational, career, and personal objectives. The advisors function as resource persons from whom students may expect to receive help in course and program selection, in understanding and satisfying university regulations and graduation requirements, and in solving any academic problems students may experience. The academic advising center, located in the Samuelson Union Building, is competently staffed to assist individual students and to help advisors perform their functions.

All new students are assigned to faculty advisors by the academic advising center. Whereas all students are strongly encouraged to meet with their advisors on a regular basis each quarter, all freshmen are required to meet with their advisors prior to registration for classes.

Students are required to apply for admission to majors. It should be done by the time 110 credits have been earned. Students should proceed to the major department selected and formally apply for the major by completing the "Application for a Major" form. The department chair will then assign advisors in the major area.

Pre-professional students (pre-medicine, pre-dentistry, pre-engineering, etc.), are assigned appropriate advisors by the academic advising center.

Students seeking teacher certificates must obtain advisement from the office of the chair, department of education.

Registration

Currently enrolled students preregister for courses by using the University telephone registration system. A prepayment is required prior to preregistration.

Registration for new and readmitted students, and continuing students who did not preregister, begins the first day of each academic quarter. Students may change their schedule during the designated change of schedule period. Students are encouraged to use the telephone registration system to complete all registration transactions.

Registration, in-person or by telephone, obligates students for payment of all tuition and fees. If tuition is not paid by the due date, students will be liable for a late fee and for any other rea-

sonable collection costs and charges.

Consult the quarterly schedule of classes to determine exact dates for preregistration, registration, and change of schedule period.

Academic Credit

The rule for determining academic credit is: one credit represents a total time commitment of three hours each week of the quarter. A regular load of 15 credits requires 45 hours of work per week. The total time includes that spent in class, studying, conference with instructor, writing, laboratory, exercises or any other activity required of students. A specified number of credits is required for a degree.

Colleges which operate on a semester basis (i.e., divide the academic year into two parts, exclusive of summer) give semester credits. Quarter credit divided by two-thirds equal semester credits. Semester credits multiplied by one and one-half equal quarter credits.

Course Numbering and Class Standing

Courses are numbered sequentially from 101 through 700. Those numbered 100 are sub-collegiate and credits earned in such courses are not accepted toward meeting degree requirements. Undergraduate courses are numbered 100 through 499 and graduate courses are numbered 500 and above.

Lower Division

Freshman.....	100 through 199
Sophomore.....	200 through 299

Upper Division

Junior.....	300 through 399
Senior.....	400 through 499

Students may elect courses one year ahead of their present status except when otherwise designated.

A student's class standing is determined by the number of credits earned and/or accepted upon transfer. The following table lists the credits required for each class:

Freshman.....	0-44.9
Sophomore.....	45-89.9
Junior.....	90-134.9
Senior.....	135 or more

Students holding bachelor's degrees are considered graduate students whether or not they are admitted to a graduate degree program. Satisfying graduation requirements depends not only on the number of credits completed (a minimum of 180) but also on completion of all other degree requirements. See page 35.

Seniors may enroll in graduate level courses with the approval of the instructor and chair. Credits earned may meet undergraduate or graduate degree requirements, but not both. Students wishing to have the course meet graduate program requirements must have approval of the dean of graduate studies.

Student Study Load

Undergraduate: The usual undergraduate load is 15 credits per quarter, including physical education activities, and 45 credits should constitute the study load for the academic year. Students with a cumulative grade point average of 2.8 or higher are eligible with approval to carry overloads. Loads of 18 to 20 credits must have approval of the dean of undergraduate studies for premajor students and department chair for students who have been admitted to majors. Loads in excess of 20 credits must be approved by the appropriate school dean, as well as the department chair, or in the case of premajor students, the dean of undergraduate studies. Students on academic probation may not carry loads in excess of 12 credits.

Full-time and part-time students are determined by the number of credits for which they registered. A full-time student has enrolled for 12 or more credits. Students participating in activities which require "normal/satisfactory progress" must be registered for and successfully complete (A, B, C, D, F, or CR) 12 or more credits per quarter. Veterans should see the veterans affairs office for additional requirements.

Proficiency Requirements

Students must demonstrate proficiency in writing, reading and computation prior to or during the first quarter of study at Central. Students with deficiencies in reading or writing must correct them prior to enrolling in ENG 101. Students with deficiencies in basic mathematics must correct them prior to enrolling in MATH 101 or above.

Seniors in Graduate Courses

Seniors may enroll in graduate level courses (500 and above) with the approval of the instructor of the course and the department chair. Credit earned in these courses may meet undergraduate or graduate program requirements, but not both. Students wishing to designate the course for graduate credit must obtain approval from the dean of graduate studies and research.

Concurrent Enrollment

Credit for work taken while simultaneously enrolled at Central Washington University and other educational institutions will be accepted on transfer to Central ONLY when the following two conditions are met:

1. Written approval for simultaneous enrollment must be obtained from the dean of undergraduate studies prior to enrollment at the second institution.

2. If the total enrollment at all institutions exceeds 17 credits, overload approval must be obtained.

Auditors

Students eligible to enroll in a course for credit may enroll as an auditor, except in laboratory courses, provided space is available and permission is secured from the instructor prior to registration. To receive credit for an audited class, students must enroll for credit in the same course in a subsequent quarter. When a student's total class load exceeds nine credits, including credits of audited courses, full fees must be paid.

Instructors may not compel auditors to write papers or take examinations, but may insist upon other course requirements. Instructors may request of the school/college dean that auditors be officially withdrawn from the course if these requirements are not met.

Catalog Choices and Limitations

Subject to a five-year limitation, undergraduate students may complete requirements as listed in the catalog of any year they attend either Central Washington University or a community college in the state of Washington (providing they transfer directly to CWU from the community college and have not attended another four-year institution). Transfers from four-year institutions must choose their college catalog from the date they enroll at Central Washington University.

Withdrawal From a Course

A limited number of uncontested (peremptory) withdrawals from individual courses will be permitted from the sixth day of instruction through the end of the sixth week of instruction according to the following schedule:

No. of credits earned at time of course withdrawal.	No. of uncontested course withdrawals permitted.
0-44	2
45-89	1
90-134	1
135-179	1
180-224	1
etc.	1

One uncontested withdrawal will be permitted for each 45 credits after 180 credits. This applies to all students regardless of enrollment classification.

Transfer credits will be included in the calculation for eligibility for uncontested withdrawal.

Peremptory withdrawals will be noted on the student's transcript with "+W". Unused withdrawal allocations will not be cumulative.

Withdrawals after the sixth week of instruction or when the allotted peremptory withdrawals have been used, will be granted only for reasons of hardship and then only upon written petition to and written approval by the dean of admissions and records. The student must have discussed the reasons for the withdrawal with the affected faculty member, and the dean must consult with affected faculty when evaluating a petition. Hardship withdrawals will be noted on the student's transcript with an "HW" (hardship withdrawal). The registrar will notify affected faculty members when a student has withdrawn from

a class regardless of the reason.

Withdrawals from individual courses will not be permitted during or after the final examination period.

Conversions of incompletes to withdrawals will be treated as hardship withdrawals, i.e., they may be effected only upon petition to the dean of admissions and records. Withdrawals will not be included in calculating grade point averages.

Special fees are not assessed for withdrawals. There are no tuition refunds in cases of withdrawal from individual courses.

Withdrawal From The University

A student may withdraw from the university for reasons of illness or other extenuating circumstances at any time prior to finals week by notifying the registrar's office. A student may not withdraw from the university during finals week except with approval of the dean of admissions and records. Withdrawals from the university will be noted on the student's transcript with "W." The registrar will notify affected faculty members when a student has withdrawn from the university. Leaving the university at mid-quarter without withdrawing will result in failing grades.

Withdrawal From the University Due to Military Exigency

Students who have been called into military service of the United States due to a national emergency will be eligible for withdrawal from the University or the granting of credit. The policy does not apply to regular National Guard or Reserve duty or to annual active-duty requirements.

- Students who must withdraw from the university during the first third of the quarter will be granted Withdrawal (W).
- Students who must withdraw from the university during the second third of the quarter may request either a Withdrawal (W) or an Incomplete (I) in each course with no specified deadline for completion.
- Students who must withdraw from the university during the last third of the quarter may request a Withdrawal (W) or an Incomplete (I) or credit if the course work is satisfactory. The instructors must report either a letter grade or a Satisfactory (S) for each course depending upon the quality of the student's work. If the courses complete all requirements for the baccalaureate degree, the degree will be awarded.
- Students who must withdraw from the university during the first or second third of their final quarter prior to graduation may be granted the baccalaureate degree upon the recommendation of the major department chair and of the school/college dean.
- In all circumstances, students will be expected to attend classes up to 15 calendar days prior to induction.

Grading System

"Grade Points" are assigned to each grade as follows:

Grade	Grade Points per Credit
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
F	0.0

A "C" grade indicates that a student has made substantial progress toward meeting the objectives of the course and has fulfilled the requirements of the course. The grades above "C" are used for those students who have demonstrated some degree of superiority. The highest grade, "A", is reserved for those students who have excelled in every phase of the course. The "B" grade is for students whose work is superior but does not warrant the special distinctiveness of the "A". The "D" is a grade for those students who have made progress toward meeting the objectives of the course but who have fulfilled the requirements only in a substandard manner. The "F" is reserved for students who have failed to meet or have accomplished so few of the requirements of the course that they are not entitled to credit.

The following symbols are also used. No "grade points" are assigned.

S	Satisfactory
U	Unsatisfactory
AU	Audit
W	Withdrawn: Indicates a passing grade at the time of withdrawal from the university.
+W	Preemptory Withdrawal: Indicates a passing grade at the time of withdrawal from an individual course.
HW	Hardship Withdrawal: Withdrawal from an individual course granted after the uncontested withdrawal period deadline.
I	Incomplete: an "I" (incomplete) when recorded, is not a qualitative grade. Rather, it is a symbol which means: "This student was not able to complete the course by the end of the term, but had satisfactorily completed a sufficient portion of it and can be expected to finish without having to re-enroll in it." To earn a grade, work of the course must be completed as prescribed by the instructor on forms filed in the appropriate department office. If it is not completed within one calendar year, the "I" will be changed to an "F".
CR	Credit
NC	No credit
IP	In Progress (A grade is issued when the course is completed.)

Grade Point Average

Grade point averages are calculated by dividing grade points earned by the credit hours attempted. Here is a typical example:

Course	Credit Hours Attempted	Grade	Grade Points Earned
English 101	3	C+	(2.3 x 3) 6.9
History 143	5	B-	(2.7 x 5) 13.5
Psychology 300	4	C	(2.0 x 4) 8.0
Communication 243	4	B	(3.0 x 4) 12.0
Totals	16		40.4

Dividing 40.4 by 16 gives a grade point average of 2.5. In computing cumulative grade point averages, only work attempted at Central will be included in the computation except in the major GPA in which case grades earned in all courses allowed in the major are used. Credits earned at other institutions are accepted in meeting degree requirements according to the limits indicated in the section III of "Credit."

Credit/No Credit Option

Students are urged to use the credit/no credit option as a way to explore academic areas of interest. Students, except for first quarter freshmen and students on academic probation, may select one course per quarter under this option. A maximum of 15 credits earned in credit/no credit courses may be allowed toward the 180 required for the bachelor's degree.

The courses must be selected from breadth requirements and free electives; they must not be courses in basic requirements, majors or minors or professional education sequence. Content writing courses in the general education program taken on a credit/no credit basis will not meet the content writing course requirement of the general education program. Students who take such courses as electives may use the credit/no credit option.

Students can designate the course as credit/no credit during registration or during the first seven (7) class days of the quarter. Courses may not be repeated on a credit/no credit basis.

Credits earned under the credit/no credit option are not included in computing grade point averages. The grade recorded on the student's transcript will be "CR" if the course grade is C- or above, if below C-, the entry will be "NC".

The credit/no credit option is distinctive from courses graded on satisfactory/unsatisfactory basis.

Credit/no credit courses will not be allowed toward master's degree requirements.

Statute of Limitations on Grade Changes

Grade changes may be filed until the end of the subsequent quarter following the one in which they were recorded. Spring quarter grades may be changed as late as the end of the fall quarter.

Grade Reports

A report of the final grades assigned in courses is sent to each student at the end of each quarter.

Honor Roll

Undergraduates who achieve high scholarship in a given quarter are named to the honor roll. Honors are awarded for a grade point average of 3.4 or higher. To be eligible a student must complete a minimum of 12 graded credits.

Grade Appeal Procedure

Students who believe they have been improperly graded should first attempt to resolve the matter with the instructor. If resolution is not achieved, the student may appeal the grievance to the department chair. Failing resolution at that level, the grievance may be submitted to the school/college dean. Finally, if the grievance is not resolved at the dean level, the student may petition for a hearing with the board of academic appeals. For details contact the office of the vice president for student affairs.

Repetition of Courses

Some courses are approved for repetition with credit awarded each time the course is taken and passed. Such approval is indicated in the course description in this catalog. Other courses may be repeated under the following conditions:

1. Credit will be awarded only once. It is the student's responsibility to notify the registrar of the repeat at the time of registration. These conditions also apply to transfer courses that are repeated at Central.
2. When a course is repeated, only the last grade earned will be used in the computation of the cumulative grade point average. However, all grades will remain in the student's official record;
3. Major grade point averages will also be computed on the basis of the last grade earned when major courses are repeated.

Scholastic Standards

The academic standards of the university are established by the faculty. The vice president for student affairs has responsibility for implementing these standards and determining the academic standing of students. Each student's academic standing appears on the grade report which students receive at the end of each quarter. Questions about academic standing should be directed to the office of student affairs.

Good Standing: A student is in good standing when both the quarterly and cumulative grade point averages (GPA) are 2.0 or higher.

Academic Warning: A student who has been in good standing will be placed on Academic Warning when the GPA for the previous quarter is below 2.0.

Academic Probation: A student who has been on academic warning will be placed on academic probation if either the quarterly or cumulative GPA is below 2.0.

Academic Suspension: A student who has been on academic probation will be placed on academic suspension if the GPA for the previous quarter is below 2.0. If the GPA for the previous quarter is 2.0 or above, but the cumulative GPA remains below 2.0, the student will remain on academic probation.

Immediately after grade reports are prepared, the vice president for student affairs reviews the academic files of all suspended students and makes one of three decisions:

1. The student may be allowed to register for one more quarter with an academic standing of probation.
2. The student may be allowed to submit a petition presenting evidence of circumstances beyond the student's control which adversely affected the student's performance during the preceeding quarter(s). If the petition presents convincing evidence of such extenuating circumstances, the student will be referred to the academic standing committee. The committee will hear the student's case and may decide to allow the student to enroll for one more quarter on academic probation.
3. The student may be denied enrollment for one year, following which a petition for readmission may be presented to the vice president for student affairs. Readmission, however, is not guaranteed.

A letter will be sent to the student informing him/her of the vice president's decision.

Academic Forgiveness

A former undergraduate returning after an absence of at least five years and whose cumulative GPA is below 2.0 may petition the dean of undergraduate studies for waiver of the low GPA and for academic placement as "good standing." Such a petition may be approved only once and then only if at least five years have elapsed since last attendance and there is documented evidence of a change in the student's life which would indicate a readiness for successful scholarship.

If academic forgiveness is granted, the previous credits and grades will remain in the student's record, however the grade point average will be suppressed and the student will be admitted in good standing. The cumulative grade point average will include all grades for all courses UNLESS the student has earned at least a 3.00 GPA in 45 credits since returning, in which case ONLY the grades earned since reinstatement will be used in computing the cumulative grade point average. The forgiveness policy does not extend to calculating grade point averages of majors.

Class Attendance

Regular class attendance is expected of all students. Although in most courses attendance is not compulsory, except during the first week of classes, students are responsible for all requirements of the courses in which they are enrolled. If a student fails to attend a class in which enrolled by the end of the third instructional day of the quarter, the course instructor may drop the student from the class roll and fill the space with another student. The instructor must notify the registrar so the dropped student can be informed and the added student registered. Students are responsible for informing course instructors when it is impossible to attend the first class meeting.

The faculty has no responsibility to offer makeup work for casual absences, but may give such opportunity to students who have been absent from class for justifiable cause. Instructors or departments arrange makeup work.

In an effort to minimize negative effects of participation in activities requiring prolonged absences from campus, members of the university community directing or arranging such activities must adhere to the following guidelines:

- Scheduling of such activities shall not overlap with official final examination periods,
- Scheduling of such activities shall not require an absence of more than three (3) consecutive class days,
- Scheduling of such activities shall be announced to the students far enough in advance for them to plan to complete assignments or prepare for tests,
- Sponsors of university approved activities requiring absence from campus will prepare and sign an official list of the names of those students who plan to be absent. It is each student's responsibility to present a copy of the official list to the appropriate instructors and make arrangements for the absence,
- If an exception to the guidelines is needed, the sponsor of the activity will directly contact faculty in whose courses affected students are enrolled to determine whether or not participation in the activity will negatively affect the student's performance or grade. The intent of the policy is to assure that the burden of seeking permission for an exception lies with the sponsor and not with the participant(s).

Athletic Participation

Eligibility to participate in athletics at Central Washington University requires "normal progress" in academic endeavors. The following rules of "normal progress" must be satisfied.

- Enroll for an average of 12 quarter credits every term.
- Complete 36 credits with a 2.0 cumulative GPA before second season of student's competition, 72 credits with a 2.0 cumulative GPA before third season of student's competition, and 108 credits with a 2.0 cumulative GPA before fourth season of student's competition.
- Be admitted to a major before enrolling for 110 credits.

Credit By Examination (Course Challenge)

Matriculated students, enrolled on a full-time basis, may challenge any course which appears on the current course challenge list. The following rules apply:

1. A course challenge application form, available in the registrar's office, must be completed.
2. A fee of \$15 per credit, with a minimum of \$30 per course, must be paid.
3. The challenge is conducted according to procedures established by the departments.
4. The result of the course challenge is recorded as "S" or "U" on the transcript and is not used in computing grade point average.
5. The application to challenge a course will be denied if credit for the course has been received previously at this or another college, the course was previously failed, the course was previously unsatisfactorily challenged, audited or if registration was cancelled.
6. Credit by examination will not be allowed toward meeting the residence study requirements by the university.
7. Graduate students must obtain permission from the dean of graduate studies, their advisor and the course instructor for course challenge.

Course Challenge List

Special courses such as "Individual Study," "Special Topics," "Cooperative Education," and "seminars" may not be challenged for credit.

Accounting: all undergraduate courses.

Aerospace Studies: no courses are offered for challenge.

Administrative Office Management: all undergraduate courses.

Allied Health Sciences: some courses may be challenged with approval.

Anthropology: all undergraduate courses with chair's approval.

Art: all undergraduate courses with the chair's approval except 101.

Biological Sciences: all undergraduate courses, except laboratory

Business Administration: all undergraduate courses.

Business Education: all undergraduate courses except 142, 151, 401, 420, 424, 425, 426, 445, 480, 490, 491, 496, 498, 499.

Chemistry: all undergraduate courses except laboratory courses.

Communication: 101, 250, 252, 340, 350, 445.

Computer Sciences: all undergraduate courses.

Drama: 107, 266, 363.1, 363.2, 363.3, 371, 373, 381, 470.

Early Childhood Education: no courses are offered for challenge.

Economics: all undergraduate courses.

Education: all undergraduate courses with chair's approval.

English: no courses are offered for challenge.

Environmental Studies: no courses are offered for challenge.

Ethnic Studies: all undergraduate courses with chair's approval.

Flight Technology: all courses with departmental approval.

Foreign Languages: all undergraduate courses with chair's approval

Geography: no courses are offered for challenge.

Geology: all undergraduate courses.

Health Education: all undergraduate courses.

History: 101, 102, 103, 143, 144, 301.

Home Economics, Family and Consumer Studies: HOCT 150.

Humanities: 101, 102, 103.

Industrial and Engineering Technology: all undergraduate courses with chair's approval.

Latin American Studies: no courses are offered for challenge.

Law and Justice: all undergraduate courses with the director's approval.

Leisure Services: no courses are offered for challenge.

Library Science: all undergraduate courses with chair's approval.

Marketing Education: all undergraduate courses except 296, 331, 445, 490, 496, 498, 499.

Mathematics: all undergraduate courses numbered above 170.

Military Science: no courses are offered for challenge.

Music: all undergraduate courses except applied lessons, class lessons, and performing groups.

Philosophy: all undergraduate courses.

Physical Education: all undergraduate courses.

Physics: no courses are offered for challenge.

Political Science: no courses are offered for challenge.

Psychology: all undergraduate courses with the chair's approval.

Religious Studies: all undergraduate courses.

Safety Education: no courses are offered for challenge.

Social Science: no courses are offered for challenge.

Sociology: all undergraduate courses with chair's approval.

Special Education: 301.

Credit For Industrial Experience

Students admitted to the vocational technical trade and industrial major may earn up to 45 credits for industrial experience. In all cases students will have to provide evidence of work in industry, do satisfactorily in written, oral and performance examinations, and be recommended for credit. Further details may be found under "Industrial and Engineering Technology" in this catalog.

College Level Examination Program (CLEP)

The university does not award credit for successful completion of CLEP tests. However, in certain circumstances it is accepted upon transfer. See page 28 for details.

Academic Appeal

The student should be aware that procedures have been established to hear complaints regarding academic matters. An academic board of appeals exists to guarantee due process of grievances for any student against any other student, or member of the faculty, staff or administration, or any faculty member against any student in matters concerning academic welfare. For details see page 307 and/or the vice president for student affairs.

Required Participation in Assessment Activities

As part of the continual evaluation and pursuit of excellence in ongoing programs, students will be required to participate in assessments activities at several points during their academic careers. Assessments of reading comprehension, sentence skills, and mathematics as well as writing samples will be made as students enter Central and again after completing 90 credits of study. Students will not be permitted to register for courses after 115 credits without confirmation that they have completed the basic skills reassessment. End-of-major assessments will be required prior to graduation.

Application to Major Requirement

Students are required to apply for admission to the program in which they want to major. Application forms are available in department offices. After completing the form, submit it to the department office which administers the major. Students should apply for a major by the time they have earned 110 credits.

BACHELOR'S DEGREE REQUIREMENTS



Students are eligible for award of a bachelor's degree if they are in good standing and fulfill the following requirements established by the faculty:

Credits

- (a) A minimum of 180 quarter credits is required. Students should note, however, that some bachelor's degrees have requirements in excess of 180 credits.
- (b) A minimum of 60 credits of upper division study is required. (These are earned in courses numbered 300 and above.) Credits earned in study at the lower division (courses numbered 100-299) will not be allowed toward meeting this requirement.
- (c) Study in residence on the university campus of at least three quarters with a minimum of 45 credits is required. Credits earned through industrial experience, military, or credit by examination may not be used to meet residency requirements. Students enrolled in extended degree programs must earn a minimum of 45 credits from the university.
- (d) Transfer students must earn a minimum of 10 credits in the major and 5 credits in the minor at Central Washington University.

Scholarship

All scholarship standards required for the degree, including honors, are based on credits and grade-point-averages earned at the time the degree is awarded. Changes in grades made after the award of the degree have no effect on the degree.

- (a) Cumulative grade-point average of at least 2.0 (C) in courses taken at Central Washington University.
- (b) Cumulative grade point average of at least 2.25 in the major field of study. (All courses allowed in fulfilling the major requirements are used in computing the major grade point average.)

Foreign Language

Students seeking the bachelor of arts (B.A.) degree must complete one year college/university study of a single foreign language or two years high school study of a single foreign language.

General Education

- (a) The general education program must be completed as detailed on page 37.
- (b) Students transferring from Washington state community colleges holding the appropriate academic transfer associate degree will have met the general education program requirements.

Major

Completion of all requirements for a major as specified by appropriate department is required.

Minor

Completion of a minor is required when the major contains less than 60 credits.

Professional Education

All degree programs intended to prepare teachers require completion of professional education courses. (See page 105.)

Graduation Application

Candidates for graduation should file an application for the bachelor's degree one quarter prior to the quarter in which they expect to graduate.

Students who have met the graduation requirements during the current academic year and, as determined by the registrar, those who can reasonably be expected to meet the requirements during the current spring or following summer quarter may participate in spring graduation ceremonies on a space available basis. Students may appeal the decision of the registrar to the vice president for academic affairs or designee. Exceptions to graduation requirements must be approved by the dean of undergraduate studies. Exceptions in majors or minors must be approved by the appropriate department chair.

Graduation with Distinction

Baccalaureate honors are awarded to recipients of a first bachelor's degree according to the following standards:

- 3.4 to 3.59 - cum laude
- 3.6 to 3.79 - magna cum laude
- 3.8 to 4.00 - summa cum laude

Other distinctions:

- 3.95 to 4.00 - President's Scholars
 3.60 to 4.00 - Dean's Scholars

The following conditions must be met by all students to be considered for graduation with distinction:

- At least one half (90) of the credits required for the degree must be taken at Central Washington University with a minimum of 60 credits earned in courses taken on the A-F graded basis.
- Credits earned by course challenge, military experiences or courses, non-college courses and industrial experience will not be allowed toward the 90 credits required for eligibility.
- Only credits earned at Central Washington University will be considered in determining eligibility for graduation with distinction.

Concurrent Baccalaureate Degrees

A student may be awarded more than one baccalaureate degree (B.A., B.S.) at the same time providing requirements of both the degree programs have been completed. Double majors within the same baccalaureate program do not constitute separate baccalaureate degrees.

Second Baccalaureate Degree

Qualified students seeking second baccalaureate degrees are admitted to graduate status. However, this does not mean they are enrolled in an "advanced degree program." To receive a second baccalaureate degree students must complete: (1) any degree requirements not satisfied by the previous degree, and (2) a minimum of 45 quarter credits from Central. Second bachelor's degree students follow regulations applicable to undergraduates.



1905

First summer school session held.

1906

Initial publication of a yearbook.

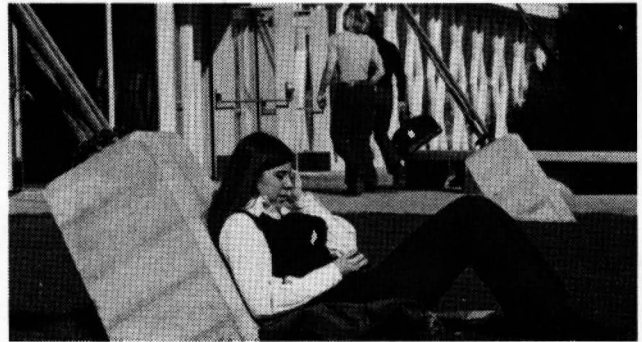
1907

Ground breaking ceremonies for the Training School (Edison), the second building to be constructed on campus.

1908

Founding of the first permanent student organization, the "Student Body."

GENERAL EDUCATION PROGRAM



It is expected that students entering Central Washington University have developed some proficiency in communication and critical thinking. The general education program provides opportunities to develop these skills by integrating them into the academic requirements of the university.

A goal of the general education program is to help students acquire a liberal education through study in various disciplines in the arts and humanities, the social and behavioral sciences, and then natural sciences and mathematics. General education courses in these areas stress, where applicable, the rationale for the discipline as well as its scope, history, philosophy and methodology. Courses include writing, speaking, and critical thinking where appropriate. Fundamental objectives are to promote awareness of the diversity, yet commonality, of life and respect for the balances in nature.

Credits

I. BASIC REQUIREMENT.....16

- A. Writing9
ENG 101, 102, 301
- B. Reasoning5
PHIL 201 OR MATH 130.1
- C. Physical Education Activities2
PEF 110, 111, 112, 113, 114, 115, 116, 121, 122
PETS 110, 113, 114, 115, 116, 117
PER 110, 112, 113, 114, 115, 116, 117, 118, 119
PEAQ 110, 111, 112, 113, 115, 116, 118
PEID 110, 111, 112, 113, 114, 115, 116, 118, 123, 124, 125, 126, 128, 129, 130, 133, 134, 136, 137, 138
PEGT 110, 112, 113

II. BREADTH REQUIREMENTS44-45

Students must earn a minimum of five credits in subjects dealing with non-English speaking cultures. Courses listed below which meet that requirement are identified with an asterisk.

- A. Arts and Humanities14-15
Select a minimum of four credits in courses listed under the heading "Literary Background" and a minimum of 10 credits in those under the heading "Other Arts and Humanities," keeping in mind special rule No. 2 below.

- 1. Literary Backgrounds4-5
(see special rule No. 3.)
ENG 105
HUM 175
- 2. Other Arts and Humanities.....10
ART 101, 235*, 336*, 337, 357*, 410*, 456*
CHIN 151, 152, 153, 251*, 252*, 253*
(see special rule No. 2)
DR 107, 363.1*, 363.3
ENG 235, 240, 341*, 342*, 362
FR 151, 152, 153, 251*, 252*, 253*
(see special rule No. 2)
GERM 151, 152, 153, 251*, 252*, 253*
(See special rule No. 2)
JAPN 151, 152, 153, 251*, 252*, 253*
(See special rule No. 2)
SPAN 151, 152, 153, 251*, 252*, 253*
(See special rule No. 2)
HUM 101, 102, 103
MUS 101, 102, 144
PHIL 101, 115, 302, 305, 352*, 353*, 354*, 355, 359, 487
PE 161
RELS 101*, 201*, 301*, 351*, 353*

- B. Social and Behavioral Sciences15
Select a minimum of five credits in courses listed under the heading "Historical/Political Background" and a minimum of 10 credits in those under the heading "Other Social and Behavioral Sciences," keeping in mind special rule No. 2 below.

- 1. Historical/Political Backgrounds
Students majoring in history or political science are exempt from the historical/political backgrounds requirement; however, a minimum of 15 credits must be earned with no more than five credits in each of three subjects other than the major. Courses must be selected from those headed "Other Social and Behavioral Sciences." (see special rule No. 3).....5
HIST 102*, 103*, 144
POSC 210

2. Other Social and Behavioral Sciences10
 ANTH 107*, 120, 130*, 180
 AST 102*
 COM 101, 207, 253, 280, 430
 ECON 101, 201, 202, 356
 ENST 302, 303
 ETS 101
 GEOG 101*, 205, 308*, 355
 HIST 101*, 143
 HOF5 235 (counts as a psychology course)
 POSC 101, 360*, 370*
 PSY 101, 205, 235 (PSY/HOF5 235 may not
 be used if SOC 248 has been taken)
 SOC 101, 107, 205, 248, 265 (SOC 248 may not
 be used if PSY/HOF5 235 has been taken)
 WS 201

- C. Natural Sciences and Mathematics15
 Since the laboratory method is an essential characteristic of study in the natural sciences, students are required to include at least one laboratory course in the physical or biological sciences. Courses that satisfy this requirement are marked "w/lab".

Select a minimum of four credits in courses listed under the heading "Biological Sciences," a minimum of four credits in courses listed under the heading "Physical Sciences" and a minimum of seven credits in other courses listed under any of the three headings below, keeping in mind special rule No. 2 below.

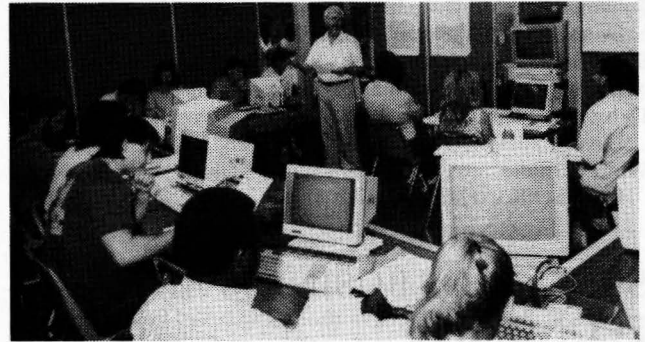
1. Biological Sciences5
 Students majoring in biology are exempt from the biological sciences requirement. Broad area science, chemistry, earth science, geology, physics and science-math are exempt from the physical sciences requirement. However, a minimum of 15 credits must be earned in the natural sciences and mathematics, with a maximum of five credits in each of three subjects other than the major.
 ANTH 110, 110.1 w/lab
 BISC 104 w/lab, 214 w/lab, 302, 304, 385
 BOT 211 w/lab (see special rule No. 2)
 ZOOL 270 (see special rule No. 2)
 ENST 301
2. Physical Sciences4
 CHEM 101, 101.1 w/lab, 105 w/lab, 111, 111.1 w/lab, 181, 181.1 w/lab
 GEOG 107
 GEOL 145, 145.1 w/lab, 345 w/lab
 PHY 111 w/lab, 201 w/lab, 211 w/lab
3. Mathematics
 MATH 101, 163.1, 163.2, 170, 250, 311

SPECIAL RULES

1. Courses satisfying general education requirements cannot be used to satisfy requirements in the major unless the courses are specified in the major and are offered outside the major department.
2. Even though a discipline is represented in more than one of the three broad areas, students can count only one course from any one discipline in categories A, B and C. For this requirement all foreign languages count as a single discipline and biological sciences, botany and zoology are a single discipline.
3. Courses used to meet the "Literary Backgrounds" and the historical/political backgrounds" requirements cannot be taken on a credit/no credit basis. Students who take such courses as electives may use the credit/no credit option. ENG 101 is a prerequisite or corequisite to the courses which meet the literary background requirements.
 If a transfer student without an AA degree from a Washington state community college wishes to complete such a degree in order to have it satisfy the general education program requirements at Central, he/she must complete it by the time they have completed forty-five (45) credits or one (1) calendar year, whichever comes later, after initial enrollment.

Total 60-61

DIVISIONS OF INSTRUCTION



The university is sectioned into several divisions of instruction as listed below.

COLLEGE OF LETTERS, ARTS AND SCIENCES

Dean: Donald W. Cummings (Hebeler Hall 201)

Associate Dean: Anne Denman (Hebeler Hall 201)

The college of letters, arts and sciences (CLAS) comprises 34 departments and programs, listed below, which represent the disciplines of the arts and humanities, the social and behavioral sciences, mathematics and the sciences. All of the departments and some of the programs of CLAS offer undergraduate degrees as well as minors which supplement other degree programs. Several departments offer master's degrees. In addition to its role in providing degree programs, CLAS is responsible for most of the course offerings of the general education program as well as extensive service coursework for the entire university. The college also plays a major role in Central's teacher education programs, offering bachelor's and master's degrees for students preparing to be secondary teachers and providing coursework in educational foundations and discipline-specific methods for teacher education majors. The college is engaged in research, creative activities and service activities that involve students in the scholarship and practical applications of their various academic specializations while making important contributions to society at large. There are no special requirements for admission to the college but some departments have requirements which are described under the respective department and program headings in this catalog.

DEPARTMENTS AND PROGRAMS

Allied Health Sciences Program:

William W. Barker (Dean Hall 201)

Department of Anthropology:

Catherine M. Sands (Farrell Hall 309)

Department of Art:

Constance H. Speth (Randall Hall 103)

Asian Studies Program:

Joel Andress (Lind Hall 118-B)

Department of Biological Sciences:

William Barker (Dean Hall 201)

Department of Chemistry:

Robert Gaines (Dean Hall 301)

Department of Communication:

Philip Backlund (Bouillon Hall 252)

Department of Computer Science:

George Town (Hebeler Hall 219)

Douglas Honors College:

Barry Donahue (Hebeler Hall 219-B)

Department of Drama:

Richard Leinaweaver (McConnell Hall 102)

Department of English:

John Vifian (Language & Literature Building 423)

Environmental Studies Program:

George Macinko (Lind Hall 117-A)

Department of Foreign Languages:

Rosco Tolman (Language & Literature Building 102-S)

Department of Geography & Land Studies:

Kenneth Hammond (Lind Hall 119-C)

Department of Geology:

James Hinthorne (Lind Hall 101-A)

Department of Gerontology:

James Ponzetti (Michaelson Hall 229)

Department of History:

Daniel Ramsdell (Language & Literature Building 100)

Humanities Program:

Raymond Smith (Language & Literature Building 408G)

Law & Justice Program:

Max Zwanziger (Psychology Building 475)

Department of Mathematics:

William Cutlip (Bouillon Hall 115)

Medical Technology Program:

Robert Pacha (Dean Hall 225)

Department of Music:

Russ Schultz (Hertz Hall 101)

Organizational Development Center:

Anthony Stahelski and Stephen Schepman
(Psychology Building 422)

Department of Philosophy:

Chester Keller (Language & Literature Building 337)

Department of Physics:

Robert Mitchell (Lind Hall 201-A)

Department of Political Science:

Michael Launius (Psychology Building 414)

Department of Psychology:

Philip Tolin (Psychology Building 422)

Science Education Program:

Donald Dietrich (Dean Hall 127-A)

Social Science Program:

Larry Lowther (Literature & Language Building 100M)

Department of Sociology:

David Kaufman (Farrell Hall 409)

Women Studies:

Dean's Office (Hebeler Hall 201)

SCHOOL OF BUSINESS AND ECONOMICS

Dean: Gerald L. Cleveland (Psychology Building 269)**Assistant Dean:** Joan F. Mosebar (Psychology Building 269)**Department Chairs**

Accounting - Karen Adamson (Michaelsen Hall 204)

Business Administration - Gerald P. Gunn
(Michaelsen Hall 204)

Economics - Donald J. Cocheba (Farrell Hall 320)

Extended Degree Program Directors:

Lynnwood - Eldon C. Johnson

South Seattle - Norman J. Gierlasinski and Don R. Nixon

Curriculum Advisor:

Marla J. Firman

The school prepares students for leadership roles in both business and government. This is accomplished by developing managerial talents based on analytical, economic, quantitative, accounting and behavioral skills.

Emphasis is placed on both national and international dimensions. The school also promotes ethical behavior and attempts to motivate students to pursue learning throughout life.

The school offers these majors in the Bachelor of Science degree.

Accounting, B.S.

Business Administration, B.S.

Economics, B.S.

The business administration degree program offers six areas of specialization: finance, general business, international business, management and organization, marketing management, and operations management and information systems.

The economics degree program offers three areas of specialization: applied economics, general economics and operations analysis.

Double majors and double specializations are available. Interested students should consult with their major advisor or department chair for details prior to enrolling.

Accounting and business administration majors are also offered at two extended degree centers within Washington state: Lynnwood and South Seattle.

Please refer to departmental listings in this catalog for further information about each major.

Admission Requirements

Students must apply and be admitted to the major prior to beginning 300-400 level courses in the school of business and economics. At the time of application all 200 level pre-admission requirements should be substantially completed. Application forms are available in the department offices. The completed form must be accompanied by a current credit evaluation from the office of the registrar.

Admission shall be based on grades earned in the specified sophomore (200) level courses under the heading of pre-admission requirements for each major. English 101 and English 102 must also be completed before admission. A cumulative grade point average of 2.25 in these pre-admission courses must be achieved with a minimum grade of "C-" (1.70) in each course. The credit/no credit option will not be accepted for any of these courses. The applicant must have earned a minimum cumulative GPA of 2.0 in all collegiate study. These criteria also apply to equivalent courses transferred from other institutions. Students who have met all the above requirements will be admitted unless the number of eligible applicants exceeds available space. In that case, acceptance will be competitive, based on a selection index. Students who have not met all of the above requirements may be admitted conditionally by permission of the school dean or designee.

Transfer Credits

Equivalent lower division (100-200 level) courses may be transferred toward meeting the pre-admission requirements for any B.S. degree in the school of business and economics.

Upper division (300-400 level) courses may be transferred toward meeting the major requirements only with the approval of the department chair and the school dean or designee.

Transfer students earning fewer than 45 quarter credits in their major at CWU must receive approval from the school dean prior to graduation.

Service to Other Majors

Students majoring outside the school of business and economics who are required to take courses in this school for either their major or minor will be eligible to enroll on a space available basis. These students will be given priority over other non-school majors wishing to enroll in courses. All students must have taken prerequisites for courses prior to enrollment.

SCHOOL OF GRADUATE STUDIES

Dean: Gerald J. Stacy (Bouillon Hall 207-C)**Associate Dean:** Kathleen D. Easter (Bouillon Hall 207-E)

The mission of graduate studies is to exercise leadership for the university in graduate education, to facilitate research activity by CWU faculty and students, and to foster the integration of education and research. Through graduate programs, Central fulfills several functions vital to the society it serves: it advances human knowledge by encouraging advanced study and research; it preserves and transmits our heritage through the education of scholars and teachers; it

makes information and service available to the public; and by virtue of all of these, it assists in solving problems and serving needs of society.

Graduate study and research is led by the dean of graduate studies and research and a graduate faculty of 220, nominated and approved for their scholarly and research qualifications. The graduate faculty acts through a graduate council—appointed by the provost on advice and consent of the faculty senate executive committee and the council of academic deans.

In addition to its primary concern with graduate programs, graduate studies also administers separately budgeted institutional funds to support faculty research through the faculty research committee; it coordinates all requests to outside agencies for grant and contract support of research and instruction at all levels, and it coordinates and appoints graduate teaching, staff and research assistantships and fellowships. It also administers several centers including the GIS laboratory and the Central Washington Archeological Survey.

The following graduate degrees are offered. Additional information in other sections of this catalog offer details of specializations, requirements and other matters of interest to faculty and students.

Graduate Degree Programs

The following graduate degrees are offered:

Master of Arts, M.A.
 Master of Arts for Teachers, M.A.T.
 Master of Education, M.Ed.
 Master of Fine Arts, M.F.A.
 Master of Music, M.M.
 Master of Science, M.S.

Graduate Certificate Programs

In addition to the degree programs outlined above, the following graduate certificate programs are offered at the university:

Fifth Year of Study for Continuing Certificate
 Renewal of Initial Certificate
 Educational Staff Associate Certificate:
 School Counselor
 School Psychologist
 Reading Resource Specialist

SCHOOL OF PROFESSIONAL STUDIES

Acting Dean: Ronald M. Frye (Barge Hall 303/304)
Associate Dean and Director of Certification:
 To be named (Black Hall 216)

The primary role of the school of professional studies is to support the mission of Central Washington University by offering and supporting educational opportunities of the highest quality for students in professional and other university programs. Consequently, the academic programs offered by the faculty of the school are career oriented and job-skill related.

From the school perspective, its role is fulfilled by creating and nurturing an academic environment where "quality" and "excellence" are synonymous with achievement. Each academic unit of the School has developed specific objectives to complement this role.

Departments and Programs

Department of Aerospace Studies (AFROTC):

Colonel John S. Prater (Peterson Hall 203)

Bilingual Intercultural Education Program:

Minerva Lopez-Caples (Black Hall 217)

Department of Business Education and Administrative Management:

Ross Byrd (Barge Hall 308)

Central Safety Center:

Ronald Hales (Black Hall 212)

Department of Education:

Dale LeFevre (Black Hall 200)

Department of Home Economics—Family & Consumer Studies:

David Gee (Michaelsen Hall 100)

Department of Industrial and Engineering Technology:

Robert M. Envick (Hebeler Hall 101)

Department of Military Science (ROTC):

Lt. Col. Gary G. Lynde (Peterson Hall 202)

Department of Physical Education, Health and Leisure Services:

John Gregor (Physical Education Building 114)

Teacher Preparation Program

The teacher preparation program is administered through the school of professional studies. The provost appoints faculty to serve on the teacher education council which advises the dean on program policies.

Admission into the university does not guarantee admission into the teacher education program. Students should make application to the program early in their careers. Applications are available from and processed by the office of the associate dean and director of certification, Black Hall 216.

Admission requirements:

- Unconditional admission requires a minimum GPA of 3.0 for the last 45 graded credits.
- Conditional admission may be gained with a 2.8 GPA for at least the last 45 graded credits. To achieve full admission and to be allowed to student teach students must achieve a minimum 3.0 cumulative GPA for the last 45 graded credits.
- Successful completion (grade of C or better) or exemption from ENG 101 or 102.
- Successful completion of the academic skills proficiency exam (ASPE) by receiving an acceptable score in mathematics, English language usage, spelling and reading.
- Evidence of manuscript/cursive handwriting ability through completion of a written assignment.
- A composite score of 99 on the verbal and quantitative portions of the Washington Pre-College Test (WPCT), or comparable SAT (870) or ACT (21) scores.
- Two recommendations from former teachers, employers, professors or other non-related persons.

- Grades C or better in major, minor and professional education sequence courses, and of a C- or better in general education.

To remain in the program, students must maintain GPA as indicated above.

Applicants will be notified in writing of their status within one quarter after taking the basic skills test.

If a student fails any academic portion of the basic skills test, he/she may retake that portion after having completed a remedial program approved by the associate dean and director of certification. If a student fails any portion a second time, he/she is denied admission into the teacher education program. In cases when only one part of the test was failed, an appeal may be made to the admission, matriculation and graduation committee of the teacher education council for permission to retake the failed portion a third and final time. Failure for a third time results in denial of admission. Students failing two or more academic portions of the test a second time will be denied admission into the teacher education program.

Students may enroll in Option I, II, or III courses prior to full admission to teacher education with the exception of ED 311, ED 316, ED 444, Or PSY 315).

Applicants who successfully complete admission requirements will receive an "Admit to Teacher Education Program" card which must be presented at registration when enrolling in Block II of any of the professional education options and when making application for student teaching.

Students must have taken and passed all portions of the basic skills test prior to making application for student teaching.

Teacher education program admission regulations are administered by the associate dean and director of certification. Personal folders are maintained in the associate dean's office for each student enrolled in a teaching program at Central Washington University.

*Grade point will be computed on course work taken at CWU or transferred from other institutions.

Recommendations

In fulfilling "General Education Requirements," students pursuing elementary-level teaching certificates are advised to take at least one course which deals with minority ethnic groups, at least one course in English or American literature, mathematics, music, public speaking, and a laboratory course in the biological sciences.

History Requirement

Students preparing to teach grades four to six or declaring a major or minor in one of the social science fields (history, geography, sociology, economics, anthropology, political science or social science) are required to complete HIST 301, Pacific Northwest History.

Major and Minor Concentrations

Approved concentrations must be completed in fields specifically related to the curriculum of the schools of the state of Washington. Students must select programs leading to endorsement for teaching on elementary level, secondary level, or combined elementary and secondary levels.

In the recommended list of majors below, a single asterisk

identifies approved programs for elementary teaching. The double asterisk identifies concentrations which require a second major for teaching on the secondary level.

Anthropology
 Art*
 Art - Broad Area
 Bilingual/Interculture Major for
 Elementary Teaching (Spanish-English)*
 Biology*
 Business Education - Broad Area
 Chemistry
 Drama (Secondary)
 Early Childhood Education*
 Earth Science**
 Elementary Education Major*
 Elementary Education Program*
 English*
 Ethnic Studies**
 French*
 Geography**
 German*
 Health Education*
 History*
 Home Economics, Family and Consumer Studies
 Broad Area (Vocational)
 Industrial Education
 Industrial Education - Broad Area
 Language Arts Major for Elementary Teachers*
 Marketing Education - Broad Area
 Mathematics*
 Music - Broad Area*
 Physical Education Major*
 Physical Science - Broad Area
 Physics
 Political Science**
 Psychology**
 Science - Mathematics for Elementary Teachers*
 Social Science - Broad Area
 Social Science for Elementary Teachers*
 Sociology**
 Spanish*
 Speech and Drama for Elementary Teachers*
 Special Education*
 Vocational-Technical Trade and Industrial

In the recommended list of minors below the single asterisk identifies minors approved for elementary teaching.

Anthropology
 Art*
 Biology*
 Botany
 Business Education
 Chemistry
 Dance
 Drama (Secondary or Elementary*)
 Driver and Traffic Safety Education
 Early Childhood Education*
 Earth Science*
 Economics
 Elementary School Professionalized Subjects*
 English*

Ethnic Studies
 French*
 Geography*
 Geology
 German*
 Health Education*
 History*
 Home Economics
 Industrial Education
 Journalism
 Leisure Services
 Mathematics*
 Math-Science*
 Music*
 Occupational Safety and Health
 Physical Education - Secondary
 Physical Education - Elementary*
 Physical Science*
 Physics
 Philosophy
 Political Science
 Psychology
 Reading*
 Science Elementary*
 Sociology
 Spanish*
 Special Education*
 Speech, Elementary or Junior High
 Speech, Secondary
 Zoology

Continuing (Professional) Certificate

Candidates for the continuing (professional) certificate must meet the following requirements:

- Have a minimum of two (2) endorsements on their teaching certificate.*
- Verify at least two (2) years of half-time or more teaching in a single district.
- Complete an approved master's degree from an accredited college or university.
- Complete an application for the continuing (professional) teacher certificate and have the experience verification form filled out and signed by an appropriate school official. These forms may be secured from the office of certification, Black Hall 216.

In order to qualify for endorsement to teach in more than one specialization, students must meet the requirements for each specialization. Experienced teachers may petition the department of education for permission to student teach for less than the normal 16 credits. Students should contact the office of the associate dean, school of professional studies, for guidelines in planning programs leading to dual endorsement.

To maintain the continuing (professional) certificate, each person must complete one-hundred fifty (150) clock hours of approved inservice education and/or fifteen (15) college or university credits every five years.

*Candidates for the continuing (professional) certificate shall have been granted at least two subject area endorsements. Subject area endorsements, with the exception of broad subject area endorsements of English/language arts, science and social studies, require satisfactory completion of 24 credits in specified areas of studies. Broad subject endorsements require 45 credits.

Certification

Central Washington University is authorized by the Washington State Board of Education to offer programs leading to the initial and continuing (professional) certificates. To be awarded Washington certificates, candidates must be at least 18 years of age and citizens of the United States. Non-citizens who are permanent residents intending to become citizens may obtain special permits from the office of the state superintendent of public instruction. Completion of requirements for a degree does not guarantee that all requirements for certification have been met.

Graduates of the teacher preparation program are legally qualified for certification in states which are party to the interstate certification compact.

Initial Certificate

The initial certificate is normally awarded simultaneously with the bachelor's degree. It is valid for four years (after August 31, 1992, it will be valid for two years) and may be renewed for an additional three years. To qualify for the initial certificate, a student must complete all requirements for the certificate as set forth in this catalog.

Persons holding a baccalaureate degree from another accredited college may earn the initial certificate by satisfactorily completing individually prescribed programs which are developed according to the individual needs and certification requirements as prescribed by the state board of education.



1909

Lease of a large frame residence on Seventh Avenue for use as a women's dormitory. The "Normal Club House" accommodated about a dozen residents.

1911

First dormitory on campus, Kamola Hall, ready for occupancy.

1916

Mr. W. E. Wilson resigned and was succeeded by Mr. George H. Black.

1916

The Kooltuo yearbook issued a special edition in commemoration of the school's first 25 years.

1916

Publication of the new student newspaper, Student Opinion began.

1917

The Ellensburg School District No. 3 granted free access to the training school building for use as elementary classrooms.

1917

First president's residence acquired.

UNDERGRADUATE PROGRAMS AND COURSES



Central Washington University offers the following undergraduate degrees.

- Bachelor of Arts
- Bachelor of Arts in Education
- Bachelor of Music
- Bachelor of Science

Students wishing to earn a B.A., B.MUS., or B.S. degree must complete (1) the general education program; (2) a concentration of at least 60 credits which may be satisfied by a specified major, or a specified major and minor, or a specified major and courses in other fields as prescribed by the major department; (3) electives in sufficient quantity to bring the total quarter credits to 180; and (4) other degree requirements as listed on page 35. Major fields of study are listed on page 42. Minor concentrations are offered in most of the fields.

Students wishing to earn a B.A.Ed. degree must complete (1) the general education program; (2) a major in early childhood education, elementary education or special education and minors, when appropriate; (3) the professional education sequence; (4) electives in sufficient quantity to bring the total quarter credits to 180; and (5) other general degree requirements as listed on page 35. Major and minor concentrations must be selected from those listed on page 42.

Major Field of Study	Degree Designation	Administrative Unit or Department	Page
Accounting	B.S.	Accounting	49
Administrative Office Management —Administrative Assistant —Office Management —Office Systems —Retail Management	B.S.	Business Education and Administrative Management	79
Anthropology —Museology Option	B.A., B.S.	Anthropology	53
Art	B.A.	Art	57
Art (Broad Area)	B.A.	Art	59

Bilingual/Language Arts Major	English	118
Bilingual Intercultural Major for Elementary Teaching (Spanish-English)	B.A. Education	108
Biology	B.A., B.S. Biological Sciences	63
Business Administration —Finance —General Business —Industrial Relations —Management and Organization —Marketing Management —Operations Management & Information Systems	B.S. Business Administration	70
Business Education (Broad Area)	B.S. Business Education and Administrative Management	77
Chemistry —Biochemistry	B.A., B.S. Chemistry	83
Community Health Education	B.S. Physical Education, Health Education and Leisure Services	193
Computer Science —Artificial Intelligence —Computer Systems —Information Systems —Scientific Computing —Software Design and Applications	B.S. Computer Science	91
Construction Management Technology	B.S. Industrial and Engineering Technology	153
Drama	B.A. Drama	97
Early Childhood Education	B.A.Ed. Education	109

Earth Science	B.A.	Geology	138	History	B.A.	History	141
Economics	B.S.	Economics	100	History— Elementary or Secondary	B.A.	History	141
—Applied Economics				History—Secondary (Broad Area)	B.A.	History	142
—General Economics				Home Economics	B.A., B.S.	Home Economics, Family and Consumer Studies	145
—Operations Analysis				Individual Studies	B.A., B.S., B.MUS.	Dean of Under- graduate Studies	152
Electronics Engineering Technology	B.S.	Industrial and Engineering Technology	155	Industrial Education	B.S.	Industrial and Engineering Technology	158
Elementary Education	B.A.Ed.	Education	108	Industrial Education, (Broad Area)	B.S.	Industrial and Engineering Technology	157
English	B.A.	English	117	Industrial Technology	B.S.	Industrial and Engineering Technology	153
English—Secondary	B.A.	English	117	—Cast Metals			
English—Junior High/Elementary	B.A.	English	118	—Industrial Distribution			
Ethnic Studies	B.A.	Ethnic Studies (Anthropology)	122	—Industrial Electronics			
—American Indian Studies				—Metal Fabrication			
—Black Studies				—Power			
—Chicano Studies				—Production Wood			
Family and Consumer Studies	B.A.	Home Economics, Family and Consumer Studies	145	Language Arts	B.A.	English	118
Fashion	B.S.	Interdepartmental Merchandising	77, 145	—Elementary			
		Business Education and Administrative Management and Home Economics, Family and Consumer Studies		Law and Justice	B.A.	Law and Justice Program	164
				—Law Enforcement			
				—Paralegal			
				—Parole and Corrections			
				—Probation			
Flight Technology	B.S.	Industrial and Engineering Technology	123	Leisure Services	B.A.	Physical Education, Health Education and Leisure Services	195
—Airway Science				Loss Control Management	B.S.	Safety Education Program	207
—Flight Officer				Manufacturing Engineering Technology	B.S.	Industrial and Engineering Technology	155
—Aircraft Systems				Marketing Education (Broad Area)	B.S.	Business Education and Administrative Management	78
—Airway Electronics Systems				Mass Communication	B.A.	Communication	87
—Aviation Maintenance Management				—Print Journalism			
				—Broadcast Journalism			
Food Science and —Public Health Nutrition	B.S.	Home Economics, Family Nutrition and Consumer Studies	146				
—Food Science and Technology							
—Nutrition and Dietetics							
French	B.A.	Foreign Languages	128				
Geography	B.A.	Geography and Land Studies	133				
Geology	B.A., B.S.	Geology	137				
German	B.A.	Foreign Languages	128				
Gerontology	B.S.	Gerontology	140				
Graphic Design	B.A.	Art	58				

Mathematics	B.A., B.S.	Mathematics	167	Social Science for Elementary School Teaching	B.A.	Social Science Program	210
Mechanical Engineering Technology	B.S.	Industrial and Engineering Technology	156	Social Services	B.S.	Sociology	213
Military Science	B.S.	Military Science	172	Sociology	B.A.	Sociology	211
Music	B.A.	Music	177	Spanish	B.A.	Foreign Languages	128
Music	B.MUS.	Music	175	Special Education	B.A.Ed.	Education	109
—Keyboard Performance				Speech Communication	B.A.	Communication	86
—Theory-Composition				Vocational-Technical Trade and Industrial Major	B.S.	Industrial and Engineering Technology	156
—Percussion Performance							
—String Performance							
—Vocal Performance							
—Wind Performance							
Music Education (Broad Area)	B.MUS.	Music	176				
Music Education (Elementary)	B.MUS.	Music	176				
Paramedic	B.S.	Physical Education, Health Education and Leisure Services	187				
Philosophy	B.A.	Philosophy	182				
—Religious Studies							
Physical Education	B.S.	Physical Education, Health Education and Leisure Services	186				
Physics	B.A.	Physics	199				
Physics (Option I & II)	B.S.	Physics	199				
Political Science	B.A.	Political Science	201				
Psychology	B.A.	Psychology	203				
Public Relations	B.A.	Communication	87				
School Health Education	B.A.	Physical Education, Health Education and Leisure Services	193				
Science Education (Broad Area)	B.S.	Science Education Program	207				
Science-Mathematics	B.S.	Science Education Program	209				
Social Science	B.A.	Social Science Program	210				
Social Science for Junior High School Teaching	B.A.	Social Science Program	210				

Students must apply for admission to a major program by the time 110 quarter credits have been earned (application forms should be filed with major department).

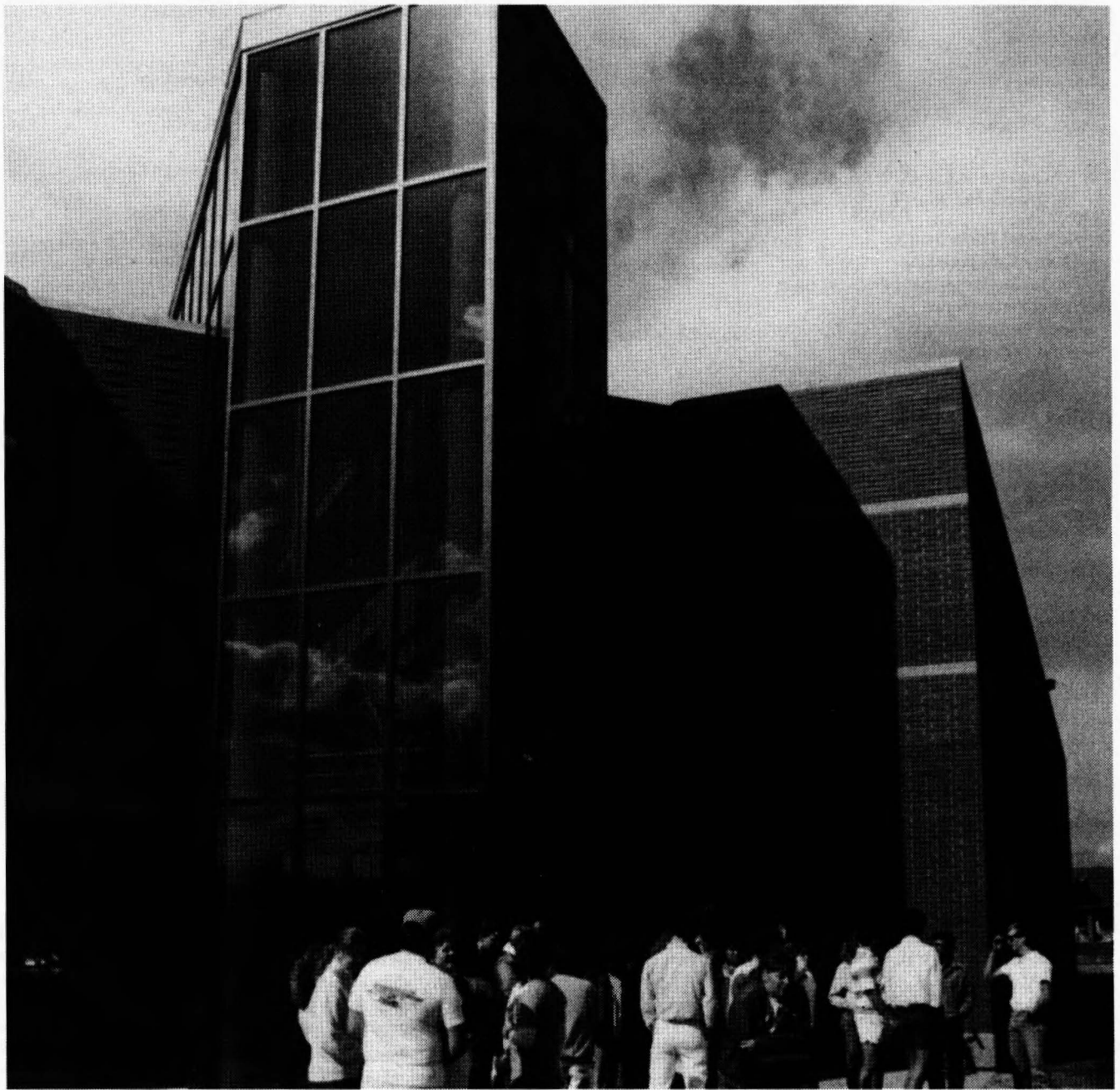
The following certificates are offered:

- Provisional/Initial Principal's Credentials
- Provisional/Initial Teaching
- School Psychologist's Credentials
- School Counseling Credential
- Continuing Principal's Credentials
- Continuing Teaching
- Program Administrator
- Reading Resource Specialist
- Traffic Safety Education
- Vocational Certificate
- Marketing Education
- Office Occupations
- Trade and Industrial
- Diversified Occupations
- Vocational Home and Family Life Education

Departments, programs and courses are listed in alphabetical order in this section. Courses numbered from 101 through 299 are lower-division courses primarily for freshmen and sophomores; those numbered from 300 through 499 are upper-division courses primarily for juniors and seniors. The numbers 296, 396, 496 and 596 designate individual study courses and are available for registration by prior arrangement with the course instructor and approval of department chair.

The number in parentheses following the course title indicates the amount of credit each course carries. Variable credit courses include the minimum and maximum number of the credits within parentheses.

Not all of the courses are offered every quarter. Final confirmation of courses to be offered, information on new courses and programs, as well as a list of hours, instructor, titles of courses and places of class meetings, is given in the class schedule, published each quarter and available from the office of the registrar.



1918

The great influenza epidemic forced a closure of the school for a period of three weeks.

1919

The Year Book of Student Opinion supplanted the Kooltu.

1920

Senior Sneak Day, an annual event for more than a decade, began.

ACCOUNTING

Chair:

Karen D. Adamson,
Michaelsen 204

Professors:

Gerald L. Cleveland
Jay D. Forsyth, Extended Degree Centers
Norman J. Gierlasinski, Extended Degree Centers
Gary W. Heesacker
John O. Moore, Extended Degree Centers
Patrick R. O'Shaughnessy
Allen C. Vautier, Extended Degree Centers

Associate Professors:

Karen D. Adamson
Deborah L. Medlar

Assistant Professors:

Margaret A. Lewis
Keith W. Richardson
Dick D. Wasson, Extended Degree Centers

A bachelor of science degree in accounting is available to students who would like to prepare for careers in public accounting (as certified public accountants), industrial accounting, and nonprofit accounting. The program imparts to students the "common body of knowledge" required of practicing accountants by maintaining a flexible program to meet the needs of a changing society. The student-centered faculty achieve these objectives by developing individual programs, advising students how to meet personal goals and helping the students to secure employment upon graduation.

Certification

Central Washington University accounting students, within 120 days of graduation, are qualified to sit for the certified public accounting examination. State law requires individuals wishing to sit for the CPA examination to have completed (1) at least one course in data processing, (2) a minimum of 36 quarter credits of study in accounting, and (3) a minimum of 36 quarter credits in related business courses. Registration for the examination is made through the State Board of Accountancy, Olympia, Wash. Students are also prepared to sit for the Certified Management Accounting examination and the Certified Internal Auditor examination. Students should consult with their major advisor for details.

Transfer Credits

Equivalent lower division (100-200 level) courses may be transferred toward meeting the pre-admission requirements for any B.S. degree in the school of business and economics.

Upper division (300-400 level) courses may be transferred toward meeting the major requirements only with the approval of the department chair and the school dean or designee.

Transfer students earning fewer than 45 credits in their major at CWU must receive approval from the school dean prior to graduation.

Service to Other Majors

Students majoring outside the school of business and economics who are required to take courses in this school for either their major or minor will be eligible to enroll on a space-available basis. These students will be given priority over other non-school majors wishing to enroll in courses.

Admission Requirements

Students must apply and be admitted to the major prior to beginning 300-400 level courses in the school of business and economics. At the time of application, all 200 level core requirements should be substantially completed. Application forms are available in the department offices. The completed form must be accompanied by a current credit evaluation from the office of the registrar.

Admission shall be based on grades earned in the following sophomore (200) level courses. English 101 and English 102 must also be completed before admission.

A. Pre-admission Requirements

Credits

ACCT 251, Financial Accounting I	5
ACCT 252, Financial Accounting II	5
ACCT 253, Managerial Accounting (1)	5
BUS 241, Legal Environment of Business	5
OMIS 221, Business Statistics (2)	5
ECON 201, Principles of Economics Micro	5
ECON 202, Principles of Economics Macro	5

Subtotal 35

- (1) Prerequisite, ADOM 202B
- (2) Prerequisite, ADOM 202B and MATH 130.1

A cumulative grade point average of 2.25 in the above courses must be achieved with a minimum grade of "C-" (1.70) in each course. The credit/no credit option will not be accepted for any of these courses. The applicant must have earned a minimum cumulative GPA of 2.00 in all collegiate study. These criteria also apply to equivalent courses transferred from other institutions.

Students who have met all the above requirements will be admitted unless the number of eligible applicants exceeds available space. In that case, acceptance will be competitive, based on a selection index. Students who have not met all of the above requirements may be admitted conditionally by permission of the school dean or designee.

**Bachelor of Science
Accounting Major**

Coursework counting toward the major cannot be taken credit/no credit by accounting majors.

Double majors are available. Interested students should consult with their advisors or the department chair for details prior to enrolling.

School of Business and Economics

B. Business Core Requirements:	Credits
FIN 370, Introductory Financial Management	5
MGT 380, Organizational Management	5
MKT 360, Principles of Marketing.....	5
OMIS 323, Operations Management (3)	5
OMIS 386, Management Information Systems: Data and Technology.....	5
MGT 489, Business Policy.....	5
Subtotal	30

(3) Prerequisite, MATH 170

C. Non-business Requirement	Credits
One of the following:	
ADOM 385 (5)	
COM 345 (4)	
ENG 310 (4)	
Subtotal	4-5

D. Specialization

In addition to the above required courses, accounting majors are required to take the following courses:

	Credits
ACCT 350, Intermediate Accounting I	5
ACCT 351, Intermediate Accounting II.....	5
ACCT 305, Cost Accounting	5
ACCT 346, Income Tax Accounting.....	5
ACCT 460, Auditing.....	5

Plus, a minimum of 7 credits from the following list of electives:

ACCT 405, ACCT 430, ACCT 431, ACCT 444, ACCT 446, ACCT 450, ACCT 455, ACCT 461, ACCT 470, ACCT 484, ACCT 489, ACCT 492, ACCT 499.1, BUS 341.....	7
(ACCT 484, if taken, should be completed no later than fall of senior year.)	

Subtotal 32-36

Total 101-102

Courses

ACCT 251. Financial Accounting I (5). An introduction to the entire field of accounting; information systems for decision making and reporting; financial statements, their collection, interpretation, and analysis.

ACCT 252. Financial Accounting II (5). Prerequisite, ACCT 251. Continuation of financial accounting introduced in ACCT 251; partnerships, corporations, and financial statement analysis; includes international, ethical and non-profit perspectives.

ACCT 253. Managerial Accounting (5). Prerequisites, ACCT 251 and ADOM 202B. Control accounting and decision making for management purposes; including cost concepts, system design, standard costing, and ethics in management accounting.

ACCT 296. Individual Study (1-6). Prerequisite, permission of instructor.

ACCT 301. Financial Accounting Analysis (5). Not open to students who previously have taken an accounting course. Underlying concepts, preparation and use of financial statements from the user's viewpoint. Not open to accounting and business administration majors except by permission of instructor.

ACCT 302. Managerial Accounting Analysis (5). Prerequisite, ACCT 251 or ACCT 301. Use of cost data for planning and control. Underlying concepts, preparation and use of accounting data by internal decision makers to run the firm. Not open to accounting and business administration majors except by permission of instructor.

ACCT 305. Cost Accounting (5). Prerequisite, ACCT 253. Economics of cost accounting; industrial analysis, production control through costs, types of cost systems, and burden application.

ACCT 345. Basic Income Tax (3). A forms approach to basic federal income tax preparation. Intended as a service course for individuals with no previous accounting or business experience. Accounting majors are not permitted. The course will include basic tax planning.

ACCT 346. Income Tax Accounting (5). Prerequisite, ACCT 252. Accounting theory and practices of federal income taxation based on a study of governmental publications — the laws, regulations, and digest of official income tax decisions.

ACCT 349. Federal Taxation (5). Covers the entire field of federal taxation, emphasizing the federal income tax, social security taxes, federal estate taxes, federal gift taxes and federal excise taxes.

ACCT 350. Intermediate Accounting I (5). Prerequisite, ACCT 252. Theory underlying the presentation of current and fixed assets, liabilities, and net worth.

ACCT 351. Intermediate Accounting II (5). Prerequisite, ACCT 350. A continuation of the theory underlying the presentation of assets, liabilities and net worth. Financial statement analysis, comparative statements and statement of changes in cash flows.

ACCT 396. Individual Study (1-6). Prerequisite, permission of instructor.

ACCT 405. Advanced Cost Accounting (5). Prerequisite, ACCT 305. Computation of mix, yield and variances; value of information theory systems design; and decision models relating to control of costs.

ACCT 430. Accounting for Non-Profit Organizations (5). Prerequisite, ACCT 252. Accounting and budgetary controls for governmental units and non-profit service organizations, including educational institutions (from school districts to universities) and hospitals. Emphasis is on the advantages, uses, disadvantages, and differences in fund accounting. Student may not receive credit for both ACCT 430 and ACCT 431.

ACCT 431. CPA Review of Non-Profit Accounting (2). Prerequisite, ACCT 252. To prepare the student for problems encountered on the CPA exam in non-profit, fund, and governmental accounting. Student may not receive credit for both ACCT 430 and ACCT 431.

ACCT 444. Tax Research and Planning (5). Prerequisite, ACCT 346. Tax research, planning, and specific topics including installment sales, real property sales, net operating losses and Internal Revenue Service procedures and penalties.

ACCT 446. Advanced Income Tax Accounting (5). Prerequisite, ACCT 346. Tax accounting practice, including gross income deductions, depreciation capital gains and losses, estates and trusts, corporate problems, and administrative procedures.

ACCT 450. Advanced Accounting (5). Prerequisite, ACCT 351. Partnership and joint venture accounting, agency and branch accounts, corporate consolidations, balance sheets, profit and loss, and investments.

ACCT 455. Accounting Information Systems (5). Prerequisites, ACCT 253 and OMIS 386. Manual and computer systems for the accumulation, classification, processing, analysis and communication of accounting data. Accounting techniques used in the handling of large amounts of information; special journals and controlling accounts, computer files for storing data, and computer processing of data. Problems encountered in the systems for different types of organizations.

ACCT 460. Auditing (5). Prerequisite, ACCT 351. Auditor's functions and responsibilities. Evaluation of the system of internal control, the determination of appropriate auditing procedures, and the extent of their application.

ACCT 461. Advanced Auditing (5). Prerequisite, ACCT 460. Evaluation of the personal standards, verification procedures, and philosophy of the auditor in the changing business environment.

ACCT 470. Accounting Theory (5). Prerequisite, ACCT 351. Accounting literature theory. History, formal statements of principles, special depreciation problems, relationship between economics and accounting, and the effect of price-level changes upon financial statements.

ACCT 484. Professional Writing and Speaking for the Accountant (5). Prerequisite, ACCT 351. Recommended, ACCT 460. Develop written and verbal communications skills for practical application in public, private and governmental accounting fields. Includes interviewing techniques, preparation and presentation of group and individual reports, and preparation of resumes, letters, memos and workpapers.

ACCT 489. Managerial Controllershship (5). Prerequisite, ACCT 305 or permission. Controllers and their organizations and business decision making under conditions of uncertainty with utilization of quantitative techniques.

ACCT 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

ACCT 492. Volunteer Income Tax Assistance (2). Prerequisite, ACCT 346. Preparation of tax returns of low income taxpayers, including tax return preparation training.

ACCT 493. Applied Accounting Techniques (3). Prerequisite, permission of instructor. Under direct supervision of the instructor, assist in answering accounting students' questions and aid in completion of homework for a minimum of six hours weekly. Other tasks as assigned. Grade will be S or U.

ACCT 495. CPA Examination Review (5). Prerequisite, permission of instructor. In-depth review for the semi-annual Certified Public Accounting Examination. Coverage includes accounting practice, accounting theory, auditing, and business law. Emphasis is placed on accounting practice. Grade will be S or U.

ACCT 496. Individual Study (1-6). Prerequisite, permission of instructor.

ACCT 497. Honors (1-12). Open to senior students with consent of departmental honors committee.

ACCT 498. Special Topics (1-6).

ACCT 499. Seminar (1-5).

ACCT 499.1. Current Issues in Accounting (6). Prerequisite, Accounting majors only. Explores current theoretical and practical issues in accounting, including but not limited to GAAP, employment, CPA and CMA examinations, and ethics.

The following courses are on reserve and may be offered subject to program needs. ACCT 457 Advanced Financial Accounting I (5), ACCT 458 Advanced Financial Accounting II (5).

Administrative (Office) Management (See Business Education)

AEROSPACE STUDIES (AFROTC)

Chair:

**John S. Prater, Colonel, USAF
Peterson Hall 203**

Assistant Professors:

**Marcia L. Weiss, Captain, USAF
Gregory L. Tate, Captain, USAF**

The United States Air Force Reserve Officer Training Corps (AFROTC) is represented at Central by Detachment 895, and the 895th Cadet Group. Three unique features of this AFROTC Detachment are: (1) enrichment and general leadership ses-

School of Professional Studies

sions, titled EAGLE, which focus on leadership-experience sharing by active duty USAF officers; (2) a flight training program which teaches the basic orientation for military pilot training and navigator training; and (3) a very active, demanding physical fitness program.

The AFROTC curriculum offers both a four-year program and a two-year program. Scholarships are available, on a competitive basis, for 4, 3-1/2, 3, 2-1/2, and 2 years. Freshman and sophomore students may enroll in the AFRO course at the beginning of any quarter during the freshman and sophomore years.

The freshman and sophomore courses comprise the General Military Course (GMC) within the AFROTC curriculum. The GMC is developmental in nature and is designed to motivate and prepare cadets for entry into the advanced phase of the AFROTC program, the Professional Officer Course (POC). GMC classes meet once a week for one hour. There is also an accredited one- to two-hour leadership laboratory.

The junior and senior courses comprise the POC and are designed to prepare cadets to assume responsibilities of commissioned officers in the U.S. Air Force. It is mandatory that the full two-year POC course be completed even though degree requirements may be met earlier. Students are commissioned as second lieutenants and enter active duty after completing ROTC requirements and graduating from Central. You may complete the program as an academic minor or as free electives. Students of any major are accepted as well as those interested in flying and Air Force missions.

Students are eligible to enter the POC after successfully completing the Air Force Officer Qualifying Test (AFOQT), passing a physical examination, and meeting age requirements and other competitive criteria. A personal interview is the final step to being accepted into the corps. All these steps should be completed during the fall quarter prior to the year of projected entry, however, some late applicants may be accepted.

Those who have no prior military service will attend a six-week summer field training experience at an active-duty Air Force base before entering the POC program in the fall. Students with prior enlisted service or six GMC quarters attend a four-week field training experience. No commitment is made to the Air Force until all tests and training are complete.

Categories of entry into the POC include pilot, navigator, missiles, Category II (majors in math, physics or computer science), and Category III (all non-technical, non-flying positions), and Category IV-nonrated operations (some prerequisites required). All slots are limited and competition (on a nationwide basis) is always heavy. Because of this, application procedures must begin as early as possible in the year prior to the fall quarter entry to ROTC. All POC slots will be filled by the end of spring quarter prior to fall entry.

All cadets receive \$100 per month while in the POC and are eligible to compete for scholarships that include tuition, books, and laboratory fees.

During the two-year period in which a POC cadet is enrolled in the Air Force ROTC program, it is required that a course in "mathematical reasoning" be taken. The following courses qualify: Any computer science course, ACCT 301, OMIS 221, PSY 362 and 363, IET 465 and ED 312 and any math course except MATH 100 and MATH 101. Additionally, those students on scholarship must complete two courses in a foreign language prior to commissioning. Any course in the French, German, Spanish, Japanese, or Chinese series qualifies. This requirement can be satisfied by demonstrated proficiency in a

major Indo-European or Asian language. Consult with AFROTC Detachment personnel for details on both these requirements.

Aerospace Studies Minor

Courses	Credits
AFRO 301, Air Force Leadership and Management	3
AFRO 302, Air Force Leadership and Management	3
AFRO 303, Air Force Leadership and Management	3
AFRO 401, National Security Forces in Contemporary American Society	3
AFRO 402, National Security Forces in Contemporary American Society	3
AFRO 403, National Security Forces in Contemporary American Society	3
Total	18

Courses

AFRO 101, 102, 103. Officership/U.S. Military Forces (1,1,1). Basic introduction to U.S. military forces; missions, organizations; perceptions of Soviet threat. Strong focus on officership, professionalism, service to nation, integrity, honor, and ethics.

AFRO 101.1, 102.1, 103.1. GMC Leadership Laboratory (1, 1, 1). A study of Air Force customs and courtesies, drill and ceremonies, and giving military commands; instructing, correcting and evaluating the preceding skills; studying the environment of an Air Force base; and learning about opportunities available to commissioned officers. Two hour laboratory per week. Must be taken concurrently with AFRO 101, 102, 103. Grade will be S/U.

AFRO 201, 202, 203. Evolution of Airpower (1,1,1). Study of the nature of war and development of U.S. airpower. Focuses on airpower organization, missions, doctrines, and strategies. Discusses airpower evolution in the perspective of national policy.

AFRO 201.1, 202.1 203.1. GMC Leadership Laboratory (1, 1, 1). A study of Air Force customs and courtesies, drill and ceremonies, and giving military commands; instructing, correcting and evaluating the preceding skills; studying the environment of an Air Force Base; and learning about opportunities available to commissioned officers. Two hour laboratory per week. Must be taken concurrently with AFRO 201, 202, 203. Grade will be S/U.

AFRO 296. Independent Study (1-3). Prerequisite, permission of department chair. May be repeated.

AFRO 298. Special Topics (1-6).

AFRO 301, 302, 303. Air Force Leadership and Management (3,3,3). An integrated management course emphasizing the individual as a manager in an Air Force environment. The individual motivational and behavioral processes, leadership, communication, and group dynamics are covered to provide a foundation for the development of the junior officer's professional skills as an Air Force officer (officership). The basic managerial processes involving decision-making, utilization of ana-

lytic aids in planning, organizing, and controlling in a changing environment are emphasized as necessary professional concepts. Organizational and personal values, management of forces in change, organizational power, politics, and managerial strategy and tactics are discussed within the context of the military organization. Actual Air Force cases are used to enhance the learning and communication processes.

AFRO 301.1, 302.1, 303.1. POC Leadership Laboratory (1,1,1). Advanced leadership experiences involving the planning, organizing, coordinating, directing, and controlling of the military activities of the cadet corps; the preparation and presentation of briefings and other oral and written communications; and the providing of interviews, guidance, and information which will increase the understanding, motivation and performance of other cadets. Two hour laboratory per week. Must be taken concurrently with AFRO 301, 302, 303. Grade will be S/U.

AFRO 350. Four-Week Summer Field Training (3). Summer session only. Prerequisite, junior or senior standing. Organization, operation and mission of an Air Force base; physical conditioning; applied leadership; individual weapons; survival orientation; familiarization flying; field exercises; air base problems; leadership training. This course is by permission only.

AFRO 351. Six-Week Summer Field Training (5). Summer session only. Prerequisite, junior or senior standing. Organization, operation and mission of an Air Force base; air base problems; computer system and data processing; leadership education; physical conditioning, applied leadership individual weapons; survival training; familiarization flying and field training. This course is by permission only.

AFRO 398. Special Topics (1-6).

AFRO 401, 402, 403. National Security Forces in Contemporary American Society (3,3,3). The course is a study of U.S. National Security Policy which examines the formulation, organization and implementation of national security; context of national security; evolution of strategy; management of conflict; and civil-military interaction. It also includes blocks of instruction on the military profession/officership and the military justice system. The course is designed to provide future Air Force officers with a background of U.S. National Security Policy so they can effectively function in today's Air Force.

AFRO 401.1, 402.1, 403.1. POC Leadership Laboratory (1,1,1). Advanced leadership experiences involving the planning, organizing, coordinating, directing, and controlling of the military activities of the cadet corps; the preparation and presentation of briefings and other oral and written communications; and the providing of interviews, guidance, and information which will increase the understanding, motivation and performance of other cadets. Two hour laboratory per week. Must be taken concurrently with AFRO 401, 402, 403. Grade will be S/U.

AFRO 496. Independent Study (1-3). Prerequisite, permission of department chairperson. May be repeated.

AFRO 498. Special Topics (1-6).

ANTHROPOLOGY AND MUSEUM PROGRAM

Chair:

Catherine J. Sands, Farrell Hall 309

Professors:

James M. Alexander, (South Seattle Center) Comparative Ethnology, Forensic Anthropology, Cultural Resource Management

Marco G. Bicchieri, General Anthropology, Ecology, Order-Control Systems, Mating-Marriage-Family, Hunting-Gathering, Africa

Anne S. Denman, Cultural Anthropology, Community Studies, Sex Roles, Inter-cultural Communication

Clayton C. Denman, Cultural Anthropology, Cultural Adaptation and Change, Small Town Economic Development, North America.

Linda M. Klug, Linguistics, Language and Culture, Social Structure, Political Organization, Southeast Asia, Philippines

William C. Smith, Archaeology, Cultural Adaptation and Evolution, Settlement Systems, Cultural Resource Management, Computer/Geographic Information Systems Applications, Western North America

Associate Professor:

Catherine J. Sands, General Anthropology, Non-verbal Communication, Non-Western Art, Northwest Coast Ethnology, Medical Anthropology, Aging, Forensic Anthropology

Anthropology presents an integrated perspective on the nature of humanity, on humans as biocultural organisms, including past developments and present diversity in relation to the total environment.

Students may pursue classroom, laboratory, and field studies in the areas of social and physical anthropology, including archaeology, linguistics, ethnology, and applied anthropology. The course of studies can be organized into programs such as cultural ecology, museology, community studies, etc. The department's Museum, through workshops and exhibits, provides further scope for research and community service. A departmental honors program is available at the upper division level. The Central Washington Archaeological Survey (CWAS) is a service and research facility associated with the department which conducts archaeological research in the central counties of the state and the greater Northwest, while promoting public involvement in the identification, interpretation and protection of local archaeological resources. Also associated with the department is the Geographic Information Systems Laboratory, a full-time computer facility for spatial analysis in the natural and social sciences. The Anthropology Student Association sponsors academic and social events.

Classes at the 100 level within anthropology include a general survey of the field (107) and major sub-fields. 300 level classes focus on selected sub-fields in anthropology; upper division standing or relevant lower division courses in anthropology are desirable. 400 level classes are directed to students with previous background in anthropology. With the exception of variable-credit classes, (490, 491, 496, 498), other 400 level classes assume completion of at least three of the introductory level classes (ANTH 110, 120, 130 or 180), plus 15 credits in anthro-

College of Letters, Arts and Sciences

pology or permission of the instructor.

Regular advisement is an important part of anthropology major programs. All majors must fill out a Major Application Form (available in the departmental office) at the time of entrance to the major, and an advisor will be selected at that time. With assistance of the advisor, adjustments can be made to meet the special needs of transfer students. Special topics courses (-98's) and courses from closely related disciplines may be included within electives by advisement; major program credit is not given for ANTH 107.

Bachelor of Arts General Option

This program is designed to prepare the student for any vocation, since a measure of achievement in all careers is success in human relationships. The program is also consistent with the present national trend toward employment in social service areas.

PLAN I	Credits
Introductory core courses (100 level)	20
ANTH 110, Introduction to Physical Anthropology	4
ANTH 110.1, Physical Anthropology Laboratory ...	1
ANTH 120, Introduction to Archaeology	5
ANTH 130, Introduction to Cultural Anthropology	5
ANTH 180, Introduction to Linguistics	5
Intermediate (300 level)	15
Select from at least three sub-fields: Archaeology, Cultural Anthropology, Linguistics, Physical Anthropology Theory and Method (400 level)	16
No less than 16 credits including a 499 (approved by advisor)	
Electives must be selected in consultation with advisor	9
Total	60

PLAN II

This major program must be accompanied by a major in a discipline related to anthropology. The program will consist of coursework focused on areas related to the dual major, and must be designed in close consultation with an anthropology advisor. A program proposal must be approved prior to admission to this B.A. program.

	Credits
Introductory (100 level)	15-20
Intermediate (300 level)	12-20
Theory and Method (400 level)	10
Total	45

Teaching Option

This program is designed to prepare students for primary and secondary level teaching of anthropology.

Introductory	
ANTH 110, 110.1, 120, 130, 180	20
Intermediate	
Anth 311, 322, 347, 355, 381	20

Anthropology electives selected in consultation with advisor	9
SOSC 421, Methods and Materials in Social Science OR HIST 421, Methods and Materials in History	2
Coursework chosen by advisement from at least three (3) of the following areas:	
Economics, Geography, History, Political Science	24
Total	75

Museology Option

The museology option prepares the student for employment in museum settings. Electives may be selected in accordance with student career goals and interests, to include areas such as art, biology, business administration, communication, geography, geology, history, etc., as well as anthropology. Programs must be supervised and approved by the department chair.

	Credits
Introductory core courses (100 level)	20
ANTH 110, Introduction to Physical Anthropology	4
ANTH 110.1, Physical Anthropology Laboratory ..	1
ANTH 120, Introduction to Archaeology	5
ANTH 130, Introduction to Cultural Anthropology	5
ANTH 180, Introduction to Linguistics	5
Intermediate (300 level)	15
ANTH 260, Introduction to Museology	3
ANTH 361, Museum Exhibit Design	4
ANTH 362, Museum Curation and Management ..	3
Upper division electives selected in consultation with advisor	5
Theory and Method (400 level)	16
ANTH 490, Cooperative Education	10
ANTH 499, Seminar	2
Upper division electives selected in consultation with advisor	4
Electives selected from at least 2 subfields in consultation with advisor	9
Total	60

Bachelor of Science Major

This program is required of students seeking graduate work in anthropology or preparing for careers in related fields. Electives are chosen in consultation with the advisor to lead into specialization in areas such as: ethnology, linguistics, archaeology, environmental studies or physical anthropology. Students in this program must have course schedules approved quarterly by their departmental advisors; an advisor must be selected at the time of entrance into the program.

	Credits
Introductory Core Courses (100 level)	20
ANTH 110, Introduction to Physical Anthropology	4
ANTH 110.1, Physical Anthropology Laboratory ...	1
ANTH 120, Introduction to Archaeology	5
ANTH 130, Introduction to Cultural Anthropology	5

ANTH 180, Introduction to Linguistics5
 Intermediate (300 level)24

Must include a minimum of one 3-or 4-credit course in each of the following areas:

Physical Anthropology (311, 312, 313, 314, 315)
 Archaeology (321, 322, 323, 324, 325, 326, 327)
 Ethnology (333, 334, 335, 336, 350, 352, 354, 355, 356, 358)
 Ethnography (341, 343, 344, 345, 346, 347)
 Linguistics (380, 381, 382)
 (Students planning on graduate school are strongly advised to elect 382.)
 Theory and Method (400 level)19-20
 One of the following methods courses
 (421, 442, 444, 495.1, 495.3)4
 History and Theory (451)4
 Senior Survey (458)4
 491, 493 or 4964
 Departmental Seminar (499)3-4
 Electives in anthropology and related fields11-12
 Must include a course in statistics and must be selected on basis of regular consultation with assigned advisor.

Total 75

Minor

Credits

Introductory core courses (Select three of the following)15
 ANTH 110, Introduction to Physical Anthropology4
 ANTH 110.1, Physical Anthropology Laboratory ...1
 ANTH 120, Introduction to Archaeology5
 ANTH 130, Introduction to Cultural Anthropology5
 ANTH 180, Introduction to Linguistics5
 Electives must be selected in consultation with advisor10

(Students in teacher education must include ANTH 347 or 324, and ANTH 355 or 324 within the 10 credits of electives. ANTH 381 suggested for those enrolled in Teaching English as a Second Language.)

Total 25

Departmental Honors

The honors program is designed to facilitate individualized research and study in a sub-area of anthropology. It is open to junior and senior students with a major GPA of 3.00; honors students are eligible to graduate "with honors in anthropology." Programs of study must be developed in consultation with an advisor who will guide the research and honors thesis; programs must then be approved by department faculty. Normally such programs include at least 10 credits of directed individual study for the honors thesis, as well as focused research in connection with regular departmental coursework. Further information on the program is available from the department chair.

Courses

ANTH 107. General Anthropology (5). Human biological and cultural adaptations: survey of concepts, methods, and perspectives on past and present.

ANTH 110. Introduction to Physical Anthropology (4). A survey of the history, philosophy and theory of physical anthropology concentrating on the human biological organism: relationships to other primate forms, the fossil record, evolutionary adaptation, differences and similarities among populations. ANTH 110.1 must be taken concurrently.

ANTH 110.1. Physical Anthropology Laboratory (1). Practical laboratory experience with data in human osteology, comparative primate anatomy and ethology, forensic anthropology, genetics, and the fossil record of human evolution. Two hours laboratory per week. ANTH 110 must be taken concurrently.

ANTH 120. Introduction to Archaeology (5). Introduction to the concepts, methods and development of archaeology.

ANTH 130. Introduction to Cultural Anthropology (5). Understanding human cultures: concepts, methods, and basic data involved in the comparative study of human cultural adaptations.

ANTH 180. Introduction to Linguistics (5). Background, development, and relation to other fields of study. Same as ENG 180. Students may not receive credit for both.

ANTH 260. Introduction to Museology (3). Concepts relating to museums in society: history, ethics, philosophy, administration, legislation and education.

ANTH 296. Individual Study (1-6). Prerequisite, permission of instructor.

ANTH 298. Special Topics (1-6).

ANTH 310. Research/Laboratory in Physical Anthropology (1-2). Prerequisite, previous college work in physical anthropology or other natural sciences and permission of instructor. Laboratory research analysis of physical anthropology materials. May be taken concurrently with and as a supplement to other 300-level courses in physical anthropology. The course can be taken more than once up to a cumulative maximum of 8 credits.

ANTH 311. Advanced Physical Anthropology: Principles of Human Evolution (4). Prerequisite, ANTH 110 and 110.1 or permission of the instructor. Analysis and interpretation of major principles of modern physical anthropology from an evolutionary perspective, focusing on methods and processes of genetics, population genetics, ecology, comparative anatomy and human paleontology.

ANTH 312. Human Origins: The Fossil Evidence (4). The fossil record of human and protohuman forms. Basic data and interpretation. Three hours lecture and two hours laboratory per week.

ANTH 313. Primate Social Behavior (4). Prerequisite, ANTH 107 or 110 or 130 or BISC 112; or permission of instructor. Survey of field studies of nonhuman primates relevant to the study of human social systems and adaptation.

ANTH 314. Human Variation and Adaptation in Living Populations (4). Survey of genetic, morphological and physiological variability of living human populations and their biological source mechanisms. Current population dynamics are used to project future alternatives for change.

ANTH 315. Forensic Skeletal Analysis (4). A survey of the techniques of human skeletal analysis. Age, sex, and racial classification.

ANTH 320. Research/Laboratory in Archaeology (2). Analysis of archaeological materials. Prerequisite, ANTH 120 or permission of instructor. May be repeated, with permission of department chair for a total of not more than six credits. Minimum of 4 hours laboratory per week.

ANTH 321. Archaeological Methods (4). Lectures and practical experience in analytical techniques including seriation, stratigraphic correlation, regional integration and settlement pattern studies.

ANTH 322. World Prehistory (4). Old and New World prehistory from late Pliocene to the early historic period, including the ecology and development of hunting-gathering, agriculture and state-level societies. Same as HIST 322. Student may not receive credit for both.

ANTH 323. Field Archaeology (3-6) Sp. Prerequisite, ANTH 120 or permission. Identification, mapping and recording of archaeological sites; techniques of excavation. Grades will be either S or U. May be repeated for credit with permission of chair.

ANTH 324. North American Archaeology (4). Prehistoric cultures of North America, with emphasis on adaptation to changing environments.

ANTH 325. Columbia Plateau Archaeology (3). Prehistoric cultures of Central Washington and adjoining regions.

ANTH 327. Non-Industrial Technologies (3). Selected tools and techniques used by non-industrial and prehistoric peoples in adapting to their environments.

ANTH 333. Culture & Marriage (3). The reciprocal relationships between the biophysical and cultural components in mating, nurturing and sexual access. Cross-cultural patterns in marriage. Same as HOFS 333. Students may not receive credit for both.

ANTH 334. Culture and Criminality (3). The cultural patterning of criminality: cross-cultural similarities and differences in the ways in which cultures create and maintain social order and cope with social disorder.

ANTH 335. Ethnomusicology (3). An introduction to the cultural context of music, with emphasis on Africa, Asia, Oceania and Native North and South America.

ANTH 336. Anthropology of Aging (3). Cross-cultural perspectives on aging and on ethnic elderly in pluralistic societies: variations in social and economic statuses of the elderly.

ANTH 341. Cultures of Pacific Northwest (4). Setting and cultural adaptation of the aboriginal peoples of the Northwest Coast and Plateau. Formerly ANTH 241. Student may not receive credit for both.

ANTH 343. Cultures of Africa (4). Setting and cultural development of sub-Saharan Africa.

ANTH 344. Cultures of Asia (4). Setting and cultural adaptation of the peoples of Asia. (Southeast Asia and Oceania covered in ANTH 345.)

ANTH 345. Cultures of Southeast Asia and Oceania (4). Setting and cultural adaptation of the peoples of Southeast Asia and Oceania.

ANTH 346. Cultures of Latin America (4). Setting and cultural adaptation of the peoples of Latin America.

ANTH 347. Aboriginal Indian Cultures of North America (4). Setting and cultural adaptation of aboriginal American Indian cultures.

ANTH 348. American Culture (3). A contrastive approach to American culture: values, attitudes, practices of subsistence, economics, politics, kinship, religion in holistic cultural perspective.

ANTH 350. Acculturation (3). Theory and methods for analysis of culture contact situations.

ANTH 352. Peasant Societies (4). A comparative analysis of structure and function of peasant societies.

ANTH 354. Anthropology of Religion (4). A cross-cultural analysis of religion, cosmology and world view.

ANTH 355. Culture and Personality (4). A cross-cultural analysis of personality as a function of cultural organization and transmission. Same as SOC 355. Students may not receive credit for both.

ANTH 356. Sex Roles in Cross-Cultural Perspective (4). Bio-cultural factors affecting human sex roles.

ANTH 358. Nonwestern Political and Economic Systems (4). Cross-cultural comparative analysis of nonwestern political and economic systems.

ANTH 362. Museum Curation and Management (3). Application of techniques of environmental security, restoration and preservation in the management of museum collections. Formerly ANTH 360. Student may not receive credit for both.

ANTH 380. Nonverbal Communication (4). Interpretation and analysis of four categories of nonverbal behavior: paralanguage, action language, object language, and uses of space and time. Formerly ANTH 280. Same as COM 380. Student may not receive credit for more than one.

ANTH 381. Language in Culture (4). Language as a culture trait. Influence of language on other human institutions. Includes psycholinguistics, sociolinguistics, ethnographic semantics, and multilingualism in its sociocultural setting.

ANTH 382. Descriptive Linguistics (4). Introduction to the basic concepts and mechanics of formal linguistic analysis.

ANTH 398. Special Topics (1-6).

ANTH 421. Archaeological Theory (4). Prerequisite, ANTH 120, or permission. Discussion of research problems in data collection, analysis, and interpretation.

ANTH 431. Introduction to Geographic Information Systems (4). Prerequisite, permission of instructor. Basic principles and uses of geographic information systems (GIS). Practice with use of GIS in solving land management and evaluation problems. Two hours lecture and four hours laboratory per week. Same as GEOG 431. Student may not receive credit for both.

ANTH 442. Comparative Ethnology (4). A study of the analytical frameworks used in comparing cultures.

ANTH 444. Ethnographic Field Methods (3). Methods used in ethnographic field work.

ANTH 451. History and Theory of Anthropology (4). Prerequisite, 20 hours of ANTH or permission. Content and developmental history of anthropological theories and methods.

ANTH 456. Principles of Anthropology for Teachers (4). Concepts related to human biological and cultural adaptation, with emphasis on applicability to public school teaching (K-12).

ANTH 458. Senior Comprehensive Survey (4). Prerequisite, ANTH major or permission. Advanced comprehensive survey of the field of anthropology as to its content and intent. Specifically designed for majors preparing for graduate work.

ANTH 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

ANTH 491. Workshop (1-6).

ANTH 492.1. Advanced GIS Applications (2-6). Prerequisite, ANTH/GEOG 431 and permission of instructor. Individual and/or team projects involving use of the GIS in fields such as anthropology, biology, geology and geography. May be repeated for credit. Same as GEOG 492.1 and GEOL 492.1.

ANTH 493. Anthropological Field Experience (1-8). Prerequisite, permission of instructor and department chair. Individual or group off-campus experience in the field study of anthropological phenomena. This course may be taken more than once for full credit.

ANTH 495.1. Method and Theory in Physical Anthropology (1-8). Prerequisite, Introductory plus 5 upper-division credits in physical anthropology or corresponding course work in the biological sciences. Methods and techniques, research problems, data collection, analysis, interpretation. Laboratory orientation. May be repeated up to 8 credits. No more than 10 credits of ANTH 310 and 495 allowed to fulfill B.A. or B.S. requirements.

ANTH 495.2. Advanced Methods in Archaeology (1-8). Prerequisite, 5 upper-division credits in archaeology. Archaeological research design; planning and supervision of laboratory and field operation; preparation of reports for publication. May be repeated up to 8 credits. No more than 10 credits of ANTH 320 and 495 allowed to fulfill B.A. or B.S. requirements.

ANTH 495.3. Field Linguistics (1-8). Prerequisite, ANTH 382 or permission. A laboratory oriented course providing both demonstration and practicum in recording, transcription, and structure of languages. Tapes and field derived data. May be repeated up to 8 credits.

ANTH 496. Individual Study (1-6). Prerequisite, permission of instructor.

ANTH 498. Special Topics (1-6).

ANTH 499. Seminar (1-5).

The following courses are on reserve and may be offered subject to program needs. ANTH 326 Archaeology of Mexico (3), ANTH 361 Museum Exhibit Design (4), and ANTH 454 Culture Change (4).

ART

Chair:

Constance W. Speth
Randall 100

Professors:

J. John Agars, Printmaking, Drawing, Graphics
Kenneth R. Cory, Metalsmithing, Design, Drawing
Richard T. Doi, Art Education, Art History
William V. Dunning, Painting, Sculpture, Drawing, Art History
Gary M. Galbraith, Sculpture, Wood Design, Ceramics, Design
Cynthia K. Kriebel, Painting, Drawing
Chris Papadopoulos, Sculpture
James M. Sahlstrand, Photography, Director of Spurgeon Gallery
Margaret Ahrens Sahlstrand, Printmaking, Papermaking
Constance W. Speth, Drawing, Illustration

Associate Professors:

Quentin W. Fitzgerald, Art History, Art Education

Lecturer:

Glen Bach, Graphic Design

Undergraduate programs of study in art include a bachelor of arts major in studio art and a graphic design major. Teacher

preparation programs are offered as either a 65 credit broad area concentration or a 45 credit major. Several minors in art are also offered.

Bachelor of Arts Major

Recommended for students planning to enter Master of Arts or Master of Fine Arts graduate program. Especially for those students planning to teach at junior college or college level where the MFA is the terminal degree.

	Credits
Drawing.....	6
ART 150, 250, Drawing	
Design.....	3
ART 170, Design	
Art History.....	12
Select from:	
ART 235, Ancient and Medieval Art	
ART 314, Art Since 1945	
ART 336, Renaissance Through Mid-Nineteenth Century Art	
ART 337, Modern Art	
ART 357, African and Oceanic Art	
ART 453, Art in the United States	
ART 455, Art of Japan	
ART 456, History of Eastern Art	
ART 499, Seminar	4
Painting, select from the following	6
ART 260, 261, Painting OR	
ART 262, 263, Watercolor	
Sculpture	6
ART 280 and 281, Sculpture	
Printmaking and Photography, select from the following	6
ART 285, Printmaking	
ART 287, Intaglio Printing	
ART 225, Photography	
ART 385, Serigraphy	
ART 388, Lithography	
Crafts, select from the following.....	6
ART 265, Ceramics	
ART 341, Design - Wood	
ART 347, Metalsmithing	
Courses in area of concentration	16
Electives from 300-400 level Art courses	10
Total	75

Graphic Design Major

Recommended for students planning careers as professional commercial artists in design, illustration or advertising art directing. Additional course work (20 to 25 credits) is strongly recommended for students who plan to seek employment in the various commercial art fields after completing this B.A. program.

Additional training in a professional art school or university graduate program is recommended for students who plan to pursue graphic design as a lifetime career.

This major can be successfully completed in four years only if students begin satisfying course requirements for the major beginning in their freshman year.

In order to be accepted into this major, students must follow these guidelines:

1. Students must develop a course of study in consultation with the graphic design advisor that is suitable for their educational needs and personal objectives.
2. Prior to registering for the graphic design sequence (ART 370, 371, 372), students must apply through the departmental graphic design advisor for admission to this major.
3. Students must demonstrate satisfactory completion of the below prerequisites for ART 370:
 - a. Junior standing or permission of graphic design advisor.
 - b. Drawing 9 credits (may include: ART 250, 350, 351, 450, 451, 496; One drawing class may be taken concurrently with ART 370.
 - c. Painting or Watercolor 6 credits (may include: ART 260, 261, 262, 263, 273, 373).
 - d. Art History 12 credits (must include: ART 170, 270, 272, 274). One design class may be taken concurrently with ART 370.
 - e. Art History 8 credits (must include ART 374 and may include ART 314, 337, 453).
 - f. Photography 3-4 credits (may include: ART 225, 325, 425, COM 341, 364. One photography class may be taken concurrently with ART 370).

Required Courses:

	Credits
Drawing	12
Painting or Watercolor.....	6
Design.....	12
Art History.....	8
Photography.....	3-4
Graphic Design Sequence	15
Contracted Field Experience.....	5-15
Electives by advisement. Must have prior approval.....	3-15
Total	75

Electives by art advisement may be taken from courses in the following departments or programs: art, business administration, administrative office management, communication, computer science, marketing education, drama, economics, English, political science, industrial and engineering technology. Others as appropriate for specific instructional needs.

Teaching Major

Qualifies for teaching art, either or both elementary or secondary, depending upon special methods courses (330, 432) completed. For endorsement to teach in regular or self-contained classroom in elementary school, see page 107.

	Credits
Drawing.....	6
ART 150, 250, Drawing	
Design.....	6
ART 170, 270, Design	
Painting, select one	3
ART 260, Painting	
ART 262, Watercolor	
Sculpture	3
ART 280, Sculpture	

College of Letters, Arts and Sciences

Printmaking, select one.....	3
ART 285, Printmaking	
ART 385, Serigraphy	
Art Education, select one at appropriate level.....	3-4
ART 330, Art in the Elementary School	
ART 432, Art in Secondary School	
Art History.....	12
ART 235, Ancient and Medieval Art	
ART 336, Renaissance Through Mid-Nineteenth Century Art	
ART 337, Modern Art	
Electives from Art, by advisement.....	8-9
Total	45

Teaching Major-Broad Area

Qualifies for teaching art, both elementary and secondary, and is also recommended for art consultant positions.

	Credits
Drawing.....	6
ART 150, 250, Drawing	
Design.....	6
ART 170, 270, Design	
Painting, select 2 courses from the following:.....	6
ART 260, 261, Painting	
ART 262, 263, Watercolor	
Printmaking.....	3
ART 285, Printmaking	
ART 385, Serigraphy	
Sculpture.....	3
ART 280, Sculpture	
Select 3 courses from the following:.....	9
ART 265, Ceramics	
ART 277, Lettering	
ART 225, Photography	
ART 347, Metalsmithing	
Art History.....	14
ART 235, Ancient and Medieval Art	
ART 336, Renaissance Through Mid-Nineteenth Century Art	
ART 337, Modern Art	
Select one other Art History course at 300 or 400 level	
Art Education.....	7
ART 330, Art in the Elementary School	
ART 432, Art in Secondary School	
Electives from Art, by advisement.....	11
Total	65

Students in teacher education must include ART 260 or 262 and ART 280 and either ART 330 or 432 with a minimum of 20 credits in the minor.

Minor - General

	Credits
ART 150, Drawing.....	3
ART HISTORY, select one: ART 235, 336, 337, 314, 410, 415.....	4
Select from two or more Studio areas:.....	12
Drawing, ART 250, 350	
Painting, ART 260, 261 OR 263, 363	
Sculpture, ART 280, 281	

Printmaking, ART 385, 386, 387	
Electives.....	0-11

Total 19-30**Art Teaching Minor**

	Credits
ART 150, Drawing.....	3
ART 170, Design.....	3
ART 260, Painting.....	3
ART 280, Sculpture.....	3
Select one Art Education from:.....	3-4
ART 330, Art in Elementary School OR	
ART 432, Art in Secondary School	
Select one Art History from:.....	4
ART 235, Ancient & Medieval Art OR	
ART 336, Renaissance Through Mid-19th Century Art OR	
ART 337, Modern Art	
Electives from Art, by advisement.....	6-10
Total	25-30

Minor - Art History

Students in teacher education must take Option A and add ART 432 with a minimum of 20 credits in the minor.

Option A	Credits
ART 235, Ancient and Medieval Art.....	4
ART 336, Renaissance through Mid-Nineteenth Century Art..	4
ART 337, Modern Art.....	4
ART 499, Art Seminar.....	4
Electives from upper division art history courses.....	0-14
Total	16-30
Option B	Credits
ART 314, Art Since 1945.....	4
ART 410, Classic Tradition OR	
ART 412, Renaissance Art.....	4
ART 453, Art in the United States.....	4
ART 456, History of Eastern Art OR	
ART 357, African and Oceanic Art.....	3-4
Electives from upper division art history courses.....	0-10
Total	16-22

Crafts Minor

	Credits
ART 170, Design.....	3
ART HISTORY, select one: ART 235, 336, 337, 314, 410, 415.....	4
Select from two or more Studio areas:.....	12
Ceramics, ART 265, 365	
Metalsmithing, ART 347, 447	
Papermaking, ART 300	
Photography, ART 225, 325	
Wood Design, ART 341, 441	
Electives.....	0-11
Total	19-30

Courses

ART 101. Introduction to Art (5). The nature, understanding, and appreciation of the visual arts; two-and three-dimensional art forms and their relationship to the human experience.

ART 150. Drawing (3). Studio experience, emphasizing an understanding of form through various drawing materials and techniques. Six hours studio per week.

ART 170. Design (3). Elements and principles of design. Six hours studio per week.

ART 225. Photography (3). A basic course covering equipment, processes of black and white photography, composition, and practical darkroom methods. One hour lecture and four hours studio per week.

ART 235. Ancient and Medieval Art (4). An historical survey of Western Art from ancient times through the Gothic period.

ART 241. Woodworking (3). For non-art majors and minors focusing on the relationship of wood construction and furniture design. Hand and power tools are utilized for building furniture. Six hours studio per week.

ART 250. Drawing (3). Prerequisite, ART 150. A continuation of work under ART 150 with increased emphasis upon interpretation of structure and form. Six hours studio per week.

ART 260. Painting (3). Prerequisite, ART 150, 170, or permission of instructor. An introduction to the techniques of painting for expressive purposes. Six hours studio per week.

ART 261. Painting (3). Prerequisite, ART 260 or permission of instructor. A continuation of experimentation with the visual and expressive problems of ART 260. Six hours studio per week.

Art 262. Watercolor (3). Prerequisite, ART 150. An introduction to the techniques of transparent watercolor and the visual problems of painting. Six hours studio per week.

Art 263. Watercolor (3). Prerequisite, ART 262 or permission of instructor. A continuation of ART 262 stressing a higher degree of individual expression and experimentation with various waterbased media. Six hours studio per week.

ART 265. Ceramics (3). Basic procedures of hand building and throwing on potter's wheel; techniques of decoration and glaze application, historic and contemporary vessel forms. Six hours studio per week.

ART 270. Design (3). Prerequisite, ART 170. The application of design elements to practical problems in the crafts and graphic design. Six hours studio per week.

ART 272. Perspective Graphics (3). Principles of multiview drawing. Measuring line systems, shade and shadow, isometric and basic geometric perspective drafting. One hour lecture and four hours studio per week.

ART 273. Airbrush (3). Prerequisites, ART 170 and ART 250 or permission of instructor. An introduction to the techniques of airbrush painting for production graphics. Six hours studio per week.

ART 274. Typography (3). Prerequisite, ART 170. History and application of typography as a tool for visual communication. Two hours lecture and two hours studio per week.

ART 277. Lettering (3). The basic anatomy of pen and brush lettering. Six hours studio per week.

ART 280. Sculpture (3). Work in forming, moldmaking and assemblage of materials; reference to historical and contemporary sculpture. Six hours studio per week.

ART 281. Sculpture (3). Prerequisite, ART 280. Fabricating wood and metals utilizing casting and related forming techniques. Six hours studio per week.

ART 285. Printmaking (3). Prerequisites, ART 170, 250. Emphasis on relief print. Six hours studio per week.

ART 287. Intaglio Printmaking (3). Prerequisites, ART 170, 250. Techniques of etching, engraving and drypoint in black and white. Six hours studio per week.

ART 296. Individual Study (1-6). May be repeated. Prerequisite, permission of instructor.

ART 298. Special Topics (1-6).

ART 299. Seminar (1-5). May be repeated.

ART 300. Papermaking, History and Technique (3). Traditional methods of papermaking in Asia and Europe. Moldmaking and fiber preparation with emphasis on producing archival papers of rag and native northwest fibers. One hour lecture and four hours studio per week.

ART 314. Art Since 1945 (4).

ART 324. History of Photography (3).

ART 325. Intermediate Photography (3). Prerequisite, ART 225. Development of photography as a medium of creative expression with an opportunity to work in color. Individual direction is encouraged. One hour lecture and four hours studio per week.

ART 330. Art in the Elementary School (3). Content and methodology for teaching art in the elementary school. Two hours lecture and two hours studio per week.

ART 336. Renaissance Through Mid-Nineteenth Century Art (4). An historical survey of Western Art from the Renaissance to Impressionism.

ART 337. Modern Art (4). An historical survey of Western Art from the Neoclassic to Abstract Expressionism.

ART 341. Wood Design (3). Prerequisite, ART 170. Design and construct functional wood objects utilizing hand and power tools. Forming processes include steam bending; lamination; carving; and joinery. Six hours studio per week.

ART 347. Metalsmithing (3). Prerequisite, ART 170. Design and construction; base metals and stone setting. Six hours studio per week.

ART 350. Drawing (3). Prerequisites, ART 150, 250. Figure drawing and composition leading to use of drawing as a major art expression. Six hours studio per week.

ART 351. Illustration (3). Prerequisite, ART 150. Introduction to a variety of media and techniques associated with illustration. Six hours studio per week.

ART 354. Art of China (3). Architecture, painting, sculpture and crafts from the Shang Dynasty through the Ch'ing Dynasty.

ART 357. African and Oceanic Art (3).

ART 360. Painting (3). Prerequisite, ART 261. Continued study in the field as outlined in ART 261. Six hours studio per week.

ART 361. Painting (3). Prerequisite, ART 360, or permission of instructor. A continued study in the field as outlined in ART 360. Six hours studio per week.

ART 362. Watercolor (3). Prerequisite, ART 263. A continuation of the study outlined in ART 263, with emphasis upon development of individual direction. Six hours studio per week.

ART 363. Advanced Watercolor. FWSp. Prerequisite, ART 362. A continuation of the study outlined in ART 362 with emphasis upon developing individual direction. Six hours studio per week.

ART 365. Intermediate Ceramics (3). Prerequisite, ART 265. Development of throwing skills. Understanding of ceramic raw materials and basic glaze chemistry with extensive testing. Six hours studio per week.

ART 370. Layout and Design (5). Prerequisite, permission of advisor. (See requirements for admission to graphic design major) Two dimensional design, introduction to type, design and composition concepts. Ten hours studio per week.

ART 371. Advanced Layout and Design (5). Prerequisites, ART 370. Advanced work in design composition with emphasis on applications of letter forms and color. Ten hours studio per week.

ART 372. Design and Production (5). Prerequisites, ART 371. Emphasis on advertising art and production techniques. Ten hours studio per week. May be repeated for credit by undergraduates only.

ART 373. Advanced Airbrush (3). Prerequisite, ART 273 or permission of instructor. A study of procedures for the production of aesthetically conceived work using the airbrush as a primary tool of visual expression. Six hours of studio per week. May be repeated for credit by undergraduates only.

ART 374. History of Graphic Design (4). A historical survey of the graphic arts from their beginning to the present.

ART 375. Environmental Graphics (3). Prerequisites, ART 170, 272. Two and three dimensional design of communication systems, graphic identity information, signage, supergraphics and architectural detailing. Six hours studio per week.

ART 380. Sculpture (3). Prerequisite, ART 281. A concentrated study in any of the sculpture media giving increased attention to concepts and aesthetic quality. Six hours studio per week.

ART 384. Computer Art (3). Prerequisite, ART 350 or 451 and permission of instructor. Use and analysis of various computer applications and software systems. Development of practical, creative and experimental skills in the use of personal computers. Two hours lecture and two hours studio per week.

ART 385. Serigraphy (3). Prerequisites, ART 150, 170. Experience in the basic techniques of silk screen printing. Problems in using the medium as applied to fine art, commercial art, and art education. Six hours studio per week.

ART 386. Collagraph (3). Prerequisites, ART 170, 250. Studio work in original plate-making and plate-printing. Experimentation with various materials and techniques of collagraph printmaking. Six hours studio per week.

ART 387. Intermediate Intaglio Printing (3). Prerequisite, ART 287. Advanced work in etching, engraving, aquatint and color printing techniques according to student interests. Six hours studio per week.

ART 388. Lithography (3). Prerequisite, ART 350. Introduction to stone printing concepts. One hour lecture and four hours studio per week.

ART 398. Special Topics (1-6).

ART 410. Classic Tradition (4). Classical art and its influence throughout Western Art.

ART 415. Painters and Printmakers of Northern Europe (4). Art of Germany, Flanders and Holland, 15-18th century.

ART 425. Advanced Photography (3). Prerequisite, ART 325. A continuation of study outlined in ART 325 with emphasis upon developing individual direction. One hour lecture and four hours studio per week. May be repeated for credit by undergraduates only.

ART 432. Art in Secondary School (4). Current philosophies and curriculum in art in the secondary school; objectives, planning, methods of teaching and evaluation.

ART 441. Design-Advanced Wood (3). Prerequisite, ART 341. Six hours studio per week. May be repeated for credit by undergraduates only.

ART 445. Art in Special Education (3). The art program for special education. Needs and abilities of children in various categories such as emotionally disturbed, culturally disadvantaged, physically and mentally handicapped, visually impaired, etc.; includes both studio work and theory.

ART 447. Advanced Metalsmithing (3). Prerequisite, ART 347. New developments in metalsmithing design and construction. Six hours studio per week. May be repeated for credit by undergraduates only.

ART 449. Principles of Color (4). Prerequisite, two art studio courses. The technical, historic and aesthetic dimensions of pigment and light colors including an examination of major color theories.

ART 450. Advanced Drawing (3). Prerequisite, ART 350. Advanced study with various media; figure and life drawing. Six studio hours per week. May be repeated for credit by undergraduates only.

ART 451. Advanced Illustration (3). Prerequisite, ART 351. A continuation of ART 351 stressing development of personal expression in illustration. Six hours studio per week. May be repeated for credit by undergraduates only.

ART 453. Art in the United States (4). Sculpture, painting and architecture from Colonial period to the present, with emphasis on the period 1900-1945. Foreign influences are identified and traced to their assimilation.

ART 455. Art of Japan (3). Architecture, painting, sculpture and some of the significant crafts from the Archaeological Age to the Tokugawa Period.

ART 456. History of Eastern Art (4). Comparative study of architecture, sculpture, painting, and the crafts of the Orient.

ART 460. Advanced Painting (3). Prerequisite, ART 361. Six hours studio per week. May be repeated for credit by undergraduates only.

ART 465. Advanced Ceramics (3). Prerequisite, ART 365. Development of high fire clay bodies and glazes. Six hours studio per week. May be repeated for credit by undergraduates only.

ART 470. Advanced Design (3). Prerequisite, ART 372. Six hours studio per week. May be repeated for credit by undergraduates only.

ART 480. Advanced Sculpture (3). Prerequisite, ART 380. Research and experimentation with new materials in sculpture. Six hours studio per week. May be repeated for credit by undergraduates only.

ART 482. Travel Study (2-8). Conducted tour in this country and abroad as a means of studying art. Students registering for credit will be required to do reading on the area to be visited before making the tour, to participate in study session during the tour, and to submit a report for evaluation at the end of the trip. The amount of credit to be granted will be determined by the college at the time the tour is approved, but it must not exceed 1-1/2 credits per week of planned travel study.

ART 484. Advanced Computer Art (3). Prerequisite, ART 384 and permission of instructor. Use and analysis of various applications and software packages. Practical and creative computer skills with applications for studio art and graphic design. Two hours lecture and two hours studio per week.

ART 485. Advanced Serigraphy (3). Prerequisite, ART 385. Six hours studio per week. May be repeated for credit by undergraduates only.

ART 486. Advanced Collagraph (3). Prerequisite, ART 386. Continuation of ART 386, with emphasis on refinement of printmaking methods. Some work in color may be introduced. Six hours studio per week. May be repeated for credit by undergraduates only.

ART 487. Advanced Intaglio Printmaking (3). Prerequisite, ART 387. Intensive experimentation in etching, engraving and drypoint with emphasis on the problems and techniques of multiple plate color printing using copper, galvanized and zinc plates. Six hours studio per week. May be repeated for credit by undergraduates only.

ART 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

ART 491. Workshop (1-6). Individual and group study of specific or general problems in art education, including laboratory experience, lectures and demonstrations. The credit to be earned determined upon scheduling.

ART 495. Studio Project (1). Prerequisite, permission of advisor. To be taken only by students enrolled in the BFA program during their last quarter. Preparation of a professional portfolio and presentation of a body of work suitable for exhibition.

ART 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

ART 498. Special Topics (1-6).

ART 499. Seminar (1-5). May be repeated.

The following program is on reserve and may be offered subject to program needs: Fine Woodworking.

ASIAN STUDIES

Director:

Joel M. Andress
Lind Hall 118B

Asian studies is an interdepartmental set of courses dealing with the world's largest and most populous land mass, but focusing on East Asia.

The Asian studies minor provides students with an understanding of various aspects of Asia and its people. Careers in business, government, and education can be augmented by a background in Asian studies. The program may also be preparation for those wishing to pursue graduate work in various fields.

The minor consists of a minimum of 28 credits. Students must take Asian Studies 102 and at least one year (15 credits) of either Japanese or Chinese language. The remaining credits are chosen, with an advisor's approval, from the other courses listed, provided that at least two departments are represented.

Minor

Required	Credits
AST 102, Introduction to Asian Studies	3
At least one year (15 credits) of either Chinese or Japanese language with advisor's approval	15
Electives (by advisement). Select at least 10 credits from among the following:	
ANTH 344, Ethnology of Asia	4
ART 455, Art of Japan	4
ART 456, History of Eastern Art	4
AST 310, Japan Today	3
ECON 310, International Economics	5
GEOG 474, Geography of China	4
GEOG 475, Geography of Asia	5
HIST 383, East Asian Civilization	5
HIST 385, Modern East Asia	5
HIST 482, Revolutionary China	3
HIST 483, Modern China	5
HIST 484, Modern Japan	5
MKT467, International Marketing	5
PHIL 445, Chinese Philosophy	5
RELS 351, Religions of Asia	5
Total	28

*Elective courses may not be chosen from the student's major area.

Other courses may be included with advisor's approval.

Courses

AST 102. Introduction to Asian Studies (3) FSp. An interdisciplinary introduction to the study of Asia; emphasizing geography, history, culture and economics.

AST 310. Japan Today (3). Study of culture, social structure, human relations, and issues and problems in contemporary Japan.

AST 398. Special Topics (1-6).

BIOLOGICAL SCIENCES

Chair:

William W. Barker
Dean 203

Professors:

William W. Barker, Taxonomy of Vascular Plants
Ronald J. Boles, Science Education
Robert H. Brown, Vertebrate Anatomy
John E. Carr, Plant Anatomy and Horticulture
Glen W. Clark, Invertebrate Zoology and Parasitology
Philip C. Dumas, Herpetology, Ichthyology and Vertebrate Ecology
David R. Hosford, Mycology and Algology
Sheldon R. Johnson, Zoophysiology and Mammalogy
Edward P. Klucking, Plant Morphology and Paleontology
Robert F. Lapen, Immunology, Virology and Zoopathology
Robert E. Pacha, Environmental Microbiology and Medical Microbiology
Stamford D. Smith, Entomology and Aquatic Biology
Thomas H. Thelen, Human and General Genetics
Curt A. Wiberg, Plant Ecology and Limnology

Assistant Professor

David M. Darda, Herpetology and Functional Vertebrate Morphology
Paul W. James, Fisheries Biology

The department of biological sciences includes the following disciplines: biology, botany, microbiology, paleontology, and zoology. While offering broad coverage of the biological sciences, the department has developed special emphasis in natural history and environmental biology. Students in advanced courses may expect to be involved in field studies and other types of on-the-site investigations.

All biology, botany and zoology courses may be challenged. The type of examination will vary. Students should contact the department chair.

Bachelor of Arts

Biology Major

The bachelor of arts degree is designed to develop breadth in the sciences generally. Students completing the bachelor of arts major will find that their strong general background will allow them maximum flexibility in career choices. The bachelor of arts also is the preferred degree for students planning to go on to graduate studies. It meets the requirements for admission to most graduate schools and medical schools. Each student's program must be approved by the department of biological sciences at least one academic year preceding graduation.

Credits earned in CHEM 181 and 181.1 and PHYS 111 will be allowed in partial fulfillment of the natural science breadth requirements as well as the requirements of this major.

	Credits
BISC 110, Basic Biology	2
BISC 111, Plant Biology	5
BISC 112, Animal Biology	5
BISC 313, Cellular Biology	5
CHEM 181, 181.1, 182, 182.1, General Chemistry and Laboratory	10
CHEM 311, Introduction to Organic Chemistry	3
CHEM 312, Organic Chemistry	3
CHEM 312.1, Organic Chemistry Laboratory	2
PHYS 111, 112, 113, Introductory Physics OR PHYS 211, 212, 213, General Physics	15
BISC 365, Genetics	5
BOT 461, Plant Physiology; ZOOL 472, Zoophysiology; OR ZOOL 341 & 342, Human Anatomy & Physiology	5-10
BISC 375, General Ecology; BISC 411, Environmental Microbiology; BOT 441, General Plant Ecology; OR ZOOL 473, Animal Ecology	5
Electives by advisement from Biological Sciences, Botany or Zoology	5

Total 70-75

1. A minimum of 30 upper division credits is required.
2. A maximum of 15 credits in BISC 490, BISC 496, BOT 496 and ZOOL 496 may be included in the major.

Bachelor of Science Biology Major

The bachelor of science major offers the opportunity to prepare for immediate entrance into the student's chosen profession, including teaching, while not foreclosing the possibility of graduate work. The specific program is to be designed by the student and the appropriate departmental advisor, and must be submitted for approval to the department of biological science at least one academic year preceding graduation. A specialization may be stated on the transcript upon recommendation of the student's departmental advisor and approval by the department.

A maximum of 10 credits (no more than five from a single discipline) from the approved list of natural science breadth requirements will be allowed to fulfill the natural science requirements as well as the requirements of this major.

The general requirements for the bachelor of science are as follows:

Courses	Credits
BISC 110, Basic Biology	2
BISC 111, Plant Biology	5
BISC 112, Animal Biology	5
BISC 313, Cellular Biology	5
Total	17

Approved electives with advisement to total 83 credits, 30 credits of which must be upper division and no more than 75 credits collectively may be from biological sciences, botany, zoology.

The biology education option requires approved electives with advisement to total at least 43 credits, 30 credits of which must be upper division; and at least two additional minors approved by the department chair and the teacher preparation program.

Total 43 or 83

Total 60 or 100

Many specialized options are possible by proper selection of electives. Areas of specialization that can be completed through the department include:

- Aquatic Biology
- Biology Education
- Environmental/Public Health Biology
- Horticulture
- Medical Technology
- Microbiology
- Wildlife Management

For further information about these specialties contact the department of biological sciences.

Microbiology students are eligible to become registered microbiologists (National Registry of Microbiologists, American Academy of Microbiology), after graduation and completion of the following academic requirements, passing the registry examinations, and completing one year of full-time working experience as a microbiologist.

Academic requirements for National Registry of Microbiologists:

	Credits
Biological Sciences	45
(30 credits must be in microbiology. BISC 370, 411, 413, 414, 445, 445.1, BOT 463, ZOOL 380, 381	
Chemistry	24
Physics	5
Pre-Calculus Mathematics I (MATH 163.1)	5
Total	79

Biology Minor (General)

	Credits
BISC 110, Basic Biology	2
BISC 111, Plant Biology	5
BISC 112, Animal Biology	5
BISC 313, Cellular Biology	5
Electives in Biological Sciences, Botany or Zoology	13
Total	30

Biology Minor (Elementary Education)

	Credits
BISC 110, Basic Biology	(2)
BISC 111, Plant Biology	(5)
BISC 112, Animal Biology	(5)
OR	

BISC 211, Concepts of Life Science I—Microbiology.....	(2)
BISC 212, Concepts in Life Science II—Animal Biology.....	(4)
BISC 213, Concepts in Life Science III—Plant Biology(4). 10-12	
SCED 322, Science Education in the Elementary School	3
Electives in the Biological Sciences	7-9

Total 20-24

Biology Minor (Secondary Education)

For minimum secondary certification complete BISC 365, BOT 461 OR ZOOL 472, BISC 347, BISC 385, BISC 370, BISC 375, and SCED 324.

Credits

BISC 110, Basic Biology	2
BISC 111, Plant Biology	5
BISC 112, Animal Biology	5
BISC 313, Cellular Biology	5
SCED 324, Science Education in the Secondary School	5

Total 22

Botany Minor

Credits

BISC 110, Basic Biology	2
BISC 111, Plant Biology	5
BISC 313, Cellular Biology	5
Electives in Botany	8

Total 20

Zoology Minor

Credits

BISC 110, Basic Biology	2
BISC 112, Animal Biology	5
BISC 313, Cellular Biology	5
Electives in Zoology	8

Total 20

Allied Health Sciences Courses

AHSC 291. Workshop (1-6). With the approval of the allied health science program coordinator, course may be designated for regular letter grade or S/U, depending upon course objectives and method of instruction.

AHSC 298. Special Topics (1-6).

AHSC 301. Introduction to Medical Technology (2). Prerequisites, 5 credit hours in biology and 5 credit hours in chemistry and permission of instructor. Introduction to laboratory procedures and theory of urinalysis, clinical chemistry, hematology, blood banking and coagulation. One hour lecture and two hours laboratory per week.

AHSC 305. Medical Terminology (3). Two hours lecture, audio-tutorial tapes and a discussion period to be arranged. Students may not receive credit for both BISC 305 and AHSC 305.

AHSC 415. Critical Care Nursing: Core Curriculum (4). Limited to the practicing health care professional. Advances in critical care nursing information and technology. May be repeated for credit under different topics. A-Renal/Metabolic, B-Cardiovascular, C-Neuro/Psychosocial, D-Pulmonary, and E-GI/Hematologic.

AHSC 445. Introduction to Environmental Health (3). Prerequisite, 10 hours of biology and microbiology recommended. A survey of methods used in controlling environmental factors affecting human health. Includes water sanitation, food sanitation, waste disposal, air pollution, vector control, and chemical and physical hazards.

AHSC 453. Responsible Self Health Care (4). Prepares individuals to improve the quality of life through self help health care including developing judgment and skills in health appraisal, making observations, and suggesting appropriate treatment and reporting.

AHSC 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

AHSC 491. Workshop (1-6) FWSp. With the approval of the allied health science program coordinator, course may be designated for regular letter grade or S/U, depending upon course objectives and methods of instruction.

AHSC 492. Practicum (1-15). Prerequisite, admission to an approved school of medical technology. This course may be repeated any number of times, but a maximum of 45 credits will be counted toward a degree. A-Orientation, 1 credit; B-Phlebotomy, 1 credit; C-Chemistry, 13 credits; D-Hematology, 7 credits; G-Microbiology, 9 credits; H-Mycology/Parasitology, 2 credits; I-Blood Bank, 6 credits; J-Serology, 1 credit; K-Special Project, 1 credit. Liability insurance may be required.

AHSC 496. Individual Study (1-6). Prerequisite, permission of instructor.

AHSC 498. Special Topics (1-6).

AHSC 499. Seminar (1-5).

Biological Science Courses

In addition to the courses listed below, several advanced courses in paleontology, genetics and microbiology may be offered by arrangement. Contact the department chair for further information.

BISC 104. Fundamentals of Biology (5). Biology in the modern world. Intended for students not majoring in biology. Four hours lecture and one two-hour laboratory per week.

BISC 110. Basic Biology (2). An introduction to the concepts and processes which are common to most life forms. All biology majors and minors, except biology majors in elementary education, must take this course before enrolling in other courses in the major or minor.

BISC 111. Plant Biology (5). Prerequisite, BISC 110. Four hours lecture and one two-hour laboratory per week.

BISC 112. Animal Biology (5). Prerequisite, BISC 110. Four hours lecture, two hours laboratory per week.

BISC 211. Concepts of Life Science I - Microbiology (3). Not intended for students majoring in biology. Limited to elementary education majors. One hour lecture and two hours laboratory per week.

BISC 212. Concepts in Life Science II - Animal Biology (3). Not intended for students majoring in biology. Limited to elementary education majors. Two hours lecture and two hours laboratory per week.

BISC 213. Concepts in Life Science III - Plant Biology (4). Not intended for students majoring in biology. Limited to elementary education majors. Three hours lecture and three hours laboratory per week.

BISC 214. Natural History of Animals (5). The study of animals, the ways in which they live, and their interactions with their environments. May not be used toward major. Three hours lecture and four hours laboratory per week.

BISC 291. Workshop (1-6).

BISC 298. Special Topics (1-6).

BISC 302. Human Ecology (5). Basic concepts of ecology with emphasis on ecosystems and populations and how human activities and attitudes relate to these basic concepts. This course may not be counted towards a major in the department of biological sciences.

BISC 304. Human Inheritance (5). The study of human inheritance and related areas of biology. May not be counted towards a major in the department of biological sciences.

BISC 305. The Language of Biology (3). Prerequisite, BISC 104 or permission of instructor. Two hours lecture and a discussion period to be arranged.

BISC 311, 312. Natural History for Elementary Teachers (4,4). A study of nature and its role in elementary education. Three two-hour classes per week. Credit cannot be earned in BISC 311, 312 and BISC 111, 112; BOT 211.

BISC 313. Cellular Biology (5). Prerequisite, one year of college chemistry. Concepts, processes and structures involved in understanding life at the cellular level. Four hours lecture and two hours laboratory per week. Same as BISC 113. Student may not receive credit for both.

BISC 315. Biology of Washington (3). Prerequisite, BISC 104 or permission. A course to develop an understanding of the

plants and animals of Washington. May be repeated for credit under different topics. May not be counted towards the biology, botany, or zoology major.

A. Mushrooms and Toadstools

B. Algae

C. Plant Communities

D. Arthropods

E. Flowering Plants

F. Birds

G. Marine Invertebrates

H. Fish, Amphibians and Reptiles

I. Moss, Ferns and Liverworts

J. Plants and Animals of the Desert

K. Plants and Animals of the Mountains

L. Fossils

M. Mammals

BISC 320. Diseases and Defenses (1). Important diseases and defenses in humans and other animals. Can be repeated for credit under different topics. May not be counted towards a major in the department of biological sciences. Grades will be either S or U.

BISC 323. Biology of Infectious Disease (5). Prerequisites, junior standing and ZOOL 270 or permission of instructor. Emphasis on human diseases, causes, disease producing and resisting mechanisms. May not be counted towards a major in the department of biological sciences. BISC/H ED 323 are the same course; student may not receive credit for both.

BISC 324. Biology of Noninfectious Disease (5). Prerequisites, junior standing and ZOOL 270, or permission of instructor. Emphasis on human diseases; causes, disease producing and resisting mechanisms. May not be counted towards a major in the department of biological sciences. BISC/HED 324 are the same course. Student may not receive credit for both.

BISC 347. Paleontology (5). Prerequisite, 10 hours of biology. The history of the earth as revealed by the fossil record. The major groups of plants and animals, their evolutionary history, and their distribution in time and space. This is a field course.

BISC 365. Genetics (5). Prerequisite, BISC 313. A lecture and laboratory course in the basic principles of heredity of plants and animals. Four hours lecture and two hours laboratory per week.

BISC 370. Microbiology (5). Prerequisites, BISC 313, and CHEM 113 or CHEM 182. Organic chemistry is recommended. Principles of microbiological practice, including isolation, cultivation, morphological and physiological methods of analysis, and variability. Two hours lecture and six hours laboratory per week.

BISC 375. General Ecology (5). Prerequisite, one year of college biology. Interrelationships of plants and animals with their environment. Three hours lecture and three hours laboratory or field work per week.

BISC 385. Introduction to Evolution (5). The evidence, theories, and mechanisms of the evolution of life, including man. May not be counted towards a major in the department of biological sciences.

BISC 411. Environmental Microbiology (5). Prerequisite, BISC 370. Ecology of microorganisms in marine, fresh-water and soil environments. Three hours lecture and four hours laboratory per week.

BISC 413. General Virology (5). Prerequisite, BISC 370. Inter-relationship between animal, plant, and bacterial viruses and their hosts, with emphasis on the animal viruses. Five hours lecture per week.

BISC 414. Immunology (5). Prerequisites, BISC 313 and BISC 370. Nature of the immune response, disease preventing and producing mechanisms and laboratory applications. Five hours lecture per week.

BISC 415. Techniques in Immunology and Virology (3). Prerequisite or corequisite, BISC 413 or BISC 414. A practical course dealing with the routine techniques used in diagnostic and experimental immunology and virology. Three hours lecture and four hours laboratory per week.

BISC 416. Laboratory Immunology (1). Prerequisite, BISC 414 or equivalent. Purposes and mechanisms of routine immunological laboratory tests.

BISC 419. Clinical Pathology (5). Prerequisites, BISC 112 and 113. Genetics and Microbiology are recommended. An introduction to practical and basic principles of clinical laboratory practice. The course serves as pre-professional training for students interested in medical technology. Three hours lecture and four hours laboratory per week.

BISC 425. Introduction to Soils (5). Prerequisite, BOT 341, CHEM 181, or CHEM 111, or permission. Chemical, physical and biological properties of soils as they relate to soil morphogenesis and plant growth. Three hours lecture and four hours laboratory or field work per week.

BISC 445. Medical Microbiology (3). Prerequisite, BISC 370 or permission of instructor. An introduction to medical microbiology emphasizing the biology of pathogenic bacteria and rickettsia, their relation to infectious diseases and the isolation and identification of specific disease agents. Three lectures per week.

BISC 445.1. Medical Microbiology Laboratory (2). Prerequisites, BISC 370 and concurrent or previous registration in BISC 445.

BISC 448. Paleoecology (6). Prerequisite, BISC 347 or permission of instructor. Natural history of fossil plants and animals of the Northwest. Lectures and discussions of the principles of paleoecology. Five lectures or discussions per week in addition to field trip.

BISC 451. Selected Studies in Biology (3-6). Prerequisite, permission of instructor.

BISC 452. Cardiac and Pulmonary Physiology (3). Prerequisites, ZOOL 342, or PE 351 and ZOOL 270, or permission. Physiology of the normally functioning heart, blood vessels and lungs and the contrast between normal function and commonly seen cardio-vascular-respiratory abnormalities.

BISC 454. Biological Modeling (5). Prerequisites, MATH 163.2 or equivalent and working knowledge of BASIC programming. Using the computer to simulate changes in animal and plant populations due to natural phenomena and policy decisions. Three hours lecture and four hours laboratory per week.

BISC 460. Biology of Aging (3). Prerequisite, ZOOL 270 or ZOOL 341, 342, or ZOOL 472. Description and analysis of aging phenomena in humans and animal models. Three lectures per week.

BISC 474. Biogeography (5). Prerequisite, permission of instructor. Study of the origins and distributions of modern groups of plants and animals.

BISC 480. Limnology (5). Prerequisites, CHEM 182, BISC 111 or 112, and BISC 375 or permission of instructor. Chemical, physical and biological characteristics of inland waters. Three hours lecture and four hours laboratory per week. A student may not receive credit for both BISC 480 and BISC 481.

BISC 481. Management of Aquatic Biota (6). Prerequisites, BISC 111, 112, 313, 375 and permission of instructor. A study of the basic principles and techniques of management of freshwater organisms and their habitat and the life histories and requirements of the more important species. A student may not receive credit for both BISC 481 and BISC 480. Three hours lecture and six hours laboratory per week.

BISC 485. Mechanisms of Evolution (3). Prerequisites, 15 credits of biology plus senior standing. Darwinian evolution and the modern synthesis.

BISC 489. Laboratory Management (1). Prerequisites, junior standing, a basic background in a natural science and permission of instructor. Considerations in the design and supervision of service and research laboratories.

BISC 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

BISC 491. Workshop (1-6).

BISC 492. Laboratory Experience in Teaching Biological Sciences (2). Prerequisite, 15 credit hours in college biology and permission of instructor. Experience in planning, managing and teaching in a laboratory setting. May be repeated once for full credit with permission of chair.

BISC 493. Biological Field Practicum (1-15). Prerequisite, permission of instructor and department chair. Individual or group off-campus experience in the field study of biological phenomena. This course may be taken more than once for full credit. Grade will be S or U.

BISC 496. Individual Study (1-6). Prerequisite, permission of instructor.

BISC 498. Special Topics (1-6).**Botany Courses**

In addition to the courses listed below, several advanced courses in botany may be offered by arrangement. Contact the department chair for further information.

BOT 211. Plants In the Modern World (5). Plants and their significance in the world today. Three hours lecture and three hours laboratory per week. (Not open to majors in the biological sciences.) Credit cannot be earned in BOT 211 and BISC 111, BISC 311, 312.

BOT 250. Economic Botany (3). Plants useful to man, their origin, breeding, propagation, cultivation, processing, and utilization.

BOT 301. Horticulture Technique (3). General care and propagation of ornamental, orchard, and garden plants. Budding, grafting, pruning, insect and disease control, organic gardening, and mulching are discussed. Three hours lecture per week. BOT 301.1 may be taken during same quarter as BOT 301 but is not required.

BOT 301.1. Horticulture Technique Laboratory (2). Prerequisite, BOT 301 or may be taken concurrently. Laboratory and greenhouse experience in horticultural techniques. Four hours laboratory per week.

BOT 316. Greenhouse Design and Management (3). Prerequisites, BISC 111 or BOT 211 or permission. Information on location, design, construction materials, equipment and operation of home and school greenhouses.

BOT 317. Indoor Gardening: Tropical Plants (3). Prerequisite, BISC 111 or BOT 211 or permission. Basic information on culture, disease and pest control, propagation and identification of plants suitable for growing in houses and public buildings.

BOT 333. Plant Taxonomy (5). Prerequisite, BISC 111 or BOT 211 or permission. Classification of vascular plants, using local flora. Two hours lecture and six hours laboratory per week; the course includes field trips and individual field work.

BOT 350. Ornamental Trees and Shrubs (3). Prerequisite, BISC 111 or permission of instructor. The identification and landscaping uses and values of the more common trees and shrubs. A field course.

BOT 358. Plant Anatomy (5). Prerequisite, BISC 111. A treatment of the fundamental facts and aspects of vascular plant anatomy. Plant tissues with special reference to their development, organization, and biological significance. Three hours lecture and four hours laboratory per week.

BOT 365. Dendrology (4). Prerequisite, BISC 111 or permission of instructor. A study of trees, their habits of growth, the characteristic forest areas of North America. Two hours lecture and four hours laboratory per week. A field course.

BOT 441. General Plant Ecology (5). Prerequisite, BOT 333 or permission. The ecological relationships of plant species and plant communities. Three hours lecture and either four hours laboratory or a Saturday field trip per week. Students may not receive credit for both BOT 441 and BOT 481.

BOT 451. Selected Studies in Botany (3). Prerequisite, 10 hours of botany. Modern aspects of botany. Lecture and discussion.

BOT 460. Plant Pathology (5). Prerequisite, BISC 111. Representative diseases of plants and the bacterial and fungal organisms which cause them. Two hours lecture and six hours laboratory per week.

BOT 461. Plant Physiology (5). Prerequisite, BISC 111, BISC 313, CHEM 312, or permission. A critical study of the various physiological activities of plants, such as photosynthesis, respiration and responses to various stimuli. Three hours lecture and four hours laboratory per week.

BOT 462. Comparative Morphology of Vascular Plants (5). Prerequisite, 10 credits in botany. Form, structure, and habits of the major groups of vascular plants. Three hours lecture and four hours laboratory per week.

BOT 463. Mycology (5). Prerequisite, BISC 111 or 313. The biology, morphology, and economic importance of the major groups of fungi including the slime molds. Three hours lecture and four hours laboratory per week.

BOT 464. Algology (5). Prerequisites, BISC 111 and 313. Taxonomy and ecology of fresh-water and marine algae. Three hours lecture and four hours laboratory per week.

BOT 465. Mushrooms, Puffballs, and Related Forms (5). Prerequisite, BISC 111 or permission of instructor. Stresses taxonomy, morphology, and ecology of mushrooms and related forms with emphasis on Northwest flora. Offered fall quarter only.

BOT 481. Range Management (6). Prerequisites, BOT 333, BISC 375 and permission. Plants and communities in relation to their environment and how these relationships are affected by range utilization and management practices. Students may not receive credit for both BOT 441 and BOT 481. An individualized study project is required.

BOT 496. Individual Study (1-6). Prerequisite, permission of instructor.

Zoology Courses

In addition to the courses listed below, several advanced courses in vertebrate zoology, invertebrate zoology, and behavior may be offered by arrangement. Contact the department chair for further information.

ZOOL 270. Human Physiology (5). Organ systems of man. Not open to students with credit in ZOOL 472; may not be counted towards a major in the department of biological sciences.

ZOOL 341. Human Anatomy and Physiology (5). Prerequisite, permission of the chair. The first quarter of a two-quarter study of the structure and function of the human body. Students should not take ZOOL 341 unless they intend to take ZOOL 342. Three hours lecture and two hours laboratory per week.

ZOOL 342. Human Anatomy and Physiology (5). Prerequisite, ZOOL 341. The second quarter of the two quarter study of the structure and function of the human body. Three hours lecture and two hours laboratory per week.

ZOOL 348. General Vertebrate Embryology (5). Prerequisite, BISC 112. Comparative development; fertilization, growth and differentiation, experimental morphogenesis, and establishment of the early organ systems. Two hours lecture and six hours laboratory per week.

ZOOL 351. Comparative Anatomy of Chordates (6). Prerequisite, BISC 112. Comparative functional morphology of the chordates. Three hours lecture and six hours laboratory per week.

ZOOL 361. Invertebrate Zoology (5). Prerequisite, BISC 112 or permission of instructor. Morphology, phylogeny, physiology, and embryology of the invertebrate phyla, exclusive of parasitic forms. Two hours lecture and six hours laboratory or field work per week.

ZOOL 362. General Entomology (5). Insect biology, taxonomy, structure and relationships to man. Two hours lecture and six hours laboratory or field work per week.

ZOOL 371. Vertebrate Endocrinology (4). Prerequisites, one quarter of college chemistry, ZOOL 270 or equivalent and permission of instructor. A study of the vertebrate endocrine glands, their hormones and regulatory mechanisms. Three hours lecture and two hours laboratory per week.

ZOOL 380. Parasitology (5). Prerequisite, BISC 112. Biological relations of animal parasite and host; structure, classification, and methods of diagnosis of parasitic protozoa, worms and arthropods. Two hours lecture and six hours laboratory per week.

ZOOL 381. Protozoology (4). Prerequisite, BISC 112. Free-living and parasitic protozoans; classification, morphology, physiology and ecology. Laboratory includes protozoan collection, culture and taxonomy. Two hours lecture and four hours laboratory per week.

ZOOL 409. Mammalogy (5). Prerequisite BISC 112. Evolution, taxonomy and ecology of mammals with laboratory emphasis on Pacific Northwest mammals. Three hours lecture and four hours laboratory per week.

ZOOL 410. Ornithology (5). Prerequisite, BISC 112. Study of birds with special emphasis on anatomic and behavioral adaptations. Three hours lecture and two hours field study or laboratory per week.

ZOOL 411. Herpetology (3). Prerequisite, BISC 112. An introduction to biology, taxonomy and distribution of modern amphibians and reptiles with special reference to the Pacific Northwest. Two hours lecture and two hours laboratory or field studies per week.

ZOOL 412. Ichthyology (4). Prerequisite, BISC 112. An introduction to the biology, taxonomy and distribution of modern fishes with special reference to the Pacific Northwest. Three hours lecture and two hours laboratory or field work per week.

ZOOL 451. Selected Studies in Zoology (3). Prerequisite, permission of instructor.

ZOOL 453. Zoopathology (5). Prerequisites, BISC 112 and BISC 313 or permission of instructor. The causes and effects of communicable and noncommunicable disease in animals, with special emphasis on human disease.

ZOOL 471. Histology (4). Prerequisite, BISC 112. Systematic study, description and identification of microscopic structures of animal tissues. Two hours lecture and four hours laboratory per week.

ZOOL 472. Zoophysiology (5). Prerequisites, BISC 112, BISC 313, CHEM 312, or permission. Vertebrate physiology; laboratory experience in physiological techniques. Three hours lecture and four hours laboratory per week.

ZOOL 473. Animal Ecology (5). Prerequisites, BISC 111, 112, 313, and 375. Interrelationships between animals and environment, with emphasis on vertebrates. Three hours lecture and one 2-hour discussion or laboratory period per week. Students may not receive credit for both ZOOL 473 and ZOOL 481.

ZOOL 481. Wildlife Management (6). Prerequisites, BISC 375 and permission. Interrelationships between animals and the environment and how these relationships are affected by management practices. Students may not receive credit for both ZOOL 473 and ZOOL 481. Three hours lecture and six hours laboratory per week.

ZOOL 496. Individual Study (1-6). Prerequisite, permission of instructor.

The following courses/programs are on reserve and may be offered subject to program needs. Allied Health Sciences Program; BISC 147 Prehistoric Life (5); BISC 250 Microtechnique (3); BISC 395 Impact of Science on Society (4); BISC 455 Paleoclimatology (4); BISC 465 Advanced Genetics (5); BOT 448 Advanced Plant Physiology (4); BOT 450 Agrostology (5); BOT 461 The Plant Kingdom (5); ZOOL 452 Vertebrate Dissection (2); ZOOL 470 Advanced Physiology (5); ZOOL 475 Ethology (4).

BUSINESS ADMINISTRATION

Chair:

Gerald P. Gunn
Michaelsen 204

Professors:

George W. Brooker, Jr., Marketing
Larry P. Bundy, Business Administration
Edward S. Esbeck, Management - Extended Degree Centers
Wayne A. Fairburn, Finance
Allen K. Gulezian, Management
Gerald P. Gunn, Operations Management and Information Systems
Eldon C. Johnson, Finance - Extended Degree Centers
George D. Kesling, Operations Management and Information Systems
Badiul A. Majumdar, Business Administration - Extended Degree Centers
Leslie C. Mueller, Management

Associate Professors:

Bruce D. Bagamery, Finance - Extended Degree Centers
James P. Beaghan, Marketing - Extended Degree Centers
Edward Golden, Marketing - Extended Degree Centers
Stanley Jacobs, Finance - Extended Degree Centers
C. Boyd Johnson, Marketing
John J. Lasik, Finance
James L. Nimnicht, Management
Don R. Nixon, Management - Extended Degree Centers
Connie J. Nott, Operations Management and Information Systems
Patrick J. Smith, Finance

Assistant Professors:

Wanda H. Fujimoto, Marketing
Alan F. Hauff, Management
Joan F. Mosebar, Business Administration
Gary I. Parson, Management
Ron F. Schwartz, Operations Management and Information Systems - Extended Degree Centers
Hugh M. Spall, Business Law
William H. Turnquist, Operations Management and Information Systems

Transfer Credits

Equivalent lower division (100-200 level) courses may be transferred toward meeting the pre-admission requirements for any B.S. degree in the school of business and economics.

Upper division (300-400 level) courses may be transferred toward meeting the major requirements only with the approval of the department chair and the school dean or designee.

Transfer students earning fewer than 45 quarter credits in their major at CWU must receive approval from the school dean prior to graduation.

Service to Other Majors

Students majoring outside of the school of business and economics who are required to take courses in this school for either their major or minor will be eligible to enroll on a space-available basis. These students will be given priority over

other non-school majors wishing to enroll in upper division courses.

Admission Requirements

Students must apply and be admitted to the major prior to beginning 300-400 level courses in the school of business and economics. At the time of application, all 200 level core requirements should be substantially completed. Application forms are available in the department offices. The completed form must be accompanied by a current credit evaluation from the office of the registrar.

Admission shall be based on grades earned in the following sophomore (200) level courses. English 101 and English 102 also must be completed before admission.

A. Pre-admission Requirements

Credits

ACCT 251, Financial Accounting I.....	5
ACCT 252, Financial Accounting II.....	5
ACCT 253, Managerial Accounting (1).....	5
BUS 241, Legal Environment of Business.....	5
OMIS 221, Business Statistics (2).....	5
ECON 201, Principles of Economics, Micro.....	5
ECON 202, Principles of Economics, Macro.....	5

Subtotal 35

(1) Prerequisite, ADOM 202B

(2) Prerequisite, ADOM 202B and MATH 130.1

A cumulative grade point average of 2.25 in the above courses must be achieved with a minimum grade of "C-" (1.70) in each course. The credit/no credit option will not be accepted for any of these courses. The applicant must have earned a minimum cumulative GPA of 2.00 in all collegiate study. These criteria also apply to equivalent courses transferred from other institutions.

Students who have met all the above requirements will be admitted unless the number of eligible applicants exceeds available space. In that case acceptance will be competitive, based on a selection index. Students who have not met all of the above requirements may be admitted conditionally by permission of the school dean or designee.

Bachelor of Science

Business Administration Major

Coursework counting toward the major cannot be taken credit/no credit by business administration majors.

Double majors and double specializations are available. Interested students should consult with their advisors or the department chair for details prior to enrolling.

B. Business Core Requirements

Credits

FIN 370, Introductory Financial Management.....	5
MGT 380, Organizational Management.....	5
MKT 360, Principles of Marketing.....	5
OMIS 323, Operations Management (3).....	5
OMIS 386, Management Information Systems: Data and Technology.....	5

MGT 489, Business Policy.....5

Subtotal 30

(3) Prerequisite, MATH 170

C. Non-business Requirement Credits

One of the following:

ADOM 385 (5)

COM 345 (4)

ENG 310 (4)

Subtotal 4-5

D. Specialization

Subtotal 25

Total 94-95

In addition to the above required courses, students must select one 25-credit specialization in a business administration field. Areas of specialization may provide the student with the opportunity to elect business administration-related courses offered by other academic areas within the university.

Finance

Advisors: Bagamery, Fairburn, Jacobs, E. Johnson, Lasik, Majumdar, P. Smith and Spall

This specialization is designed for students who wish to pursue careers related to corporate finance, financial institutions or investments. Students are encouraged to meet with a finance advisor for more information on specific finance career paths. A minimum of 25 credits is required for this specialization.

Required: Credits

ECON 330, Money and Banking.....5

FIN 470, Intermediate Financial Management5

FIN 475, Investments.....5

Plus a minimum of 10 credits from the following list:

FIN 471, FIN 476, FIN 477, FIN 478

or one other course approved in advance by advisor10

Total 25

General Business

Advisors: Bundy, Esbeck, Fairburn, Mueller, Nimnicht, Nixon and Parson

There are no specific required courses. The courses may be taken, with prior approval of the general business advisor, from appropriate academic area. A minimum of 25 upper division credits in the school of business and economics is required for this specialization.

International Business

Advisors: Beaghan, Carbaugh, Majumdar, Mueller and Nixon

This specialization prepares graduates for careers with firms engaged in international business. Emphasis is placed on the problems and opportunities of the Pacific Rim area. A minimum of 25 credits is required for this specialization.

Required: Credits

ECON 310, International Economics.....5

MGT 384, Introduction to International Business5

MKT 467, International Marketing OR

FIN 477, International Finance.....5

Plus a minimum of 10 credits from the following list:

ECON 388, ECON 412, FIN 477, GEOG 460,

MGT 484, MKT 46710

Total 25

Management and Organization

Advisors: Esbeck, Gulezian, Hauff, Mueller, Nimnicht, Nixon and Parson

The management and organization specialization reflects the diverse activities required to productively utilize the organization's resources. Concepts from economics, political science, psychology, sociology and mathematics are integrated to provide practical applications to the identification and solution of organizational demands and challenges within our society. Students selecting this specialization may emphasize entrepreneurship, human resource management or organizational behavior. A minimum of 25 credit hours is required for this specialization.

Required: Credits

MGT 381, Management of Human Resources.....5

MGT 481, Organizational Behavior.....5

Plus a minimum of 15 credits from one of the following options:

Entrepreneurship Option:

This option concentrates on the skills needed for starting, operating and managing a small business. Particular attention is given to the areas of risk taking, decision making, venture capital, strategic planning, internal operations, marketing and personnel.

Eligible courses:

BUS 352, BUS 357, MKT 367, MKT 462, MKT 469, MGT 482, MGT 483, MGT 487, MGT 492, ECON 452.

Human Resource Management Option:

This option addresses the planning and maintaining of relationships between an organization and its personnel. Studies include job analysis and design, recruitment, selection, compensation, training and labor relations.

Eligible courses:

BUS 357, MGT 379, MGT 479, MGT 482, MGT 486, MGT 488, ECON 355.

Management and Organizational Behavior Option:

This option focuses on the activities necessary to coordinate people, technology and structure in attaining organizational objectives. Studies include both the theory and practice of management as preparation for leadership in public and private organizations.

Eligible courses:

MGT 384, MGT 385, MGT 389, MGT 435, MGT 482, MGT 483, ECON 452.

Marketing Management

Advisors: Beaghan, Brooker, Fujimoto, Golden and B. Johnson

The marketing curriculum provides background for careers in sales, advertising, marketing management, research and analysis, and retail management. Marketing topics include researching and analyzing consumers, market demand, pricing, product distribution and development, and communication in order to develop marketing strategies and policies. A minimum of 25 credits is required for this specialization.

Required: Credits

MKT 462, Marketing Promotion Management	5
MKT 468, Marketing Problems and Policies.....	5
MKT 469, Marketing Research.....	5

Plus a minimum of 10 credits from the following list:
 MKT 361, MKT 367, MKT 463, MKT 464, MKT 465,
 MKT 466, MKT 467, ECON 310, ME 36710

Total 25

Operations Management and Information Systems

Advisors: Bundy, Gunn, Kesling, Mosebar, Nott, Schwartz, Turnquist

This specialization encompasses the quantitative realm of management. Students gain experience in the application of selected techniques from management science, operations management, statistical analysis, systems analysis and design of management information systems. Students should meet with their major advisor for more information on electives related to specific career paths. A minimum of 25 credits is required for this specialization.

Required: Credits

OMIS 324, Advanced Operations Management.....	5
OMIS 387, MIS: Analysis and Design	5
OMIS 410, Computer Applications in Operations and Research.....	5
OMIS 435, Production Planning and Control.....	5

Plus a minimum of 5 credits from the following list:
 ACCT 455, OMIS 321, OMIS 480, ECON 324, CPSC 157,
 CPSC 177,

Other electives may be selected with prior approval
 of an OMIS advisor.....5

Total 25

Business Administration Minor

Advisors: Fairburn, Mueller and Parson

The business administration minor provides students the opportunity to select business administration and supporting accounting and economics courses to meet individual educational needs.

Required: Credits

ECON 201, Principles of Economics Micro.....	5
ACCT 301, Financial Accounting Analysis.....	5

Plus an additional 20 credits from the department of business administration. At least 15 of these 20 credits must be upper division. This program must be approved in advance by a business administration minor advisor.....20

Total 30

Business Courses

BUS 241. Legal Environment of Business (5). Prerequisite, sophomore standing. An introduction to legal reasoning, ethics in business, the law of contracts, torts, agency, sales, bailments, and personal property. Same as FIN 241. Student may not receive credit for both.

BUS 298. Special Topics (1-6).

BUS 341. Advanced Business Law (5). Prerequisite, BUS 241. The law of negotiable instruments, suretyship, business structures including partnerships and corporations, trusts and estates, bankruptcy and government regulations of business. Same as FIN 341. Student may not receive credit for both.

BUS 344. Real Estate Law (3). The legal aspects of acquisition, finance, use, transfer and management of real property. This course is designed for property owners and real estate professionals. Same as FIN 342. Student may not receive credit for both.

BUS 352. Principles of Real Estate (5). Real estate principles and practices, with special emphasis on urban land-use analysis, nature of real property rights, organization of the real estate industry and market, land-use competition, real estate financing and the impact of government policies upon the real estate industry. Same as FIN 372 and BUS 372. Student may not receive credit for more than one.

BUS 357. Risk and Insurance (5). Nature of risk and uncertainty, methods of meeting risk, the insurance mechanism, legal problems of insurance, various types of contracts and carriers and purchase of insurance by the individual. Same as FIN 377 and BUS 377. Student may not receive credit for more than one.

BUS 396. Individual Study (1-6). Prerequisite, permission of instructor.

BUS 397. Honors (1-12). Open to junior students with consent of department honors committee.

BUS 398. Special Topics (1-6).

BUS 400. Understanding the Private Enterprise System (2). An intensive course covering U.S. and Washington state economics; small business and large corporations; business, labor, government, and the public; and the future of business in the Pacific Northwest. Restricted to professional educators participating in Business Week. Grade will be S or U. Same as MGT 400. Student may not receive credit for both.

BUS 452. Real Estate Finance and Investment (3). Prerequisites, BUS 344 and BUS 352 or permission. Appraising techniques, investment decisions and sources and methods of financing real property. Same as FIN 472 and BUS 472. Student may not receive credit for more than one.

BUS 453. Principles of Property Management (3). Prerequisite, BUS 352. Application of the management process to the specialized field of real estate. History, techniques and scope of real property management. Same as FIN 473 and BUS 473. Student may not receive credit for more than one.

BUS 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. Grade will be S or U.

BUS 496. Individual Study (1-6). Prerequisite, permission of instructor.

BUS 497. Honors (1-12). Open to senior students with consent of department honors committee.

BUS 498. Special Topics (1-6).

BUS 499. Seminar (1-5).

Finance Courses

FIN 370. Introductory Financial Management (5). Prerequisite, admission to the major or permission. An introduction to financial decision-making. Topics include time value of money, security evaluation, capital budgeting, cost of capital, financial forecasting, financial statement analysis, and working capital management. Same as BUS 370. Student may not receive credit for both.

FIN 470. Intermediate Financial Management (5). Prerequisite, FIN 370. A review, consolidation, and extension of the FIN 370 class. Additional focus on the theory, practice, and analysis of the firm's investing and financing activities as these activities relate to the value creation process. Same as BUS 470. Student may not receive credit for both.

FIN 471. Case Problems in Managerial Finance (5). Prerequisite, FIN 470. A capstone course in business financial management. Case analysis directed to the major financial decision-making areas of the firm. Computer assisted analysis using popular business software. Same as BUS 471. Student may not receive credit for both.

FIN 475. Investments (5). Prerequisite, FIN 370. Principles of investment valuation. Topics include a survey of securities and securities markets, analysis of risk, expected return, timing, and selection of stocks and bonds in a portfolio context. Same as BUS 475. Student may not receive credit for both.

FIN 476. Advanced Investments (5). Prerequisite, FIN 475. Portfolio theory, construction, and administration. Cases may be used to analyze key investment decisions and to relate theories and concepts to real-world situations. Same as BUS 476. Student may not receive credit for both.

FIN 477. International Finance (5). Prerequisite, FIN 370. Financial decision making in an international setting. Explores both traditional areas of finance and recent innovations in financial management from the perspective of the multinational corporation. Same as BUS 477. Student may not receive credit for both.

FIN 478. Management of Financial Institutions (5). Prerequisites, FIN 370 and ECON 330. Asset-liability management process; investment and financing activities of banks, savings and loans, and credit unions. Same as BUS 478. Student may not receive credit for both.

Management Courses

MGT 379. Introduction to Industrial Relations (5). Labor history; evolution of labor law; labor union structure and government; collective bargaining practices; grievances and arbitration; public sector labor relations; comparative industrial relations systems; contemporary problems and issues. Same as IR 379 and BUS 379. Student may not receive credit for more than one.

MGT 380. Organizational Management (5). Prerequisite, admission to the major or permission. History of management thought and practice, its development, change and probable future; relationship of management and decisions to environment and society; organization theory; human behavioral aspects of management; planning, controlling, and staffing as decision processes in organizational systems. Same as BUS 380. Student may not receive credit for both.

MGT 381. Management of Human Resources (5). Selection of personnel, methods of training and retraining workers, wage policy, utilization of human resources, job training, administration of labor contracts, and public relations. Same as IR 381 and BUS 381. Student may not receive credit for more than one.

MGT 383. Executive Perspectives on Business and Society (2). An examination of current critical issues in the relationship of business organizations and society. Taught by business executives and coordinated by the school of business and economics. Same as MGT 389.1 and BUS 383. Student may not receive credit for more than one.

MGT 384. Introduction to International Business (5). Prerequisite, ECON 310 or permission of instructor. Principles underlying international business; national policies influencing world trade and finance; and regional and international institutions. Same as BUS 384. Student may not receive credit for both.

MGT 385. Organizational Theory (5). Prerequisite, MGT 380 or permission. An examination of the socio-technical system in a task oriented organization focusing on the total organization as the unit of analysis; technology, structure, work design and environment as determinants of effectiveness. Same as BUS 385. Student may not receive credit for both.

MGT 388. Women in Management (3). An examination of the ways in which American sex roles, together with corporate cultural practices and organizational structures, affect women's attainment of and performance in managerial roles within business, educational, and professional organizations. Same as SOC 368, MGT 368, and BUS 388. Student may not receive credit for more than one.

MGT 389. Business and Society (5). Relations between business enterprise and society. Ethics and social responsibility in increasingly complex economic, political, social and technological environments. Same as BUS 389. Student may not receive credit for both.

MGT 479. Collective Bargaining and Arbitration (5). Prerequisite, MGT 379 or 381 or permission. Statutory and case law governing labor relations. Contracts and negotiations. Impasse procedures. Arbitration cases and grievance procedures. Contemporary issues and cases. Same as IR 479 and BUS 479. Student may not receive credit for more than one.

MGT 481. Organizational Behavior (5). Prerequisite, MGT 380. Applied and conceptual analysis of behavior within organizations. Involves leadership, motivation, communications, group processes, decision-making, climate and culture. Same as BUS 481. Student may not receive credit for both.

MGT 482. Applied Management and Organizational Behavior (5). Prerequisites, MGT 380 and MGT 481 or permission. Application of training and development practices to the personal and professional growth of the human resource. Individual and small group exercises give students the opportunity to apply and experience a variety of management concepts and practices. Same as BUS 482. Student may not receive credit for both.

MGT 483. Organizational Change (5). Prerequisites, MGT 380 and MGT 481 or permission. Managing problem solving and change in organizations. An integration and application of theories adapted to organizational behavior. Same as BUS 483. Student may not receive credit for both.

MGT 484. Business in the World Perspective (5). A comparative study of the practice of management in selected foreign countries as well as an analysis of key managerial problems encountered in the multinational corporation. Same as BUS 484. Student may not receive credit for both.

MGT 486. Problems in Human Resource Management (5). Prerequisite, MGT 381. Problems in business and government involving contemporary issues in personnel management. Application of principles learned in personnel and industrial relations courses. Analysis and research on selected topics in personnel management. Same as IR 486 and BUS 486. Student may not receive credit for more than one.

MGT 487. Small Business Management (5). Small business enterprises, organization, operation, entrepreneurship financing, policy formulation, and legal considerations. Same as MGT 471 and BUS 487. Student may not receive credit for more than one.

MGT 488. Compensation Policy and Administration (5). Prerequisite, MGT 381. The process of determining policy and the administration of compensation systems in employment. Employee compensation is studied on a broad perspective encompassing direct financial payments, employer benefits, and nonfinancial rewards with a focus on the systematic administration of wages, salaries, and other forms of compensation as a means of motivation and control within organizations. Same as IR 488 and BUS 488. Student may not receive credit for more than one.

MGT 489. Business Policy (5). Prerequisite, completion of all other core requirements for business administration or accounting. Basic policy decisions involved in managing the total enterprise. Same as BUS 489. Student may not receive credit for both.

MGT 492. Small Business Consultation (5). Prerequisite, MGT 487 or permission. Student consultation teams providing solutions to problems facing small businesses. Coordinated with the United States Small Business Administration. Grade will be S or U. Same as BUS 492. Student may not receive credit for both.

Marketing Courses

MKT 360. Principles of Marketing (5). Prerequisite, admission to the major or permission. Introduction to the development of a marketing system. Interaction of economics, law, politics, ethics, and the behavioral sciences in a mixed market society. Same as BUS 360. Student may not receive credit for both.

MKT 361. Channels of Distribution Management (5). Prerequisite, MKT 360. Selection, evaluation, management and control of channels of distribution. Analysis of the channel system includes warehousing, inventory management, and physical distribution in consumer and industrial products and services. Same as BUS 361. Student may not receive credit for both.

MKT 367. Consumer Behavior (5). Prerequisite, MKT 360 or permission. An introduction to analysis of the consumer as a basis for marketing decisions. The analysis concerns who buys what, how the consumer uses the product, the significance of the product to the consumer, and the buying process. Same as BUS 367. Student may not receive credit for both.

MKT 461. Self-Marketing (2). Prerequisite, MKT 360. Applying the principles of marketing to the development of a personal marketing plan including strategies and tactics. Same as BUS 461. Student may not receive credit for both.

MKT 462. Marketing Promotion Management (5). Prerequisite, MKT 360. Communication problems of marketing goods and services to consumers and industrial buyers; advertising management, personal selling, and sales promotion; analysis for the promotion mix; and public interest in marketing communication. Same as BUS 462. Student may not receive credit for both.

MKT 463. Sales Force Management (5). Prerequisite, MKT 360 or permission. Integration of sales force into the total marketing program of the firm; emphasizes organization, coordination, recruiting, training and incentives; develops methods for analyzing market demand and evaluation of sales force performance. Same as BUS 463. Student may not receive credit for both.

MKT 464. Purchasing Management (5). Prerequisite, MKT 360 or permission. Introduction to elements of purchasing activities in industrial and governmental markets. Decision making, legal and ethical implications in the market, and pricing considerations in various market situations will be emphasized. Same as BUS 464. Student may not receive credit for both.

MKT 465. Direct Marketing (5). Prerequisite, MKT 360. Primary and adjunct means of promotion and distribution through direct marketing. Same as BUS 465. Student may not receive credit for both.

MKT 466. Industrial Marketing (5). Prerequisite, MKT 360. An introduction to industrial marketing and its major differences from consumer marketing. Major topics stressed are derived demand, industrial buyer behavior and planning of strategies and variations in the marketing mix. Case study method will be stressed. Same as BUS 466. Student may not receive credit for both.

MKT 467. International Marketing (5). Prerequisite, MKT 360. Marketing functions involved in doing business overseas, environmental conditions affecting overseas trade and problems of securing employment overseas. Same as BUS 467. Student may not receive credit for both.

MKT 468. Marketing Problems and Policy (5). Prerequisites, MKT 462, MKT 469 plus one marketing elective, and senior standing, or permission. This is the capstone course for the marketing specialty. Case analysis in marketing decision making and policy determination. Same as BUS 468. Student may not receive credit for both.

MKT 469. Market Research (5). Prerequisites, OMIS 221 and MKT 360 or permission. Application of research to economic and business problems; tools of research design; planning investigations; gathering, organizing, and interpreting data; and presentation of findings. (Not open to students with credit in ECON 426.) Same as BUS 469. Student may not receive credit for both.

Operations Management and Information Systems Courses

OMIS 221. Business Statistics (5). Prerequisites, ADOM 202B and MATH 130.1 or equivalents. Introduction to inferential business statistics. Same as MS 221 and BUS 221. Student may not receive credit for more than one.

OMIS 321. Intermediate Statistics for Economics and Business (5). Prerequisite, OMIS 221. Sampling techniques, the design of experiments, analysis of variance, simple linear regression and correlation, and time series analysis. Same as MS 321 and BUS 321. Student may not receive credit for more than one.

OMIS 323. Operations Management (5). Prerequisites, OMIS 221, MATH 170 and admission to the major or permission. Introduction and development of management science methods and models to support management decision making in production, operations and related functional areas. Same as MS 323 and BUS 323. Student may not receive credit for more than one.

OMIS 324. Advanced Operations Management (5). Prerequisite, OMIS 323. Development and implementation of advanced management methods and models for analysis and decision making in production, operations and related functional areas. Same as MS 324 and BUS 324. Student may not receive credit for more than one.

OMIS 386. Management Information Systems: Data and Technology (5). Prerequisite, admission to the major or permission. Development of the concept of computer-based information systems and data bases as management tools. Main topical areas include computer technology, business computer applications, management and acquisition of computer resources and the information systems development cycle. Same as MS 386 and BUS 386. Student may not receive credit for more than one.

OMIS 387. Management Information Systems: Analysis and Design (5). Prerequisite, OMIS 386 or permission. Investigation of the methodology and techniques utilized in the development of modern computer-based information systems. Emphasis on the activities associated with analyzing organizational information needs and designing appropriate systems to meet these needs. Application of techniques using cases and actual business system development projects. Same as MS 387 and BUS 387. Student may not receive credit for more than one.

OMIS 410. Computer Applications in Operations and Research (5). Prerequisite, OMIS 386 or permission. Same as MS 410 and BUS 410. Student may not receive credit for more than one.

School of Business and Economics

OMIS 435. Production Planning and Control (5). Prerequisite, OMIS 323 or permission. Applications in production planning and control, including resource and capacity planning, material requirements planning, scheduling, inventory control, and just-in-time. Same as MGT 435 and BUS 435. Student may not receive credit for more than one.

OMIS 480. Management Decision Making (5). Prerequisites, OMIS 323 and MGT 380. Application of principles of management and organization to the decision-making process; types of decisions, methods of analysis, environmental constraints, information processes and criteria for decisions. Same as MGT 480 and BUS 480. Student may not receive credit for more than one.

The following courses and programs are on reserve and may be offered subject to program needs. Courses: BUS 335 Principles of Production (5), BUS 343 Legal Aspects of Construction Process (5), BUS 374 Personal Investments (4), BUS 421 Applied Sampling Techniques for Accounting and Management (4), BUS 474 Financial Institutions (4), BUS 485 Performance Appraisal in Human Resource Management (4), IR 298 Special Topics (1-6), IR 342 Labor Law (4), IR 396 Individual Study (1-6), IR 397 Honors (1-12), IR 398 Special Topics (1-6), IR 490 Contracted Field Experience (1-15), IR 496 Individual Study (1-6), IR 497 Honors (1-12), BUS 498 Special Topics (1-6), IR 499 Seminar (1-5), MGT 298 Special Topics (1-6), MGT 388 Administrative and Managerial Practices (5), MGT 396 Individual Study (1-6), MGT 397 Honors (1-12), MGT 398 Special Topics (1-6), MGT 485 Administrative Policies (5), MGT 490 Contracted Field Experience (1-15), MGT 496 Individual Study (1-6), MGT 497 Honors (1-12), MGT 498 Special Topics (1-6), MGT 499 Seminar (1-5), MS 298 Special Topics (1-6), MS 396 Individual Study (1-6), MS 397 Honors (1-12), MS 398 Special Topics (1-6), MS 490 Contracted Field Experience (1-15), MS 496 Individual Study (1-6), MS 497 Honors (1-12), MS 498 Special Topics (1-6), MS 499 Seminar (1-5), MKT 298 Special Topics (1-6), MKT 396 Individual Study (1-6), MKT 397 Honors (1-12), MKT 398 Special Topics (1-6), MKT 490 Contracted Field Experience (1-15), MKT 496 Individual Study (1-6), MKT 497 Honors (1-12), MKT 498 Special Topics (1-6), MKT 499 Seminar (1-5), BUS 368 Marketing Analysis and Sales Forecasting (4). Programs: Industrial Relations Specialization, Real Estate Specialization, Industrial Relations Minor, Administration Minor.

1921

A total of four male students enrolled in WSNS in the spring of 1921.

1922

The "Crimson W" Club organized for students who had earned a letter in a major sport.

1922

Formation of "The Outsiders," an organization for students who did not reside on campus.

BUSINESS EDUCATION AND ADMINISTRATIVE MANAGEMENT

Chair:

F. Ross Byrd
Hebeler Hall 105

Professors:

F. Ross Byrd, Business Education, Business Communications
Kenneth K. Harsha, Administrative Management, Information Processing
V. Wayne Klemm, Business Education, Administrative Management, Information Processing
Dolores J. Osborn, Business Communications, Business Education, Word Processing
Connie M. Roberts, Business Communications, Office Management, Information Processing
Blaine R. Wilson, Marketing Education, Fashion Merchandising, Retail Management

Associate Professors:

Catherine Bertelson, Business Communications, Information Processing
Charles L. Guatney, Fashion Merchandising, Retail Management, Business Communications

Assistant Professors:

Robert H. Perkins, Administrative Management, Business Communications

The department provides programs designed to prepare high school business education teachers and marketing education coordinators. The administrative management program leads to a bachelor of science degree with specializations in administrative (office) management, administrative (office) systems, administrative assistant, or retail management. The administrative assistant specialization is designed to assist students to prepare for the Certified Professional Secretary (CPS) examination. The fashion merchandising program leads to a bachelor of science degree.

Admission Policy for Business Education and Administrative Management

1. Students must have successfully completed ENG 101 and 102 or equivalents.
2. The application for a major program form must be completed, then signed by a department advisor and chair. The completed form will be accompanied by a current credit evaluation from the registrar's office.
3. Students must have a university-level* cumulative GPA of at least 2.30 for full admission to a departmental major.
4. Students who have a cumulative GPA of at least 2.00 may be admitted conditionally by the department chair or designee. Students admitted conditionally must achieve at least a 2.30 GPA as a full-time student for the following two consecutive quarters of enrollment to be fully admitted to a departmental major.

5. If the student does not meet admission requirements following conditional admission, reapplication for admission to a department program may be made when the cumulative GPA is at least a 2.30.

* Baccalaureate institutions

Students enrolled in any department major must consult with a faculty advisor each quarter. Students desiring vocational (teaching) certification should see their major advisor about additional requirements.

In addition to general regulations for admission to master's programs, admission to the graduate program in business and marketing education will require appropriate undergraduate background in business education or marketing education and the professional education sequence.

Bachelor of Science Teaching Major Business Education (Broad Area)

Completion of the program and the teacher education sequence qualifies one for teaching business education at the secondary school level. State vocational certification requirements should also be satisfied. See the program advisors.

Endorsement for student teaching requires a minimum GPA of 2.5 in each of the basic skills areas (keyboarding and accounting) and in the business education methods classes.

Students are required to complete ED 311 before taking BSED 420, 425, 426. The related business education methods class must be completed to be endorsed in a subject (e.g., BSED 420 must be taken in order to be endorsed to student teach accounting).

Business education majors must be able to demonstrate competence equal to that required in BSED 152 or equivalent. It is recommended that ECON 201 be completed.

Several of the electives have prerequisites noted in the course descriptions.

Required:	Credits
BSED 153, Electronic Production Typewriting	2
BSED 270, Machine Transcription	3
BSED 401, Principles and Philosophy of Vocational Education	3
BSED 420, Teaching Accounting	3
BSED 425, Teaching Keyboarding and Office Procedures	3
BSED 426, Teaching Basic Business Subjects	3
ADOM 201, Introduction to Business	3
ADOM 202A or B, Microcomputer Applications	3
ADOM 255, Office Procedures	3
ADOM 271, Business Mathematics Applications	3
ADOM 304, Microcomputer Word Processing	2
ADOM 305, Advanced Word Processing	2
ADOM 361, Office Information Systems	3
ADOM 375, Personal Finance	5
ADOM 385, Business Communications and Report Writing	5
ACCT 251, Financial Accounting I	5
ACCT 253, Managerial Accounting	5
BUS 241, Legal Environment of Business	5

Total 61

School of Professional Studies

Electives by permission.....	4
ADOM 371, Office Management	5
ADOM 386, Records Management	3
ADOM 388, Microcomputer Business Graphics	3
ADOM 389, Desktop Publishing	3
ADOM 479A or B, Advanced Microcomputer Applications	3
BSED 445, Coordination of Work Experience in the Office and Marketing Occupations	3
BSED 490, Contracted Field Experience	5
BUS 341, Advanced Business Law	5
ME 340, Principles of Selling	4
ME 367, Retail Management	5
ME 461, Advertising and Sales Promotion	5
ECON 201, Principles of Economics Micro	5
GEOG 205, Economic Geography	5

Total 65**Minor**

Qualifies for additional teaching endorsement. It is also necessary to meet vocational certification requirements to be employed by most school districts as a business teacher in the state. Please see program advisor for details.

BSED 152 or equivalent is a prerequisite to this minor.

Required:**Credits**

ADOM 201, Introduction to Business	3
ADOM 202A or B, Microcomputer Applications	3
ADOM 255, Office Procedures	3
ADOM 271, Business Mathematics Applications	3
ADOM 304, Word Processing	2
ADOM 385, Business Communications and Report Writing	5
BSED 153, Electronic Production Typewriting	2
BSED 270, Machine Transcription	3
BSED 401, Principles and Philosophy of Vocational Education	3
BSED 420, Teaching Accounting	3
BSED 425, Teaching Keyboarding and Office Procedures	3
ACCT 251, Financial Accounting I	5

Total 38

Electives by permission.....	7
------------------------------	---

Total 45**Bachelor of Science Teaching Major Marketing Education (Broad Area) Major**

Qualifies for teaching and coordinating programs in secondary marketing education.

Endorsement for student teaching requires a minimum GPA of 2.5 in the major.

Students desiring vocational certification should see their major advisor about additional requirements.

Required:**Credit**

ACCT 251, Financial Accounting I	5
ADOM 201, Introduction to Business	3

ADOM 202A or B, Microcomputer Applications	3
ADOM 385, Business Communications & Report Writing	5
ECON 201, Principles of Economics Micro	5
ECON 202, Principles of Economics Macro	5
ME 331, Teaching Marketing Education	3
ME 340, Principles of Selling	4
ME 367, Retail Management	5
ME 401, Principles and Philosophy of Vocational Education	3
ME 445, Coordination of Work Experience in the Office and Marketing Occupations	3
ME 461, Advertising and Sales Promotion	5
MKT 360, Principles of Marketing	5

Total 54

Electives by permission	11
-------------------------------	----

ADOM 375, Personal Finance	5
ADOM 388, Microcomputer Business Graphics	3
ME 490, Contracted Field Experience	5
BSED 426, Teaching Basic Business Subjects	3
MKT 467, International Marketing	5
MGT 487, Small Business Management	5
BUS 241, Legal Environment in Business	5
MKT 463, Sales Force Management	5
MKT 468, Marketing Problems and Policy	5
MKT 469, Market Research	5
PSY 456, Personnel & Industrial Psychology	4

Total 65**Minor**

Qualifies for an additional teaching endorsement. It is also necessary to meet vocational certification requirements to be employed by most school districts as a marketing education teacher in the state. Please see the program advisor for details.

Required:**Credits**

ME 331, Teaching Marketing Education	3
ME 445, Coordination of Work Experience in the Office and Marketing Occupations	3
ME 401, Principles and Philosophy of Vocational Ed	3
ME 340, Principles of Selling	4
ME 367, Retail Management	5
ACCT 251, Financial Accounting I	5
ADOM 201, Introduction to Business	3
ADOM 385, Business Communications and Report Writing	5
ECON 201, Principles of Economics Micro	5
MKT 360, Principles of Marketing	5

Total 41

Electives by permission.....	4
------------------------------	---

Total 45

Bachelor of Science

Administrative (Office) Management Major

The program is designed to prepare the student for office-related or retail management careers. Students completing this major will take the core courses (31 credits) and select one of four areas of specialization: office management, office systems, administrative assistant or retail management.

Several of the elective courses have prerequisites noted in the course description. Basic keyboarding skill (BSED 151 or equivalent) is a prerequisite to this major. Math 130.1 is a prerequisite to BUS 221.

Common Core	Credits
ADOM 201, Introduction to Business	3
ADOM 202B, Microcomputer Applications	3
ADOM 304, Microcomputer Word Processing	2
ADOM 310, Business Professional Development	3
ADOM 371, Office Management	5
ADOM 385, Business Communications and Report Writing	5
ACCT 251, Financial Accounting I	5
ECON 201, Principles of Economics Micro	5
Total	31

Office Management

Required:	Credits
ADOM 255, Office Procedures	3
ADOM 361, Office Systems	3
ADOM 386, Records Management	3
ADOM 461, Office Systems Analysis	5
ADOM 462, Office Systems Design	5
ADOM 479B, Advanced Microcomputer Applications	3
ACCT 253, Managerial Accounting	5
OMIS 221, Business Statistics	5
ECON 202, Principles of Economics Macro	5
Total	37

Electives by Approval	22
ADOM 271, Business Mathematics Applications	3
ADOM 305, Advanced Word Processing	2
ADOM 352, Management of PC Hard Disk and DOS Commands.....	3
ADOM 375, Personal Finance	5
ADOM 388, Microcomputer Business Graphics	3
ADOM 389, Desktop Publishing	3
ADOM 452, Telecommunications and Microcomputer Networks	5
ADOM 490, Cooperative Education	5
BSED 270, Machine Transcription	3
ME 340, Principles of Selling	4
BUS 241, Legal Environment of Business	5
MGT 380, Organizational Management	5
MGT 381, Management of Human Resources	5
MGT 385, Organizational Theory	5
COM 345, Business and Professional Speaking	4
COM 430, Listening	4
Total	90

Office Systems

Required:	Credits
ADOM 352, Management of PC Hard Disk and DOS Commands	3
ADOM 361, Office Systems.....	3
ADOM 452, Telecommunications and Microcomputer Networks	5
ADOM 461, Office Systems Analysis	5
ADOM 462, Office Systems Design	5
ADOM 479B, Advanced Microcomputer Applications	3
ACCT 253, Managerial Accounting	5
OMIS 221, Business Statistics	5
ECON 202, Principles of Economics Macro	5
CPSC 110, Fundamentals of Computer Science I	4
CPSC 111, Fundamentals of Computer Science II	4
Total	47

Electives by approval:	12
ADOM 386, Records Management	3
ADOM 388, Microcomputer Business Graphics	3
ADOM 490, Cooperative Education	5
CPSC 265, Elementary Data Structure	4
CPSC 340, Introduction to File Processing	5
CPSC 420, Database Management System Design	5
OMIS 323, Operations Management	5
OMIS 386, Management Information Systems: Data and Technology	5
OMIS 387, Management Informations Systems: Analysis and Design	5
MATH 170, Intuitive Calculus	5
Total	90

Administrative Assistant

Required:	Credits
ADOM 255, Office Procedures	3
ADOM 305, Advanced Word Processing	2
ADOM 361, Office Systems	3
ADOM 386, Records Management	3
BSED 153, Electronic Production Typewriting	2
BSED 270, Machine Transcription	3
BUS 241, Legal Environment of Business	5
Total	21

Electives by approval:	38
ADOM 271, Business Mathematics Applications	3
ADOM 352, Management of PC Hard Disks and DOS Commands	3
ADOM 375, Personal Finance	5
ADOM 388, Microcomputer Business Graphics	3
ADOM 389, Desktop Publishing	3
ADOM 452, Telecommunications and Microcomputer Networks	5
ADOM 461, Office Systems Analysis	5
ADOM 462, Office Systems Design	5
ADOM 479B, Advanced Microcomputer Applications	3

School of Professional Studies

ADOM 490, Cooperative Education	15
ME 340, Principles of Selling	4
ACCT 253, Managerial Accounting	5
OMIS 221, Business Statistics	5
MGT 381, Management of Human Resources	5
COM 430, Listening	4
ECON 202, Principles of Economics Macro	5
POSC 320, Public Administration	5
Total	90

Retail Management

Required:	Credits
ME 340, Principles of Selling	4
ME 367, Retail Management	5
ME 461, Advertising and Sales Promotion	5
ADOM 271, Business Mathematics Applications	3
ACCT 253, Managerial Accounting	5
MKT 360, Principles of Marketing	5
ECON 202, Principles of Economics Macro	5
Total	32

Electives by approval	27
ADOM 361, Office Systems	3
ADOM 375, Personal Finance	5
ADOM 388, Microcomputer Business Graphics	3
ADOM 389, Desktop Publishing	3
ME 490, Contracted Field Experience	5
BUS 241, Legal Environment of Business	5
MKT 361, Channels of Distribution Management	5
FIN 370, Business Finance	5
MGT 380, Organizational Management	5
MGT 381, Management of Human Resources	5
MKT 468, Marketing Problems and Policy	5
MKT 469, Market Research	5
Total	90

Minor

Several of the electives have prerequisites noted in the course description. It is recommended that administrative (office) management minors take ECON 201 and 202. Basic keyboarding skill (BSED 151 or equivalent) is a prerequisite to this minor.

	Credits
ADOM 201, Introduction to Business	3
ADOM 202B, Microcomputer Applications	3
ADOM 304, Microcomputer Word Processing	2
ADOM 371, Office Management	5
ADOM 385, Business Communications and Report Writing	5
ACCT 251, Financial Accounting I	5
Total	23
Elect from the following courses:	8
ADOM 271, Business Mathematics Applications	3
ADOM 255, Office Procedures	3
ADOM 361, Office Information Systems	3

ADOM 386, Records Management	3
ADOM 388, Microcomputer Business Graphics	3
ADOM 461, Office Information Systems Analysis	5
BUS 241, Legal Environment of Business	5
.....	8
Total	31

Advertising Minor

The minor in advertising acquaints students with advertising planning, production, and distribution. It complements a range of majors in the liberal arts as well as in business and professional studies and is jointly offered by the departments of communication and business education and administrative management. ECON 201 is a prerequisite to MKT 360. COM 201 and 208 are prerequisites to COM 347. It is recommended that ME 340, Principles of Selling, be completed prior to COM 305.

Required:	Credits
ADOM 202A or B, Microcomputer Applications	3
ADOM 389, Desktop Publishing	3
COM 305, Advertising Copywriting and Placement	4
COM 347, Copy Editing, Layout, and Design	3
ME 340, Principles of Selling	4
ME 461, Advertising and Sales Promotion	5
MKT 360, Principles of Marketing	5
Total	27

Business and Professional Communication Minor

This minor is designed to enhance both written and oral communication skills and is jointly offered by three departments: communication, business education and administrative management, and English.

Basic typewriting/keyboarding competency required for ADOM 304.

Required:	Credits
COM 345, Business and Professional Speaking	4
ENG 310, Technical Writing	4
ADOM 385, Business Communications and Report Writing	5
ADOM 304, Microcomputer Word Processing	2
Total	15

Select at least 8 credits from the following:	8
COM 251, Discussion	4
COM 252, Argumentation and Debate	4
COM 375, Interviewing Principles and Techniques	4
COM 430, Listening	4
ME 340, Principles of Selling	4
Select at least 7 credits from the following:	7
ADOM 305, Advanced Word Processing	2
ME 461, Advertising and Sales Promotion	5
ENG 314, Advanced Composition	4
ENG 412, Advanced Writing Seminar	3
Total	30

Office Information Processing Minor

A program designed for students who wish to develop information processing competencies using office technology.

BSED 152 or equivalent is a prerequisite to BSED 153.

Required Courses:	Credits
BSED 153, Electronic Production Typewriting	2
BSED 270, Machine Transcription	3
ADOM 271, Business Mathematics Applications	3
ADOM 146, Basic Accounting OR	
ACCT 251, Financial Accounting I	5
ADOM 201, Introduction to Business	3
ADOM 202A, OR B, Microcomputer Applications	3
ADOM 255, Office Procedures	3
ADOM 304, Microcomputer Word Processing	2
ADOM 305, Advanced Word Processing	2
ADOM 361, Office Systems	3
ADOM 385, Business Communications & Report Writing	5
Total 34	

**Bachelor of Science
Fashion Merchandising Major
(See Page 122)**

Administrative Office Management Courses

ADOM 146. Basic Accounting (5). For secretaries and general office workers who are required to keep a simple set of books and complete various government reports. May not be taken for college credit if any other college accounting course or courses have been completed. May be audited.

ADOM 201. Introduction to Business (3). Functions, practices, and organization of the business enterprise.

ADOM 202. Microcomputer Applications (3). Spreadsheet, database, graphics, word processing and computer applications. Limited disk operating system commands for microcomputer and minicomputer. Basic keyboarding skills (BSED 151 or equivalent) recommended.

- A. Apple
- B. IBM or compatibles

ADOM 255. Office Procedures (3).

ADOM 271. Business Mathematics Applications (3).

ADOM 296. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

ADOM 298. Special Topics (1-6).

ADOM 299. Seminar (1-5). May be repeated.

ADOM 304. Microcomputer Word Processing (2). Prerequisite, basic typewriting/keyboarding competency. Introduction to and development of microcomputer-based word processing skills for producing documents, including letters, tables, and reports.

ADOM 305. Advanced Word Processing (2). Prerequisite ADOM 304 and BSED 152 or equivalents. Techniques and concepts for producing a variety of business documents including list processing, word processing math, document file conversion, document transmission, abbreviation documents, and user-defined keys.

ADOM 310. Business Professional Development (3). Prerequisite, junior standing. Develops strategies to enhance career success through professional image, attitudes, and ethics.

ADOM 352. Management of PC Hard Disks and DOS Commands (3). Prerequisite, ADOM 202 A or B or equivalent. Disk operating systems such as MS/PC DOS and Finder. File handling, EDLIN text editor, batch files, menus, subdirectories and windows.

ADOM 361. Office Systems (3). Prerequisite, ADOM 202 A or B. Manual, mechanical, and electronic methods for processing office data.

ADOM 371. Office Management (5). Basic and theoretical management concepts, business and office organization, personnel administration, trends in office information systems, and the development of office supervisory skills.

ADOM 375. Personal Finance (5). Buymanship, choice making, money management, insurance, investments, shelter, personal legal aspects, and taxes.

ADOM 385. Business Communications and Report Writing (5) Prerequisite, ENG 102 or equivalent. Develops planning and writing skills for business letters, employment applications, memoranda, and reports.

ADOM 386. Records Management (3). Prerequisite, ADOM 202 A or B or equivalent. Manual and electronic records systems selection and control, business forms design, and records facilities planning.

ADOM 388. Microcomputer Business Graphics (3). Prerequisite, ADOM 202A or B or permission. Development of graphics for business presentations; selection and construction of graphs from database and spreadsheet data.

ADOM 389. Microcomputer Desktop Publishing (3). Prerequisite, ADOM 202A or B or equivalent. Analyzing and designing layout, typography, and graphics to produce newsletters, advertisements, brochures, and flyers.

ADOM 398. Special Topics (1-6).

ADOM 452. Telecommunications and Microcomputer Network Applications (5). Prerequisite, ADOM 352. Voice, message, data, image, and telecommunications; telephone services, switching concepts, transmission technologies, local area networks, and applications.

ADOM 461. Office Systems Analysis (5). Prerequisite ADOM 361, 371 and 385. Feasibility studies of office information processing systems, cost analysis and budgets and tools of systems analysis.

School of Professional Studies

ADOM 462. Office Systems Design (5). Prerequisite ADOM 461 or permission. Characteristics of system design; the systems concept; applications of the system design approach.

ADOM 479. Advanced Microcomputer Applications (3). Advanced software applications: windowing, macros, complex integration, selected advanced spreadsheets, database, graphics, and word processing techniques. Students may receive credit in both 479A and B.

A. Apple prerequisite, ADOM 202A or equivalent.

B. IBM or compatibles, prerequisite, ADOM 202B or equivalent.

ADOM 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

ADOM 491. Workshop (1-6).

ADOM 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

ADOM 498. Special Topics (1-6).

ADOM 499. Seminar (1-5).

Business Education Courses

BSED 151. Computer Keyboarding (2). Introduction to touch keyboarding (typewriting) for beginners. May not be taken for credit by students with one semester or more of high school keyboarding (typewriting), but can be audited.

BSED 152. Typewriting (2). Prerequisite, BSED 151 or equivalent. Emphasis on speed and accuracy. Introduction to mailable-copy skill in office tasks. May be repeated for a total of four credits.

BSED 153. Electronic Production Typewriting (2). Prerequisite, BSED 152 or keyboarding competency of 45 words per minute. Development of mailable-copy skill in office typing tasks.

BSED 270. Machine Transcription (3). Prerequisite, BSED 152 and ENG 102 or equivalents. Development of business-oriented language arts skills and transcription typing skills in production of mailable copy.

BSED 296. Individual Study (1-6). May be repeated. Prerequisite, permission of instructor.

BSED 298. Special Topics (1-6).

BSED 299. Seminar (1-5). May be repeated.

BSED 398. Special Topics (1-6).

BSED 401. Principles and Philosophy of Vocational Education (3).

BSED 420. Teaching Accounting (3). Prerequisite, ACCT 251, ADOM 202 or equivalent. ED 311 is a prerequisite or corequisite.

BSED 424. Teaching Shorthand and Transcription (1). Prerequisite, knowledge of a shorthand system and approval of departmental chair.

BSED 425. Teaching Typewriting and Office Procedures (3). Prerequisites, BSED 153 and ADOM 202, 255, and 304. ED 311 is a prerequisite or corequisite.

BSED 426. Teaching Basic Business Subjects (3). Prerequisites, ADOM 202 and 385, FIN 241 and either ADOM 201 or BSED 375 or permission. ED 311 is a prerequisite or corequisite.

BSED 429. Teaching Keyboarding in the Elementary Classroom (1). Prerequisite, basic competency in keyboarding or typewriting. Methods and materials for teaching keyboarding on microcomputers.

BSED 445. Coordination of Work Experience in the Office and Marketing Occupations (3). Philosophy, place, methods and techniques of coordinating work experience. Students who have received credit for ME 445 may not receive credit for BSED 445.

BSED 450. Teaching Microcomputer Applications in Business Education and Marketing Education (3). Prerequisite, ADOM 202 or equivalent. Methods of teaching microcomputer applications and classroom management, including courseware development, computer-assisted instruction, and special applications. Students who have received credit for ME 450 may not receive credit for BSED 450.

BSED 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

BSED 491. Workshop (1-6).

BSED 496. Individual Study (1-6). May be repeated. Prerequisite, permission of instructor.

BSED 498. Special Topics (1-6).

BSED 499. Seminar (1-5). May be repeated.

Marketing Education Courses

ME 251. Merchandise Display (3). Visual promotion of retail merchandise and services. Development of effective display skills. This course is the same as ME 250 and HOCT 251. Student may not receive credit for more than one.

ME 296. Individual Study (1-6). May be repeated. Prerequisite, permission of instructor.

ME 331. Teaching Marketing Education (3). Prerequisites, ADOM 202 and ED 311 or equivalents or permission.

ME 340. Principles of Selling (4). The field of selling, its role in the economy, the sales process, types of selling, planning the sale and the sales organization.

ME 367. Retail Management (5). Prerequisite, ADOM 202 A or B. The problems of management in retail store operations including organization, buying, stock control, personnel administration, and expense control.

ME 401. Principles and Philosophy of Vocational Education (3).

ME 445. Coordination of Work Experience in the Office and Marketing Occupations (3). Philosophy, place, methods, and techniques of coordinating work experience. Students who have received credit for BSED 445 may not receive credit for ME 445.

ME 450. Teaching Microcomputer Applications in Business Education and Marketing Education (3). Prerequisite, ADOM 202 or equivalent. Methods of teaching microcomputer applications and classroom management; including courseware development, computer assisted instruction, and special applications. Students who have received credit for BSED 450 may not receive credit for ME 450.

ME 461. Advertising and Sales Promotion (5). Role of advertising in the economy, its influence on society, media utilization, advertising campaigns, and management.

ME 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

ME 496. Individual Study (1-6). May be repeated. Prerequisite, permission of instructor.

ME 498. Special Topics (1-6).

ME 499. Seminar (1-5). May be repeated.

ME 499.1 Fashion Merchandising Seminar (3). Prerequisites, ME 367 and ME 461. Also listed as HOCT 499.1. Student may not receive credit for both.

The following courses/programs are on reserve and may be offered subject to program needs: Diversified Occupations Teaching Minor; BSED 165 Gregg Shorthand (2-8), BSED 410 Office Equipment Selection and Maintenance (3), BSED 480 Personal and Family Finance (5), BSED 497 Honors Individual Study (1-12), ME 250 Merchandise Display (3).

CHEMISTRY

Chair:

Robert D. Gaines

Dean 303

Professors:

Donald Dietrich, Science Education

L. Clint Duncan, Inorganic, Environmental

Walter C. Emken, Physical

Robert D. Gaines, Biochemistry

Helmi S. Habib, Inorganic

Richard W. Hasbrouck, Organic

Jerry L. Jones, Analytical

David G. Lygre, Biochemistry

Chemistry is the study of matter and the changes it undergoes. The department offers undergraduate programs providing foundations in descriptive and theoretical chemistry. During the first two years the various curriculum options emphasize fundamental topics in chemistry, mathematics and physics.

Those students in the B.A., teaching major, and B.S. programs will choose advanced courses in chemistry and related areas with advisement to fill the major requirements.

Students in the B.A. and B.S. options are encouraged to take CHEM 490, Cooperative Education. The department offers an active seminar and undergraduate research program.

Students must apply through the departmental undergraduate advisor for admission to the department's major program.

NOTE: Admission to any chemistry course requires a minimum grade of C- in each listed prerequisite to that course.

Bachelor of Arts

Major

Students must complete MATH 172.1, 172.2, 272.1, and 272.2, as well as PHYS 111, 112, and 113 or PHYS 211, 212, and 213 prior to their enrollment in CHEM 381.

Credits

CHEM 181, 181.1, 182, 182.2, 183, 184, General Chemistry and Laboratory	15
CHEM 251, 251.1, Quantitative Analysis and Laboratory	5
CHEM 361, 361.1, 362, 362.1, 363, 363.1, Organic Chemistry and Laboratory OR	
CHEM 311, 312, 312.1, with either 371, 371.1, Biochemistry and Laboratory	
OR CHEM 452, 452.1, Instrumental Analysis and Laboratory	13-15
CHEM 381, 382, 382.1, Physical Chemistry and Laboratory	10
One of the following not selected above:	
CHEM 345, Environmental Chemistry	
CHEM 350, Inorganic Chemistry	
CHEM 371, 371.1, Biochemistry and Laboratory	
CHEM 383, 383.1, Physical Chemistry and Laboratory	
CHEM 452, 452.1, Instrumental Analysis and Laboratory	5
Electives by advisement	10-14

Total 60

Teaching Major

Qualifies for teaching chemistry at the high school level and general science at the middle and junior high school level. Students should seriously consider working toward endorsement in a second area, such as biology, earth science, physics, or mathematics.

Students must develop a background in mathematics equivalent to MATH 172.2 prior to taking CHEM 381.

Credits earned in PHY 111 will be allowed to fulfill the physical science requirement of natural science breadth requirements as well as the requirements of this major.

Students are advised to take CPSC 101.

	Credits
CHEM 181, 181.1, 182, 182.1, 183, 184, General Chemistry and Laboratory	15
CHEM 251, 251.1, Quantitative Analysis and Laboratory OR CHEM 345, Environmental Chemistry	5
CHEM 311, 312, 312.1, Elementary Organic Chemistry and Laboratory	8
CHEM 371, 371.1, Biochemistry and Laboratory	5
CHEM 350, Inorganic Chemistry	3
CHEM 381, Physical Chemistry	5
CHEM 492, Laboratory Experience in Teaching Chemistry	2
SCED 324, Science Education in the Secondary Schools	5
PHYS 111, 112, 113, Introductory Physics OR PHYS 211, 212, 213, General Physics	15
Total	63

Bachelor Of Science**Major**

Students must complete MATH 172.1, 172.2, 272.1, 272.2, and PYS 211, 212, and 213 prior to their enrollment in CHEM 381.

	Credits
CHEM 181, 181.1, 182, 182.1, 183, 184, General Chemistry and Laboratory	15
CHEM 251, 251.1, Quantitative Analysis and Laboratory	5
CHEM 350, Inorganic Chemistry	3
CHEM 361, 361.1, 362, 362.1, 363, 363.1, Organic Chemistry and Laboratory	15
CHEM 371, 371.1, Biochemistry and Laboratory	5
CHEM 381, 382, 382.1, 383, 383.1, Physical Chemistry and Laboratory	15
CHEM 452, 452.1, Instrumental Analysis and Laboratory	5
CHEM 499, Seminar	2
CPSC 110, Fundamentals of Computer Science I	4
Electives	31
Total	100

Biochemistry Option

Students must complete MATH 172.2 and PHYS 113 or 213 before enrolling in CHEM 381.

Credits

CHEM 181, 181.1, 182, 182.1, 183, 184, General Chemistry and Laboratory	15
CHEM 251, 251.1, Quantitative Analysis and Laboratory	5
CHEM 361, 361.1, 362, 362.1, 363, 363.1, Organic Chemistry and Laboratory	15
CHEM 371, 371.1, 372, Biochemistry and Laboratory	8
CHEM 381, 382, 382.1, Physical Chemistry and Laboratory	10
CHEM 499, Seminar	2

One of the following:	3-5
CHEM 350, Inorganic Chemistry	
CHEM 383, Physical Chemistry, with or without laboratory	
CHEM 452, Instrumental Analysis, with or without laboratory	

BISC 110, Basic Biology	2
BISC 313, Cellular Biology	5
BISC 365, Genetics	5
BISC 370, Microbiology	5
Approved Electives	23-25

Total 100**Minor**

	Credits
CHEM 181, 181.1, 182, 182.1, 183, 184, General Chemistry and Laboratory	15
CHEM 251 and 251.1 OR CHEM 345	5
CHEM 311, 312, 312.1	8
Approved Upper Division Electives in Chemistry	3-5

Total 31-33**Undergraduate Courses**

CHEM 101. Contemporary Chemistry (4). A nonmathematical discussion of chemical principles and their application to contemporary problems of human beings and their environment.

CHEM 101.1. Chemistry Laboratory (1). Corequisite, CHEM 101. One laboratory session weekly.

CHEM 105. Processes in Physical Science — Chemistry (5). An introductory lecture-laboratory course stressing the development of chemical concepts in physical science through investigative activities. Recommended primarily for nonscience students and students planning to teach in the elementary school (K-6). Physics 105 complements this course.

CHEM 111. Introduction to Chemistry (4). Introductory chemistry for nursing students and for those needing a background in chemistry prior to taking CHEM 181. Not open to students with credits in CHEM 181 or higher.

CHEM 111.1. Chemistry Laboratory (1). Corequisite, CHEM 111 Practical application and demonstration of chemical principles. One laboratory session weekly.

CHEM 112. Introduction to Organic Chemistry (4). Prerequisite, CHEM 111. A survey of organic chemical principles and reactions.

CHEM 112.1. Chemistry Laboratory (1). Prerequisite, CHEM 111, 111.1, concurrent or previous registration in CHEM 112. One laboratory session weekly.

CHEM 113. Introduction to Biochemistry (4). Prerequisite, CHEM 112. A survey of biochemical principles.

CHEM 113.1. Chemistry Laboratory (1). Prerequisites, CHEM 112, 112.1, concurrent or previous registration in CHEM 113. One laboratory session weekly.

CHEM 181. General Chemistry (4). Prerequisites, high school chemistry and qualification for MATH 163.1 or math placement exam, or permission.

CHEM 181.1. General Chemistry Laboratory (1). Prerequisite, concurrent enrollment in CHEM 181. One laboratory session weekly.

CHEM 182. General Chemistry (4). Prerequisite, CHEM 181.

CHEM 182.1. General Chemistry Laboratory (1). Prerequisites, CHEM 181.1 and concurrent enrollment in CHEM 182. One laboratory session weekly.

CHEM 183. General Chemistry (3). Prerequisite, CHEM 182. Three lectures weekly.

CHEM 184. Analytical Chemistry (2). Prerequisites, CHEM 182, 182.1. Introduction to the theory and techniques of analytical chemistry. Two lecture-laboratory sessions weekly.

CHEM 209. Chemistry of Wine and Winemaking (Enology) (3). Prerequisite, CHEM 101 or equivalent, or permission of instructor. Course normally meets for one hour lecture and four hours laboratory weekly. This course may not be counted towards major or minor in chemistry.

CHEM 245. Scientific Glassblowing (1). A specialized course dealing with the construction of scientific glass apparatus. By permission of instructor.

CHEM 251. Quantitative Analysis (3). Prerequisites, CHEM 182, 184. Corequisite, CHEM 251.1, or permission.

CHEM 251.1 Quantitative Analysis Laboratory (2). Corequisite, CHEM 251 or permission. Two laboratory sessions weekly.

CHEM 299. Seminar (1-5).

CHEM 311. Introduction to Organic Chemistry (3). Prerequisites, CHEM 182, 182.1. For students planning a two-quarter sequence of organic chemistry; structure, nomenclature, chemistry of hydrocarbons, alkyl halides and alcohols.

CHEM 312. Organic Chemistry (3). Prerequisite, CHEM 311. Course includes chemistry of biomolecules.

CHEM 312.1. Organic Chemistry Laboratory (2). Corequisite, registration in CHEM 312. Two laboratory sessions weekly. Not open to students who have taken 361.1

CHEM 345. Environmental Chemistry (5). Prerequisite, one year of general chemistry or permission of instructor. An introduction to aquatic, atmospheric, and soil chemistry. Chemical analysis of substances in natural and contaminated systems. Three lectures and two laboratory sessions weekly.

CHEM 350. Inorganic Chemistry (3). Prerequisites, CHEM 183 and PHYS 113 or 213.

CHEM 361, 362, 363. Organic Chemistry (3,3,3 each course). Prerequisites, CHEM 182, and 182.1. The three-quarter sequence of organic chemistry for chemistry majors.

CHEM 361.1. Organic Chemistry Laboratory (2). Prerequisite, registration in CHEM 361. Two laboratory sessions weekly.

CHEM 362.1. Organic Chemistry Laboratory (2). Prerequisites, 361.1 and registration in 362. Two laboratory sessions weekly.

CHEM 363.1. Qualitative Organic Chemistry Laboratory (2). Prerequisite, CHEM 362.1; corequisite, CHEM 363. Two laboratory sessions weekly.

CHEM 371, 372. Biochemistry (3,3). Prerequisite, CHEM 312.

CHEM 371.1. Biochemistry Laboratory (2). Prerequisites, CHEM 184, 312.1 and concurrent enrollment in CHEM 371. Two laboratory sessions weekly.

CHEM 375. Biophysical Chemistry (3). Prerequisite, CHEM 182 or permission. The laws of thermodynamics and kinetics and their application to chemical, biological and ecological systems.

CHEM 381. Physical Chemistry (Thermodynamics) (5). Prerequisites, CHEM 183 and 184, PHYS 113 and MATH 172.2. PHYS 213 and MATH 272.2 recommended.

CHEM 382, 383. Physical Chemistry (3,3). Prerequisite, CHEM 381.

CHEM 382.1. Physical Chemistry Laboratory (2). Prerequisites, CHEM 251, 251.1 and enrollment in CHEM 382. Two laboratory sessions weekly.

CHEM 383.1. Physical Chemistry Laboratory (2). Prerequisites, CHEM 382.1 and enrollment in CHEM 383. Two laboratory sessions weekly.

CHEM 398. Special Topics (1-6).

CHEM 452. Instrumental Analysis (3). Prerequisites, CHEM 251, 251.1. Corequisite, CHEM 452.1 or permission.

CHEM 452.1. Instrumental Analysis Laboratory (2). Corequisite, CHEM 452. Two laboratory sessions weekly.

CHEM 454. Introduction to Spectroscopy (3). Prerequisites, CHEM 363, 363.1 and 383 or permission. One lecture and two laboratory sessions weekly.

CHEM 464. Organic Preparations (3). Prerequisites, CHEM 363 and 363.1. Advanced techniques and theory of organic chemical research. One lecture and six hours of laboratory weekly.

CHEM 470. Radiochemistry (3). Prerequisite, CHEM 251, 251.1, and 383.

CHEM 470.1. Radiochemistry Laboratory (2). Prerequisite or corequisite, CHEM 470. Two laboratory sessions weekly.

CHEM 472. Inorganic Preparations (3). Prerequisites, CHEM 350, 452. Common techniques and reactions of preparative inorganic chemistry. Three laboratory sessions weekly.

CHEM 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

CHEM 491. Workshop (1-6).

CHEM 492. Laboratory Experience in Teaching Chemistry (2). Prerequisite, permission of the instructor.

CHEM 495. Senior Research (1-6). By permission only.

CHEM 496. Individual Study (1-6). Prerequisite, permission of instructor.

CHEM 498. Special Topics (1-6).

CHEM 499. Seminar (1-5).

COMMUNICATION

Chair:

Philip M. Backlund
Bouillon 252

Professors:

Philip M. Backlund, Speech Communication
Corwin P. King, Speech Communication, Public Relations

Associate Professors:

John P. Foster, Journalism, Public Relations
Roger L. Garrett, Speech Communication

Assistant Professors:

Roger R. Reynolds, Speech Communication
Alan B. Taylor, Radio and Television
L. Gilbert Neal, Journalism, Public Relations

Lecturers:

William S. Craig, Cablecasting
William D. Schmidt, Film Production

Communication is a social science discipline that focuses upon how, why, and with what effects people use language to convey information. It is among the oldest and the newest fields of study, with historical roots going back to the Greeks and Romans, and modern roots grounded in the latest developments in science and technology. It provides academic preparation for employment in business and industry, government, education, and social and community service, as well as for advanced professional work in such fields as law and ministry.

Majors are offered in mass communication (with emphases in print or broadcast journalism), public relations, and speech communication. The mass communication major acquaints students with the structures, functions, and work methods of the mass media in preparation for careers with newspapers and magazines, radio and television stations, and the publication departments of business and industrial firms. The public relations major combines the study of oral and written communication to prepare students for careers in the professional practice of public relations with corporations, public relations agencies, and non-profit organizations. The speech communication major gives students the knowledge and skills necessary for effective oral communication in interpersonal, small group, and public situations, suitable for a variety of career opportunities.

Minors are available in several areas. They are a strong addition to majors in other fields, since there are few occupations where the ability to communicate well is not important.

Admission to Departmental Programs

1. Students pursuing either majors or minors are required to register with and be advised by the departmental faculty.
2. Students majoring in public relations or mass communication must, before obtaining entrance to the major, complete COM 201 and COM 208 or equivalent, and have a grade point average of at least 2.25 overall.
3. Students must earn a minimum grade of C- in each course allowed toward fulfilling major and minor requirements.

Bachelor of Arts

Speech Communication Major

Students majoring in Speech Communication should seek advisement in developing a course of study designed as preparation for either career/professional applications or graduate studies. Psychology 300 has a prerequisite of PSY 101.

Credits

COM 207, Introduction to Speech Communication	4
COM 250, Public Speaking: Practice and Criticism OR COM 345, Business and Professional Speaking	4
Two of the following three courses:	
COM 251, Discussion	
COM 252, Argumentation and Debate	
COM 253, Interpersonal Communication	8

College of Letters, Arts and Sciences

COM 253, Interpersonal Communication	8
One of the following three courses:	
PSY 300, Research Methods in Psychology	
PSY 346, Social Psychology	
SOC 307, Individual and Society	4-5
COM 301, Communication Concepts and Processes	4
COM 340, Rhetorical Theories of Communication	4
COM 350, Persuasion	4
COM 445, Speech Criticism	4
COM 450, Speech Composition	4
COM 451, Assessment of Communication Behavior	4
COM 499.1, Professional Seminar	3
Electives as approved by Department Chair	12-13
Total	60

Public Relations Major

Organizations — whether they are industrial, governmental, educational, or public service — require individuals who communicate with the public. Accurate information on internal operations as they affect the public, as well as policies and decisions of the organization, must be communicated by representatives of the organization. Such persons must be able to speak to groups persuasively, be familiar with all aspects of interviewing and discussion, be responsible for monitoring public attitudes and concerns, and be capable of creating various types of publicity and promotional materials. PR work can also relate to in-house publication and other tasks which foster better internal communication among members of an organization.

Students pursuing the public relations major are strongly urged to pursue a minor in a complementary field such as business administration.

Required Courses:	Credits
COM 201, Introduction to Mass Media	4
COM 208, Beginning Newswriting and Reporting	4
COM 250, Public Speaking OR	
COM 345, Business and Professional Speaking	4
COM 251, Discussion OR	
COM 252, Argumentation and Debate OR	
COM 253, Interpersonal Communication	4
COM 270, Introduction to Public Relations	4
COM 301, Communication Concepts and Processes	4
COM 350, Persuasion	4
COM 365, Organizational Communication	4
COM 370, Community and Press Relations	3
COM 375, Interviewing Principles and Techniques	4
COM 460, Law of Mass Media	5
ME 461, Advertising and Sales Promotion	5
COM 470, Applied Public Relations OR	
COM 490, Contracted Field Experience	4 or 5
Plus 11-12 credits of electives from the following to be approved by the advisor:	
COM 347, Editing	
COM/SOC 369, Mass Media and Society	
COM 430, Listening	
COM 450, Speech Composition	
COM 451, Assessment of Communication Behavior	
ACCT 301, Managerial Accounting Analysis	
ECON 201, Principles of Economics Micro	

MGT 380, Organizational Management	
MKT 360, Principles of Marketing	
POSC 312, Public Opinion and Propaganda	11-12
Total	65

Mass Communication Major

The mass communication major consists of the following core courses, plus a specialization in print or broadcast journalism. A major in the print journalism specialization must serve on the staff of the Observer a minimum of three quarters, or substitute appropriate electives with advisor approval.

Core Courses:	Credits
COM 201, Introduction to Mass Media	4
COM 208, Beginning Newswriting and Reporting	4
COM 209, Introduction to Broadcast News	3
COM 270, Introduction to Public Relations	4
COM/SOC 369, Mass Media and Society	3
COM 460, Law of Mass Media	5
Total	23

Specialized Courses:

A. Print Journalism

COM 308, Advanced Reporting	4
COM 347, Editing	3
COM 364, Photojournalism	5
COM 466, Reporting of Public Affairs	4
COM 468, Observer	2
Electives approved by Program Advisor	19

B. Broadcast Journalism

COM 221, Basic Cablecasting	3
COM 241, Elementary Radio and TV Production	4
COM 242, Practical Radio News	2
COM 341, TV News Production	4
COM 442, Practical TV News	2
Electives approved by Program Advisor	22

Total 37

Total 60

Mass Communication Minor

Fields of specialization: journalism, broadcast production, or public relations.

Journalism

Students in teacher education must take as part of their electives COM 366, or a substitute with advisor approval.

Required:	Credits
COM 201, Introduction to Mass Media	4
COM 208, Beginning Newswriting	4
COM 209, Introduction to Broadcast News	3
COM 308, Advanced Reporting	4
COM 347, Editing	3

College of Letters, Arts and Sciences

COM 364, Photojournalism	5
COM/SOC 369, Mass Media and Society	3
Electives approved by Program Advisor	6

Total 32**Broadcast Productions**

Required:	Credits
COM 201, Introduction to Mass Media	4
COM 209, Introduction to Broadcast News	3
COM 221, Basic Cablecasting	3
COM 241, Elementary Radio/TV Production	4
COM 341, Television News Production	4
COM 385, Radio and Television Announcing	3
Electives approved by Program Advisor	9

Total 30**Public Relations**

Required:	Credits
COM 201, Introduction to Mass Media	4
COM 208, Beginning Newswriting and Reporting	4
COM 250, Public Speaking OR COM 345, Business and Professional Speaking	4
COM 253, Interpersonal Communication	4
COM 270, Introduction to Public Relations	4
COM 347, Editing	3
COM 365, Organizational Communication	4
COM 370, Community and Press Relations	3

Total 30**Business and Professional Communication Minor**

This minor is designed to enhance both written and oral communication skills and is jointly offered by three departments: communication, business education and administrative management, and English.

Basic typewriting/keyboarding competency required for ADOM 304.

Required:	Credits
COM 345, Business and Professional Speaking	4
ENG 310, Technical Writing	4
ADOM 385, Business Communication and Report Writing	5
ADOM 304, Microcomputer Word Processing	2

Total 15

Select at least 8 credits from the following	8
COM 251, Discussion	4
COM 252, Argumentation and Debate	4
COM 375, Interviewing Principles and Techniques	4
COM 430, Listening	4
ME 340, Principles of Selling	4

Select at least 7 credits from the following	7
ADOM 305, Dedicated Word Processing Applications	2

ME 461, Advertising and Sales Promotion	5
ENG 314, Advanced Composition	4
ENG 412, Advanced Writing Seminar	4

Total 30**Organizational Communication Minor**

The minor in organizational communication is designed to complement a broad spectrum of majors leading to careers in government, education, and social and community services. Emphasis is placed on an understanding of the basic nature of communication in organizations, and on the fundamental knowledge and skills necessary for effective communication in organizations at the interpersonal, small group, and public (large group) levels. Students are urged to register for COM 365 early in their program, and to consult early with a department advisor for approval of electives courses. Credit for COM 490 will not normally be given until all other courses in the minor have been completed. Not available as a minor for students majoring in public relations.

	Credits
COM 251, Discussion	4
COM 345, Business and Professional Speaking	4
COM 365, Organizational Communication	4
COM 375, Interviewing Principles and Techniques	4
COM 490, Cooperative Education	5
Electives approved by Program Advisor	4

Total 25**Speech Communication Minor**

Students in teacher education must substitute COM or DR 243 or 343 for COM 301, and COM 217 for COM 340 or 350, and complete a minimum of 23 credits.

	Credits
COM 207, Introduction to Communication Studies	4
COM 252, Argumentation and Debate	4
COM 301, Communication Concepts and Processes	4
COM 340, Rhetorical Theories of Communication OR COM 350, Persuasion	4
Approved Upper Division Electives	8

Total 24**Advertising Minor**

The minor in advertising acquaints students with advertising planning, production, and distribution. It complements a range of majors in the liberal arts as well as in business and professional studies and is jointly offered by the departments of communication and business education and administrative management. ECON 201 is a prerequisite to BUS 360. COM 201 and 208 are prerequisites to COM 347. It is recommended that ME 340, Principles of Selling, be completed prior to COM 305.

Required	Credits
ADOM 202A or B, Computer Applications for Business	3
ADOM 389, Desktop Publishing	3
COM 305, Advertising Copywriting and Placement	4
COM 347, Copy Editing, Layout, and Design	3
ME 340, Principles of Selling	4
ME 461, Advertising and Sales Promotion	5
MKT 360, Principles of Marketing	5

Total 27

Honors in Communication

The communication department recognizes and rewards superior scholarship. Qualified students are encouraged to enter the department's honors program. Entrance requirements include junior or senior class standing, an overall GPA of 3.0 and a GPA of 3.4 in courses taken in communication. Please contact the department chair for further information.

Undergraduate Courses

COM 101. Communications and Issues (5). Study of the process of communication in human affairs through the examination of speeches, speakers, and issues.

COM 110. Oral Communication Skills (3). Instruction and practice in the fundamentals of oral presentation. One hour lecture plus two hours laboratory. COM 110 will not satisfy the communication major.

COM 201. Introduction to Mass Media (4). Processes, systems and effects of the printed and electronic media: the role of newspapers, magazines, movies, radio and television.

COM 207. Introduction to Communication Studies (4). Principles related to competency in communication. Interrelationships between differing forms of communication.

COM 208. Beginning Newswriting and Reporting (4). Prerequisites, ENG 101 or equivalent and COM 201. Typing skills required. Professional methods and concepts of gathering and writing the news; practice in student media.

COM 209. Introduction to Broadcast News (3). Editing audio and video news pieces. Analysis of news presentation in the electronic media. Two hours lecture and two hours graded laboratory/studio experience weekly.

COM 217. Introduction to Communicative Disorders (3). A survey of disorders of speech and hearing, their nature and causes. Emphasis on the role of the classroom teacher in identifying disorders and working with professional therapists.

COM 221. Basic Cablecasting (3). Equipment and procedures used in cable television. An examination of advantages and limitations of small format audio and video operations.

COM 241. Elementary Radio and Television Production (4). Sources of materials; editing, microphone practice, critical evaluation. Three hours lecture; three hours laboratory.

COM 242. Practical Radio News (2). Prerequisite, permission of instructor. Experience in the university radio station's news department. One hour lecture plus two hours laboratory. May be repeated. Limit 6 credits.

COM 243. Interpretive Reading (4). Improving voice articulation and projection and practice in reading aloud prose, poetry and drama. Same as DRAMA 243. Students may not receive credit for both.

COM 249. History of American Journalism (3). A survey of American newspaper history from the seventeenth century to the present day. Same as HIST 249. Student may not receive credit for both.

COM 250. Public Speaking: Practice and Criticism (4). Practice in selection, organization, and presentation. Attention also given to theory and practice of speech criticism.

COM 251. Discussion (4). Analysis and practice, communication principles affecting effectiveness of small group discussion.

COM 252. Argumentation and Debate (4). Development of skills in oral advocacy. Content of the course will center on evidence, tests of acceptable evidence, effective implementation of evidence, patterns of reasoning, tests for validity.

COM 253. Interpersonal Communication (4). Differences in backgrounds, attitudes, interests, social roles, motives, personalities and status as barriers to communication.

COM 270. Introduction to Public Relations (4). Prerequisite, COM 208 or permission of the instructor. The basic concepts of public relations; the tools and media used in communicating with the variety of publics. For majors and non-majors.

COM 296. Individual Study (1-6). Prerequisite, permission of instructor.

COM 298. Special Topics (1-6).

COM 299. Seminar (1-5).

COM 301. Communication Concepts and Processes (4). Examination of human communication on an individual, interpersonal, and public level. Relationship of language to cognitive processes and social interaction.

COM 305. Advertising Copywriting and Placement (4). Prerequisite, ENG 102. Preparation and placement of advertising in mass and selective media. Theory and techniques of advertising writing and media buying.

COM 308. Advanced Reporting (4). Prerequisite, COM 208. In-depth study and practice of news gathering and reporting with campus and community assignments.

COM 315. Studies in Communication (1). Specialized topics in communication to increase practical communication skills. May be repeated for credit under different topics. Grade will be S or U.

- A. Communication and Stress,
- B. Communication and Conflict,
- C. Communication and Consensus,
- D. Managing Speech Fright,
- E. Interviewer Skill,
- F. International Communication.

COM 321. Advanced Cablecasting (3). Prerequisite, COM 221. Planning and producing complete CATV programs. Development of proficiencies in advanced staging, lighting, audio and camera control techniques.

COM 340. Rhetorical Theories of Communication (4). Prerequisite, 15 credits of communication or permission of instructor. Survey of rhetorical theory and practice from ancient to modern times. Examination of classical, renaissance and modern historical periods and transitions to current theories of communication. This course will be offered alternate years, spring quarters.

COM 341. Television News Production (4). Prerequisite, COM 221 or consent of instructor. Production and presentation of television news. Editing of film and video tape. Documentary production. Practice in using remote equipment. Three hours lecture, three hours laboratory per week.

COM 343. Oral Interpretation of Children's Literature (4). Story telling, oral reading and choral reading emphasis. Analysis and techniques for classroom teachers, librarians and others. Same as DR 343. Student may not receive credit for both.

COM 345. Business and professional speaking (4). Communication in career and professional settings: speeches, elements of meeting management including parliamentary procedure.

COM 347. Copy Editing, Layout and Design (3). Prerequisite, COM 208. Editing copy, writing headlines, and planning page layouts.

COM 350. Persuasion (4). Prerequisite, COM 252 or permission of instructor. Role of persuasion in society, elements of human motivations, techniques and appeals of the persuader.

COM 357. Scriptwriting (2). Introduction to the process of designing film, television, slide/tape, multi-image, and film-strip programs. Preparation of treatments, storyboards, and scripts for each medium.

COM 360. Feature Writing (3). Prerequisite COM 208. Theoretical and practical methods in writing feature articles; planning for marketing manuscripts.

COM 364. Photojournalism (5). Communication and news value of pictures. History of photojournalism. Laboratory assignments in pictorial reporting. Layouts, make-up and caption writing. Limited enrollment.

COM 365. Organizational Communication (4). Function, forms, and patterns of communication in organizations. Effects of organizational structures and dynamics on communication. Methods of evaluating communication policies and practices as an aid to organizational management.

COM 366. High School Publications (3). The newspaper and the yearbook.

COM 367. Film Production (3). Prerequisite, COM 357. Principles and procedures of designing and producing motion picture films. Two lectures and two hours laboratory per week.

COM 369. Mass Media and Society (3). Relationship of the mass media to social institutions; including philosophy, responsibilities, regulations and criticism. Same as SOC 369; students may not receive credit for both.

COM 370. Community and Press Relations (3). Prerequisite, COM 270. Techniques for establishing community public relations programs; provides community leaders with methods of communicating with and through print and broadcast media; provides media personnel with methods for working with public information specialists.

COM 375. Interviewing Principles and Techniques (4). Examination of the basic principles and techniques of interviewing and their application in informational, employment, and persuasive/counseling contexts. Extensive in-class and community experience in interviewing provided.

COM 380. Nonverbal Communication (4). Interpretation and analysis of four categories of nonverbal behavior; paralanguage, action language, object language, and uses of space and time. Formerly COM 280 and same as ANTH 380. Student may not receive credit for more than one.

COM 385. Radio and Television Announcing (3). Basic techniques in professional styles of radio and TV announcing. Special attention given to film and slide narration in addition to broadcast skills.

COM 420. Teaching Communication and Drama in the Elementary School (3). Exploration of interpersonal communication and children's drama in the development of verbal and nonverbal skills. DR 420 is the same course. Students may not receive credit for both.

COM 429. Classroom Communication (5). Consideration of problems, practices and techniques, and means of improvement in classroom communication. Examined from the viewpoint of both teacher and student.

COM 430. Listening (4). Prerequisite, permission of instructor. Consideration of the determinants of, and deterrents to, effective listening behavior. Exploration of means of improving personal listening practices and application of these, both in and outside the classroom setting.

COM 442. Practical Television News (2). Prerequisite, permission of instructor. Production of TV news broadcasts and video-taped programs; studio and remote. One hour lecture plus two hours laboratory. May be repeated. Limit 6 credits.

COM 445. Speech Criticism (4). Prerequisite, 20 credits of communication, or permission of instructor. Theory and methodology in the description, analysis and evaluation of rhetorical discourse. Course to be taught alternate years, spring quarters.

COM 450. Speech Composition (4). Prerequisite, COM 250 or COM 345. Preparation and delivery of specialized forms of public address. Writing speeches for others, advanced forms of style and support, and speeches for special occasions. Offered alternate years.

COM 451. Assessment of Communication Behavior (4). Prerequisite, COM 301. Theory and practice in and study of methodology for gathering and analyzing data on human communication. Behavior identification, instrument types and uses, and assessment strategies. Offered alternate years.

COM 452, 453, 454. Applied Cablecasting (1,1,1). Prerequisite, COM 321 or equivalent. Assist in the operation and maintenance of KCWU-TV, Cable Channel 10, Ellensburg.

COM 460. Law of Mass Media (5). Prerequisite, COM 201. Study of laws that affect newspapers, radio and television and analysis of federal policies directed to broadcast operations.

COM 466. Reporting of Public Affairs (4). Prerequisite, COM 308 or permission of instructor. An advanced reporting course with emphasis on live coverage of governmental activities at the local level, including city councils, courts and law enforcement agencies and school boards.

COM 468. Campus Observer (1-2). For juniors and seniors with departmental approval. Reporting, copyediting and editing assignments on the campus newspaper. May be repeated for credit up to a limit of 6 credits.

COM 470. Applied Public Relations (4). Prerequisite, COM 370. Creation of a public relations program for an organization, agency or institution. Two hours lecture and four hours laboratory/field work per week.

COM 478. Practical Newspaper Management (3). Prerequisites, COM 468 and permission of instructor. Administrative responsibilities for students serving on the editorial staff of the campus newspaper. May be repeated for credit up to a limit of 6 credits.

COM 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

COM 491. Workshop (1-6).

COM 496. Individual Study (1-6). Prerequisite, permission of instructor.

COM 498. Special Topics (1-6).

COM 499. Seminar (1-5).

COM 499.1. Professional Seminar (3). Prerequisite, senior standing.

COMPUTER SCIENCE

Chair:

George Town
Hebeler 219C

Professors:

Barry Donahue, Formal Language Theory
Bernard Martin, Mathematics, Languages
Carl Steidley, Architecture, Organization, and Hardware of Computers
George Town, Systems Programming

Associate Professor:

Calvin Willberg, Information Systems, Programming Languages, and Geography

Bachelor of Science

Computer Science Major

The computer science major is offered with five options: artificial intelligence, computer systems, information systems, scientific computing and software design and application. Students must select one of the options.

Standards for Admission to the Computer Science Curriculum at Central Washington University

A cumulative grade point average of 2.50 is required in the following courses for students to be admitted to the computer science major/minor at Central Washington University.

CPSC 110, Fundamentals of Computer Science I
CPSC 111, Fundamentals of Computer Science II
CPSC 265, Elementary Data Structures
ENG 101, English Composition
ENG 102, English Composition
MATH 172.1, Calculus OR
MATH 170, Intuitive Calculus*

* (Information Systems Option only)

For transfer students who may have completed this work at other institutions, provisional admission to the degree program will be granted until a minimum of 8 credits of upper-division computer science work is completed at Central Washington University with a cumulative grade point average of 2.50. For transfer students completing only part of this work at other institutions, grades for the equivalent courses from those institutions will be averaged with the grades for the remaining courses taken at Central Washington University to meet the above requirements for admission to the major or minor programs.

NOTE: English 310 is required for admission to all 400 level computer science courses with the exceptions of CPSC 490 and CPSC 492.

Artificial Intelligence Option

The artificial intelligence option is designed to prepare applications programmers in the area of artificial intelligence. Those choosing this option would have interests in human language, learning, problem solving and the modeling of human thinking processes in general. Graduates will have programming skills relating to pattern matching, knowledge representation, logical reasoning, natural language processing and expert systems. In addition, graduates will have a broad conceptual background which will allow them to adapt readily to new developments in the field.

Credits

CPSC 110, Fundamentals of Computer Science I.....	4
CPSC 111, Fundamentals of Computer Science II.....	4
CPSC 265, Elementary Data Structures.....	4
CPSC 274F, LISP.....	3
CPSC 274J, PROLOG.....	3
CPSC 274G, SNOBOL OR	
CPSC 274L, ICON.....	3
CPSC 320, Machine Structure and Programming.....	4
CPSC 340, Introduction to File Processing.....	4
CPSC 361, Principles of Language Design.....	4
CPSC 427, Algorithm Analysis.....	4
CPSC 455, Artificial Intelligence.....	4
CPSC 458, Artificial Intelligence Project.....	2
CPSC 470, Operating Systems Architecture.....	4
CPSC 480, Software Design.....	4
CPSC 481, Software Design Project.....	2
CPSC 492, Laboratory Experience Teaching CPSC.....	3
MATH 172.1, Calculus.....	5
MATH 230, Discrete Mathematics.....	5
MATH 311, Statistical Concepts and Methods.....	5
ENG 310, Technical Writing.....	4
ENG 320, English Grammar.....	4
ANTH 382, Descriptive Linguistics.....	4
PHIL 360, Symbolic Logic.....	5
PHIL 461, Theory of Knowledge.....	5
PHIL 463, Philosophy of Mind.....	5
PHIL 470, Philosophy of Language.....	5
PHIL 480, Philosophy of Science.....	5

Total 108

Computer Systems Option

The computer systems option is designed to prepare applications programmers, hardware technologists, and engineering support personnel for work with hardware-oriented applications. Those choosing this option will acquire a basic knowledge of electronics and computer organization, as well as the fundamentals of software design. This option is designed for students who are primarily interested in the electronics of computers. MATH 311 and PHY 211 may be used to satisfy general education breadth requirements.

Courses:

Credits

CPSC 110, Fundamentals of Computer Science I.....	4
CPSC 111, Fundamentals of Computer Science II.....	4
CPSC 265, Elementary Data Structures.....	4
CPSC 320, Machine Structure and Programming.....	4

CPSC 321, Systems Programming.....	4
CPSC 340, Introduction to File Processing.....	4
CPSC 418, Microprocessor Systems OR	
ELT 474, Microprocessors and Instrumentation.....	4
CPSC 450, Computer Network and Data Communication.....	4
CPSC 470, Operating Systems Architecture.....	4
IET 271, Basic Electricity.....	3
IET 271.1, Basic Electricity Laboratory.....	2
IET 272, Basic Electronics.....	4
IET 273, Network Analysis.....	4
IET 375, Microprocessor Applications.....	3
IET 376, Intermediate Electronics.....	4
IET 378, Pulse Circuits.....	4
ELT 371, Advanced Digital Circuits.....	4
ELT 476, Minicomputer Technology.....	4
MATH 172.1, Calculus.....	5
MATH 172.2, Calculus.....	5
MATH 230, Discrete Mathematics.....	5
MATH 272.1, Multi-variable Calculus.....	5
MATH 376.1, Elementary Differential Equations.....	3
ENG 310, Technical Writing.....	4
PHYS 211, 212, 213, General Physics.....	15

Total 110

Information Systems Option

The information systems option is designed to prepare system analysts and designers, applications programmers, and information retrieval specialists for the business world. This option is an amalgam of some of the technology of software design and application and the methodologies of management science.

Courses

Credits

CPSC 110, Fundamentals of Computer Science I.....	4
CPSC 111, Fundamentals of Computer Science II.....	4
CPSC 265, Elementary Data Structures.....	4
CPSC 274C, COBOL.....	3
CPSC 274F, LISP OR	
CPSC 274J, PROLOG.....	3
CPSC 274G, SNOBOL OR	
CPSC 274L, ICON.....	3
CPSC 310, Non Procedural Languages.....	4
CPSC 320, Machine Structure and Programming.....	4
CPSC 340, Introduction to File Processing.....	4
CPSC 355, Advanced COBOL.....	4
CPSC 361, Principles of Language Design.....	4
CPSC 420, Database Management Systems.....	4
CPSC 470, Operating Systems.....	4
CPSC 480, Software Design.....	4
CPSC 481, Software Design Project.....	2
CPSC 492, Laboratory Experience in Teaching CPSC.....	3
ACCT 251 and 252, Accounting Principles OR	
ACCT 301 and 302, Managerial Accounting.....	10
ECON 201, Principles of Micro Economics.....	5
OMIS 221, Business Statistics.....	5
OMIS 386, MIS: Data and Technology.....	5
OMIS 387, MIS: Analysis and Design.....	5
MATH 170, Intuitive Calculus OR	
MATH 172.1, Calculus.....	5
MATH 230, Discrete Mathematics.....	5

College of Letters, Arts and Sciences

ENG 310, Technical Writing.....	4
Select from the following.....	8
CPSC 321, Systems Programming	
CPSC 383, Logical Design	
CPSC 410, Formal Language Theory	
CPSC 418, Microprocessor Systems	
CPSC 427, Algorithm Analysis	
CPSC 435, Simulation	
CPSC 440, Computer Graphics	
CPSC 450, Computer Networks and Data Communications	
CPSC 455, Artificial Intelligence	
CPSC 460, Optimization	
CPSC 465, Compiler Design	
CPSC 490, Cooperative Education (maximum 4 credits)	

Total 110

Scientific Computing Option

The scientific computing option is designed to prepare scientific application programmers. Those choosing this option would have interests in programming for biological, physical, and social scientists working in research, and thus, would in general be concerned with mathematical, scientific, or engineering applications. Those choosing this option will: understand basic computer organization and architecture; understand the elements, structures and design of programming languages; know what general types of problems are amenable to computer solution of these problems. This option is an amalgam of some of the technology of software design and application and the methodologies of mathematical science.

Courses	Credit
CPSC 110, Fundamentals of Computer Science I.....	4
CPSC 111, Fundamentals of Computer Science II	4
CPSC 265, Elementary Data Structures	4
CPSC 274A, FORTRAN OR	
CPSC 274I, APL.....	3
CPSC 274G, SNOBOL OR	
CPSC 274L, ICON	3
CPSC 274F, LISP OR	
CPSC 274J, PROLOG	3
CPSC 320, Machine Structure and Programming.....	4
CPSC 321, Systems Programming.....	4
CPSC 340, Introduction to File Processing.....	4
CPSC 361, Principles of Language Design.....	4
CPSC 383, Logical Design.....	4
CPSC 427, Algorithm Analysis	4
CPSC 470, Operating Systems Architecture	4
CPSC 492, Laboratory Experience in Teaching CPSC.....	1
MATH 172.1 and 172.2, Calculus	10
MATH 230, Discrete Mathematics	5
MATH 265, Linear Algebra.....	4
MATH 272.1 and 272.2, Calculus	10
MATH 311, Statistical Concepts and Methods.....	5
MATH 376.1, Elementary Differential Equations.....	3
MATH 481.1 and 481.2, Numerical Analysis.....	6
ENG 310, Technical Writing.....	4
Select from the following.....	12
CPSC 410, Formal Language Theory	
CPSC 418, Microprocessor Systems	
CPSC 420, Database Management Systems	

CPSC 435, Simulation	
CPSC 440, Computer Graphics	
CPSC 450, Computer Networks and Data Communications	
CPSC 455, Artificial Intelligence	
CPSC 460, Optimization	
CPSC 465, Compiler Design	
CPSC 480, Computer Software Design	
CPSC 490, Cooperative Education (maximum 4 credits)	

Total 109

Software Design and Applications Option

The software design and applications option is designed to give graduates requisite skills and understanding to function as computer scientists. Those choosing this option would have interests in such areas as understanding cognitive processes, developing programming techniques, and advancing computer as well as computer-related technology. Those choosing this option will: understand basic computer organization and architecture; understand the elements, structure, and design of programming languages; know what general types of problems are amenable to computer solution, be able to design algorithms for the solution of these problems, write programs with professional style, thoroughly documenting the solution as well as the results; evaluate programs proposed to solve given problems; be able to evaluate the implications of individual or team performance on computer-related work.

Courses	Credits
CPSC 110, Fundamentals of Computer Science I.....	4
CPSC 111, Fundamentals of Computer Science II	4
CPSC 265, Elementary Data Structures	4
CPSC 274F, LISP OR	
CPSC 274J, PROLOG.....	3
CPSC 274G, SNOBOL OR	
CPSC 274L, ICON	3
CPSC 274, Programming Language Survey, any not taken	3
CPSC 320, Machine Structure and Programming.....	4
CPSC 321, Systems Programming.....	4
CPSC 340, Introduction to File Processing.....	4
CPSC 361, Principles of Language Design	4
CPSC 383, Logical Design.....	4
CPSC 427, Algorithm Analysis	4
CPSC 470, Operating Systems Architecture	4
CPSC 480, Software Design.....	4
CPSC 481, Software Design Project.....	2
CPSC 492, Laboratory Experience in Teaching CPSC	3
MATH 172.1 and 172.2, Calculus	10
MATH 230, Discrete Mathematics	5
MATH 311, Statistical Concepts and Methods.....	5
ENG 310, Technical Writing.....	4
Select from the following.....	16
CPSC 410, Formal Language Theory	
CPSC 418, Microprocessor Systems	
CPSC 420, Database Management Systems	
CPSC 435, Simulation	
CPSC 440, Computer Graphics	
CPSC 450, Computer Networks and Data Communications	
CPSC 455, Artificial Intelligence	

CPSC 460, Optimization
 CPSC 465, Compiler Design
 CPSC 490, Cooperative Education (Maximum 4 credits)

Total 98

Computer Science Minor

This minor has been designed to allow considerable flexibility to the student whose professional goals extend beyond being a computer user to include skills of designing and documenting computer programs. The minor is appropriate for students seeking teaching endorsement in computer science.

Requirements

Credits

CPSC 110, Fundamentals of Computer Science I.....	4
CPSC 111, Fundamentals of Computer Science II	4
CPSC 265, Elementary Data Structures	4
MATH 230, Discrete Mathematics	5
Upper division courses by approval from advisor.....	12

Total 29

Computer Science Courses

CPSC 101. Computer Basics (4). Prerequisite, high school or college algebra. Literacy course; basic computer structure; introduction to spreadsheet programs; introduction to a computer language. Three hours lecture, two hours laboratory per week. (This course may not be counted toward a computer science major or minor. WILL NOT SERVE AS A PREREQUISITE FOR UPPER-DIVISION COMPUTER SCIENCE COURSES.)

CPSC 110. Fundamentals of Computer Science I (4). Prerequisite, high school algebra or MATH 163.1 or permission. Introduction to basic machine architecture, operating systems and interactive editing. Introduction to programming in a high-level, structured language: algorithm design, format, sub-program modularity, control statements, primitive data types. Three hours lecture and two hours laboratory per week.

CPSC 111. Fundamentals of Computer Science II (4). Prerequisite, CPSC 110. Continuation of topics introduced in CPSC 110. Introduction to structured data types: arrays, sets, records, files. Recursion. Pointer variables and dynamic data structures. Three hours lecture and two hours laboratory per week.

CPSC 157. Introduction to COBOL Programming (4). Prerequisite, CPSC 101 or equivalent. An introduction to the COBOL programming language. Business algorithms are developed and translated into common business oriented language programs. Three hours lecture and two hours laboratory per week. (This course may not be counted toward a major or minor in computer science. WILL NOT SERVE AS A PREREQUISITE TO UPPER-DIVISION COMPUTER SCIENCE COURSES.)

CPSC 177. Introduction of FORTRAN Programming (4). Prerequisites, MATH 130.2 or MATH 163.1 or equivalents. Mathematical and logical algorithms are translated into FORTRAN programs. Three hours lecture, two hours laboratory per week. (This course may not be counted toward a major or minor in computer science. WILL NOT SERVE AS A PREREQUISITE TO UPPER-DIVISION COMPUTER SCIENCE COURSES.)

CPSC 201. Computers and Society (3). The computer impact, how do computers work, applications in business, government, human affairs control of computer systems. A general survey course.

CPSC 265. Elementary Data Structures (4). Prerequisite, CPSC 111 or permission. Introduction to data structures, simple list processing, basic searching and sorting techniques, stacks, queues and trees. Three hours lecture and two hours laboratory per week.

CPSC 274. Programming Language Survey (3). Prerequisite, CPSC 265. One or more sections offered each quarter, each of which features a programming language of interest for historical, functional, or theoretical reasons. Languages offered may include A FORTRAN, B C, C COBOL, D MODULA-2, E ADA, F LISP, G SNOBOL, H ALGOL, I APL, J PROLOG, K PASCAL, L ICON. Two hours lecture, two hours laboratory per week.

CPSC 284. Computer Terminal Equipment Use at CWU (1). Corequisite for courses in departments requiring use of the computer at CWU.

CPSC 298. Special Topics (1-6).

CPSC 310. Non-Procedural Languages (4). Prerequisites, CPSC 274C and either MATH 172.1 or MATH 170. Survey of several fourth generation languages; use in data processing; comparisons with traditional high-level languages. Three hours lecture, two hours laboratory per week.

CPSC 315. Practical Computer Applications (4). Prerequisites, MATH 130.1 or equivalent or previous computer experience, or coursework in computer science and permission of instructor. Courses to increase practical skills in the use of computers and their applications in various work settings. May be repeated for credit under different topics. These will not count in the computer science minor.

- Programming in BASIC
- Intermediate Programming in BASIC
- Advanced Programming in BASIC
- Programming in FORTRAN
- Assembly Language Programming for Personal Computers
- Systems Analysis and Applications
- Structured Programming with PASCAL

CPSC 316. Practical Computer Applications II (3). Prerequisites, MATH 130.1 or equivalent, or previous computer experience or coursework in computer science and permission of instructor. Courses to increase practical skills in the use of computers and their applications in various work settings. May be repeated for credit under different topics. These courses will not count in the computer science minor.

- LOGO

- b. Elementary PASCAL
- c. Advanced PASCAL

CPSC 320. Machine Structure and Programming (4). Prerequisites, CPSC 265 and MATH 172.1 or MATH 170. Basic computer organization, data representations, assembly language, addressing techniques. Three hours lecture and two hours laboratory per week.

CPSC 321. Systems Programming (4). Prerequisite, CPSC 320. Using assembly language, students will write systems programs such as macros, assemblers, loaders and linkers. Three hours lecture, two hours laboratory per week.

CPSC 333. Computer Science Topics for Educators (4). Prerequisite, CPSC 265. Use and analysis of various applications and utility software packages. MAY NOT BE COUNTED FOR COMPUTER SCIENCE MAJOR. Recommended for the prospective teacher. Three hours lecture, two hours laboratory per week.

CPSC 334. Computer Languages for Educators (4). Prerequisite, CPSC 265. Introduction to and comparison of computer languages appropriate for use by educators. MAY NOT BE COUNTED FOR THE COMPUTER SCIENCE MAJOR. Recommended for the prospective teacher. Three hours lecture, two hours laboratory per week.

CPSC 340. Introduction to File Processing (4). Prerequisite, CPSC 265, ENG 310 and MATH 172.1 or MATH 170. Sequential, random access and indexed file organizations; B-trees; external searching and sorting; I/O buffering. Three hours lecture, two hours laboratory per week.

CPSC 355. Advanced COBOL (4). Prerequisites, CPSC 274C and CPSC 340. Advanced treatment of the COBOL programming language including sophisticated business applications programming. Three hours lecture, two hours laboratory per week.

CPSC 361. Principles of Language Design (4). Prerequisites, CPSC 265 and three quarters of CPSC 274 to include either 274G or 274L and either 274F or 274J and CPSC 320. Features of programming languages: syntax, data, storage, control, typing, parameter mechanisms, semantics. Three hours lecture, two hours laboratory per week.

CPSC 383. Logic Design (4). Prerequisite, CPSC 320. Application of Boolean Algebra, propositional logic and probability to switching circuits, circuit simplifications, sequential circuits, digital design principles.

NOTE: English 310 is required for admission to all 400 level computer science courses with the exceptions of CPSC 490 and CPSC 492.

CPSC 410. Formal Language Theory (4). Prerequisite, MATH 230. Language classes: regular, context-free, recursive; language acceptors; finite automata, push-down automata, Turing machines. Three hours lecture, two hours laboratory per week.

CPSC 418. Microprocessor Systems (4). Prerequisites, CPSC 321 and either CPSC 383 or ELT 371. Microcomputer systems; peripheral interfacing; interrupt handling; I/O; programming techniques. Three hours lecture, two hours laboratory per week.

CPSC 420. Database Management Systems (4). Prerequisites, CPSC 340 and MATH 230. Logical aspects of database processing; concepts of organizing data into integrated databases; hierarchical, network, and relational approaches. Three hours lecture, two hours laboratory per week.

CPSC 427. Algorithm Analysis (4). Prerequisites, CPSC 340 and MATH 172.1 and MATH 230. Searching and sorting algorithms; hash coding; complexity of algorithms. Three hours lecture and two hours laboratory per week.

CPSC 435. Simulation (4). Prerequisites, MATH 265 and MATH 311 and CPSC 274A. Principles of computer simulation; applications of several simulation languages to continuous and discrete systems. Three hours lecture, two hours laboratory per week.

CPSC 440. Computer Graphics (4). Prerequisites, CPSC 265, MATH 163.2 or permission. Graphic I/O devices; 2-dimensional and 3-dimensional display techniques; display processors; clipping and windowing; hidden line removal; data structures for graphics. Three hours lecture, two hours laboratory per week.

CPSC 450. Computer Network and Data Communication (4). Prerequisite, CPSC 321. Device protocols; network configurations; encryption; data compression and security; satellite networks. Three hours lecture, two hours laboratory per week.

CPSC 455. Artificial Intelligence (4). Prerequisites, CPSC 274F or CPSC 274J, CPSC 340, MATH 230. Introduction to the principles of artificial intelligence. Pattern matching, knowledge representation, natural language processing, expert systems. Three hours lecture, two hours laboratory per week.

CPSC 458. Artificial Intelligence Project (2). Prerequisite, CPSC 455. Implementation of a significant project relating to artificial intelligence. One hour lecture, two hours laboratory per week.

CPSC 460. Optimization (4). Prerequisites, CPSC 427, MATH 265 and MATH 311. Linear programming; game theory; PERT; network analysis; duality theory; and sensitivity analysis. Three hours lecture, two hours laboratory per week.

CPSC 462. Computer Methods for Social Science (4). Prerequisite, at least one course in statistics. Assumes no prior computer experience. Producing descriptive and inferential statistics and simple graphs using minitab and SPSS-X. Also listed as PSY 462. Students may not receive credit for both.

CPSC 465. Compiler Design (4). Prerequisite, CPSC 361. Theory of compiler construction and computer language design; students write a compiler. Three hours lecture, two hours laboratory per week.

CPSC 470. Operating Systems Architecture (4). Prerequisites, CPSC 320 and MATH 311 or MS 221. Principles of operating systems; memory management; job control. Three hours lecture, two hours laboratory per week.

CPSC 475. Computers in Education (4). Prerequisites, teaching experience in mathematics or science and permission. Influence of computers on education and implications for instruction in mathematics and science. Practice in computer operation and programming. Three hours lecture and two hours laboratory per week. Offered summer only.

CPSC 480. Software Design (4). Prerequisite, CPSC 340. The software development process: user requirements; specifications, design, coding, testing, maintenance, documentation and management; efficiency of algorithms in large software projects; students work in teams to develop large software projects. Three hours lecture and two hours laboratory per week.

CPSC 481. Software Design Project (2). Prerequisite, CPSC 480. Continuation of coding, testing, and implementation phases of project begun in CPSC 480. One hour lecture, two hours laboratory per week.

CPSC 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

CPSC 491. Workshop (1-6). The title of the workshop and the credits shall be determined at the time the workshop is approved. Designed to give an opportunity for individual and group study of special areas of computer applications. With the approval of department chairman, course may be designed for regular letter grade or S or U, depending upon course objectives and methods of instruction.

CPSC 492. Laboratory Experience in Teaching Computer Science (1-5). Prerequisites, 15 credits in computer science and permission. Supervised progressive experience in developing procedures and techniques in teaching computer science. May be repeated to a maximum total of 15 credits. Grade will be S or U.

CPSC 493. Practicum (1-5) FWSp. Prerequisite, 15 credits in CPSC and permission. Supervised progressive experience in management, operation, programming or systems work in one of the university's computing centers.

CPSC 496. Individual Study (1-6). Prerequisite, permission of instructor.

CPSC 498. Special Topics (1-6).

CPSC 499. Seminar (1-5).

The William O. Douglas Honors College

Director:
Barry Donahue
Hebeler Hall 202

The William O. Douglas Honors College is Central Washington University's enriched general studies program for talented students. Central to the program is a four-year course of reading, discussing, and writing about the Great Books of Western Civilization. Douglas students complete an academic major and other liberal arts courses in addition to the Great Books courses. The Honors College also sponsors cultural field trips and the series of William O. Douglas Lectures in the Humanities as part of its academic program.

The college is named for Supreme Court Justice William O. Douglas, a native of the central Washington city of Yakima. In a 1969 interview, Justice Douglas was asked to name the single greatest problem facing the nation. He replied, "The disappearance of the university in the scholastic sense of the word." The Douglas Honors College encourages intellectual breadth, academic curiosity, and the fusion of scholarship and everyday life that Justice Douglas personified.

Applicants for the Douglas Honors College should have scored in the upper 10 percent of those taking the Scholastic Aptitude Test (SAT) or its equivalent and have earned at least a B grade average in certain high school course work. That course work should have included three years of English, two years of a foreign language, two years of social science, one year of a laboratory science, three years of mathematics, and three additional years selected from these subjects. Transfer and older students may qualify for the Honors College by showing aptitude and background equivalencies.

For additional information students are directed to the Honors College Office, Hebeler Hall 202 (509) 963-1858. Informational literature will be mailed on request.

Courses:

DHC 121, 122, 123. Douglas Honors College Colloquium I (2,2,2). Prerequisite, admission to Douglas Honors College. Courses must be taken in sequence. Reading, discussing and writing about the Great Books of the Greek and Roman periods.

DHC 221, 222, 223. Douglas Honors College Colloquium II (2,2,2). Prerequisites, admission to Douglas Honors College and DHC 123. Courses must be taken in sequence. Reading, discussing and writing about the Great Books of the Medieval and Renaissance periods.

DHC 298. Special Topics (1-6).

DHC 321, 322, 323. Douglas Honors College Colloquium III (2,2,2). Prerequisites, admission to Douglas Honors College and DHC 223. Courses must be taken in sequence. Reading, discussing and writing about the Great Books of the 18th and 19th centuries.

College of Letters, Arts and Sciences

DHC 421, 422, 423. Douglas Honors College Colloquium IV (2,2,2). Prerequisites, admission to Douglas Honors College and DHC 323. Courses must be taken in sequence. Reading, discussing and writing about the Great Books of the modern period.

DHC 498. Special Topics (1-6).

DRAMA

Chair:

Richard Leinaweaver
McConnell 106

Professors:

Betty E. Evans, Dramatic Literature, Acting, Interpretation, Playwriting

A. James Hawkins, Children's Theater, Puppetry, Creative Dramatics

Richard E. Leinaweaver, Acting, Directing

Assistant Professors:

Philip Signorelli, Makeup, Costume Design and Technology
Mark Zetterberg, Scenic and Lighting Design, Technical Direction

The drama program provides students with academic and craft courses in theatre arts, and practicum experiences in theatrical productions as actors, directors, managers, designers, and technicians. Students are prepared for careers as teachers and practitioners of the theatrical arts. The program also serves general interest purposes for students majoring in other disciplines.

Bachelor Of Arts

General Major

I. Required Courses

	Credits
DR 107, Introduction to Drama	5
DR 166, Theory of Play Production	4
DR 242, Voice I	4
DR 267, Scene Technology	4
DR 269, Basic Acting Techniques	4
DR 293, 393, 493, Theatre Production Laboratory	9
DR 329, Directing and Producing the Play	5
DR 363.1, History of Theatre	4
DR 373, American Drama	4
DR 495, Senior Project	2-6

Total 45-49

II. Area of Emphasis; A minimum of 19 credits from one of the following areas:

A. Acting and Directing

DR 252, Stage Movement	4
DR 342, Voice II	4
DR 369, Advanced Acting	4
DR 429, Advanced Directing	3
DR 430, Stage Management	4

DR 466, Reader's Theatre	4
DR 469, Acting Styles	4

B. Design/Technical Theatre

DR 261, Costume Technology	4
DR 361, Costume Design	4
DR 366, Elements of Theatre Design and Rendering Techniques	4
DR 368, Stage Lighting	4
DR 461, Advanced Costume Design	4
DR 467, Scenic Design	5
DR 468, Lighting Design	4

C. Youth Drama

DR 207, Introduction to Children's Drama	3
DR 312, Creative Dramatics in School and Leisure	4
DR 384, Puppetry	4
DR 473, Children's Theatre	4
DR 484, Advanced Puppetry	4

III. Approved Electives

Drama or related courses, two of which will be dramatic literature courses, to bring total to 66 credits. Electives must be approved by advisor before taking the courses.

Total 66

Teaching Major — Secondary

A student should have a certifiable minor in English, communication, language arts, or music.

Credits

DR 107, Introduction to Drama	5
DR 166, Theory of Play Production	4
DR 242, Voice I	4
DR 267, Scene Technology	4
DR 269, Basic Acting Techniques	4
DR 270, Theatrical Makeup	3
DR 293, 393, 493, Theatre Production Laboratory	9
DR 312, Creative Dramatics	4
DR 329, Directing and Producing the Play	5
DR 363, Theatre History OR	
DR 373, American Drama	4
DR 428, Drama in the Secondary Schools	4
DR 495, Senior Project	2-6

Total 52-56

Drama Minor — Secondary

Credits

DR 107, Introduction to Drama	5
DR 166, Theory of Play Production	4
DR 269, Basic Acting Techniques	4
DR 312, Creative Dramatics	4
DR 329, Directing and Producing the Play	5
DR 428, Drama in the Secondary School OR	

One dramatic literature course from the following:

DR 371, Greek and Roman Drama	4
DR 373, American Drama	4
DR 381, British Drama	4
DR 470, Contemporary Drama	4

ENG 361 OR 362, Shakespeare4

Total 26

Undergraduate Courses

DR 107. Introduction to Drama (5) FWSp. Elements, forms, styles, content, and production of plays representing specific periods of occidental drama. Participation in production work is required.

DR 166. Theory of Play Production (4). Theoretical examination of methodology, responsibilities and techniques of preparing works for production. Communications, collaboration and resources of play producing organizations. Participation in production work is required. Same as DR 266. Student may not receive credit for both.

DR 200, 300, 400. Rehearsal and Performance (1-2) FWSp. Open to all students participating in dramatic productions. May be repeated up to 12 credits among the three listings. Grade will be S or U.

DR 207. Introduction to Children's Drama (3). Prerequisite, DR 107 or permission of instructor. History and aesthetics of children's drama; includes storytelling, improvisational theatre, production techniques, touring theatre, and puppetry. Appropriate for students in education, leisure services, and theatre.

DR 242. Voice I (4). Explores principles of vocal production, relaxation, support, resonance, range and articulation.

DR 243. Interpretive Reading (4) FWSp. Improving voice articulation and projection and practice in reading aloud prose, poetry and drama. Same as COM 243. Students may not receive credit for both.

DR 252. Stage Movement (4). Basic physical skills and movement, increasing strength and flexibility. Physical improvisation and pantomime; stage combat.

DR 261. Costume Technology (4). Basic theory and extended study of costume construction and fabrication for the theatre. Emphasis on theatrical alterations, patterning, millinery, foam, making and adapting accessories, dyeing and aging costumes for the stage.

DR 267. Scene Technology (4). Prerequisites, DR 166 or permission of instructor. Scene construction, rigging, painting and shifting techniques. Participation in production work is required.

DR 269. Basic Acting Techniques (4). Theory and practice of the essentials of the craft.

DR 270. Theatrical Makeup (3). Prerequisite, DR 107 or permission of instructor. The history, functions, materials and techniques of makeup as a theatrical art. Production application required.

DR 293, 393, 493. Theatre Production Laboratory (1,1,1). Prerequisite, permission of instructor. Practical experience in all aspects of theatre production to better prepare for career opportunities. Grade will be S or U. Each may be repeated for a total of three credits.

DR 298. Special Topics (1-6).

DR 310. Stage Dance (2). Study and directed practice of individual and group dance in modern musical and opera productions. Open to all students participating in dramatic productions. Same as PE 310. Students may not receive credit for both.

DR 312. Creative Dramatics in School and Leisure (4). Theory and practice of dramatic improvisation as a stimulus for learning and creative recreation. Focus on exploratory drama for language acquisition and social interaction.

DR 329. Directing and Producing the Play (5). Prerequisite, DR 107 or permission of instructor. Basic theories and fundamentals of directing and producing the play.

DR 342. Voice II (4). Prerequisite, DR 242. The actor's use of the voice: phonetics, scansion, phrasing, character voice and dialects.

DR 360. Stage Management (4). Prerequisite, permission of instructor. Techniques, communication methodology, resources, practices and technical training for the stage manager. Same as DR 430. Student may not receive credit for both.

DR 361. Costume Design (4). Prerequisite, DR 261 or permission. Basic principles of design related to theatrical costumes. The role of the costume designer in planning and developing a sketch from the initial reading of the script, research, production meetings, and rendering techniques.

DR 363.1. History of Theatre (4) F. Prerequisite, DR 107 or permission of instructor. From primitive origins to the Elizabethan Era.

DR 363.2. History of Theatre (4) W. Prerequisite, DR 107 or permission of instructor. From the Elizabethan period to the modern with the exception of American theatre.

DR 363.3. American Theatre History (4) Sp. Prerequisite, DR 107 or permission of instructor. From the Colonial period to the present.

DR 366. Elements of Theatre Design and Rendering Techniques (4). Prerequisite, permission of instructor. Study of line, color, movement, texture, mass and proportion in theatre design and conceptualization. Rendering techniques for stage design in a wide range of media.

DR 368. Stage Lighting (4). Prerequisite, DR 166 or permission of instructor. Instruments, color media, electricity, intensity control, optics, drafting, hookups, safety and methods for lighting in the theatre. Participation in production work is required.

DR 369. Advanced Acting Technique (4). Prerequisites, DR 107 and DR 269 or permission of instructor. Character interpretation through scenes and script analysis.

DR 371. Greek and Roman Drama (4). Prerequisite, DR 107 or permission of instructor. Major playwrights and plays related to historical and social trends.

DR 373. American Drama (4). Prerequisite, DR 107 or permission of instructor. Major works, economic, sociological and academic influences on the playwrights.

DR 381. British Drama (4). Prerequisite, DR 107 or permission of instructor. Origins to present. Same as ENG 381. Students may not receive credit for both.

DR 384. Puppetry (4) F. Prerequisite, DR 107 or permission of instructor. Survey of puppetry principles and their application to the classroom, recreational facility and theatre. Production techniques. Analysis of literature adaptable to theatre form.

DR 398. Special Topics (1-6).

DR 410. Playwriting (4). Prerequisite, DR 107 or permission of instructor. Fundamentals and practice in dramatic writing techniques and styles.

DR 420. Teaching Communication and Drama in the Elementary School (3). Exploration of interpersonal communication and children's drama in the development of verbal and non-verbal language skills. Same as COM 420. Students may not receive credit for both.

DR 428. Drama in the Secondary School (4). Prerequisite, permission of instructor. Theatre appreciation, play production and curriculum development in the secondary school. Play selection, standards and theatre criticism.

DR 429. Advanced Directing (3). Prerequisites, DR 329 and permission of instructor. Script study emphasizing the specific preparations and decisions (artistic and logistical) involved in directing a play. Culminates in one public performance produced by the students enrolled in the class.

DR 452. History of Fashion (5). Historical changes in fashion and costume design from Egyptian period through Eastern civilization to present. Social, political and religious influences on fashions. Same as HOCT 452. Students may not receive credit for both.

DR 460. Theatre Management (4). Prerequisite, DR 107. Organization, policies and practices of theatre and arts administration. Includes study of purchasing, staffing, equipping, promoting, grant writing and audience development. Same as DR 330. Student may not receive credit for both.

DR 461. Advanced Costume Design (4). Prerequisite, DR 361. DR 366 or equivalent recommended. Study, research, and practice in advanced concepts of costume theory, techniques and style. Student projects based on demands of individual plays and visualization of costumes for specific characters. Advanced rendering techniques will be emphasized. Same as DR 471. Student may not receive credit for both.

DR 466. Reader's Theatre (4). Prerequisite, DR 107 or permission of instructor. Preparation and performance of various types of scripts suitable to this genre.

DR 467. Scenic Design (5). Prerequisite, DR 267. DR 366 or equivalent strongly recommended. Study, research, practice and applied use of scenic design techniques and theory. Same as DR 467. Student may not receive credit for both.

DR 468. Lighting Design (4). Prerequisite, DR 368 or permission of instructor. DR 366 or equivalent is strongly recommended. Conceptualization, design and application of theatrical lighting using modern stage lighting practices.

DR 469. Acting Styles (4). Prerequisites, DR 107 and DR 269 or consent of instructor. Styles and techniques of historical periods, e.g. Greek, Elizabethan, Restoration, etc.

DR 470. Contemporary Drama (4). Prerequisite, DR 107 or permission of instructor.

DR 473. Children's Theatre (4). Prerequisite, DR 107 or permission of instructor. Elements of creating and producing the theatre event for the child audience. Play production for children, improvisation in playwriting and story theatre.

DR 484. Advanced Puppetry (4) Sp. Prerequisite, DR 107 and DR 384 or permission of instructor. Playwriting and production of puppet plays for adults and children, culminating in actual performances.

DR 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

DR 491. Workshop (1-6).

DR 492. Practicum in Producing and Touring Theatre (3, 6, or 12.) Prerequisite, permission of the instructor. Lecture, demonstration, and participation in acting and producing techniques and their application in the touring of a theatre play.

DR 495. Senior Project (2, 4, or 6). Prerequisite, permission of department chair. Senior students are required to direct, design or create a theatrical production or present a piece of research, appropriate to the area of emphasis of their major.

DR 496. Individual Study (1-6). Prerequisite, DR 107 or permission of instructor.

DR 498. Special Topics (1-6).

DR 499. Seminar (1-5).

ECONOMICS

Chair:

Donald J. Cocheba
Farrell Hall 320

Professors:

Robert J. Carbaugh
Donald J. Cocheba
Wolfgang W. Franz
W. Clair Lillard
Richard S. Mack
Badiul A. Majumdar, Extended Degree Centers

Associate Professor:

Peter J. Saunders

Assistant Professors:

David W. Hedrick
Stephen D. Smith, Extended Degree Centers

Positions of responsibility in today's world are usually held by individuals who have the capacity to analyze complex problems and make intelligent decisions. The study of economics will help students to learn how to think logically and use the tools of the economic profession to analyze "real world" problems and opportunities. In addition to preparation for business and government agency employment, an economics major is excellent preparation for law schools, master's of business administration programs and programs in both economics and agricultural economics. The economics department offers a bachelor of science degree in economics with specializations in applied economics, operations analysis, and general economics.

Honors in Economics

The economics faculty offers an honors program to stimulate and challenge students to high levels of academic achievement. Interested students should consult with the economics chairperson.

Transfer Credits

Equivalent lower division (100-200 level) courses may be transferred toward meeting the pre-admission requirements for any B.S. degree in the school of business and economics.

Upper division (300-400 level) courses may be transferred toward meeting the major requirements only with the approval of the department chair and the school dean or designee.

Transfer students earning fewer than 45 quarter credits in their major at CWU must receive approval from the school dean prior to graduation.

Service to Other Majors

Students majoring outside the school of business and economics who are required to take courses in this school for either their major or minor will be eligible to enroll on a space available basis. These students will be given priority over other non-school majors wishing to enroll in courses.

Admission Requirements

Students must apply and be admitted to the major prior to

beginning 300-400 level courses in the school of business and economics. At the time of application all 200 level core requirements should be substantially completed. Application forms are available in the department offices. The completed form must be accompanied by a current credit evaluation from the office of the registrar.

Admission shall be based on grades earned in the following sophomore (200) level courses. ENG 101 and ENG 102 must also be completed before admission.

A. Pre-admission Requirements

ECON 201, Principles of Economics Micro.....	5
ECON 202, Principles of Economics Macro.....	5
OMIS 221, Business Statistics (1)	5

Subtotal 15

(1) Prerequisite, ADOM 202B and MATH 130.1

A cumulative grade point average of 2.25 in the above courses must be achieved with a minimum grade of "C-" (1.70) in each course. The credit/no credit option will not be accepted for any of these courses. The applicant must have earned a minimum cumulative GPA of 2.00 in all collegiate study. These criteria also apply to equivalent courses transferred from other institutions.

Students who have met all the above requirements will be admitted unless the number of eligible applicants exceeds available space. In that case, acceptance will be competitive, based on a selection index. Students who have not met all of the above requirements may be admitted conditionally by permission of the school dean or designee.

Bachelor of Science Major

Coursework counting towards the major cannot be taken credit/no credit by economics majors. Double majors are available. Interested students should consult with their advisor or the department chair for details prior to enrolling.

Applied Economics

This specialization is for students with an interest in both public and private sector employment. Highly recommended supporting courses include: MATH 170 and FIN 370. The applied economics major can be used as part of a double major. See your advisor for details.

B. Core Requirements

ECON 301, Intermediate Microeconomic Analysis.....	5
ECON 302, Intermediate Macroeconomic Analysis	5
ECON 452, Managerial Economics	5
ACCT 251, Financial Accounting I.....	5
ACCT 253, Managerial Accounting OR	
ACCT 302, Managerial Accounting Analysis.....	5

Subtotal 25

C. Non-economics Requirement

Credits

One of the following:
ADOM 385 (5)

COM 345 (4)	
ENG 310 (4)	
Subtotal	4-5

D. Electives (with prior approval of economics advisor)

A minimum of 25 credits from the following list:

300-400 level Economics courses (except ECON 396, ECON 490, ECON 496)	20
300-400 level Accounting, Business Administration and Economics courses	5
Subtotal	25
Total	69-70

General Economics

With appropriate quantitative courses, this specialization is recommended for students desiring an economics major to prepare them for graduate programs in economics and agricultural economics. Highly recommended courses: MATH 172.1, MATH 172.2, MATH 265 and FIN 370.

B. Core Requirements	Credits
ECON 301, Intermediate Microeconomic Analysis	5
ECON 302, Intermediate Macroeconomic Analysis	5
ECON 310, International Economics	5
ECON 324, Introduction to Econometrics	5
ECON 330, Money and Banking	5
ECON 332, Public Finance	5
ECON 426, Economic Research	5
Subtotal	35

C. Non-economics Requirement

CPSC 110, Fundamentals of Computer Science I	4
One of the following:	
ADOM 385 (5)	
COM 345 (4)	
ENG 310 (4)	4-5
Subtotal	8-9

D. Electives (with prior approval of economics advisor)

A minimum of 10 credits from the following list:	
One accounting course	
300-400 level economics courses	10
TOTAL	68-69

Operations Analysis

This specialization is recommended for students with an interest in the application of quantitative techniques to the analysis of complex problems and opportunities in economics and government. A minor in computer science is recommended and MATH 172.1, MATH 172.2 and MATH 265 are recommended as supporting courses.

B. Core Requirements	Credits
ACCT 251, Principles of Accounting I	5
ACCT 253, Managerial Accounting OR	
ACCT 302, Advanced Managerial Accounting	5
ECON 301, Intermediate Microeconomic Analysis	5
ECON 302, Intermediate Macroeconomic Analysis	5
ECON 324, Introduction to Econometrics	5
ECON 426, Economic Research	5
ECON 452, Managerial Economics	5
FIN 370, Introductory Financial Management	5
OMIS 323, Operations Management (2)	5
OMIS 324, Advanced Operations Management	5
OMIS 410, Computer Applications in Operations and Research	5
Subtotal	55

(2) Prerequisite: MATH 170 or MATH 172.1

C. Non-economics Requirement	Credits
CPSC 110, Fundamentals of Computer Science	4
One of the following:	
ADOM 385 (5)	
COM 345 (4)	
ENG 310 (4)	4-5
Subtotal	8-9

D. Electives (with prior approval of Economics advisor)

A minimum of 10 credits from the following list:	
OMIS 435	
300-400 level Economics courses	10
Total	88-89

Economics Minor I

This minor is designed to accompany the business administration and accounting majors.

Required:	Credits
A minimum of 10 credits from the following list:	
ECON 301, Intermediate Microeconomic Analysis	5
ECON 302, Intermediate Macroeconomic Analysis	5
ECON 310, International Economics	5
ECON 330, Money and Banking	5
ECON 332, Public Finance	5-10

Electives:	
A minimum of 10 credits from the above list or other 300-400 level economics courses with approval of the economics advisor	
	10
Total	20

Economics Minor II

This minor is designed for all majors with the exception of business administration and accounting. Prior approval of electives by the economics advisor is required.

School of Business and Economics

Required:	Credits
ECON 201, Principles of Economics Micro.....	5
ECON 202, Principles of Economics Macro.....	5
Electives:	
A minimum of 5 credits from the following list:	
ECON 301, ECON 302, ECON 310, ECON 330, ECON 332.....	5
A minimum of 5 additional credits from the above list or other 300-400 level economics courses with approval of the economics advisor	
	5
Total	20

Economics Endorsement

Advisor: Hedrick

Designed for students preparing to teach economics at the junior high and high school level. Qualifies for supportive endorsement on the teaching certificate. See your economics advisor early to avoid course sequencing problems.

Required	Credits
ECON 201, Principles of Economics Micro.....	5
ECON 202, Principles of Economics Macro.....	5
ECON 340, Development of Economic Thought	5
Select at least 10 credits from the following 5-credit courses.....	10
ECON 301, Intermediate Microeconomic Analysis	
ECON 302, Intermediate Macroeconomic Analysis	
ECON 310, International Economics	
ECON 330, Money and Banking	
ECON 332, Public Finance	
ECON 355, Economics of Labor	
ECON 356, Government and Business	
Total	25

Courses

ECON 101. Economic Issues (5). For the student who desires a general knowledge of economics. Applications of economic principles to current social and political problems. ECON 101 cannot be substituted for either ECON 201 or 202.

ECON 201. Principles of Economics Micro (5). The function of the market system in the allocation of scarce resources, determination of prices and output in competitive and monopolistic markets, and distribution of income. The role of government in the market economy.

ECON 202. Principles of Economics Macro (5). Prerequisite, ECON 201 is normally taken before ECON 202, but may be taken concurrently. Organization of the U.S. economy, structure and role of the monetary system, problems of employment and inflation, overall impact of government spending and taxation on the economy. Economic growth, world economic problems and a comparison of capitalism with other economic systems.

ECON 298. Special Topics (1-6).

ECON 301. Intermediate Microeconomic Analysis (5). Prerequisite, ECON 201. Markets as mechanisms for organizing and directing human activities; production of goods and services; the allocation of labor, capital, and natural resources to various productive activities; and the distribution of income. Relationship between microeconomic theory and contemporary thought, practical problems and government policies.

ECON 302. Intermediate Macroeconomic Analysis (5). Prerequisites, ECON 201 and 202. Analysis and measurement of U.S. national income and product accounts; determinants of income, employment and prices under the Classical and Keynesian systems; problems of inflation, economic growth and stabilization policy.

ECON 310. International Economics (5). Prerequisite, ECON 202. International trade and monetary theories; analyzing economic relationships and adjustments within and among trading nations; specialization, tariffs, balance of payments, and international monetary systems.

ECON 324. Introduction to Econometrics (5). Prerequisites, ECON 201 and OMIS 221 or permission. Computer application of statistical and mathematical techniques to business and economic problems.

ECON 330. Money and Banking (5). Prerequisite, ECON 202. The supply of money and the Federal Reserve System; financial intermediaries and financial instruments; macroeconomic theory and policy.

ECON 332. Public Finance (5). Prerequisite, ECON 202. Rationale of public sector; effect of government expenditure and taxation on resource allocation and income distribution; structure of federal, state and local tax systems. Emphasis is on current policy problems.

ECON 340. Development of Economic Thought (5). Prerequisite, ECON 202. The historical development of economic concepts and their classification into schools of thought. Contributions to economics from medieval to modern time and relationships among various economic, social and political philosophies.

ECON 346. Comparative Economic Systems (5). Prerequisite, any economics course. Compares the capitalist market economy to the centrally planned system and considers a variety of mixed systems. Economic structure and performance of select countries; emphasizes economies in transition and the Pacific Rim.

ECON 348. Economic History of the United States (5). Prerequisite, any economics course or permission. Economic factors in the development of the American nation, from the European background to the present. Same as HIST 348. Student may not receive credit for both.

ECON 355. Economics of Labor (5). Prerequisite, ECON 202. Economics of the labor market, labor, productivity, investment in human capital, manpower problems and public policy.

ECON 356. Government and Business (5). The development and current status of government-business relations in the United States. Public policy toward business and government powers and private rights; regulation of competition and monopoly; and government aids and public enterprise.

ECON 361. Agricultural Economics (5). Prerequisite, ECON 101 or 201. Application of basic economic concepts to farm (ranch) management and marketing. Relationship between the agricultural sector and the Federal government, and the role of agribusiness firms in processing and distributing agricultural products.

ECON 388. Economic History of Europe Since 1760 (3-5). The Industrial Revolution in Great Britain and on the Continent, its resultant social and cultural effects, the rise of trade unionism, socialism, anarchism, imperialism; economics of war in the 20th century, and the rise of the welfare state. Same as HIST 388. Student may not receive credit for both.

ECON 398. Special Topics (1-6).

ECON 412. International Economic Development (5). Prerequisite, ECON 202. Economic problems, issues, and policy decisions facing developing nations including growth theory, capital development and rates of progress in different countries.

ECON 426. Economic Research (5). Prerequisites, ECON 202, OMIS 221 and CPSC 110 or ADOM 202B. Designed to familiarize the student with a systematic general procedure for utilizing economic principles as a frame of reference in conceptualizing, designing, and carrying out analyses of problems and opportunities.

ECON 452. Managerial Economics (5). Prerequisites, ADOM 202B, ECON 202 and OMIS 221. Application of microeconomic theories to managerial decisions and planning utilizing the case method.

ECON 460. Contemporary Economic Problems (1-5). An examination of selected current economic issues concerning the U.S. and world economies.

ECON 462. Economics of Energy, Resources and Environment (5). Prerequisite, ECON 101 or 201. A study of economic decision-making related to issues of pollution, energy, resource use, and external effects. Benefit/cost analysis, cost effectiveness, and other economic methods.

ECON 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

ECON 496. Individual Study (1-6). Prerequisite, permission of instructor.

ECON 498. Special Topics (1-6).

ECON 499. Seminar (1-5).

The following courses are on reserve and may be offered subject to program needs. ECON 342 Evaluation of American Business Enterprise (5), ECON 422 Applied Operations Analysis (4); ECON 434 State and Local Government Finance (5); ECON 436 Public Resource Management (4); ECON 464 Pacific Northwest Economics (5).

1923

Two honors clubs formed: The "Spear and Grail," open to those whose scholastic standing was in the top 15 percent; and The "Herodoteans," the history honors club.

1925

Completion of the new library (now Smyser Hall).

1926

Completion of Sue Lombard Dormitory and the first unit of Munson Hall.

1926

Two-year teacher training program became requisite to awarding of a teaching certificate.

1926

Athletic teams adopt the name "Wild Cats".

1927

Name of the school newspaper changed to the Campus Crier.

1928

Recommendation by Trustees of the three normal schools that teaching certificates be issued for a minimum of three years training.

EDUCATION

Chair:

Dale LeFevre
Black Hall 201

Professors:

Jimmie R. Applegate, Ph.D., Social Studies, Curriculum and Instruction
D. Daryl Basler, Ph.D., Mathematics
Donald E. Black, Ed.D., Industrial and Vocational Education
Franklin D. Carlson, Ed.D., Social Studies, Curriculum and Instruction
Calvin G. Greetsinger, Ed.D., Elementary Education, Language Arts, Reading
Dale LeFevre, Ed.D., Special Education
Glenn A. Madsen, Ed.D., Special Education
Dale E. Otto, Ph.D., Early Childhood Education and TESL/Bilingual Studies Administration, Child Language Acquisition and Bilingualism, Child Care Operation and Supervision, Teacher Preparation
Conrad H. Potter, Ed.D., Administration and Finance
Samuel P. Rust Jr., Ed.D., Special Education
Donald M. Schliesman, Ed.D., Administration and Supervision
Dorothy H. Sheldon, Ed.D., Elementary Education, Educational Administration
Dan A Unruh, Ed.D., Curriculum and Instruction
Timothy W. Young, Ph.D., Curriculum and Instruction

Associate Professors:

Minerva L. Caples, Ed.D., Curriculum and Instruction, Bilingual Education
Ernest Chan-Nui, Ed.D., School Administration
Madalon Lalley, Ed.D., Curriculum, Instruction, and Supervision
Dennis L. Martinen, Ed.D., Mathematics, Physics
Robert L. Myers, Ed.D., Special Education
Mary Jean Potter, Ed.D., Elementary Education
Neil A. Roberts, Ed.D., Elementary Education, Language Arts, Reading
Joe H. Schomer, Ed.D., Elementary Education, Language Arts, Reading
David Shorr, Ph.D., Child Development, Language and Cognition, Research
Arne Sippola, Ph.D., Reading, Language Arts
Larry A. Wald, Ed.D., Educational Administration
Randall R. Wallace, Ph.D., Early Childhood Education

Assistant Professors:

Osman Alawiye, Ph.D., Curriculum and Instruction
Andrea Bowman, Ed.D., Curriculum and Instruction
Linda D. Douglas, Ed.D., Special Education
Virginia E. Durgan, M.S., Early Childhood Education, Elementary Education
Parker Fawson, Ed.D., Reading Education
Daniel C. Fennerty, M.Ed., Special Education
Nancy Jurenka, Ed.D., Reading Education
Jose Licano-Palma, Ph.D., Secondary Education
Susan Madley, Ph.D., Education and Psychology
Debra J. Prigge, M.Ed., Special Education
Candace Schulhauser, Ph.D., Reading and Language Arts
Henry Williams, Ed.D., Administration Education

D. Gail Wilson, M.A., Early Childhood Education, Elementary Education
Marcia Zack, Ph.D., Curriculum and Instruction, Bilingual Education

The Undergraduate Program

The undergraduate program in the department of education, in close cooperation with other departments, prepares students for the initial teaching certificate necessary for teaching in elementary, middle, or high schools. Majors within the department include: early childhood education, elementary education, bilingual/intercultural, and special education. Minors include: bilingual education, early childhood education, reading, teaching English as a second language, and special education.

Professional Education Program Options

Alternate professional education programs have been developed for students preparing to teach. Students preparing to teach must complete one of the three following options:

Option I.

Option I is a campus-centered approach to teacher preparation and is available to any student who is a sophomore or above. Students should plan to enter Option I during the second or third quarter of the sophomore year, however students may begin any quarter, including summer, as long as space allows. Since ED. 300, Teaching: An Introductory Field Experience, is offered only in August-September, students must sign up for ED. 300 through the office of student teaching prior to the junior year. Students with conflicts during the last of August and September should take Option II.

Students in Option I must meet the course requirements listed below.

Option II.

Option II is a field-oriented approach to teacher preparation which requires the student to be off campus two quarters. It is available to students who are sophomores or above. A student can begin this program any quarter except summer. The initial 16 credits, a full quarter, will be completed at one of the field centers. This 16 credit block consists of: ED. 300.1, (4); ED. 392, (5); Ed. 431, (3); and PSY 314, (4). The student then returns to campus to take the other courses in the program: PSY. 315, (4); ED. 316, (3); ED. 311 (5); ED. 444, (2); SPED. 301 (3). The second quarter off campus is the student teaching experience. SPED 301, HIST 301 or ED 424 may be taken prior to first quarter of Option II.

Option III.

The department makes provisions for a limited number of students to follow an individualized plan of study which does not fall within the requirements of the approved options. To formalize such a program, interested students should contact the department chair to determine the appropriateness of the proposal. If tentatively approved, the chair appoints a faculty advisor who works with the student to develop a plan of study which is submitted to the department chair for final approval. The proposal will contain at least the following:

School of Professional Studies

1. A general description of the proposal together with evidence that the student is qualified to undertake such a program. This proposal should show that upon completion of the program the student will have achieved the same objectives required in Option I or II.
2. A detailed outline of the course of study.
3. A written supporting statement from the faculty advisor.

This option is intended for students who have had extensive experience in the classroom and are highly motivated. It is not intended as a means of giving a student a certificate for past experience.

Course Requirements for Options I and II

Prerequisite (Career Decision Making)

At least one-half year or equivalent time as an instructional aide in a state approved K-12 school, OR

ED 301, Teaching: An Orientation	3
OR	
ED 392, Practicum	5

Total 0-5

Core Courses

Credits

ED 300 OR	
ED 300.1, Teaching: An Introductory Field Experience	4
PSY 314, Human Development and the Learner	4
PSY 315, Psychology for the Classroom	4
(Prerequisite: Admission to Teacher Education and PSY 314)	
SPED 301, Introduction to Exceptional Students	4
ED 316, Instructional Media, Methods and Materials	3
(Prerequisite: Admission to Teacher Education and PSY 314)	
ED 311, Teaching: Curriculum, Methods, and Materials	
(Prerequisite: Admission to Teacher Education and	
PSY 314	5
ED 444, Educational Issues and Law	2
(Prerequisite: Admission to Teacher Education and PSY 314)	
ED 442, Student Teaching	16
(Prerequisite: ED 300 and 311)	

Total 42

Socio-Cultural Requirement*

Select one course from the following:

ANTH 130, Introduction to Cultural Anthropology	5
ED 431, Intercultural Education	3
ETS 101, Ethnic Awareness	4
SOC 265, Minority Groups	5

Total 3-5

* This requirement may have been met at a community college. Students should check their credit evaluation.

Special Requirements

Endorsement for elementary or social sciences:

HIST 301, Pacific Northwest History	3
---	---

Endorsement for secondary teaching:

ED 424, Reading in the Content Fields	3
---	---

Total 3-6

Total 48-58

Student Teaching

All students complete a minimum of 16 quarter credits of student teaching on an all-day basis for one quarter's duration. A student may elect to take more than the minimum number of credits by enrolling in a second quarter student teaching assignment. In order to qualify for certification to teach in more than one specialization, students must meet all requirements as listed in the university catalog for each specialization. Students must demonstrate their competence by student teaching a full quarter in each specialization for which they wish to be endorsed.

All applications for student teaching must be made through the department of education, office of student teaching, at the time announced.

Students are assigned to student teaching in accordance with the following regulations:

1. Admission to the teacher education program must be achieved at least one full quarter prior to being assigned to student teaching. (See regulations on admission to the teacher education program, p. 41.) Students transferring to the University or the teacher education program after having completed at least seven quarters of college work may have this time schedule modified. (See the department of education and the appropriate major department.)
2. All prerequisites stated in the course description for student teaching must be completed satisfactorily prior to beginning student teaching. A maximum of 16 credits may be carried during the quarter of student teaching.
3. One quarter in residence at the University is required before a student may be assigned to student teaching unless an exception is approved by the chair of the department of education.
4. Students must be endorsed for student teaching by their major and minor departments. The endorsement requires at least 75 percent of the major and minor areas completed. See the major and minor department for advisement.
5. Students transferring to the university must demonstrate their competencies to their respective faculties in order to be endorsed for student teaching in their major and minor fields.
6. Most student teaching assignments will be made at centers outside Kittitas County. Students should plan their programs well in advance so that they will be ready to finance one quarter of work away from the campus (outside Kittitas County) regardless of marital status, campus commitments, or work opportunities.
7. Insofar as possible, student requests regarding choice of student teaching centers and grade levels will be given preference; they should, however, be prepared to accept assignment at the center designated by the director of student teaching.
8. Experienced teachers may have the student teaching requirement modified. Decisions regarding modification must be approved by the chair of the department of education.
9. Student teachers may not enroll in additional course work during their student teaching experience.

School of Professional Studies

Preparation Requirements for Secondary School Level

Students preparing to teach at the secondary level (junior and senior high school) must complete a major concentration in a subject area in which a full-time teaching assignment can normally be expected (see list of appropriate majors on p. 42.) Majors of 60 or more credits do not require an accompanying minor concentration. Note that certain majors must be accompanied by a second major in which a teaching assignment can be expected. These are marked with a double asterisk. Students preparing to teach on the secondary level should seek advisement from the appropriate academic department as well as from the department of education.

Preparation Requirements for Elementary School Level

Students preparing to teach at the elementary school level must complete one of the four programs listed below.

Endorsement for student teaching at the elementary level requires completion of 75 percent of an elementary program which must include ED 308, 309, 323, and 420.

Students must apply for admission, be accepted, and assigned an advisor from the department of education before beginning their elementary school preparation.

Students pursuing elementary school preparation programs receive their endorsement for teaching from the department of education.

Students seeking teaching credentials or planning post-bachelors degree study in education should contact the department of education, Black Hall, for advisement.

Program I

Pursue a four-year interdisciplinary program of preparation outlined below which fulfills the requirements for graduation. Students electing this program must complete state certification requirements regarding a major area of study in the continuing certificate program. This program is not intended, nor appropriate, for transfer students from Washington community colleges holding an associate of arts degree.

Literature and Language	Credits
ENG 105 OR Humanities 175	4 or 5
COM 110	3
ENG 101, 102, 301	9
ENG 320	4
ENG 342	4
Natural Sciences*	
BISC 211	2
BISC 212	4
BISC 213	4
CHEM 105	5
PHYS 105	5
Mathematics*	
MATH 164.1	5
MATH 250	4
MATH 425	3

Social Sciences

HIST 102, 103, or 144 OR POSC 210	5
Other social or behavioral sciences (ECON, SOC, GEOG, ANTH)	10
HIST 301	3

Music

MUS 322*	2
Humanities	5
Select from the list of courses on p. 37 under II A.2.	

Other

HED 101	3
PE 345	3
PE Activities	3

Total 93

Professional Education

Elementary School Subjects Preparation

ED 308	3
ED 309	5
ED 323	3
ED 420	4
ED 421 OR ENG 422**	3
SOCS 420	3
MUS 326	3
ART 330	3
PE 334	3
SCED 322	3

Total 33

Teacher Certification Program

(Options I, II, III)

ED 300 OR 300.1	4
ED 301 OR 392	3 or 5
PSY 314	4
PSY 315	4
ED 311	5
ED 316	3
ED 444	2
SPED 301	4
ED 442	16
One course from the following:	
ED 431 (3)	
ANTH 130 (5)	
ETS 101 (4)	
SOC 265 (5)	3 to 5

Total 48-52

Approved Electives

The remainder of the individual student's program will be determined with advice from designated elementary education program advisors2-6

Minimum Total 180

*Indicates that all or certain sections will be restricted to students in Program I.

School of Professional Studies

**Either ED 421, Teaching Children’s Literature (3), or ENG 422, Literature for the Middle School (3), may be taken depending upon the grade level the student is expecting to teach.

Program II

Pursue study of a major and a minor selected from the list of approved programs on page 42. (See single asterisk.)

Program III

Pursue study in a three-area program which includes at least 30 credits of a major, a minor, and the “Elementary School Professionalized Subjects” minor. The 30 credit area of the minor must be selected from the recommended list on page 42. (See single asterisk.) Students who elect this program are required to complete a major by the end of their continuing certificate program. (Note: the following majors CANNOT be used as 30 credit areas: early childhood education, fine arts major for elementary teachers, language arts major for elementary teachers, science-mathematics for elementary teachers, social science for elementary teachers.

The following guidelines are offered for students who choose this program:

- a. Select required courses in the major concentration rather than the electives.
- b. Select the lower division courses in the major concentration before moving to the upper division courses.
- c. Balance the 30 credits of the major concentration among the various sections if the major is divided into discrete areas.

Program IV

Pursue an Elementary Education major.

Students electing this major must also take an elementary academic minor from the recommended list of minor concentrations (p. 42).

Students electing this program must complete a minimum of 30 credits of an academic major in their continuing certificate program.

The Undergraduate Programs

Bachelor of Arts

Bilingual Intercultural Education Major for Elementary Teachers

The bilingual intercultural major for elementary teachers is intended to prepare people to teach in elementary level classrooms requiring knowledge and skills which address linguistic and cultural needs of Spanish-speaking children. Prior to admission to the teacher preparation program, students must demonstrate by examination, competence in comprehending, speaking, reading and writing Spanish according to standards set by the program director in consultation with the department of foreign languages. This major must be accompanied by the elementary school professionalized subjects minor. Students electing this program must complete a minimum of 30 credits of an academic major for continuing certification. For more information see an advisor in the education department.

Required Courses:

Credits

ENG/ANTH 180, Introduction to Linguistics OR	
ED 433, Educational Linguistics*	5
ED 434, Educational Principles and Second Language Instruction (ESL/SSL)	4
SPAN 300, Spanish for Bilingual School Personnel	3
SPAN 311, Spanish American Civilization and Culture OR	
SPAN 383, Spanish/English Contrastive Linguistics	3-4
ED 435, Bilingual Education in the Content Areas	4
ANTH 381, Language in Culture	4
SOC/ANTH 355, Culture and Personality	4
SOC 425, Sociology of Education	5
Cooperative Education 490**	1-5

Total 33-38

Select courses by advisement from at least two subfields listed below to bring major to a minimum of 45 credits.

Electives:

ENG 248, World Literature	4
ENG 320, English Grammar	4
ENG 413, Studies in Language	4
SPAN 311, Spanish-American Civilization and Culture	3
SPAN 383, Spanish/English Contrastive Linguistics	4
SPAN 458, Contemporary Spanish-American Novel	3
SPAN 459, Contemporary Spanish-American Poetry	3
SPAN 460, Advanced Grammar	3
SPAN 461, 462, Advanced Conversation and Composition	3
ANTH 107, General Anthropology OR	
ANTH 180, Introduction to Linguistics	5
SOC 210, Culture of Poverty	5
SOC 445, Social Inequality	5
ANTH 350, Applied Anthropology and Acculturation	4
ANTH 382, Descriptive Linguistics	4
ED 418, Reading and Linguistics	3
ED 431, Intercultural Education	3
ECE 312, Bilingual Education in Early Childhood	3
ECE 318, Culture and Curriculum	3
Electives	7-12

Total 45

*Recommended for those with classroom experience.

**Students should enroll under a course prefix most appropriate to the nature of the field experience.

**Bachelor of Arts in Education
Elementary Education Major**

Required Courses:

Credits

ED 308, Reading I	3
ED 309, Reading II	5
ED 323, Teaching of Elementary School Mathematics	3
ED 420, Teaching of Language Arts	4
ED 421, Teaching Children’s Literature OR	
ENG 422, Literature for the Middle School**	3
SCED 322, Science Education in the Elementary Classroom	3
SOSC 420, Methods and Materials in the Social Sciences -	
Elementary	3
ART 330, Art in the Elementary School	3

School of Professional Studies

MUS 326, Music in the Classroom	3
PE 334, Physical Education Activities for the Elementary School	3
HED 446, Health Education Curriculum for Elementary Teachers	3
Total	36

Nine credits of electives by advisement	9
Total	45

*Endorsement for student teaching requires completion of ED 308 and 309, 323 and 420.

**Either ED 421 or ENG 422 may be taken depending upon the grade level the student is expecting to teach.

Early Childhood Education Major

Students who elect the ECE major must also complete the professional education sequence and the elementary school professionalized subjects minor. ED 300 (September experience) and ED 442 (student teaching) will be taken at the pre-primary or primary level.

Students are advised to take ECE 292, 331, and 332 as the initial portion of their studies. Successful completion of ECE 493.1 is expected before student teaching. Exceptions may be granted by the ECE advisor in unusual circumstances. ECE 292 and 493.1 will be graded S or U.

Required	Credits
ECE 292, Assisting in the Child-Centered Classroom	5
ECE 331, Child Development	3
ECE 332, Theories in Child Development	3
ECE 333, ECE Curriculum: Pre-Kindergarten	3
ECE 334, ECE Curriculum: Kindergarten-Primary	3
ECE 448, Parent Involvement	3
ECE 493.1, Practicum in Early Childhood Education	12
ECE 499.1, Issues in Early Childhood Education	3
Total	35

ECE Elective coursework or other coursework approved by Division Head	10
Total	45

Special Education Major

The special education programs offered are specifically designed to prepare teachers for meeting the diverse tasks required in teaching students with handicapping conditions. Students electing special education teaching must follow one of the two plans outlined below and successfully complete an approved minor. SPED 301 must be taken prior to or concurrently with SPED 303.

Plan One

For students planning to earn a teaching certificate with special education K-12 endorsement.

Courses	Credits
SPED 303, Foundations of Special Education	3
SPED 410, Behavior Management and Precision Teaching for Exceptional Students	3
SPED 411, Assessment of Exceptional Students	3
SPED 412, Teaching Strategies for Exceptional Students	3
SPED 430, Curriculum and Materials for Exceptional Students	3
SPED 431, Program Management for Exceptional Students	3
SPED 432, Career Education for Exceptional Students	3
SPED 460, Parents, Paraprofessionals, Community Agencies and Exceptional Students	3
SPED 495, Practicum	15
SPED 499, Seminar	2
SPED Electives - Approved by Special Education Advisor	4
Total	45

Plan Two

For students planning to earn a teaching certificate with early childhood special education P-3 endorsement. Students selecting this minor must successfully complete the elementary education minor.

Courses	Credits
ECE 332, Theories in Child Development	3
SPED 302, Pre-School for the Handicapped	4
SPED 303, Foundations of Special Education	3
SPED 410, Behavior Management and Precision Teaching for Exceptional Students	3
SPED 411, Assessment of Exceptional Students	3
SPED 412, Teaching Strategies for Exceptional Students	3
SPED 426, The Language Disabled Child	3
SPED 430, Curriculum and Materials for Exceptional Students	3
SPED 431, Program Management for Exceptional Students	3
SPED 460, Parents, Paraprofessionals, Community Agencies and Exceptional Students	3
SPED 495, Practicum	10
SPED 499, Seminar	2
SPED Electives - Approved by Special Education Advisor	5
Total	48

Minors

Bilingual Education Minor for Elementary Teachers

A minor with on- and off-campus experiences especially designed to prepare teachers of culturally and linguistically different students. Demonstrated proficiency in speaking, reading, writing and comprehending the home language of limited English proficient school children is an exit requirement for students completing this minor. Proficiency in the home language is assessed by the foreign languages department. Students who lack this proficiency will be required to

School of Professional Studies

take additional coursework as determined by the foreign languages department. ED 309 is a prerequisite for entry into this minor. For more information see an advisor in the education department.

Courses	Credits
ENG/ANTH 180, Introduction to Linguistics	5
ED 418, Reading and Linguistics	3
ED 433, Educational Linguistics	5
ED 435, Bilingual Education in the Content Areas OR	
ECE 312, Bilingual Education in Early Childhood	3-4
ANTH 381, Language in Culture	4
ED 438, Teaching English as a Second Language	3
ED 492, Practicum*	5
Total	28-29

*Students who have documented experience working in educational settings with limited English proficient children, and who are familiar with the related minority community may be exempt from taking the maximum number of practicum course hours.

Early Childhood Education Minor

Students are expected to seek program advisement in planning the minor. The ECE minor has a child studies emphasis and is an approved minor for elementary education majors.

Required	Credits
ECE 292, Assisting in the Early Childhood Classroom	5
ECE 331, Child Development OR	
ECE 332, Theories in Child Development	3
ECE 333, ECE Curriculum: Pre-Kindergarten OR	
ECE 334, ECE Curriculum: Kindergarten	3
ECE 448, Parent Involvement	3
Select 6 credits (2 courses) from the following:	6
ECE 310, Infant Education	3
ECE 312, Bilingual Education OR	
ECE 318, Culture and Curriculum	3
ECE 354, Childhood Learning	3
ECE 415, Child Language Acquisition	3
ECE 421, Play in Childhood	3
ECE 432, Child Development Research	3
Approved Electives	4
Total	24

Elementary School Professionalized Subjects Minor

All students preparing to teach in regular self-contained classrooms in elementary school, except those pursuing the four-year interdisciplinary program or the elementary major, must complete the elementary school professionalized subjects minor.

Endorsement for student teaching requires completing 15 credits, including ED 308, 309, 323, and 420 and a GPA of 2.50 in this minor.

Credits

Take the following courses:

ED 308, Reading I	3
ED 309, Reading II	5
ED 323, Teaching of Elementary School Mathematics	3
ED 420, Teaching the Language Arts	4
ART 330, Art in the Elementary School	3
PE 334, Physical Education Activities for the Elementary	
School	3
MUS 326, Music in the Classroom	3
SCED 322, Science Education in the Elementary School	3
SOSC 420, Methods and Materials in the Social	
Sciences-Elementary	3
HED 446, Health Education Curriculum for Elementary	
Teachers	3
Total	33

Reading Minor

This minor incorporates campus and field experiences which are designed to prepare reading teachers and strengthen background preparation of elementary teachers. This minor is particularly well suited for students electing Program III of the elementary education program options. The minor should be commenced in the junior year.

Required Courses:

Credits

ED 410, Teaching Word Recognition Skills	3
ED 411, Teaching Comprehension and Study Skills	3
ED 412, Assessment of Reading Skills	3
ED 413, Methods and Materials for Reading Instruction	3
ED 424, Teaching Reading in Content Fields	3
ED 493, Reading Practicum	3
Electives: (Select a minimum of one course)	
ED 414, Teaching Reading in a Multi-cultural Setting	3
ED 415, Reading for the Gifted	3
ED 416, Strategies, Techniques and Materials for Teaching	
Reluctant Readers	3
ED 417, Reading Readiness and Beginning Reading	3
ED 418, Reading and Linguistics	3
Total	21*

*Either ED 421, Teaching Children's Literature (3), or ENG 422, Literature for the Middle School (3), is needed to be endorsed in reading by the state of Washington.

Special Education Minor - Teaching

Credits

SPED 301, Introduction to Exceptional Students	4
SPED 430, Curriculum for Exceptional Students	3
SPED 410, Behavior Management of Exceptional Students	3
SPED 412, Teaching Strategies for Exceptional Students	3
SPED 411, Assessment of Exceptional Students	3
Guided Electives in Special Education	4
Total	20

**Bachelor of Arts
Special Education Minor**

Courses	Credits
SPED 303, Foundations of Special Education	3
SPED 410, Behavior Management and Precision Teaching for Exceptional Students	3
SPED 411, Assessment of Exceptional Students.....	3
SPED 412, Teaching Strategies for Exceptional Students	3
SPED 430, Curriculum and Materials for Exceptional Students	3
SPED 431, Program Management for Exceptional Students	3
SPED 432, Career Education for Exceptional Students	3
SPED 460, Parents, Paraprofessionals, Community Agencies and Exceptional Students	3
SPED 499, Seminar	2
Total	26

Endorsement

Students who hold a current teaching certificate and are endorsed in other areas may earn endorsement in special education K-12 by successfully completing the above minor plus SPED 495. Students substantiating successful teaching experience as a certified teacher with special education students may have SPED 495 waived. See the special education division head for procedures.

**Teaching English as a Second Language (TESL)
Minor**

This minor in TESL is of utility to persons intending to teach in the public schools or in early childhood programs where students who speak a language other than English are enrolled. The TESL minor leads to endorsement at K-12 levels for Washington state teacher certification. The TESL minor also offers introductory preparation for persons intending to teach English in other countries. Students enrolling in this minor who have not completed the equivalent of one year of study of a foreign or second language at the high school or adult level will be required to do so prior to completing the minor. ANTH/ENG 180, Introduction to Linguistics or permission is required to enroll in ED 433, Educational Linguistics. For the student who has not had classroom experience with limited English proficient learners, the practicum will be separated into two experiences, to be completed at the initial and final portions of the student's course of study. For more information see an advisor in the education department.

Required:	Credits
ENG 320, English Grammar	4
ECE 415, Child Language Acquisition	3
ED 433, Educational Linguistics	5
ED 438, Teaching English as a Second Language	3
ED 439, Testing English as a Second Language	3
ED 492, Practicum	5
ECE 318, Language in Culture (4) OR ANTH 381, Culture and Curriculum (3)	3-4
Total	26-27

Departmental Honors

The eligibility requirements for admission into the education honors program include the following:

1. Junior and senior standing.
2. An overall GPA of 3.0.
3. Letters of recommendation from three persons including two members of the education faculty who have first-hand knowledge of student's academic course work and a faculty member of the applicant's major department.
4. A statement of the special activities to be undertaken with the approval of a member of the department of education willing to supervise the work to completion.

The student will pursue an individualized program over a period of three quarters and shall enroll each quarter for one quarter-hour credit of ED 496, Individual Study, with the professor approving the program. The work should culminate in a paper commensurate with the highest standards of the institution.

Application for consideration is made to the Department of Education, Attention: Director of Education Honors Program.

Education Courses

ED 100. Improvement of Basic Reading Skills (1-2). May be repeated. Credits will not be allowed toward meeting graduation requirements. Grade will be S or U.

ED 296. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

ED 298. Special Topics (1-6).

ED 299. Seminar (1-5). May be repeated.

ED 300. Pre-Autumn Field Experience (4). A laboratory experience course in the first phase of Option I in the teacher education program. The course deals with the opening of school, professional relationships, school/community relationships, school district organization, instructional support and resource services. Students are assigned to CWU professional supervisors in off-campus centers for approximately four weeks prior to fall quarter. Application forms may be obtained from the office of student teaching and field experience. Grade will be S or U.

ED 300.1. Teaching: Introductory Field Experience (4). A laboratory experience course in the first phase of Option II of the teacher education program. Application forms and further information may be obtained from the student teaching office. May be taken only by Option II students. Grade will be S or U.

ED 301. Teaching: An Orientation (3). Teaching as a career and essential features of preparation for it. It includes a study of the teacher's role and function in the school; characteristics of good teachers; preparation for professional competencies and certification; the American public school system; and the responsibilities of schools in a democratic society.

School of Professional Studies

ED 308. Reading I (3). First of two courses designed to prepare prospective teachers to teach reading in elementary school classrooms. Deals with processes and products of the reading act; methods and materials; assessment procedures and instruments.

ED 309. Reading II (5). Prerequisite, ED 308. Content and methodology of readiness, vocabulary development, phonic and structural analysis, comprehension and study skills.

ED 311. Teaching: Curriculum, Methods and Materials (5). Prerequisites, ED 301 or ED 300.1, PSY 314, and admission to the teacher education program. Basic principles of instruction, fundamental teaching procedures, orientation to curriculum content, and classroom activities typical of primary, middle, and secondary levels.

ED 312. Educational Statistics (4). Use and interpretation of elementary statistical techniques.

ED 316. Instructional Media: Methods and Materials (3). Prerequisite, admission to the teacher education program. Explores the selection, production and utilization of instructional media for students, classroom and career use.

ED 319. Cursive and Manuscript Writing (1). Sociological, physiological and psychological factors as they relate to handwriting. Designed primarily for secondary teachers.

ED 323. Teaching Elementary School Mathematics (3). Principles and methods instruction; fundamental processes, the "discovery" method as one means of putting the "meaning theory" into practice, the use of proof, the building of number concepts, and the purpose of problems.

ED 334. ECE Curriculum: Kindergarten-Primary (3). Prerequisite, ECE 331 or 332 or PSY 314. Historical influences and knowledge of child development, psychological theories and contemporary models as bases for curriculum development and implementation in kindergarten through primary settings. ECE 334 and ED 334 are the same course. Student may not receive credit for both.

ED 392. Practicum (3-5). Prerequisite, permission of education department. Practical experience in a state approved K-12 educational setting. Grade will be S or U.

ED 398. Special Topics (1-6).

ED 401. Contemporary Movements (3). Organization, curriculum, teaching methods, their philosophies and psychologies.

ED 402. Identifying the Gifted Child (3). Informal and formal assessment strategies for identifying and placing the gifted child.

ED 403. Creativity for the Gifted (3). Prerequisite, Ed 402. Creativity and strategies for creative problem solving.

ED 405. Methods and Materials for the Gifted (5). Prerequisite, ED 403.

ED 410. Teaching Word Recognition Skills (3). Prerequisites, ED 308 and 309. Methods for teaching the word recognition skills will be developed. Decoding as an aid to comprehension, including phonetic analysis, context clues, structural analysis, and sight vocabulary.

ED 411. Teaching Comprehension (3). Prerequisite, ED 308 or permission. Comprehension strategies and techniques; techniques for vocabulary development.

ED 412. Assessment of Reading Skills (3). Prerequisite, ED 308 or permission. Assessment instruments, procedures and interpretive skills for determining student reading levels and needs. Emphasizes the selection, administration and interpretation of tests.

ED 413. Methods and Materials for Reading Instruction (3). Prerequisites, ED 308 and 309. Strategies for classroom management, implementation of learning theories.

ED 414. Teaching Reading in a Multi-Cultural Setting (3). Prerequisite, ED 308 or permission. Strategies for teaching reading and developing language skills in a multi-cultural setting.

ED 415. Reading for the Gifted (3). Prerequisite, ED 308 or permission. Techniques for identifying and challenging the superior reader.

ED 416. Strategies, Techniques and Materials for Teaching Reluctant Readers (3). Prerequisite, ED 308 or permission. Motivational techniques and nonconventional materials for teaching reluctant readers.

ED 417. Reading Readiness and Beginning Reading (3). Prerequisite, ED 308 or permission. Language development and discrimination skills for beginning readers.

ED 418. Reading and Linguistics (3). Prerequisite, ED 409, ANTH/ENG 180 or permission of instructor. Reading instruction built on an understanding of how language functions. Linguistic theory and information for developing strategies, methodologies and techniques for teaching children to read.

ED 419. Storytelling Techniques (3). Storytelling in the integrated curriculum. Students become familiar with a variety of stories and demonstrate the ability to tell stories.

ED 420. Teaching the Language Arts (4). Primarily for prospective elementary school teachers. Listening, writing, speaking, spelling, handwriting, and vocabulary development. Emphasizes curriculum, methods, materials, and research. Experienced teachers see ED 531.

ED 421. Teaching Children's Literature (3). The types of literature suited to children in grades 1-6; includes reading and evaluation of material from early folklore to present day books for children. Students may not receive credit for ED 421 and ENG 432.

ED 423. Reading in the Secondary School (3). A course designed to help secondary teachers of reading acquire the skills needed to help students become more proficient in read-

ing for information and pleasure.

ED 424. Reading in the Content Fields (3). For intermediate and secondary school teachers. Focuses on the techniques needed by students to become efficient readers in various subject areas.

ED 427. Primary Arithmetic Program (3). Prerequisite, ED 323 or equivalent. Methods of teaching mathematical concepts. Construction and use of manipulative aids and games.

ED 428. Intermediate and Upper Grade Arithmetic Program (3). Prerequisite, ED 323 or equivalent. Methods of teaching and materials utilized in teaching metrics, word problems, charting, graphing, statistics, probabilities, coordinates, negative numbers, and gaming. Includes use of the calculator as an instructional strategy.

ED 431. Intercultural Education (3). Race, nationality, minority groups, income groups, urban and rural groups, and methods of teaching and measuring intergroup relations.

ED 432. Implementing the Career Education Concept (3). The career education concept in total curriculum, theories of career choice, legislation supporting career education.

ED 433. Educational Linguistics (5). Prerequisite, ANTH/ENG 180 or permission. Phonology, syntax and semantics applicable to speech and learning situations in the school. Not recommended for undergraduates with no teaching experience.

ED 434. Educational Principles and Second Language Instruction (ESL/SSL) (4). Prerequisite, Spanish language fluency or permission of instructor. Major language theories related to educational principles and language roles in classrooms where English and Spanish are learned as second languages. Presentations, use, practice and critique of language teaching methods.

ED 435. Bilingual Education in the Content Areas (4). Prerequisite, Spanish language fluency or permission of instructor. Designed to develop teacher competency related to the bilingual instruction of course work in language arts, social studies, science and mathematics in both English and Spanish. The use of ESL in these content areas is emphasized. Taught in English and Spanish.

ED 438. Teaching English as a Second Language (3). Theoretical and conceptual information about language and language acquisition. Practical, applied aspects of second language learning and teaching.

ED 439. Testing English as a Second Language (3). Investigation of basic theories, concepts, procedures and instruments for testing English language skills of public school students for whom English is a second language.

ED 442K, P, I, U, J, or S. Student Teaching (5-16). Prerequisites, admission to the teacher education program, a minimum grade point average of 2.5, and successful completion of Phases I and II of Options I and II.

Students must attend the seminar which accompanies the student teaching experience. The seminar will meet a total of 20 clock hours during the quarter, normally at a time other than school hours, and at a place designated by the college supervisor. All assignments for student teaching are made through the office of student teaching. In registering for this course, indicate the level of the assignment (K, P, I, U, J, S). In order to qualify for certification to teach in more than one specialization, students must meet all requirements as listed in the undergraduate catalog for each specialization. Students must demonstrate their competence by student teaching a full quarter for each specialization for which they wish to be endorsed. Grade will be S or U.

ED 444. Educational Issues and Law (2). Prerequisite, admission to the teacher education program or permission of the department chair. Major legal and ethical problems confronting educators.

ED 445. Aerospace Education (3). Curriculum, methods, and materials for aerospace (aviation/space) education. Aerospace (region beyond the earth's surface) affairs and their impacts upon man.

ED 446. Directed Observation (3). Prerequisite, teaching experience or junior standing.

ED 448. Parent Involvement (3). Parent-child and parent-school interactions as educational and developmental aids. Emphasis upon the school's use of the home and community for educational purposes. ED 448 and ECE 448 are the same course. Students may not receive credit for both.

ED 485. Paraprofessional Training/Supervision (3). The recruitment, training and responsibilities of paraprofessionals for cooperative work in the classroom. Includes the factor of career development. Same as ECE 485. Student may not receive credit for both.

ED 487. Group Processes and Leadership (3). The role of group processes in improving human relations in group situations, climate making, role playing and group discussions. Grade will be S or U. Same as PSY 487. Student may not receive credit for both.

ED 488. Group Dynamics and the Individual (3). Prerequisite, ED 487 or equivalent. A human interaction laboratory to facilitate the development of self-insight understanding of the basis for interpersonal operations in groups and the acquisition of skill in diagnosing individual, group, and organizational behavior. Grade will be S or U. Same as PSY 488. Student may not receive credit for both.

ED 491. Workshop (1-6). Laboratory facilities will be included as part of the workshop; specialists will lead discussions on various problems concerning education. With the approval of department chair, course may be designated for regular letter grade or S or U, depending upon course objectives and method of instruction.

School of Professional Studies

ED 492. Practicum (1-15). Prerequisite, permission of the education department. Experience working in educational settings. Arrangements are made through the office of student teaching. Grade will be S or U. Students may accumulate no more than 15 hours of practicum credit.

ED 492.1. Practicum for the Gifted (5). At least 30 documented hours in gifted classroom(s). Two 3-hour seminars will be required during the practicum experience.

ED 493. Reading Practicum (3). Prerequisites, ED 308 and 309 and permission of education department. Practical experience working with children in classroom settings. Grade will be S or U.

ED 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

ED 498. Special Topics (1-6).

ED 499. Seminar (1-5). May be repeated.

ED 499.1. Seminar in Education Problems (4). Meets daily. Prerequisite, completion of Phases I and II of Options I and II.

Early Childhood Education Courses

ECE 292. Assisting in the Child-Centered Classrooms (5). Students work with children in ECE classrooms, learning and practicing the fundamentals of guidance, curriculum implementation and maintaining the physical environment. Students participate in a 2-hour seminar each week. May be taken twice for credit with the permission of the division head. Grade will be S or U.

ECE 298. Special Topics (1-6).

ECE 299. Seminar (1-5). May be repeated.

ECE 302. Preschool for the Handicapped (4). Prerequisites, SPED 301 and ECE/HOFS 332 or permission of instructor. An overview of services for handicapped children, aged 0-6: enabling legislation, risk factors, educational development, early detection, alternative delivery systems, intervention approaches, physical facilities, and environments. ECE 302 and SPED 302 are the same class. Student may not receive credit for both.

ECE 310. Infant Education (3). Needs and characteristics of infants and toddlers. Enrichment opportunities and effects on development. Implications for persons in care giving roles.

ECE 312. Bilingual Education in Early Childhood (3). Education of children in preschool through Grade 3 classrooms whose primary language is other than English. Language development, social and community questions and teaching strategies.

ECE 318. Culture and Curriculum (3). ANTH 130 recommended. The importance of culture-based curriculum to children, families and communities, and its creation, use and evaluation.

ECE 331. Child Development (3). Developmental characteristics of children from conception to eight years. Includes observation techniques. ECE 331 and HOFS 331 are the same course. Student may not receive credit for both.

ECE 332. Theories in Child Development (3). Comparison of major theories. ECE 332 and HOFS 332 are the same course. Student may not receive credit for both.

ECE 333. ECE Curriculum: Pre-Kindergarten (3). Prerequisites, ECE 292 and ECE 331 or 332. Historical influences and knowledge of child development, psychological theories and contemporary models as bases for curriculum development and implementation in pre-kindergarten settings.

ECE 334. ECE Curriculum: Kindergarten- Primary (3). Prerequisite, ECE 331 or 332 or PSY 314. Historical influences and knowledge of child development/psychological theories/contemporary models as a basis for curriculum development and implementation in kindergarten through primary settings. ECE 334 and ED 334 are the same course. Student may not receive credit for both.

ECE 346. Programs and Approaches in ECE (3). Comparative study of the influences of traditional programs and contemporary models in program development for young children.

ECE 347. British Infant School and Early Childhood Education (3). A study of the role of the teacher, the organization of the classroom and the nature of children's learning within the British Infant School and its adaptability to early childhood programs (3-8 year old children) in the United States. The student will participate in simulated learning experiences, contribute to a class-developed resource book, and examine the social, emotional and organizational context of the "Informal" learning approach.

ECE 354. Childhood Learning (3). Prerequisite, ECE 331 or 332. Origins and applications of learning/developmental theory emphasizing personalized, child-centered education.

ECE 396. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

ECE 398. Special Topics (1-6).

ECE 415. Child Language Acquisition (3). Prerequisite, a course in child or human development (e.g., ECE/HOFS 331, or ECE/HOFS 332, or PSY 309) or introductory linguistics (e.g., ANTH/ENG 180) or permission of instructor. Language acquisition birth through eight years; aspects of phonological, grammatical, and semantic development in a natural language environment. Projects include transcription and grammatical analysis of a young child's speech.

ECE 421. Play in Childhood (3). Prerequisite, ECE 331 or permission of instructor. Definitions, developmental aspects, and curricular implications of play.

ECE 430. Principles and Practices in Child Care (4). Prerequisite, ECE 331 or equivalent. Out-of-home care of children: causes and trends; developmental needs of infants and children as they relate to substitute care; parameters of program

School of Professional Studies

quality and practice. On-site evaluation of programs. ECE 430 and HOFs 430 are the same course. Student may not receive credit for both.

ECE 432. Child Development Research (3). Prerequisite, HOFs/ECE 331 or permission. The influence of family patterns and interaction on infant and child development; current research. ECE 432 and HOFs 432 are the same course. Student may not receive credit for both.

ECE 443. Lab Experience/Teaching ECE (3). Prerequisite, permission of the director. Assist ECE professors in teaching those courses which involve outside observation or participation.

ECE 447. Curriculum Exploration (3). Prerequisite, ECE 493.1 or permission of the director. Guided exploration of curriculum or guidance needs as identified by student self-evaluation. Consistency with the student's personal philosophy and child development will be emphasized.

ECE 448. Parent Involvement (3). Parent-child and parent-school interactions as educational and developmental aids. Emphasis upon the school's use of the home and community for educational purposes. ECE 448 and ED 448 are the same course. Students may not receive credit for both. (Formerly ECE 445.)

ECE 465. Directing ECE Programs (3). Prerequisite, permission of the director. Budgeting, governmental requirements, staffing, nutritional and health care, parental involvement, community and agency liaison, and the integration of developmental/educational curriculum.

ECE 485. Paraprofessional Training/Supervision (3). The recruitment, training and responsibilities of paraprofessionals for cooperative work in the classroom. Includes the factor of career development. Same as ED 485. Student may not receive credit for both.

ECE 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

ECE 491. Workshop (1-6).

ECE 493.1. Practicum in ECE (6-12). Prerequisites, ECE 333 and 334 or permission. Concurrent enrollment in ECE 499.1 required. Grade will be S or U.

ECE 493.2. Advanced Practicum (3-10). Prerequisite, ECE 493.1 or permission of the director. A course designed to meet special needs as determined by the student, his/her advisor and the director. Grade will be S or U.

ECE 495. Teaching in the Early Childhood Classroom (5). Prerequisites, ECE 493.1 and permission. Students prepare and investigate a child-centered classroom. Course includes both laboratory and seminar components.

ECE 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

ECE 498. Special Topics (1-6).

ECE 499. Seminar (1-5). May be repeated.

ECE 499.1. Issues in Early Childhood Education (3). Concurrent enrollment in ECE 493.1 required.

Library Science Courses

LIB 145. Use of Library Resources (3). General reference books, the card catalog, and indexes. Familiarization with library material useful in college courses. Open to all students.

Special Education Courses

SPED 301. Introduction to Exceptional Students (4). A survey of the following handicapped conditions: disadvantaged, orthopedically handicapped, communications disorders, partially sighted, mental and behavioral disorders and gifted. This course will also include programming implications for the exceptional student in the regular classroom.

SPED 302. Pre-school for the Handicapped (4). Prerequisites, SPED 301 and HOFs/ECE 332 or permission of instructor. An overview of services for handicapped children, aged 0-6: enabling legislation, risk factors, educational development, early detection, alternative delivery systems, intervention approaches, physical facilities, and environments. Same as ECE 302. Student may not receive credit for both.

SPED 303. Foundations of Special Education (3). Prerequisite or corequisite, SPED 301. Program development strategies including legal requirements and monitoring practices.

SPED 410. Behavior Management and Precision Teaching for Exceptional Students (3). Prerequisite, SPED 301. Fundamentals of behavioral change related to the education of exceptional students. Monitoring individual student progress and utilizing data collected for program instructional change.

SPED 411. Assessment of Exceptional Students (3). Prerequisite, SPED 303. Selecting, administering, scoring, and interpreting formal assessment tools. Designing and using informal testing techniques.

SPED 412. Teaching Strategies for Exceptional Students (3). Prerequisite, SPED 412. Individual, small group, and large group teaching strategies essential to individual education programs. Student may not receive credit for both SPED 416 and SPED 412.

SPED 424. Mainstreaming (3). Prerequisite, teaching experience or permission of instructor. Basic skills essential for integration of handicapped children to regular classroom teachers and other special services personnel.

SPED 426. The Language Disabled Child (3). An exploration of the language disabled child 0-6 from the perspective of normal language development, assessment strategies, and remedial techniques. This course is recommended for teachers of the mildly and severely handicapped child.

SPED 427. Manual Sign Language I (4). A basic course in manual and simultaneous communication; introduction to 400 conversationally relevant signs through mime, gesture and fingerspelling; background on deaf culture and various U.S. sign systems.

SPED 428. Manual Sign Language II (4). Prerequisite, SPED 427 or permission of instructor. Intermediate level course in manual signing and fingerspelling for students who have basic signing skills. Conversationally relevant signs will be introduced through role playing, story telling and classroom conversation.

SPED 430. Materials for Exceptional Students (3). Prerequisites, SPED 303, 410, and 411. Selection, evaluation and adaptation of commercially available materials including computer applications. Student may not receive credit for both SPED 351 and 430.

SPED 431. Individualized Educational Plan and Program Development for Exceptional Students (3). Student may not receive credit for both SPED 421 and SPED 431.

SPED 432. Career Education for Exceptional Students (3). Prerequisite, SPED 430. Career awareness, prevocational, and vocational education. Student may not receive credit for SPED 432 and both SPED 422 and 423.

SPED 437. The Gifted Student (3). Identification and understanding characteristics, criteria for class placement, development of creativity, motivation, ability grouping, and enrichment programs for both elementary and secondary gifted students.

SPED 460. Parents, Paraprofessionals, Community Agencies and Exceptional Children (3). Designing multidisciplinary teams of community agencies, paraprofessionals and the parents of exceptional children to provide sound guidance.

SPED 481. Child Abuse and Neglect: Implications for School Personnel (1). Prerequisite, junior standing or permission of instructor. Survey of research with emphasis on characteristics, legal issues, identification, procedures, and reporting systems.

SPED 482. Due Process of Law and Special Education (2). Prerequisite, junior standing or permission of instructor. Analysis of the effect upon handicapped students and school personnel of due process clauses in state and federal laws.

SPED 483. The Resource Room (1). Prerequisite, junior standing or permission of instructor. The philosophy and practice of the resource room: planning, implementation, delivery of services and evaluation components. Students will participate in simulations to set up and implement the resource room concept.

SPED 484. The Individual Education Plan (1). Prerequisite, junior standing or permission of instructor. Legal mandate and implementation of the individual education plan: issues in design, the multidisciplinary team, and parent meetings.

SPED 485. Teaching Children With Behavior Problems (1). Prerequisite, junior standing or permission of instructor. An indepth look at the psychoeducational approach to working with behavior problem children; review of other theoretical approaches for comparative purposes. Practical classroom activities are discussed.

SPED 486. Utilization of Direct Instruction Materials (1). Implementation of direct instruction format in the public schools, including an emphasis on format commands, signals, and rate of presentation.

SPED 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

SPED 491.0 to 491.9. Workshop (1-6).

SPED 495. Practicum (5-15). Prerequisites, SPED 410, 411, 412 and full admission to the teacher education program. Practical experience with children having learning, behavioral or physical disorders; using behavioral management techniques in an effort to bring the child up to his maximum potential as determined by his flexibility, sociality and capacity. Grade will be S or U.

SPED 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

SPED 498. Special Topics (1-6).

SPED 499. Seminar (1-5). May be repeated.

ENERGY STUDIES

Director:

Ken Hammond

Department of Geography and Land Studies

Lind 119

Students interested in investigating energy issues are encouraged to pursue the following interdisciplinary minor which provides:

1. an introduction to the technical concepts and language relevant to energy.
2. an investigation of current and projected energy use patterns and their associated environmental conflicts.
3. a study of the legal, institutional, and economic factors that influence energy policy.

Energy Studies Minor

The following interdisciplinary minor provides a modest technical background so students may better understand and appreciate energy issues as they are explored from the perspective of various specialists.

Credits

PHYS 111, Introductory Physics, Mechanics and Heat.....	5
ENST 448, Energy Use Patterns.....	5
GEOG 443, Energy Policy.....	5
Elect one of the following three.....	3-5
IET 210, Energy Sources and Power.....	3
ECON 462, Economics of Energy, Resources and Environment.....	5
GEOG 343, Energy Resource Alternatives.....	3

Total 18-20

With the approval of the director of energy studies, the student will select appropriate electives to meet personal and professional goals.

With faculty advisement, interested students also may construct individualized majors in energy studies through the individual studies major program.

ENGLISH**Chair****John L. Vifian****Language and Literature 423****Professors:**

Robert M. Benton, American Literature

Bobby Cummings, Rhetoric, Teacher Education, Writing on
Computers

Donald W. Cummings, Rhetoric, Lexicology, Poetics

Mark W. Halperin, Poetry Writing, Folk Literature, Modern
Poetry

John M. Herum, Rhetoric, Syntax, Technical Writing

Gerald J. Stacy, English Renaissance Literature

John L. Vifian, Eighteenth Century Literature, English Novel,
Literary Criticism**Associate Professors:**

Thomas L. Blanton, Renaissance Literature, Milton

Patricia Callaghan, Rhetoric, World Literature, English
EducationPhilip B. Garrison, Poetry Writing, World Literature,
Mythology, American LiteratureDonald R. King, Romantic Literature, Technical Writing,
Fiction Writing**Assistant Professors:**

Frank L. Cioffi, American Literature, English Education

John F. Clark, Middle English, Linguistics, TESL

James Hale, Shakespeare, Medieval and Renaissance Literature

Terry Martin, English Education, Rhetoric

Steve Olson, American Literature, Film

Joseph Powell, Creative Writing, Modern Poetry

Christine A. Sutphin, Victorian Literature, English Novel

Study in the English department helps students better understand and appreciate the English language and its literature. The department offers undergraduate and graduate work in American, British, and world literature, in English language studies, in English Education, and in writing. Work in English

leads to greater skill in communication, and since literature is about people, a better understanding and appreciation of it can lead to a better understanding and appreciation of them. Study in English is an excellent preparation for a wide range of careers.

Students in the bachelor of arts programs are expected to complete English 300, Principles of English Studies, before enrolling in upper level courses other than English 305, 306, 307, 308, or 309. Majors should complete at least three courses in the English and American Literature period sequence before taking any of the 400 level courses.

Bachelor of Arts**General Major****Course Requirements****Credits**

Select two courses from the following:

ENG 140, Introduction to Fiction (4)

ENG 141, Introduction to Poetry (4)

ENG 248, World Literature I (4)

ENG 249, World Literature II (4).....8

ENG 300, Principles of English Studies.....4

ENG 305, 306, 307, 308, 309, English and American Literature

Period Courses.....20

ENG 310 OR 314, Writing Courses.....4

ENG 322, History of the Language.....4

ENG 361 OR 362, Shakespeare.....4

Select two courses from the following:

ENG 410, 411, 499, Intensive Study Courses.....8

English Electives-upper division only.....12-16

Total 64-68**Teaching Major: Secondary**

A program which qualifies students for teaching at the secondary level.

Course Requirements**Credits****Literature:**

Select two courses from the following:

ENG 140, Introduction to Fiction (4)

ENG 141, Introduction to Poetry (4)

ENG 248, World Literature I (4)

ENG 249, World Literature II (4).....8

ENG 300, Principles of English Studies.....4

ENG 305, 306, 307, 308, 309, English and American

Literature Period Courses.....20

ENG 361 OR 362, Shakespeare.....4

Select two courses from the following:

ENG 410, 411, 499, Intensive Study Courses.....8

Language and Writing:

ENG 314, Advanced Composition.....4

ENG 320, English Grammar.....4

ENG 322, History of the Language OR

ENG 413, Studies in Language.....4

Methodology:

ENG 430, Teaching English in the Secondary School	4
ENG 492, Practicum	2

Total 62**Teaching Major**

Intended for students who wish to obtain the English endorsement 4-12 and who plan to combine this major with another 45 credit major or one or more minor programs.

Course Requirements Credits

Select two courses from the following:

ENG 140, Introduction to Fiction (4)	
ENG 141, Introduction to Poetry (4)	
ENG 248, World Literature I (4)	
ENG 249, World Literature II (4)	8
ENG 300, Principles of English Studies	4

Select four of the following:

ENG 305, 306, 307, 308, 309, English and American Literature Period Courses	16
ENG 314, Advanced Composition	4
ENG 320, English Grammar	4

Select one of the following:

ENG 410, 411, 413, 499, Intensive Study Courses	4
ENG 430, Teaching English in the Secondary School	4
ENG 492, Practicum	2

Total 46**Bilingual/Language Arts Major: Middle School**

The student completing this program will be eligible for teaching certification and for language arts, bilingual, and ESL endorsements.

The student must pass the foreign language department's competency examination in a language other than English. A special advisor will be designated by the department for each student in this major.

Course Requirements Credits

English Language Arts Major: Middle Level Emphasis50

ESL Component

ED 438, Teaching English as a Second Language	3
ED 439, Testing English as a Second Language	3
ENG 492, Practicum	2
ANTH 381, Language in Culture	4
ED 418, Reading and Linguistics	3
ED 435, Bilingual Education in the Content Areas	4
FNLA 401, Introduction to Romance Linguistics.....	3
OR	
ED 433, Educational Linguistics	5

Total 22-24**Total 72-74****Bilingual/Language Arts Major: High School**

The student completing this program will be eligible for teaching certification and for English (4-12), bilingual, and ESL endorsements.

The student must pass the foreign language department's competency examination in a language other than English. A special advisor will be designated by the department for each student in this major.

Course Requirements Credits

English: Teaching Major46

ESL Component

ED 438, Teaching English as a Second Language	3
ED 439, Testing English as a Second Language	3
ENG 492, Practicum	2
ANTH 381, Language in Culture	4
ED 418, Reading and Linguistics	3
ED 435, Bilingual Education in the Content Areas	4
FNLA 401, Introduction to Romance Linguistics.....	3
OR	
ED 433, Educational Linguistics	5

Total 22-24**Total 68-70**

A Spanish minor is recommended if the bilingual proficiency is Spanish. Other minors are possible by consultation with advisor.

Language Arts Major: Elementary Emphasis

The student completing this major would typically be seeking elementary certification and an endorsement from the Office of the Superintendent of Public Instruction in elementary education.

Course Requirements Credits

ENG 140, Introduction to Fiction	4
ENG 141, Introduction to Poetry	4
ENG 245, The Fairy Tale	4
ENG 248, World Literature I OR	
ENG 249, World Literature II	4
ENG 341, The Bible OR	
ENG 342, Literature and Myth	4
COM 301, Communication Concepts and Processes	4
DR 207, Introduction to Children's Drama	3
DR 312, Creative Dramatics in School and Leisure	4
DR/COM 420, Teaching Communication and Drama in the Elementary School	3
English Electives (Upper Division)	12

Total 46**Language Arts Major: Middle Level Emphasis**

The student completing this major would typically be seeking secondary (4-12) certification and an endorsement from the Office of the Superintendent of Public Instruction in language arts.

College of Letters, Arts and Sciences

Course Requirements	Credits
Select two courses from the following:	
ENG 140, Introduction to Fiction	4
ENG 141, Introduction to Poetry	4
ENG 248, World Literature I	4
ENG 249, World Literature II	4

Total 8

ENG 300, Principles of English Studies	4
ENG 305 OR 306 OR 307, English Literature	4
ENG 308 OR 309, American Literature	4
ENG 314, Advanced Composition	4
ENG 320, English Grammar	4
ENG 422, Literature for the Middle School	4
ENG 430, Teaching in the Secondary School	4
ENG 492, Practicum	2
DR 312, Creative Dramatics in School and Leisure	4
COM 201, Introduction to Mass Media	4
COM 208, Beginning Newswriting and Reporting	4

Total 50

Minor

	Credits
Select two courses from the following:	
ENG 140, Introduction to Fiction	4
ENG 141, Introduction to Poetry	4
ENG 248, World Literature I	4
ENG 249, World Literature II	4

Total 8

ENG 300, Principles of English Studies	4
ENG 310 OR 314, Writing Courses	4
ENG 320 OR 322, Language Studies Courses	4
English Electives - upper division only	8

Total 28

Business and Professional Communication Minor

This minor is designed to enhance both written and oral communication skills and is jointly offered by three departments: communication, business education and administrative management, and English.

Basic typewriting/keyboarding competency required for ADOM 304.

Courses Required:	Credits
COM 345, Business and Professional Speaking	4
ENG 310, Technical Writing	4
ADOM 385, Business Communication and Report Writing	5
ADOM 304, Microcomputer Word Processing	2

Total 15

Select at least 8 credits from the following:

COM 251, Discussion	4
COM 252, Argumentation and Debate	4
COM 375, Interviewing Principles and Techniques	4
COM 430, Listening	4
ME 340, Principles of Selling	4

Total 8

Select at least 7 credits from the following:

ADOM 305, Dedicated Word Processing Applications	2
ME 461, Advertising and Sales Promotion	5
ENG 314, Advanced Composition	4
ENG 412, Advanced Writing Seminar	4

Total 30

Departmental Honors in English

The Honors Program in English recognizes the superior scholarship of those students who are able to complete successfully an advanced individual study and writing project. To qualify for the program, students must have completed 25 credits in their major program, have an overall GPA of 3.0 and 3.4 in English, and be recommended by three faculty members, including two from the department of English.

The chair of the department, as director of the program, will appoint an honors advisor and two readers to approve and direct the studies of each student who is admitted. Honor students, under the direction of their advisor, will enroll in English 496 (a three-credit course to be taken in addition to those required for the major in English) and prior to their last quarter in residence will complete a study culminating in the writing of an honors paper, an essay treating a subject appropriate for undergraduate English study and reflecting an awareness of the humanistic emphasis of the discipline. Students whose committee and program director accept the honors paper will graduate with departmental honors in English.

Courses

ENG 100E. English as a Second Language (2-8). May be repeated for credit. Intensive, small group instruction for students for whom English is a second language, including preparation for the TOEFL examination and other aspects of English for university study. Credits will not be allowed toward meeting bachelor's degree requirements at Central.

ENG 100G. Basic English (4). Required of all students whose verbal skills scores indicate deficiencies in English. The course covers basic reading, writing and usage. Credits will not be allowed toward meeting bachelor's degree requirements at Central. Grade will be S or U.

ENG 100S. Basic English Spelling (3). Required of all students whose verbal skills scores indicate deficiencies in spelling. Course may be repeated. A study of the basic sound-to-spelling correspondences and basic spelling processes in modern American English. The work that the student does will be determined by a diagnostic pre-test. Credits will not be allowed toward meeting bachelor's degree requirements at Central. Grade will be S or U.

ENG 100U. Basic English Grammar and Usage (1-2). Course may be repeated. A study of basic English grammar and conventional usage. The work that the student does will be determined by a diagnostic pre-test. Credits will not be allowed toward meeting bachelor's degree requirements at Central. Grade will be S or U.

ENG 100W. Remedial Writing, Basic Writing Skills (1-2). Course may be repeated. Individualized work in basic writing skills of drafting, editing, and proofreading. Intended for students whose problems are less generalized than those dealt with in English 100G. Credits will not be allowed toward meeting bachelor's degree requirements at Central. Grade will be S or U.

ENG 101. English Composition (3). Prerequisite, adequate CPT scores. Develops writing skill in expository prose. Required of all students except those who have passed an exemption examination.

ENG 102. English Composition (3). Prerequisite, English 101 or exemption from 101. Continuation of English 101, developing writing skill in expository prose. Required of all students.

ENG 105. The Literary Imagination: An Introduction to Literature (4). Human experience as it is imagined, interpreted, and made significant in the poetry, prose, fiction, and drama of the major writers of the world. For general education (breadth) credit, a student must be enrolled in or have completed ENG 101, and cannot take this course on a credit/no credit basis.

ENG 140. Introduction to Fiction (4). Analysis and intensive reading of short stories and novels.

ENG 141. Introduction to Poetry (4). Analysis and intensive reading of poems.

ENG 180. Introduction to Linguistics (5). Backgrounds, developments, and relation to other fields of study. Same as ANTH 180. Students may not receive credit for both.

ENG 202. Vocabulary Studies (4). Intended to increase student vocabulary through a study of words in context, and the analysis of the structure of words.

ENG 212. Short Story Writing (4).

ENG 213. Poetry Writing (4).

ENG 230. Women in Literature (4). This course is designed to show the changing role of women both as writers and as subjects of literature.

ENG 235. Studies in Folklore (4). Analysis of literature of oral folk traditions as recorded in tales, songs, fables, anecdotes, toasts and ballads.

ENG 240. Science Fiction (4). A study of science fiction since Wells. The major writers, themes, and works will be covered with emphasis on contemporary authors. The course will stress themes, ideas, satiric intentions and forms. Examples will be used from both the "Popular" and "Mainstream" traditions.

ENG 245. The Fairy Tale (4). Explores the nature and significance of the fairy tale as literature for children and adults.

ENG 248. World Literature I (4). Poetry and prose of both Western and non-Western civilization to 1500.

ENG 249. World Literature II (4). Poetry and prose of both Western and non-Western civilization from 1500 to the present.

ENG 296. Individual Study (1-6).

ENG 298. Special Topics (1-6).

ENG 299. Seminar (1-5).

ENG 300. Principles of English Studies (4). Prerequisite, 8 credits from ENG 140 141, 248, 249. A course designed to provide the background and critical skills necessary for the student of English.

ENG 301. English Composition (3). Prerequisites, English 102 and junior standing. Upper division work in expository prose with emphasis on style and logic. Required of all students.

ENG 305. English Literature I (4). Historical and critical studies in English literature from Beowulf through Milton.

ENG 306. English Literature II (4). Historical and critical studies in English literature from 1660-1832.

ENG 307. English Literature III (4). Historical and critical studies in English literature from 1832 to present.

ENG 308. American Literature I (4). Historical and critical studies in American literature from the beginning to 1865.

ENG 309. American Literature II (4). Historical and critical studies in American literature from 1865 to the present.

ENG 310. Technical Writing (4). Prerequisite, ENG 301 or equivalent. Practice in writing and editing technical reports.

ENG 312. Advanced Short Story Writing (4). Prerequisite, ENG 212 or instructor's permission.

ENG 313. Advanced Verse Writing (4). Prerequisite, ENG 213 or instructor's permission.

ENG 314. Advanced Composition (4). Prerequisite, ENG 301 or equivalent. Advanced work in writing. Expository writing is emphasized. Some attention is given to other forms and to the individual student's needs and interests.

ENG 320. English Grammar (4). A review of the concepts and terminology of traditional grammar, the parts of speech and their functions in sentences, the elements of the sentence and its various patterns.

ENG 322. History of the Language (4). A study of intrinsic and extrinsic language change.

ENG 330. 20th Century Black American Literature (3). Prose writers, poets and dramatists from the Harlem Revival to the present.

ENG 335. Studies in Women's Literature (4). Examines women's literature in light of contemporary feminist literary theories.

ENG 340. The Short Story (4). Extensive reading and analysis of short stories, including both older and modern writers.

ENG 341. The Bible (4). The Bible as literature and background to western culture.

ENG 342. Literature and Myth (4). Concepts and forms of myth in representative Western and non-Western literature.

ENG 348. World Novel I (4). Earlier outstanding world novels in translation.

ENG 349. World Novel II (4). Outstanding modern world novels in translation.

ENG 351. The English Novel I (4). Intensive study of representative English novels of the eighteenth and earlier nineteenth centuries.

ENG 352. The English Novel II (4). Intensive study of representative English novels of the later nineteenth and twentieth centuries.

ENG 361. Shakespeare: The Earlier Plays (4).

ENG 362. Shakespeare: The Later Plays (4).

ENG 375. Modern Poetry (4). Study of the major poets and the major developments in the poetry of the modern world, particularly in England and the United States.

ENG 379. American Novel I (4). Intensive study of representative American novels from 1865 to 1939.

ENG 380. American Novel II (4). Intensive study of representative American novels from 1940 to the present.

ENG 381. British Drama (4). Origins to the present. Selections to be determined by the instructor. Same as DR 381; students may not receive credit for both.

ENG 398. Special Topics (1-6).

ENG 410. Studies in Major British Writers (4). Intensive study of one or two writers. May be repeated for credit under a different subtitle.

ENG 411. Studies in Major American Writers (4). Intensive study of one or two writers. May be repeated for credit under a different subtitle.

ENG 412. Advanced Writing Seminar (4). Prerequisite, one of the following: ENG 310, 312, 313, 314. May be repeated for a maximum of 12 credits.

ENG 413. Studies in Language (4). Investigation into one or more topics from the study of language — its grammar, its rhetoric, or its aesthetics. Recent topics include "Theories of Style," "Language and Meaning," "Morphology, Semantics and Spelling," and "Advanced Syntax." May be repeated for credit under a different subtitle.

ENG 422. Literature for the Middle School (4). A study of literature for middle level students.

ENG 430. Teaching English in the Secondary School (4). Prerequisite, ED 311 and 30 credits in English (including ENG 300) or permission of instructor.

ENG 491. Workshop (1-10). Designed to give an opportunity for individual and group study of problems in the teaching of English.

ENG 492. Practicum (2). Prerequisite, ENG 301. Four hours of supervised tutoring per week, plus two class sessions with the supervisor. Grade will be S or U.

ENG 496. Individual Study (1-6). Prerequisite, permission of instructor.

ENG 498. Special Topics (1-6).

ENG 499. Seminar (1-5).

The following course is on reserve and may be offered subject to program needs: ENG 130 Introduction to Black American Literature (5).

ENVIRONMENTAL STUDIES

Director:

George Macinko
Lind Hall 117A

Minor

Students electing an environmental studies minor will be responsible for designing their own course of study in consultation with and subject to the approval of their advisor. Ordinarily the minor will include ENST 301, 302, 303 and 444. Substitutions will be handled on an individual basis. The minor requires a minimum of 20 credits.

The environmental studies program is designed primarily to serve undergraduate education. Research and graduate education, and community education and service are other goals. Top priority is given to providing a large number of students with the opportunity to assess the nature, scope, and complexities of present and impending environmental problems. This emphasis on establishing environmental literacy among a broad spectrum of students does not preclude the simultaneous development of a smaller number of highly selected environmental specialists. Ordinarily, development of expertise as an environmental specialist requires advanced work which can be pursued by means of the resource management program within the graduate school. Other objectives include the provi-

sion of public education programs on environmental issues and the stimulation of interdisciplinary research on environmental problems.

Courses

ENST 298. Special Topics (1-6).

ENST 301. Earth as an Ecosystem (5) F. Introduction to the concept of our planet as a finite environment with certain properties essential for life. The dynamic nature of the earth's physical, chemical, geological and biological processes and their interrelated "systems" aspects furnishes the thrust of this treatment.

ENST 302. Resources and Man (5) W. The physical and cultural dimensions of environmental problems with particular emphasis given to the interaction between basic resources, population dynamics, and cultural innovations, especially technological innovations. Case studies are an integral part of this treatment.

ENST 303. Environmental Management (5) Sp. The development of attitudes toward the perception of our environment from primitive times to the present. From this background an examination is made of the economic, political and legal mechanisms together with the philosophical perspectives that may prove useful in coping with environmental problems.

ENST 398. Special Topics (1-6).

ENST 444. Environmental Policy Formulation (4) Sp. Prerequisite, ENST 301, 302, 303 or permission of instructor. Students will work together in interdisciplinary teams to formulate and justify policy measures they think appropriate to meet some environmental problem investigated.

ENST 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

ENST 491. Workshop (1-6).

ENST 496. Individual Study (1-6). Prerequisite, permission of instructor.

ENST 498. Special Topics (1-6).

ENST 499. Seminar (1-5).

The following course is on reserve and may be offered subject to program needs. ENST 448 Energy Use Patterns (5).

ETHNIC STUDIES

Contact: David Kaufman, Sociology
Farrell Hall 409

Courses

ET S 101. Ethnic Awareness (4) FWSp. Awareness and understanding of the problems facing the American people in the area of race and ethnic relations, primarily focusing on ethnic minorities. The nature and scope of relationships between minority groups and the majority in the United States.

Related courses regularly offered in other departments include: ANTH 347 Aboriginal Indian Cultures of North America, ENG 330 Twentieth Century Black American Literature, HIST 343 History of Black America since 1865, SOC 265 Minority Groups.

The following programs/courses are on reserve and may be offered subject to program needs. Minor; ET S 111, The Asian American (3); ET S 121, Introduction to Black Studies (4); ET S 151, Introduction to Chicano Studies (4); ET S 171, Introduction to American Indian Studies (5); ET S 201, Institutions and Minorities (5); ET S 252 Contemporary Chicano Issues (5); ET S 296, Individual Study (1-6); ET S 298, Special Topics (1-6); ET S 299, Seminar (1-5); ET S 312 Asian American Identity and Personality (5); ET S 352, Chicano Social and Psychological Perspectives (4); ET S 373, American Indian Authors and Publications (3); ET S 398, Special Topics (1-6); ET S 403, American Ethnic Literature (5); ET S 471, Issues in American Indian Education (5); ET S 472, American Indian Profiles (3) ET S 490, Contracted Field Experience (1-15); ET S 491, Workshop (1-6); ET S 496, Individual Study (1-6); ET S 498, Special Topics (1-6); ET S 499, Seminar (1-5).

EXPLORATORY STUDIES

EXST 110. Selected Topics (1-6) May be repeated to a maximum of 12 credits. Classes may be taken with the permission of the instructor only.

EXST 199. Seminar (1-5) May be repeated to a maximum of 10 credits. Classes may be taken with the permission of the instructor.

FASHION MERCHANDISING

Fashion merchandising is an interdepartmental major leading to a bachelor of science degree. It is administered jointly by the department of home economics—family and consumer studies, and the department of business education and administrative office management. The curriculum provides the necessary skills to work in the fashion merchandising field as a fashion buyer, a fashion retailer, or a fashion merchandise manager.

The program is sufficiently flexible to permit a choice from available electives. Courses are primarily selected from business education, marketing education and home economics—family and consumer studies, providing information relating to

the production, distribution, and consumption of clothing and textiles. Students will gain practical work experience in agencies which deal with fashion merchandise.

Students enrolled in the program are required to consult regularly with a faculty advisor. All prerequisites must be fulfilled except in cases of special permission.

For additional information please see either the business education and administrative office management or home economics—family and consumer studies department chair.

Admission Policy for Fashion Merchandising

1. Students must have successfully completed ENG 101 and 102 or equivalents.
2. The application for a major program form must be completed, then signed by a department advisor and chair. The completed form will be accompanied by a current credit evaluation from the registrar's office.
3. Students must have a university-level* cumulative GPA of at least 2.30 for full admission to a departmental major.
4. Students who have a cumulative GPA of at least 2.00 may be admitted conditionally by the department chair or designee. Students admitted conditionally must achieve at least a 2.30 GPA as a full-time student for the following two consecutive quarters of enrollment to be fully admitted to a departmental major.
5. If the student does not meet admission requirements following conditional admission, reapplication for admission to a department program may be made when the cumulative GPA is at least 2.30.

*Baccalaureate institutions

Bachelor of Science Major

Required:	Credits
HOCT 150, Clothing Construction.....	3
HOCT 152, Clothing Selection.....	3
HOCT 355, Textile Science.....	4
ECON 101, Economic Issues.....	5
ACCT 251, Financial Accounting I.....	5
ADOM 201, Introduction to Business.....	3
ADOM 202B, Computer Applications for Business.....	3
ME 340, Principles of Selling.....	4
HOCT 351, Sociocultural Aspects of Apparel.....	3
HOCT 352, Consumer Behavior in Clothing and Textiles.....	3
ME 367, Retail Management.....	5
ADOM 385, Business Communications and Report Writing.....	5
HOCT 452, History of Fashion OR DR 452, History of Fashion.....	5
HOCT 455, New Developments in Textiles.....	3
ME 461, Advertising and Sales Promotion.....	5
HOEC 490, Cooperative Education OR ME 490, Cooperative Education.....	10
HOCT 499.1, Fashion Merchandising Seminar OR ME 499.1, Fashion Merchandising Seminar.....	3
Total	72

Electives:.....	13
BUS 241, Legal Environment of Business.....	5
ACCT 253, Managerial Accounting.....	5
HOCT 350, Pattern Drafting and Design.....	4
HOCT 358, Fashion Apparel.....	3
MKT 360, Principles of Marketing.....	5
MKT 361, Channels of Distribution Management.....	5
MKT 367, Consumer Behavior OR.....	5
HOCT 371, Consumer Awareness OR.....	3
BSED 375, Personal Finance.....	5
MKT 381, Management of Human Resources.....	5
ADOM 386, Records Management.....	3
ADOM 388, Microcomputer Business Graphics.....	3
PSY 456, Personal and Industrial Psychology.....	4
MKT 469, Market Research.....	5
FIN 471, Case Problems in Management Finance.....	5

Total 85

FLIGHT TECHNOLOGY PROGRAM

Director:
Robert M. Envick
Hebeler 102

Assistant Professors:
Norman Hjelm
Michael Kraus

Instructor:
Dale Samuelson

Bachelor of Science Flight Technology Major

The flight technology program prepares students for careers in the aviation industry. Students select one of two technical options leading to a bachelor of science degree in flight technology. The curriculum in flight technology is designed to provide a solid foundation in the liberal arts as well as a thorough education and training in a technical discipline. All students enrolled in Central Washington University's flight technology program shall complete all required flight training through the approved CWU contractor.

Flight Officer Option

The flight officer option is designed to prepare students for entry level into careers and leadership roles in the aviation community. Completion of the major assists the student to prepare for entry level flight engineer or second officer positions. A private pilot certificate is required prior to being accepted into this major. The commercial pilot certificate, instrument rating, and certified flight instructor rating is a requirement for graduation. All advanced pilot flight training shall be conducted under Federal Aviation Regulation, Part 141. Flight training fees are paid by the student and will be in addition to normal university tuition and fees. FLT 461, 462, 463 and 464 comprise the FAA-Approved Flight Engineer Ground School (Turbojet),

School of Professional Studies

graduation from which qualifies one to take the FAA Flight Engineer written examination.

Credits

FLT 244, Single Engine Simulator-Basic	1
FLT 245, Single Engine Simulator-Advanced	1
FLT 250, Commercial Pilot Ground School	5
FLT 251, Instrument Pilot Ground School	5
FLT 310, Meteorology	4
FLT 316, Flight Safety/Accident Prevention	5
FLT 319, Advanced Aerodynamics and Aircraft Performance	5
FLT 330, Aviation Law	5
FLT 331, Air Traffic Control	5
FLT 333, Air Transportation	5
FLT 335, Aviation Management	3
FLT 337, Aviation Physiology/Survival	5
FLT 344, Multiengine Simulator-Basic	1
FLT 345, Multiengine Simulator-Advanced	1
FLT 357, Flight Instructor Ground School	5
FLT 410, Weather Reporting	3
FLT 419, Advanced Aircraft Systems	5
FLT 461, Flight Engineer I	5
FLT 462, Flight Engineer II	5
FLT 463, Flight Engineer III	5
FLT 464, Flight Engineer IV	5
FLT 484, Aviation History	3
FLT 488, Pilot Performance	2
PHYS 111, Introductory Physics	5
MATH 163.1, Pre-Calculus	5
ADOM 202, Computer Applications for Business	3
ADOM 385, Business Communication/Report Writing	5
IET 271, Basic Electricity	3
IET 271.1, Basic Electricity Laboratory	2
COM 345, Business and Professional Speaking	4

Total 116

Airway Science Option

The areas of concentration in the airway science option are designed to prepare graduates for entry level positions within the aviation industry or the Federal Aviation Administration. Airway science offers a curriculum based upon a strong foundation in the liberal arts in addition to technical competence gained through one of the four concentrations. The curriculum is disciplined and structured to educate the future technical managers of government and the aviation industry. In addition to courses listed below and under each option, all basic and breadth requirements must be carefully selected to coincide with and meet the totally structured Federal Aviation Administration/Airway Science curriculum requirements for this degree option. It is mandatory that the student meet with the airway science academic advisor prior to being admitted to the major and prior to registration each quarter. Graduation requirements are in excess of 180 credits. Students may obtain a copy of the applicable curriculum from the flight technology office.

Airway Science offers four areas of concentration:

- A. Airway Science Management
- B. Aircraft Systems Management

C. Aviation Maintenance Management

D. Airway Electronics Systems

The following CORE courses are required of all airway science majors.

	Credit
ADOM 385, Business Communication/Report Writing	5
PHYS 111, Introductory Physics	5
PHYS 113, Introductory Physics	5
IET 271, Basic Electricity AND	3
IET 271.1, Basic Electricity Laboratory OR	2
PHYS 112, Introductory Physics	5
CPSC 110, Fundamentals of Computer Science I	4
CPSC 111, Fundamentals of Computer Science II	4
MKT 380, Organizational Management	5
MKT 385, Organizational Theory	5
MKT 381, Management of Human Resources	5
FLT 151, Private Pilot Ground School	5
FLT 316, Flight Safety and Accident Prevention	5
FLT 330, Aviation Law	5
FLT 331, Air Traffic Control	5
FLT 332, The National Airspace System	3

Total 66

In addition to the required core, students will select and complete one of the areas of concentration. It is essential that students selecting the airway science option consult a department advisor early in their freshman year to plan an efficient schedule. Failure to do so will require additional time to complete degree requirements.

Airway Science Management Concentration

Coursework in this area will prepare students specifically for a variety of administrative and management positions in the aviation community. The core of the curriculum is oriented toward the technology of aviation.

Career opportunities exist in industry and the government in management as related to aviation activities such as air traffic control, airport manager, general operations management and air carrier management.

Applicants must score 90 or higher on the Air Traffic Control aptitude examination before being admitted into this area of concentration. A private pilot's license is recommended.

Credits

Core Courses	66
SOC 101, Social Problems	5
PSY 453, Theories of Personality	5
COM 207, Introduction to Communication Studies	4
COM 253, Interpersonal Communication	4
COM 301, Communication Concepts and Processes	4
MATH 170, Intuitive Calculus	5
OMIS 386, Management Information Systems: Data & Technology	5
OMIS 221, Business Statistics	5
OMIS 323, Operations Management	5
MGT 479, Collective Bargaining and Arbitration	5
MGT 486, Problems in Human Resource Management	5
FLT 333, Air Transportation	5

FLT 334, Airport Management	3
FLT 336, Concepts of Air Transport Utilization	3
Electives by advisement (upper division)	4

Total 133

Aircraft Systems Management Concentration

This area of concentration focuses on aircraft flight operations. Its major goal is the preparation of persons with qualifications as professional pilots having a science/technology orientation. Students electing this concentration must possess a current private pilot's license prior to being accepted into the major. Students must obtain the following licenses or ratings prior to graduation: commercial, instrument, multiengine, certified flight instructor, instrument flight instructor and multiengine flight instructor. All aforementioned certificates and ratings must be done in the manner approved by the FAA under FAR Part 141; and all aircraft utilized in such instruction be similarly approved. Once a student has enrolled at Central Washington University, all subsequent flight training must be completed from the flight school approved by CWU. Flight training from schools other than the school approved by CWU is not permitted and credit will not be granted.

Graduates may expect to enter the aviation field as professional pilots.

NOTE: Aviation flight costs are not included in the registration fees. These costs are in addition to tuition, university fees, and any other incidental expenses which are normally charged during tuition.

	Credits
Core Courses	66
MATH 170, Intuitive Calculus	5
FLT 310, Meteorology	4
FLT 319, Advanced Aerodynamics and Aircraft Performance	5
FLT 333, Air Transportation	5
FLT 335, Aviation Management	3
FLT 350, Commercial Pilot Certification	5
FLT 351, Instrument Rating	5
FLT 352, Multiengine	2
FLT 410, Weather Reporting and Analysis	3
FLT 419, Advanced Aircraft Systems	5
FLT 457, CFI Airplane	5
FLT 458, CFI Instrument	4
FLT 459, CFI Multiengine	3
Electives by advisement	

Total 126

Aviation Maintenance Management Concentration

Aviation maintenance management students will receive in-depth coverage of the theoretical and practical application of airframe and powerplant maintenance. Students accepted into this concentration must hold an Airframe and Powerplant Certificate from Federal Aviation Administration approved curriculum under the Federal Aviation Regulation 147. Graduates from this concentration will be qualified for careers not only in maintenance, but also in supervision and management.

Opportunities exist both in government and the private sectors of aviation.

Credits

Core Courses	66
Airframe and Powerplant Certificate*	45
CHEM 101, 110.1, Contemporary Chemistry	5
MATH 170, Intuitive Calculus	5
IET 380, Quality Control	5
Electives by advisement (upper division)	4

Total 130

*Certificate not offered at Central Washington University. Forty-five credits of the Airframe and Powerplant Certificate will be accepted. See program advisor.

Airway Electronics Systems Concentration

Students selecting the airway electronics concentration receive a comprehensive education in electronics theory and practical application. Graduates are prepared for careers in government and aviation electronics, maintenance, operations, testing and development. Graduates of the airway electronics concentration will be qualified for supervisory and management responsibilities.

Credits

Core Courses	66
IET 165, Engineering Drawing I	4
IET 272, Basic Electronics	4
IET 273, Network Analysis	4
IET 375, Microprocessor Applications	3
IET 376, Intermediate Electronics	4
IET 377, Instrumentation	4
IET 378, Pulse Circuit	4
IET 475, Electronic Communications	4
ELT 371, Advance Digital Circuits	4
ELT 372, Electrical Power and Machinery	4
ELT 373, Active Linear Circuits	4
ELT 474, Microprocessors and Instrumentation	4
CPSC 274, Programming Language Survey	3
Math 172.1, 172.2, Calculus	10

Total 126

Courses

FLT 151. Private Pilot Ground School (5). Fundamentals of navigation, meteorology, and theory of flight, controlled airspace, elementary radar and Federal Aviation Regulations for the private pilot. Prepares students to take the FAA Private Pilot written examination.

FLT 244. Single Engine Simulator Basic (1). Prerequisite, instructor permission. Six to 10 hours basic attitude instrument flying, aircraft control, combining pitch, power bank and trim, unusual attitudes, instrument systems. Training will be done to stated performance level. Hourly use fee. Grade will be S or U and a final flight check must be completed satisfactorily.

School of Professional Studies

FLT 245. Single Engine Simulator Advanced (1). Prerequisite, FLT 244 or permission of instructor. Six to 10 hours with emphasis on IFR navigation, including ADF, VOR, ILS approaches and holding procedures. Hourly use fee. Grade will be S or U and a final check flight must be accomplished satisfactorily. May be computer scored.

FLT 250. Commercial Pilot Ground School (5). Prerequisites, FLT 151 or Private License and instructor's permission. Airplane aerodynamics, propellers, engines and aircraft systems and their operation. Controlled airspace and visual flight rules. Radio communications and emergency procedures VFR Navigation. Prepares student to pass FAA Commercial Pilot written examination.

FLT 251. Instrument Pilot Ground School (5). Prerequisites, FLT 151, or Private License and permission of instructor. Navigation solely by reference to aircraft instruments and electronic aids. Instrument procedures, departures, enroute navigation and approaches. Prepares student to pass FAA Instrument Pilot written examination.

FLT 296. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

FLT 298. Special Topics (1-5).

FLT 310. Meteorology (4). Prerequisite, FLT 151 or Private Pilot Certificate. Basic theories of weather, atmospheric conditions, climate, physical processes affecting the atmospheric environment, principles of forecasting and introduction to instrumentation.

FLT 316. Flight Safety and Accident Prevention (5). A detailed inspection of the causal factors involved in aircraft accidents, with emphasis on training, certification, habits and attitudes, and hazardous operations.

FLT 319. Advanced Aerodynamics and Aircraft Performance (5). Prerequisite, Private Pilot Certificate or permission of instructor. Advanced theories of flight and flight factors including airfoil shape, drag, velocity, lift and thrust, stability and control; advanced principles of performance including capabilities and limitations, performance and design criteria, load factors, weight and balance charts, comparative analysis of aircraft, certification of aircraft.

FLT 330. Aviation Law (5). Basic understanding of aviation law, the legal system, the principles of law and how they may be applied to aspects of air transportation.

FLT 331. Air Traffic Control (5). The national air traffic control system, control procedures, the integration of centers, approach communications, navigation procedures, radar operations and facilities.

FLT 332. The National Airspace System (3). Prerequisite, FLT 331. An overview of the NAS, implementation problems, airspace allocation and usage, facilities, safety, electronic navigation and control systems, economic impact, social and political implications.

FLT 333. Air Transportation (5). The air transportation system including facilities, regulations, problems encountered in commercial air transportation, airline operations, economic and social considerations.

FLT 334. Airport Management (3). Airport operations and management, including analysis of the role of the airport manager in planning, finance and administration; public relations, social, political and environmental considerations; operational requirements and facilities maintenance.

FLT 335. Aviation Management (3). Management of aviation activities, manpower, facilities, regulations and flight operations.

FLT 336. Concepts of Air Transport Utilization (3). Factors involved in the effective utilization of aircraft in transportation of passengers and cargo, including aircraft design and cost effectiveness, operational and marketing considerations, depreciation and suitability.

FLT 337. Aviation Physiology/Survival (5). A study of altitude and other effects on airmen including hypoxia, TUC, hyperventilation, decompression, noise, visual cues and spatial disorientation. Normally requires altitude chamber flight. Study and review of survival techniques including emergency landing procedures and survival techniques for tropical, temperate, sub arctic and arctic zones.

FLT 344. Basic Multiengine Simulator (1). Prerequisite, FAA Instrument Certificate. Basic multiengine procedures, engines and systems failure recognition, engine out procedure, systems operations, normal and abnormal. Hourly use fee. Grade will be S or U.

FLT 345. Advanced Multiengine Simulator (1). Prerequisite, FLT 344. Multiengine IFR procedures, enroute flight planning, airway navigation, instrument approaches, normal and abnormal operations. Hourly use fee. Grade will be S or U.

FLT 350. Commercial Pilot Certification (5). Prerequisite, Private Pilot Certificate. Ground and flight instruction in preparation for the FAA Commercial Pilot written exam and Commercial Pilot certification; emphasizes advanced aerodynamics, aircraft performance, precision maneuvers, extended cross country and night flight, relevant FAA regulations, introduction to advanced systems and transition to more sophisticated aircraft.

FLT 351. Instrument Rating (5). Prerequisite, FLT 350. Ground and flight instruction in preparation for the FAA Instrument written exam and completion of requirements for the FAA Instrument rating; concepts and practical experience related to instrument and weather flying, IFR procedures and FAA regulations, navigation by radio, and instrument approaches.

FLT 352. Multiengine Rating (2). Prerequisite, FLT 351. Multiengine ground simulator (procedures trainer) and flight instruction in preparation for the FAA multiengine rating. Include aircraft systems and operations, transition to multiengine aircraft, normal and emergency operations and flight characteristics common to light and medium multiengine aircraft. Must take FLT 344 concurrently. Grade will be S or U.

FLT 357. Flight Instructor Ground School (5). Prerequisite, FLT 251. Ground instruction required in preparation for written examinations on Fundamentals of Instruction and Flight Instructor Airplane. Includes Advanced Ground Instructor Certification.

FLT 410. Weather Reporting and Analysis (3). Prerequisite, FLT 310. Comprehensive analysis of weather conditions and patterns as they apply to flight; case studies and data analysis used to illustrate forecast development and reporting procedures.

FLT 419. Advanced Aircraft Systems (5). Prerequisite, FLT 151 or Private Pilot Certificate. Aircraft components and systems including flight controls, electrical, hydraulic, fuel, landing gear, brakes, pressurization, engine and propeller including turbocharging and their operation. Introduction to small turbine engines, air bleed systems and turbo propeller control systems.

FLT 431. Flight Simulator Instructor Single Engine (2). Prerequisite, FAA Certified Flight Instructor - Instrument. Instruct two students in Basic Instrument Flying (20 hours) using Instrument Procedures Trainers. May be repeated. Grade will be S or U.

FLT 432. Advanced Flight Simulator Instructor Single Engine (2). Prerequisite, FAA Certified Flight Instructor - Instrument. Instruct two students (20 hours) in basic and advanced Instrument Flying Procedures including ADF, ILS, VOR approaches using complex single engine procedures trainer (simulator). May be repeated. Grade will be S or U.

FLT 433. Multiengine Simulator Instructor (2). Prerequisite, FAA Certified Flight Instructor Instrument and Multiengine. Instruct two students (20 hours) in basic multiengine procedures and IFR navigation. Includes both normal and abnormal aircraft operations. May be repeated. Grade will be S or U.

FLT 457. Certified Flight Instructor Airplane (5). Prerequisite, FLT 351. Ground and flight instruction required in preparation for flight instructor certification. Course includes fundamentals of teaching and learning, flight instructor responsibilities, coverage of flight maneuvers required for instructing private and commercial students, and acquisition of Basic Ground Instructor and Advanced Ground Instructor certificates.

FLT 458. Certified Flight Instructor Instrument (4). Prerequisite, FLT 457. Ground and flight instruction required in preparation for flight instructor instrument certification; includes presentation of methodology used in teaching instrument flight and acquisition of the Instrument Ground Instructor certificate.

FLT 459. Certified Flight Instructor Multiengine (3). Prerequisites, FLT 352 and FLT 457. Principles and methodology of teaching multiengine flight; ground and flight instruction required by the FAA in preparation for a flight instructor multiengine rating. Minimum of six hours practice teaching under supervision of Multiengine Instructor in a multiengine procedures trainer.

FLT 461. Flight Engineer I (5). Prerequisite, FLT 350 or Commercial Pilot Certificate or instructor permission. Federal Aviation Regulations applicable to flight engineers. Theory of flight and aerodynamics for transport category aircraft, meteorology as applicable to turbojet engines, oxygen systems, weight and balance computations for Category I aircraft. Turbine engines and engine operation, engine ignition, oil, fuel and bleed systems, and engine fire protection and instrumentation.

FLT 462. Flight Engineer II (5). Prerequisite, FLT 461. Transport category aircraft specifications, construction features, flight controls, and the following systems: hydraulic, pneumatic, electrical, anti-icing, and de-icing, landing gear and brakes, pressurization, air conditioning and fuel system.

FLT 463. Flight Engineer III (5). Prerequisite, FLT 462. Aircraft servicing, performance computations, pitot static system, flight instruments, panel flows and panel performance. Normal operations of all systems.

FLT 464. Flight Engineer IV (5). Prerequisite, FLT 463. Abnormal and Emergency Operations. Pressurization and air conditioning, landing gear and brakes, flaps, speed brakes and leading-edge devices, portable fire extinguishers, fuselage fire and smoke control, loss of electrical power, engine fire control, engine shut down and restart. Requires satisfactory completion of FAA Flight Engineer written exams (2) and satisfactory performance on panels.

FLT 475. Specialty Flight Laboratory (1). Prerequisite, FAA Pilot Certificate or equivalent and permission. Instruction in the listed specialties. Flight hours will vary with specialty. A minimum of 12 flying hours normally required for credit except as approved by Department of Flight Technology. Hang gliders are specifically omitted. May be repeated.

- A. Single Engine Seaplane
- B. Multiengine Seaplane
- C. Helicopters
- D. Mountain Flying
- E. Aerobatics
- F. Other

FLT 484. History of Aviation (3). Prerequisite, 20 credits in flight technology or permission of instructor.

FLT 488. Pilot Performance (2). Prerequisites, departmental permission and senior standing. A written and/or oral examination and a skills demonstration covering those areas that will enable the graduating student to enter the aircraft piloting career with a greater degree of safety and personal confidence in his/her own capabilities.

FLT 490. Contracted Field Experience (1-15). Prerequisite, departmental approval. Individual contract arrangement involving student, faculty and cooperating agency to gain experience in the aviation/aerospace environment. Grade will be S or U.

FLT 496. Individual Study (1-3). Prerequisite, permission of instructor. May be repeated.

FLT 498. Special Topics. (1-5).

FLT 499. Seminar. (1-5). May be repeated.

*FLT 151, 250, and 256 constitute the university ground school courses for the FAA Private, Commercial and Instrument written examinations.

*FLT 451, 452, 453, 454, 455 and 456 comprise the university's FAA-Approved Flight Engineer Ground School (Turbojet), graduation from which qualifies one to take the FAA Flight Engineer Written Examination.

FOREIGN LANGUAGES

Chair:

Rosco N. Tolman

Language and Literature Building 102

Professors:

Elbert E. Bilyeu, Spanish
Eva-Marie Carne, German
Kelton W. Knight, French
M. Nancy Lester, Spanish
Carlos E. Martin, Spanish
Christian I. Schneider, German
Rosco N. Tolman, Spanish

Associate Professor:

Dieter Romboy, German

Assistant Professors:

Stella Moreno-Kimball, Spanish
Misaki Shimada, Japanese

Instructors:

Midori Doi, Japanese
Steven Kimball, Russian

The department offers the bachelor of arts in French, German and Spanish. Minors are offered in those three languages as well as in Japanese. Students interested in certification to teach may take a major or minor in the target language(s). Lower division course work is also offered in Chinese. Course offerings provide (1) an introduction to the nature of the language as a facet of culture; (2) an acquaintance with the literatures of the aforementioned languages; and (3) proficiency in speaking, comprehension and writing. A fully equipped language laboratory provides practice in speaking and understanding through the use of tapes and recordings, prepared by native speakers.

For non-majors, the first and second year sequences of the foreign language department are designed to provide basic proficiency in a foreign language, and the values of a liberal education. Such proficiency, combined with some other special knowledge or skill, can also lead to many exciting vocational opportunities.

The department recommends that all majors include some organized study in a foreign country where their major language is spoken. Interested students are reminded that there are various study-abroad programs administered by the coordinator of international programs. Credit earned in programs abroad will normally count toward satisfaction of the major or minor requirements, but the student should see an advisor

before enrolling in a foreign program. Credit may also be given for special projects completed while traveling in a foreign country. For information on the requirements and types of projects acceptable, contact the department. Foreign language majors and minors are encouraged to take courses in related disciplines. Please consult with a major advisor.

Bachelor of Arts Major

— French, German or Spanish

A major in French, German or Spanish will consist of 45 credits in one language in courses numbered 200 or above, with at least 15 credits on the 400 level, including:

1. 251, 252, 253, (with departmental approval these courses may be waived for students with sufficient preparation to begin their major program at the third year level).
2. At least 12 hours in upper division courses primarily devoted to language theory and practice, including 460 and at least 9 hours selected from the following: 361, 362, 461, FR 482, GR 464, FNLA 401.
3. At least 12 hours in upper division literature courses taught in the appropriate language, including at least one course dealing with Twentieth Century Literature.
4. Students planning to be certified to teach at the secondary level must include FNLA 428, Methods and Materials for the Teaching of Foreign Languages, in the basic 45 hour requirements.

Elementary level teacher education students may use any of the three majors for the 30-credit area in a three area program (30-20-30), with professionalized subjects and a recommended minor. Students must complete 30 hours of courses numbered 200 or above, including FNLA 428 and at least 6 credits from the following: 361, 362, 460, 461, FR 482, GR 464, FNLA 401.

Minor — French, German, Japanese or Spanish

The minor in all languages will consist of a minimum of 27 hours of electives in courses numbered 200 or above in a particular language area. Of the 27 hours at least 10 credits must be from the following: 361, 362, 460, 461, FR 482, GR 464, FNLA 401.

Students planning to be certified to teach at the secondary level may use FNLA 428 as part of the 27-hour requirement.

Elementary level teacher education students may use the minor in any of the four languages for one of the 20-credit areas in a Three Area Program (30-20-30). Students must complete at least 20 hours of courses numbered 200 or above, including at least 5 hours from the following: 361, 362, 460, 461, FR 482, GR 464, FNLA 401.

Departmental Honors

1. Admission to the Program:

Student must be a foreign language major, at least a junior but no more than a first quarter senior, have a GPA of 3.5 in the foreign language in question and must have completed six hours of upper-division literature. Student must apply in writing to the department chair and be approved by the staff members in the foreign language of his or her choice.

2. Requirements and procedures:

Student shall register for four hours of individual study. These credits will apply toward electives in the major. Student will be expected to do individual study, directed reading and research in one of the following areas:

- A. Culture and civilization of a given country
- B. Author, literary genre or period
- C. Creative teaching

Student's plan for an honors thesis or project must be approved by all staff members engaged in the teaching of the foreign language in question, with the department chair having a vote in case of a tie. All departmental honors work must be done in the foreign language. The student, in consultation with the departmental honors advisor, will choose his or her own thesis chair. When the thesis or project is completed, it will be the student's responsibility to duplicate a final draft of the work and to distribute copies to two readers who will be instructors of the student's major language and will be chosen by the thesis chair. A formal defense will not be required but the chair and the two readers may wish to conduct an informal discussion with the student. Final acceptance or rejection of the work will be the responsibility of the student's thesis chair, although the opinions of the readers will be considered.

Upon completion of the foregoing requirements, the department chair will certify to the honors director that the student has completed all requirements for Departmental Honors in Foreign Languages.

Foreign Language Courses

FNLA 111, 112, 113. Foreign Languages-Special Instruction (3 or 5). A foreign language not usually taught by the department. Offerings vary according to student demand, availability of staff, or of instructional programs. FNLA 111 or the sequence may be repeated for credit in different languages. Interested students should contact the foreign language department for available offerings.

FNLA 210. Intercultural Experiences (2). A comparison of life, language and culture in the United States and other parts of the world. Grade will be S or U.

FNLA 298. Special Topics (1-6).

FNLA 398. Special Topics (1-6).

FNLA 401. Introduction to Romance Linguistics (3). Prerequisite, two years of a romance language, or equivalent. Analysis of the phonology, morphology and syntax of the romance languages. Credits to be counted toward either French or Spanish major or minor.

FNLA 420. Special Problems in the Teaching of Modern Foreign Languages (3). Units on French, German and Spanish, according to needs of students enrolled. Laboratory work with foreign language classes.

FNLA 428. Methods and Materials for the Teaching of Modern Foreign Languages (3) F. Prerequisite, at least two 300-level courses or equivalent in a foreign language.

FNLA 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, govern-

ment, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

FNLA 491. Workshop (1-6). Prerequisite, departmental permission. May be repeated for credit.

FNLA 496. Individual Study (1-6).

FNLA 498. Special Topics (1-6).

Chinese Courses

CHIN 151, 152, 153. First Year Chinese (5,5,5). Courses must be taken in sequence. Conversational approach with intensive oral-aural drill. Firm foundation in basic structural principles of the language.

CHIN 251, 252, 253. Second Year Chinese (5,5,5). Courses must be taken in sequence. Prerequisite, CHIN 153 or equivalent. Graduated readings in modern Chinese writings with discussion conducted in Chinese.

CHIN 298. Special Topics (1-6).

CHIN 398. Special Topics (1-6).

CHIN 496. Individual Study (1-6). Prerequisite, permission of instructor.

CHIN 498. Special Topics (1-6).

French Courses

FR 151, 152, 153. First Year French (5,5,5) FWSp. Courses must be taken in sequence. Conversational approach with intensive oral-aural drill. Firm foundation in the basic structural principles of the language.

FR 251, 252, 253. Second Year French (5,5,5) FWSp. Courses must be taken in sequence. Prerequisite, FR 153 or equivalent. Thorough review of French grammar and graduated readings in modern French prose with discussions conducted in French.

FR 291. Workshop (1-6). May be repeated for credit.

FR 298. Special Topics (1-6).

FR 301. Introduction to French Literature (3). Prerequisite, FR 253 or equivalent. This course is designed as a transition course to prepare students for the advanced literature courses. Appreciation of literature and methods of analysis will be taught on a basic level through the careful examination of specific texts.

FR 310. French Civilization and Culture (3). Prerequisite, FR 253 or equivalent. Major aspects of French culture, philosophy and way of life will be emphasized.

FR 361, 362. Intermediate Conversation and Composition (5,5). Prerequisite, FR 253 or equivalent.

FR 398. Special Topics (1-6).

FR 411, 412, 413. Survey of French Literature (3,3,3) FWSp. Prerequisite, FR 301 or equivalent. Readings, lectures, and discussion in French of literary masterpieces from the Middle Ages to the present.

FR 427. French Medieval and Renaissance Literature (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval. Representative authors such as Villon, Montaigne, Rabelais will be studied.

FR 429. 18th Century French Literature (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval. The Enlightenment, with particular emphasis on Montesquieu, Diderot, Voltaire and Rousseau.

FR 430. French Romanticism (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval. Poetry, plays and novels of the period from 1800-1850.

FR 435. French Realism and Naturalism (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval. The novel from Balzac and Stendhal through Zola; realistic drama from Augier to the Theatre Libre.

FR 450. Contemporary French Novel (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval. From Proust to Camus.

FR 452. Contemporary French Theater (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval. French theater from the Theatre Libre to the present.

FR 455. French Poetry Through the Ages (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval. Selected masterpieces from the Middle Ages to the present.

FR 460. Advanced Grammar (3) F. Prerequisite, FR 363 or equivalent. Intensive drill and study of advanced French grammar and syntax.

FR 461. Advanced Conversation and Composition (5). Prerequisite, at least two 300-level language courses, or permission.

FR 480. The "Avant-garde" Literature of France (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval. The Novel of Protest; the Theatre of the Absurd. From 1950 to the present.

FR 481. French Cinema and Science-Fiction (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval. Classic and modern French films will be shown and discussed. Works of selected modern French science-fiction writers will be read and analyzed and related to the modern French films.

FR 482. French Phonetics (3). Prerequisite, two years of college French or permission of instructor. Intensive practice of typical French patterns of intonation, articulation, stress and pronunciation.

FR 486. French Existentialism (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval. The literary works of Sartre and other writers associated with the Existential movement will be analyzed in depth.

FR 491. Workshop (1-6). Prerequisite, departmental permission. May be repeated for credit.

FR 496. Individual Study (1-6). Prerequisite, permission of instructor.

FR 498. Special Topics (1-6).

German Courses

GERM 151, 152, 153. First Year German (5,5,5) FWSp. Courses must be taken in sequence. Conversational approach with intensive oral-aural drill. Firm foundation in the basic structural principles of the language.

GERM 251, 252, 253. Second Year German (5,5,5) FWSp. Courses must be taken in sequence. Prerequisite, GERM 153 or equivalent. Graduated readings in modern German prose with discussion conducted in German. Thorough review of German grammar.

GERM 298. Special Topics (1-6).

GERM 301. Introduction to German Literature (3). Prerequisite, GERM, 253 or equivalent. Selected pieces of German literature characteristic of the Middle Ages to the present.

GERM 310. German Civilization and Culture (3). Prerequisite, GERM 253 or equivalent. The background, development, and especially the present-day situation of the German-speaking areas of the world.

GERM 361, 362. Intermediate Conversation and Composition (5,5). Prerequisite, GERM 253 or equivalent.

GERM 398. Special Topics (1-6).

GERM 431. German Classicism and Romanticism (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval. Course treats individual works and authors. May be offered in English for non-majors and non-minors and may be repeated for credit.

GERM 432. German Poetry (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval.

GERM 454. The German Narrative (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval. The German short story, Novelle, and novel.

College of Letters, Arts and Sciences

GERM 456. German Drama (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or departmental approval.

GERM 458. Modern German Literature (3). Prerequisite, at least two 300-level courses, one of which must be a literature course, or the permission of the instructor. Treats Boell, Brecht, Hesse, Kafka, and others. May be offered in English to non-majors and non-minors and may be repeated for credit.

GERM 460. Advanced Grammar (3) F. Prerequisite, GERM 363 or equivalent. Intensive drill and study of advanced German grammar and syntax.

GERM 461. Advanced Conversation and Composition (5). Prerequisite, at least two 300-level language courses, or permission.

GERM 464. German Translation (3). Prerequisite, one 300-level German course or equivalent.

GERM 491. Workshop (1-6). Prerequisite, departmental permission. May be repeated for credit.

GERM 496. Individual Study (1-6). Prerequisite, permission of instructor.

GERM 498. Special Topics (1-6).

Japanese Courses

JAPN 151, 152, 153. First Year Japanese (5,5,5). Courses must be taken in sequence. Conversational approach with intensive oral-aural drill. Foundation in basic structural principles of the language.

JAPN 251, 252, 253. Second Year Japanese (5,5,5). Courses must be taken in sequence. Prerequisite, JAPN 153 or equivalent. Graduated readings in modern Japanese writings with discussion conducted in Japanese. Review of Japanese grammar.

JAPN 298. Special Topics (1-6).

JAPN 361, 362, 363. Intermediate Conversation and Composition (5,5,5). Prerequisite, JAPN 253 or equivalent.

JAPN 496. Individual Study (1-6). Prerequisite, permission of instructor.

JAPN 498. Special Topics (1-6).

Russian Courses

RUSS 151, 152, 153. First Year Russian (5,5,5). Courses must be taken in sequence. Conversational approach with intensive oral-aural drill. Firm foundation in basic structural principles of the language.

RUSS 252, 252, 253. Second Year Russian (5,5,5). Prerequisite, RUSS 153 or equivalent. Courses must be taken in sequence. Thorough review of Russian grammar and graduated readings in Russian prose and poetry with discussions conducted in Russian.

RUSS 496. Individual Study (1-6). Prerequisite, permission of instructor.

Spanish Courses

SPAN 151, 152, 153. First Year Spanish (5,5,5) FWSp. Courses must be taken in sequence. Conversational approach with intensive oral-aural drill. Firm foundation in basic structural principles of the language.

SPAN 200. Literacy Skills for the Spanish Speaker (3). Prerequisite, oral fluency in Spanish. Designed to develop the reading and writing skills of those fluent in oral Spanish.

SPAN 221. Conversation (2). Prerequisite, one year of college Spanish or equivalent. Does not count toward major or minor. Grade will be S or U.

SPAN 251, 252, 253. Second Year Spanish (5,5,5) FWSp. Courses must be taken in sequence. Prerequisite, SPAN 153 or equivalent. Graduated readings in modern Spanish prose with discussions conducted in Spanish. Thorough review of Spanish grammar.

SPAN 298. Special Topics (1-6).

SPAN 300. Spanish for Bilingual School Personnel (3). Prerequisite: fluency in Spanish. Review of Spanish language elementary textbooks. Public speaking, oral communication and oral/written translation, and use of specialized vocabulary.

SPAN 301. Introduction to Spanish Literature (3) F. Prerequisite, SPAN 253 or equivalent. This course is designed principally as a transition course to prepare students for the advanced literature courses. Appreciation of literature and methods of analysis will be taught on a basic level through the careful examination of specific texts.

SPAN 310. Spanish Civilization and Culture (3). Prerequisite, SPAN 253 or equivalent. Major aspects of Spanish culture, with particular emphasis on contemporary Spanish customs, philosophy, and way of life.

SPAN 311. Spanish American Civilization and Culture (3). Prerequisite, SPAN 253 or equivalent. A course designed to teach the indigenous Latin American cultures and their fusion with European culture. Crosscultural differences and the contemporary customs and life styles of the Latin American countries will be emphasized.

SPAN 360. Spanish Orthography, Grammar and Composition (3). Prerequisite, SPAN 253 or equivalent. Provides the opportunity for native Spanish speakers and others with considerable oral proficiency to improve their ability to spell and to write Spanish, and to increase their knowledge of Spanish structure.

College of Letters, Arts and Sciences

SPAN 361, 362. Intermediate Conversation and Composition (5,5). Prerequisite, SPAN 253 or equivalent.

SPAN 383. Spanish-English Contrastive Linguistics (4). Prerequisite, permission of instructor. For bilingual classroom instruction with special concentration in Spanish-English phonology, morphology, and syntax.

SPAN 398. Special Topics (1-6).

SPAN 411, 412, 413. Survey of Spanish Literature (3,3,3) FWSp. Prerequisites, SPAN 301 and another 300-level Spanish course or departmental approval. Readings, lectures and discussions in Spanish of literary masterpieces from the Middle Ages to the present.

SPAN 430. Spanish Romanticism (3). Prerequisites, SPAN 301 and another 300-level Spanish course or departmental approval. Lyric poetry and the theater of the first half of the 19th century.

SPAN 435. Realism and Naturalism (3). Prerequisites, SPAN 301 and another 300-level Spanish course or departmental approval. Novels, short stories and essays of Alarcon, Valera, Galdos, Pardo Bazan and others.

SPAN 448. Cervantes (3). Prerequisites, SPAN 301 and another 300-level Spanish course or departmental approval. Intensive study of Don Quixote.

SPAN 450. The Drama of the Golden Age (3). Prerequisites, SPAN 301 and another 300-level Spanish course or departmental approval. Comedias and entremeses from Cervantes to Calderon.

SPAN 451, 452, 453. Survey of Spanish-American Literature (3,3,3) FWSp. Prerequisites, SPAN 301 and another 300-level Spanish course or departmental approval. An introduction to Spanish-American literature from colonial times to the present.

SPAN 455. The Generation of 1898 (3). Prerequisites, SPAN 301 and another 300-level Spanish course or departmental approval. Representative works of Valle-Inclan, Azorin, Baroja, Unamuno, Machado, and Benavente.

SPAN 458. The Contemporary Spanish-American Novel (3). Prerequisites, SPAN 301 and another 300-level Spanish course or departmental approval.

SPAN 459. Contemporary Spanish-American Poetry (3). Prerequisites, SPAN 301 and another 300-level Spanish course or departmental approval.

SPAN 460. Advanced Grammar (3) F. Prerequisite, SPAN 363 or equivalent. Intensive drill and study of advanced grammar and syntax.

SPAN 461. Advanced Conversation and Composition (5). Prerequisite, at least two 300-level language courses, or permission.

SPAN 464. Contemporary Spanish Novel (3). Prerequisites, SPAN 301 and another 300-level Spanish course or departmental approval. Spanish novel from after the Generation of 1898 to the present.

SPAN 465. Contemporary Spanish Theater (3). Prerequisites, SPAN 301 and another 300-level Spanish course or departmental approval. Spanish theater from the Generation of 1898 to the present.

SPAN 466. Contemporary Spanish Poetry (3). Prerequisites, SPAN 301 and another 300-level Spanish course or departmental approval. Spanish poetry from the Generation of 1898 to the present.

SPAN 491. Workshop (1-6). Prerequisite, departmental permission. May be repeated for credit.

SPAN 496. Individual Study (1-6). Prerequisite, permission of instructor.

SPAN 498. Special Topics (1-6).

The following courses are on reserve and may be offered subject to program needs. FR 213 Twentieth Century French Literature in English (3), FR 214 Afro-French Literature in English (3), FR 363 Intermediate Conversation and Composition (3), FR 426 Medieval French Literature (3), FR 428 17th Century French Literature (3), FR 445 French Grammar for Teachers (3), FR 462 Advanced Conversation and Composition (3), GERM 161, 162, 163 First Year Conversational German (3,3,3), GERM 171, 172 Reading German (3,3), GERM 213 Masterpieces of Modern German Literature in English (3), GERM 363 Intermediate Conversation and Composition (3), GERM 462 Advanced Conversation and Composition (3), AST 289 Chinese Calligraphy (3), RUSS 160 Scientific Russian (5), RUSS 254 Russian Culture and Civilization (5), RUSS 331 19th Century Russian Literature I (4), RUSS 332 19th Century Russian Literature II (4), RUSS 333, 20th Century Russian Literature I: Pre-Soviet (4), RUSS 361, 362, 363 Intermediate Conversation and Composition (3), RUSS 498 Special Topics (1-6), SPAN 213 Masterpieces of Spanish Literature in English (3), SPAN 214 Twentieth Century Latin American Literature in English (3), SPAN 363 Intermediate Conversation and Composition (3), SPAN 426 Medieval Spanish Literature (3), SPAN 427 Spanish Renaissance Literature (3), SPAN 445 Spanish Grammar for Teachers (3), SPAN 457 The Modernista Movement in Spanish-American Literature (3), SPAN 462 Advanced Conversation and Composition (3).

GEOGRAPHY AND LAND STUDIES

Chair:

Kenneth A. Hammond
Lind Hall 119

Professors:

Joel M. Andress, Cartography, Asia, Climatology
James E. Brooks, Anglo-America, Economic Geography,
Growth Management

Kenneth A. Hammond, Conservation, Resource Planning and Legislation, The Pacific Northwest
 George Macinko, Resources and Man, Geography of the Future, Environmental Studies
 John Q. Ressler, Human Geography, Cartography, GIS, Culture and Resources, Third World Development

Assistant Professors:

Nancy B. Hultquist, Economic Geography, GIS, Urban Geography, Computer Cartography
 Morris L. Uebelacker, Human Geography, Yakima River Basin, Planning, Field Methods

Geography's traditional concern with the interrelatedness of the natural and man-made environments, and reasons for their differences from place to place, provides important insights into many of the complexities and problems facing mankind today.

The program stresses flexibility in the selection of course sequences for majors and encourages study in related departments amongst the social and natural sciences. The department is an active participant in the university's resource planning center, environmental studies, energy studies, resource management and asian studies programs and its geographic information systems laboratory.

If you choose to major in geography, no matter which track (geography, land studies, or environmental and resource management), you will be required to take a core sequence of four courses (see below) but beyond those you have great flexibility in working out a program with the help of one of our faculty advisors. Your major then will include the combination of courses in geography and related fields, as approved by one of our departmental advisors, that will best enable you to achieve your goals in graduate school, planning, resource management, land development, or other land or resource related fields.

Students who declare a major in geography must register with the department.

Students interested in pursuing a program emphasizing environmental studies as a topic for an interdisciplinary major should consult the chair.

Bachelor of Arts

General Major

Core	Credits
GEOG 107, Introduction to Physical Geography	5
GEOG 205, Economic Geography	5
GEOG 308, Cultural Geography	5
GEOG 384, Introductory Cartography	5
Approved Electives	25-40
Total	45-60

(45 credit major requires a minor in another discipline.)

The Major Tracks

I. **Geography.** This track allows you to work out a program that will prepare you for graduate work or any career where solid understanding of the relationships between humans and the surface of our earth is impor-

tant. It will consist of 45-60 credit hours of work (including the core) in geography and related fields.

II. **Land Studies.** Careers in local, regional, or urban planning or in land analysis and development are best developed through the use of this track. It normally places heavy emphasis on analytical tools, and the application of geographic and economic theory to problems encountered by the planner or developer. This is an appropriate track for persons interested in careers with public and private land planning firms and land development firms. Some additional courses in economics, geology, biology, or other related fields will normally accompany the 60 credit major.

III. **Environmental and Resource Management.** For persons interested in careers in environmental management and related fields, this track will normally emphasize courses in resource development, allocation, and policy. It will include work with the tools of environmental and resource evaluation. The 45 credit major would usually require a minor in environmental studies.

Teaching Major

Senior high school teachers must accompany this with a major in a field in which a student can be endorsed and in which a major portion of a full-time teaching assignment can be expected. Qualifies for teaching both geography and the second major field. Junior high school teachers must combine this with minors in both history and English. GEOG 203, The World of Maps, provides map reading skills for all teaching levels. For elementary school teaching see page 107.

Credits

GEOG 101, Man's Changing Earth	5
GEOG 107, Introduction to Physical Geography	5
GEOG 203, The World of Maps	2
GEOG 205, Economic Geography	5
GEOG 308, Cultural Geography	5
GEOG 386, Geomorphology	
OR GEOG 388, Climatology	5
Regional Geography at 300-level or above	5-10
Systematic Geography at 300-level or above	3-7
Elective at 300-level or above as approved by Geography advisor	3-7
Total	45

Minor

Credits

GEOG 101, Man's Changing Earth	
OR GEOG 308, Cultural Geography	5
GEOG 107, Introduction to Physical Geography	5
*GEOG 203, The World of Maps	2
GEOG 205, Economic Geography	5
GEOG 386, Geomorphology	
OR GEOG 388, Climatology	5
Any upper division regional geography course	2-5
Total	24 or 27

*A requirement for prospective teachers (WAC 180-79-356). WAC also requires a minimum of 24 credits for endorsement to teach in the public schools.

Undergraduate Courses

GEOG 101. Man's Changing Earth (5). Regions and nations of the world together with the changing elements of the physical and human environment which support them.

***GEOG 107. Introduction to Physical Geography** (5). The complex landforms, climate, vegetation, and soils which characterize man's natural environment.

***GEOG 203. The World of Maps** (2). An introduction to commonly available maps, including topographic, nautical, weather, land use, and others. Necessary concepts, such as scale, are introduced.

***GEOG 205. Economic Geography** (5). The distribution of man's economic activities and the principal commodities of world commerce.

GEOG 298. Special Topics (1-6).

GEOG 299. Seminar (1-5).

GEOG 302. The Meaning of Land (3). An overview of land as a commodity and a resource. What land means to its owners, users, and society. What problems are associated with society's increased needs and expectations relative to land. Field trips.

***GEOG 305. Introduction to Land Use Planning** (5). What planning is and where it is done; its purposes and the agencies and means for accomplishing them; individual projects, field trips.

GEOG 308. Cultural Geography (5). Assessment of consequences of human occupation of the Earth. Interactions of cultural and natural systems in formation of landscapes of wealth and impoverishment. (Students with credit in GEOG 108 may not receive credit for this course.)

***GEOG 310. Techniques in Land Analysis** (5). Specific land sites are selected. These sites are evaluated through use of aerial photos, assessor's office records, documents, and on-site study. Through this procedure, knowledge is gained in collecting, cataloging, and evaluating land data in preparation for determining land use recommendations.

***GEOG 311. Quantitative Methods in Geography** (4). Prerequisite, MATH 163.1 or permission of instructor. Application of quantitative analysis to the assessment of problems in systematic and regional geography.

GEOG 337. Mexico and Middle America (3). The physical and human geography of Mexico, Central America, and islands of the Caribbean.

***GEOG 343. Energy Resource Alternatives** (3). Solar, wind, water and biomass alternatives to traditional energy resources. Alternatives in power production, architecture, heating, trans-

portation, agriculture and policies affecting their implementation. (Not open to students with credit in GEOG 398, Low Energy Living.)

***GEOG 346. Political Geography** (4). The spatial structure of political units. The effect of political, economic, social and earth resource factors on the areas, shapes, and boundaries of these units, and on the distribution of populations and institutions.

***GEOG 350. Resources, Population and Conservation** (4). The meaning of resources and conservation; population growth and its implications for land management, public control, and environment quality; attitudes regarding the use of resources; conservation thought and activities in the United States.

GEOG 352. Geography of Anglo-America (5). The major geographic regions of Anglo-America (Canada, United States).

GEOG 355. Pacific Northwest Environments (4). Topography, climate and economic resources of the Pacific Northwest; the distribution and economic activities of the people. Not open to students who have had Geography 255.

GEOG 365. Geography of Africa (5). Land, people, and diverse geographical and political areas of Africa.

GEOG 371. Geography of Europe (5). The geographical and political units of Europe. Useful in the interpretation of European history.

***GEOG 384. Introductory Cartography** (5). Elementary map construction. Map projections, grids, scales, lettering, symbolization, and map compilation and use. Three lectures and four hours laboratory per week.

***GEOG 386. Geomorphology** (5). Prerequisites, GEOL 145, and 145.1, GEOG 107, or instructor's permission. Descriptive and interpretive examination of the earth's land forms. Three lectures and three hours laboratory per week. Field trips. (GEOG 386 and GEOL 386 are the same course. Students may not receive credit for both.)

***GEOG 388. Climatology** (5). Prerequisite, GEOG 107 or instructor's permission. The earth's climates, methods of classification, the relation of natural features and climate, man and climate, and the problem of climate change.

GEOG 398. Special Topics (1-6).

GEOG 399. Seminar (1-5).

***GEOG 402. Real Estate and Land Development** (5) Sp. Prerequisite, major in accounting, business administration, economics, or geography, or permission of instructor. Concepts and techniques of land development projects. Major topics covered will be site selection, land acquisition, market analysis, mortgage applications, and management organization.

***GEOG 408. Advanced Topics in Human Geography** (3). Focuses on the content of GEOG 308 in greater detail with particular emphasis on land use in nonindustrial societies. (Topics will vary, consult with instructor.)

***GEOG 410. Interpretation of Aerial Photographs** (3). Prerequisite, GEOG 384 or consent of instructor. Two hours lecture and two hours laboratory per week.

***GEOG 411A. Advanced Cartography** (5). Prerequisite, GEOG 384 or permission of instructor. Maps as a graphic communication medium with emphasis on use of color. Focuses on complex thematic representation, preparation of camera-ready copy, and preparation of color separations. Three hours lecture and four hours laboratory per week.

***GEOG 411B. Negative Scribing** (3). Prerequisite, GEOG 384 or permission of instructor. Requirements, tools and techniques of producing maps by negative scribing. Multiple-exposure photo reproduction of scribed materials. One hour lecture and four hours laboratory per week.

GEOG 411C. Automated Cartography (3). Prerequisites, GEOG 384, CPSC 177 (FORTRAN), or permission of instructor. Preparation of maps using computer controlled devices. Production of maps from computerized data files on both the high speed line-printer and incremental drum plotter. One hour lecture and four hours laboratory per week.

GEOG 412. Stereographic Plotting (2). Prerequisite, GEOG 410 or permission of instructor. Use of the Kelsh stereographic plotter in photogrammetric preparation of contour and thematic maps. One hour lecture and two hours laboratory per week.

***GEOG 421. Practical Aids in Teaching Geography** (3). Prerequisite, 10 credits in geography. Materials and methods appropriate to teaching geography in public schools.

***GEOG 425. Field Methods in Geography** (5). A field research course surveying the techniques of observation and the collection of data, and the interpretation of the gathered physical, economic and cultural information. (GEOG 384 recommended.)

GEOG 430. Remote Sensing (5). Principles of acquisition, analysis, and use of remotely sensed imagery (LANDSAT, SPOT, NHAP, SEASAT, etc.). Three hours lecture and four hours laboratory per week.

GEOG 431. Introduction to Geographic Information Systems (4). Prerequisite, permission of instructor. Basic principles and uses of geographic information systems (GIS). Practice with use of GIS in solving land management and evaluation problems. Two hours lecture and four hours laboratory per week. Same as ANTH 431. Student may not receive credit for both.

GEOG 432. GIS Database Development (4). Prerequisite, GEOG/ANTH 431. Creation of GIS databases including procedures for digitizing printed maps and processing files such as terrain, census and satellite data. Two hours lecture and four hours laboratory per week.

GEOG 435. Image Processing (3). Prerequisite, GEOG 430. Practice in digital analysis and manipulation of remotely sensed imagery. Two hours lecture and two hours laboratory per week.

***GEOG 443. Energy Policy** (5). Prerequisite, PHYS 111 or permission. Legal, institutional, and economic frameworks for regional, national and international energy decisions.

***GEOG 445. Natural Resources Policy** (4). Development and significance of policies affecting resource management. Impact on land use. Changing roles of private and public enterprise and the various levels of government.

***GEOG 446. Land Use in the United States** (3). Prerequisite, GEOG 107 or instructor's consent. The initial assessment and subsequent settlement of the various regions of the U.S. Changing patterns of land use accompanying changes in culture and technology.

***GEOG 447. Problems in Resource Allocation** (3). Prerequisite, permission of instructor. Selected current problems in resource allocation.

***GEOG 449. Growth Management** (3). Prerequisite, GEOG 305 or permission of instructor. Physical growth and land use planning in response to public or legal mandates. One required field trip.

***GEOG 460. Geography of International Trade** (5). Prerequisite, GEOG 205 or permission of the instructor. Geographic basis of international trade with special emphasis on the Pacific Northwest. Field trips required.

GEOG 474. Geography of China (4). The natural and cultural regions of China and Taiwan, economic and demographic problems, historical background of modern China.

GEOG 475. Geography of Asia (5). The natural and cultural landscapes and the activities of man in the various geographic and political areas which comprise non-Soviet Asia.

***GEOG 481. Urban Geography** (5). Prerequisite, GEOG 205 or consent of instructor. The spatial and size distribution of cities as explained by their historical development and major functions. Analysis of the internal structure of cities and the results of urban growth.

GEOG 483. India and Pakistan (4). A cross-disciplinary examination of South Asia. Emphasis on economic and social modernization of traditional societies.

GEOG 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

GEOG 491. Workshop (1-6).

GEOG 492.1. Advanced GIS Applications (2-6). Prerequisite, ANTH/GEOL 431 and permission of instructor. Individual and/or team projects involving use of the GIS in fields such as anthropology, biology, geology and geography. May be repeated for credit. Same as ANTH 492.1 and GEOL 492.1.

College of Letters, Arts and Sciences

GEOG 493. Geography Field Experience (1-8). Prerequisite, permission of instructor and department chair. Individual or group off-campus experience in the field study of geographical phenomena. This course may be taken more than once for full credit.

GEOG 496. Individual Study (1-6). Prerequisite, permission of instructor.

GEOG 498. Special Topics (1-6).

GEOG 499. Seminar (1-5).

*Indicates systematic courses. Courses without asterisk are either regional courses, research or individual study.

The following courses are on reserve and may be offered subject to program needs. *GEOG 341, 342 Organic Gardening and Conservation (3), GEOG 380 Geography of Hot, Wet Lands (3), GEOG 415 Geography of Oceania (3), *GEOG 426 Geographic Methodology (3), GEOG 470 Geography of South America (3), GEOG 472 Geography of the Soviet Union (3), GEOG 480 Geography of the Polar Regions (3), GEOG 484 Geography of Southeast Asia (2).

1928

First gymnasium and student recreation facility completed.

1928

Leo Nicholson came to the Normal School as assistant coach.

1930

President George Black resigned. Selden Smyser served as acting-president.

1931

Dr. Robert E. McConnell appointed president.

1933

Degree-granting status approved and first nine degrees granted.

1937

First newly constructed athletic field completed.

GEOLOGY

Chair:

James R. Hinthorne
Lind Hall 101A

Professors:

Robert D. Bentley, Structural Geology, Tectonics, Petrology
James R. Hinthorne, Mineralogy, Geochemistry, Geographic Information Systems
Edward P. Klucking, Paleontology, Paleobotany
L. Don Ringe, Geomorphology, Quaternary Studies, Environmental Geology

Associate Professors:

Steven E. Farkas, Sedimentology, Stratigraphy
M. Meghan Miller, Tectonics, Stratigraphy, Remote Sensing

Assistant Professor:

Charles M. Rubin, Tectonics, Geophysics, Petrology

Geology is the science of the earth. The geologist is concerned with the materials of the earth, the earth's history and the natural processes by which the earth achieved its present constitution and by which it continues to evolve. The geologist applies chemistry, physics, mathematics and biology to the study of the earth. Students who major in geology should acquire an understanding of the principles of many of those disciplines.

Many of the courses described below involve studying rocks in the field. The unique geologic setting of CWU permits field study of an extremely wide variety of rock types and surficial processes.

When selecting from the following courses, the student should be aware that most potential employers require a master's degree or sufficient preparation to begin a master's program.

Bachelor of Science Major

The B.S. degree is a rigorous program recommended for students who plan to attend graduate school or who wish expanded employment opportunities in the geological profession.

A maximum of five credits earned in physics or chemistry will be allowed to fulfill the physical science requirement of natural science breadth requirements as well as the requirements of the major. A maximum of five credits earned in mathematics will be allowed in partial fulfillment of the natural science breadth requirement as well as the requirements of the major.

Core Courses

GEOL 145, Physical Geology.....	4
GEOL 145.1, Physical Geology Laboratory.....	1
GEOL 146, Historical Geology.....	5
GEOL 340, Introduction to Petrology.....	5
GEOL 346, Mineralogy.....	4
GEOL 347, Crystal Chemistry/Optical Mineralogy.....	4
GEOL 360, Field and Structure.....	5
GEOL 386, Geomorphology.....	5
GEOL 389, Field Geology.....	4

Total 37

Other Required Courses

GEOL 361, Advanced Structure.....	4
GEOL 389, Field Geology—additional credits.....	8
GEOL 447, Paleontology.....	5
GEOL 450, Stratigraphy OR	
GEOL 460, Sedimentology.....	4
GEOL 475, Igneous Petrography OR	
GEOL 476, Sedimentary Petrography OR	
GEOL 477, Metamorphic Petrography.....	4
CHEM 181 and 181.1, General Chemistry.....	5
CHEM 182 and 182.1 General Chemistry.....	5
MATH 172.1 and 172.2 Calculus.....	10
MATH 272.1, Multivariable Calculus OR	
MATH 311, Statistics.....	5
PHYS 211 and 212, General Physics, OR	
PHYS 111, 112 and 113, Introduction to Physics.....	10-15

Total 60-65

Total 97-102

Bachelor of Arts Major

The B.A. degree in geology will prepare the student for employment in the geological profession. Election of this major will permit the student to choose minor and supporting courses from such areas of interest as anthropology, environmental studies, computer science, geography, mathematics or other sciences. Additional credits in GEOL, MATH, CHEM and PHYS may be required for entrance to many graduate schools.

Core Courses

GEOL 145, Physical Geology.....	4
GEOL 145.1, Physical Geology Laboratory.....	1
GEOL 146, Historical Geology.....	5
GEOL 340, Introduction to Petrology.....	5
GEOL 346, Mineralogy I.....	4
GEOL 347, Mineralogy II.....	4
GEOL 360, Field and Structure.....	5
GEOL 386, Geomorphology.....	5
GEOL 389, Field Geology.....	4

Total 37

Other Required Courses

CHEM 111 and CHEM 111.1, OR	
CHEM 181 and CHEM 181.1.....	5
GEOL 389, Field Geology—additional credits.....	8
14 credits in GEOL by advisement.....	14
10 credits selected from	
CHEM 182 and 182.1, 183 and 184	
MATH 172.1, 172.2, 311	
PHYS 111, 112, 113, 211, 212, 213.....	10

Total 37

Total 74

Earth Science Major

This major is for those who intend to teach in secondary schools. It does not constitute preparation for a career in geology. Senior and junior high school teachers should accompany this major with another endorsable area to obtain certification.

Core Courses

GEOL 145, Physical Geology.....	4
GEOL 145.1, Physical Geology Laboratory.....	1
GEOL 146, Historical Geology.....	5
GEOL 340, Introduction to Petrology.....	5
GEOL 346, Mineralogy I.....	4
GEOL 347, Mineralogy II.....	4
GEOL 360, Field and Structure.....	5
GEOL 386, Geomorphology.....	5
GEOL 389, Field Geology.....	4

Total 37

Other Requirements

CHEM 111 and 111.1 OR CHEM 181 and 181.1.....	5
GEOL 350, Northwest Geology.....	3
GEOG 388, Climatology.....	5
PHYS 201, The Sky.....	5
SCED 324, Science Education in Secondary School.....	5

Total 23

Total 60

Earth Science Minor

GEOL 145, Physical Geology.....	4
GEOL 145.1, Physical Geology Laboratory.....	1
GEOL 146, Historical Geology.....	5
GEOG 388, Climatology.....	5
PHYS 201, The Sky.....	5
CHEM 111 and 111.1, Introduction to Chemistry.....	5

Total 25

Minor

GEOL 145, Physical Geology.....	4
GEOL 145.1, Physical Geology Laboratory.....	1
GEOL 146, Historical Geology.....	5
GEOL 340, Introduction to Petrology.....	5
GEOL 386, Geomorphology.....	5
Approved electives in Geology.....	7

Total 27

Courses

GEOL 145. Physical Geology (4). An introduction emphasizing the origin and nature of the common rocks, and the continually changing features of the earth's crust. Four lectures a week. GEOL 145.1 must be taken concurrently.

GEOL 145.1. Physical Geology Laboratory (1). Prerequisite, concurrent enrollment in GEOL 145. Application of map study

to geological processes and landforms, identification of rocks and minerals. Two hours laboratory per week. May require field trips.

GEOL 146. Historical Geology (5). Prerequisites, GEOL 145 and 145.1. An introduction to the history of the earth as revealed by rocks and fossils. Four lectures and two hours laboratory per week. May require field trips.

GEOL 304. Continental Drift (3). A study of the theory of continental drift as it explains the origin of continents, ocean basins, volcanoes, earthquakes, faults, distribution of mountains, and related phenomena. Designed for nonscience majors.

GEOL 305. Geology of Western National Parks (2). The geological history and primary geological landforms of selected national parks and monuments in western United States.

GEOL 306. Rocks and Minerals (1). Origin of common rock-forming and economic minerals, and formation of igneous, sedimentary and metamorphic rock groups.

GEOL 307. Geology of the Columbia Plateau (1). The geology and geologic history of the Columbia Plateau and its immediate margins.

GEOL 308. Cascade Volcanoes (1). Summary of history and occurrence of volcanic activity of the Cascades and vicinity.

GEOL 320. Introduction to Minerals and Rocks (3). Prerequisite, GEOL 145 or equivalent, or permission. A course for the classroom teacher or any person interested in the formation and identification of common rocks and minerals. Two lectures, three hours laboratory per week, and some field trips. May not be applied toward a major in geology or earth science.

GEOL 330. Glacial Geology (4). Prerequisites, GEOL 145 and 145.1 or 345 or permission. The physical characteristics, deposits and landforms associated with glaciers. Three lectures a week and three weekend field trips.

GEOL 340. Introduction to Petrology (5). Prerequisites, GEOL 145 and 145.1 or 345. Introduction to rock-forming minerals. Identification, classification and evolution of common igneous, sedimentary and metamorphic rocks. Includes recognition and interpretation of rocks in typical field exposures. Four hours lecture, three hours laboratory or one field trip per week. Not open to students with credit in GEOL 245 or 348.

GEOL 345. Principles of Geology (5). The earth sciences and their historical development; chemical, physical and interpretive principles used to understand geological processes and their results; the rock and fossil history of the earth; relationship of geologic processes to man. Four lectures and three hours laboratory per week. Students may not receive credit for both GEOL 345 and GEOL 145.

GEOL 346. Mineralogy (4). Prerequisites, GEOL 145, 145.1, and one chemistry course with laboratory (may be taken concurrently), or permission of instructor. A study of rock and ore forming minerals emphasizing identification of hand specimens using physical properties and external morphology. Two lectures and six hours laboratory per week.

GEOL 347. Crystal Chemistry/Optical Mineralogy (4). Prerequisites, CHEM 181 or CHEM 111 (may be taken concurrently), and GEOL 346. Atomic structure, composition and modes of occurrence of rock forming mineral groups. Theory and practice of optical mineralogy. Introduction to x-ray crystallography. Three lectures and four hours laboratory per week.

GEOL 350. Northwest Geology (3). Prerequisites, GEOL 145 and 145.1 or permission. The physical and historical geology of the northwest. Three lectures per week.

GEOL 360. Structural Geology and Field Methods (5). Prerequisites, GEOL 145, 145.1, 146 and one high school or college course in trigonometry or calculus. Practice in methods of field investigation; origin and interpretation of geologic structures; preparation of geologic maps, cross-sections and reports. Two lectures and three hours laboratory per week, plus 10-15 days field study.

GEOL 361. Advanced Structural Geology (4). Prerequisite, GEOL 360 taken in same year, or permission of instructor. Origin, interpretation and mapping of major and minor geologic structures. Quantitative methods. Plate tectonics. Three hours lecture plus three hours laboratory or a field trip each week.

GEOL 380. Environmental Geology (3). Application of the earth sciences to various aspects of the environment-natural processes, waste disposal, construction planning, mining-with emphasis on problems resulting from man's intense use of the earth and its resources.

GEOL 386. Geomorphology (5). Prerequisites, GEOL 145 and 145.1 or GEOG 107 or permission. Descriptive and interpretive examination of the earth's landforms. Four lectures and three hours laboratory or field trips. GEOG 386 and GEOL 386 are the same course. Students may not receive credit for both.

GEOL 388. Field Trips (1-3). Prerequisite, permission of instructor. Intensive study of geological phenomena on field trips up to two weeks in length. Three days field work for each credit. Course may be repeated for areas of significantly different geologic content. Grade will be S or U. Extra fees required.

GEOL 389. Field Geology (4-15). Prerequisite, permission of instructor. Field investigation emphasizing techniques of data gathering, mapping and interpretation. Preparation of geologic report on the field problems studied. Extra fees required. May be repeated for credit up to 15 credits total.

GEOL 396. Individual Study (1-6). Prerequisite, permission of instructor.

GEOL 398. Special Topics (1-6).

GEOL 420. Geology of North America (3). Prerequisites GEOL 146 and permission of instructor. Analysis of the evolution of the North American continent and its geologic provinces. Three lectures a week.

GEOL 440. Petroleum Geology (4). Prerequisite, permission of the instructor. A study of the nature and origin of petroleum, the geologic conditions that determine its migration, accumulation and distribution; methods and techniques of prospecting for and developing petroleum fields. Two hours lecture and four hours laboratory per week.

GEOL 447. Invertebrate Paleontology (5). Prerequisite, GEOL 146 OR permission of instructor. Invertebrate animals of past geologic ages. Three hours lecture and four hours laboratory per week. May require field trips.

GEOL 450. Stratigraphy (4). Prerequisites, GEOL 146 and permission of instructor. Physical and biological characteristics of stratified rocks. Three hours lecture and three hours laboratory or field work per week.

GEOL 451. Biostratigraphy (4). Prerequisite, GEOL 450 or permission of instructor. The paleontological aspects of stratigraphy, stressing differentiation and analysis of rock units on the basis of assemblages of fossils which they contain. May require field trips.

GEOL 460. Sedimentology (4). Prerequisite, GEOL 340. The quantitative and descriptive study of the sedimentary rocks. Two hours lecture and four hours laboratory or field work per week.

GEOL 465. Mineral Deposits (4). Prerequisite, GEOL 245, 340, or 346. Occurrences, properties, classification, and utilization of metalliferous and nonmetalliferous deposits. Four hours lecture per week.

GEOL 475. Igneous Petrography (4). Prerequisites, GEOL 347 and two quarters of chemistry. Study of plutonic and volcanic rocks in hand specimen and thin section. Chemistry, mineralogy, textures and modes of occurrence of igneous rocks. Three hours lecture and three hours laboratory or field work per week.

GEOL 476. Sedimentary Petrography (4). Prerequisite, GEOL 347. Study of clastic and carbonate rocks in thin section and hand specimen and the field. Interpretation of provenance and sedimentary environments. Two hours lecture and six hours laboratory or field work per week.

GEOL 477. Metamorphic Petrography (4). Prerequisites, GEOL 347 and two quarters of chemistry with laboratory. Study of metamorphic rocks in thin section and hand specimen emphasizing interpretation of physical conditions and chemical reactions during metamorphism. Three hours lecture and three hours laboratory or field work per week. Offered in alternate years.

GEOL 480. Geochemistry (4). Prerequisites, GEOL 347 or one year of chemistry and permission of instructor. An introduction to the branches of geochemistry, including the origin of elements, age dating, equilibrium in natural water systems and petrochemistry. Offered in alternate years.

GEOL 481. Advanced Mineralogy (4). Prerequisites, GEOL 347, CHEM 182 and permission of instructor. Crystal chemistry of rock-forming silicate minerals. Theory and practice of determinative techniques using the polarizing microscope, x-ray diffraction, x-ray fluorescence, and an introduction to the electron microprobe. Three hours lecture and three hours laboratory per week. Offered in alternate years.

GEOL 485. Geophysics (4). Prerequisite, permission of instructor. Physical properties of rocks and minerals. Interpretation of seismic, electrical, magnetic and gravity data. Offered in alternate years.

GEOL 490. Contracted Field Experience (1-15). Prerequisite, approval by department chair. Individual contract arrangement involving student, faculty and cooperating agency to gain practical experience in off-campus setting. Grade will be S or U.

GEOL 491. Workshop (1-6).

GEOL 492.1. Advanced GIS Applications (2-6). Prerequisite, ANTH/GEOG 431 and permission of instructor. Individual and/or team projects involving use of the GIS in fields such as anthropology, biology, geology and geography. May be repeated for credit. Same as GEOG 492.1 and ANTH 492.1.

GEOL 493. Laboratory Experience in Teaching Geology (2). Prerequisite, permission of instructor.

GEOL 496. Individual Study (1-6). Prerequisite, permission of instructor.

GEOL 498. Special Topics (1-6).

GEOL 499. Seminar (1-5).

GERONTOLOGY

Chair:

James Ponzetti
Michaelsen Building 229

Faculty Associates:

Laura Appleton, Associate Professor of Sociology
Carol Barnes, Dean of Extended University Programs
Robert Brown, Professor of Biology
Charles Hawkins, Professor of Sociology
David Lygre, Professor of Chemistry
James Ponzetti, Assistant Professor of Family Studies
Catherine Sands, Associate Professor of Anthropology
Sharon Schwindt, Associate Professor of Health Education
Donald Shupe, Professor of Psychology
William Vance, Associate Professor of Leisure Services

Program Requirements

The department of gerontology offers an interdisciplinary program leading to the bachelor of science degree as well as a minor for students majoring in other fields of study. The program, which includes both theoretical and practical compo-

nents, is designed for students who wish to pursue a career in service to older people or who wish to learn more about this increasingly important segment of the population. Field experience in public or private agencies concerned with the elderly is a part of the program.

The program prepares students for a variety of professional and para-professional employment opportunities in community education, government agencies, senior centers, nursing homes, retirement villages, hospitals, personnel and business administration, and retirement programs.

Prerequisites for the major: For HOFs 435, prerequisite HOFs 234 or permission. For PSY 452, PSY 313 or 314 recommended.

Bachelor of Science Major

	Credits
ZOOL 270, Human Physiology	5
SOC 320, Death and Dying	5
SOC 325, Aging	5
HED 412, Health Aspects of Aging	3
HOFs 435, Family Gerontology	4
PSY 452, Adult Development and Aging	4
PSY 454, The Helping Interview	3
BISC 460, Biology of Aging	3
LES 454, Recreation for Aging	3
GERO 490, Field Experience	15
GERO 499, Seminar	3

Total 53

Choose 7 credits of electives from the courses listed below or complete a minor in one of the following areas:

Business Administration
Community Health Education
Home Economics, Family and Consumer Studies (concentration in Family Studies and/or Nutrition only)
Leisure Services
Psychology
Sociology

Electives:.....	7
POSC 320, Public Administration	5
SOC 330, Sociology of Leisure	5
ANTH 336, Anthropology of Aging	3
ADOM 371, Office Management	5
HED 410, Community Health	2
SOC 427, Medical Sociology	5
PSY 455, Behavioral Medicine and Health Psychology	4
LES 482, Grantsmanship	3
PSY 487, Group Processes and Leadership	3
GERO 496, Individual Studies	1-3
Other electives by advisement	

Total 60

Minor

PSY 452, Adult Development and Aging	4
GERO 499, Seminar	3
GERO 490, Cooperative Education	5
Select one of following two courses:.....	3-5

ANTH 336, Anthropology of Aging (3)
 SOC 325, Aging (5)
 Electives by advisement3-5

Total 20

Courses

GERO 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

GERO 491. Workshop (1-6).

GERO 496. Individual Study (1-6). Prerequisite, permission of instructor and department chair.

GERO 498. Special Topics (1-6).

GERO 499. Seminar (1-5). Prerequisite, permission of instructor and department chair.

HISTORY

Chair:
 Daniel B. Ramsdell
 Shaw-Smyser 101

Professors:

- James F. Brennan, Russia
- Earl T. Glauert, Latin America
- Beverly A. Heckart, Germany, Social and Economic History
- Zoltan Kramar, Ancient History, Military
- Paul E. LeRoy, 19th Century British Empire, Africa
- Lawrence L. Lowther, Colonial America, American Revolution
- Daniel B. Ramsdell, East Asia
- Kent D. Richards, American West, Pacific Northwest

Associate Professor:

Karen Blair, 20th Century U.S., Women's History

The faculty of history offers courses leading to the degrees of bachelor of arts and master of arts. Majors who desire to graduate with honors should consult the history honors director on the special requirements.

Students who declare a major in history must register with the department.

**Bachelor of Arts
 History Major**

It is recommended that students who plan to enter graduate school should complete two years of a foreign language at the college level.

Select from the following:

HIST 143, 144, United States History20
 HIST 101, 102, 103, World Civilization*5
 Upper Division United States History5
 Upper Division European History5
 Upper Division African, Asian, or Latin American History10
 Upper Division History electives20

Total 60

*Western Civilization may be substituted.

Teaching Major: ^{Secondary}Elementary or Secondary

This major is designed for students in the teacher training program who desire greater depth in the field.

Credits

HIST 143, 144, United States History10
 Select from the following:
 HIST 101, 102, 103, World Civilization*10
 HIST 421, Methods and Materials in History-Secondary2 3
 HIST 301, Pacific Northwest History3
 HIST 395, Research in Local History OR
 HIST 485.1, A Global Approach to Local History5
 Upper Division United States History10
 Upper Division European History10
 Upper Division African, Asian, or Latin American History10

Total 60

*Western Civilization may be substituted.

Teaching Major - Secondary

This major is designed for students in the teacher training program who seek one or two endorsable minors. It qualifies for teaching history in secondary schools. To qualify for teaching in "block of time" programs, junior high school teachers must combine this with minors in both geography and English. Transfer students must take at least 10 hours of work in history at CWU prior to application for endorsement by this department.

Either secondary or elementary
Credits

HIST 143, 144, United States History10
 Select from the following:
 HIST 101, 102, 103, World Civilization*10
 HIST 421, Methods and Materials in History Secondary OR
 SOSC 420, Methods and Material in Social Sciences3
 Elementary3
 HIST 301, Pacific Northwest History3
 Upper Division United States History5
 Upper Division European History5
 Upper Division African, Asian or Latin American History5
 Upper Division History Electives4 X

Total 45

*credited
 Part of
 whole
 Not by
 itself*

*Accredited
 by NCATE &
 approved by SPI
 Accrediting
 Assoc of Pacific NW
 Schools & Colleges*

*Western Civilization may be substituted.

Teaching Major: Broad Area

This major is designed for students in the secondary teacher training program.

	Credits
HIST 143, 144, United States History	10
HIST 101, 102, 103, World Civilization	15
HIST 301, Pacific Northwest History	3
HIST 421, Methods and Materials in History-Secondary	2
Select from the following:	15
Upper Division U.S. History	5
Upper Division European History	5
Upper Division African, Asian or Latin American History	5
POSC 210, American Government	5
ECON 101, Economic Issues OR	
ECON 201, Principles of Economics Micro OR	
ECON 202, Principles of Economics Macro	5
ANTH 107, General Anthropology	5
SOC 101, Social Problems, OR	
SOC 107, Principles of Sociology	5
Select from the following	10
GEOG 101, Man's Changing Earth, OR	
GEOG 107, Physical Geography, OR	
GEOG 205, Economic Geography, OR	
GEOG 308, Cultural Geography	5
AND	
GEOG 352, Anglo America, OR	
GEOG 371, Europe, OR	
GEOG 475, Asia	5

Total 75

76

Minor

Select from the following:	
HIST 143, 144, United States History	
HIST 101, 102, 103, World Civilization*	10
Upper division electives	20

Total 30

Teaching Minor

Qualifies for supportive endorsement on teaching certificate.

	Credits
Select from the following: (a minimum of five credits each must be selected from World Civilization sequence and from United States History sequence):	
HIST 101, 102 or 103, World Civilization*	
HIST 143, 144, United States History	15
HIST 301, Pacific Northwest History	3
HIST 421, Methods and Materials in History (Secondary candidates), OR	
SOSC 420, Methods and Materials in Social Sciences (Elementary candidates)	3

Upper Division United States History	3-5
Upper Division European History	3-5
Upper Division African, Asian or Latin American History	3-5

Total 29-35

30-36

*Western Civilization may be substituted.

History Honors Program

Qualified students are urged to enter the history department's honors program. Entrance requirements include an overall GPA of 3.00, a GPA of 3.25 in history, and a minimum of 25 hours of history. Contact department chair for information.

Courses

HIST 101. World Civilization to 1500 (5). Origins and development of the major world civilizations to the 15th century. A comparative study of their political, social, and economic institutions, and their religious and intellectual backgrounds.

HIST 102. World Civilization: 1500-1815 (5) FWSp. A comparative survey of political, social, economic and cultural developments. For general education (breadth) credit, a student must be enrolled or have completed ENG 101.

HIST 103. World Civilization Since 1815 (5). A comparative survey of political, social, economic, and cultural developments. For general education (breadth) credit, a student must be enrolled or have completed ENG 101.

HIST 143. United States History to 1865 (5). The Colonial, Revolutionary, and National periods.

HIST 144. United States History Since 1865 (5). Reconstruction, industrial America and 20th century urban America. For general education (breadth) credit, a student must be enrolled or have completed ENG 101.

HIST 298. Special Topics (1-6).

HIST 301. Pacific Northwest History (3). Exploration and settlement; subsequent political, economic, and social history with particular emphasis on Washington.

HIST 311. Ancient Egypt (3-5). The unification of Egypt under the God Kings with emphasis on the 18th Dynasty to the coming of Islam.

HIST 312. Ancient Near East and Greece (5). Mesopotamian, Egyptian, Hellenic and Hellenistic civilizations from their earliest beginnings to the breakup of the Alexandrian Empire.

HIST 313. History of Rome 500 B.C. to 500 A.D. (5). Beginning, city-state, republican period; world empire; decline.

HIST 314. Selected Topics in Military History (3-5). Specific matter will vary but emphasis will be on the wars of the 20th century. May be repeated for credit by permission of the instructor.

College of Letters, Arts and Sciences

HIST 314.1. Military History of the United States (5). A comprehensive and systematic survey and analysis of the American military experience from Colonial times through the Vietnam war. *Same as MLS 314.1. Student may not receive credit for both.*

HIST 322. World Prehistory (4). Old and New World prehistory from late Pliocene to the early historic period, including the ecology and development of hunting-gathering, agriculture and state-level societies. Same as ANTH 322. Student may not receive credit for both.

HIST 331. Colonial Africa (3-5). Earliest African civilizations; coming of the Europeans; colonization.

HIST 340.1. Colonial America: 17th Century (3-5). Foundations of the Anglo-American colonies and their development to about 1700.

HIST 340.2. Colonial America: 18th Century (3-5). Growth and development of the Anglo-American settlement, 1700-1763.

HIST 340.3. The American Revolution (3-5). Background, nature and consequences, 1750-1789.

HIST 341. The United States: Early National Period 1789-1844 (3-5).

HIST 342. History of Black America to 1865 (5). A survey of the role of the African-American in American society from colonial times to 1865.

HIST 343. History of Black America since 1865 (3-5). A survey of the role of the African-American in American society from 1865 to present.

HIST 345. History of Social Services in the United States (3-5). Attitudes, policies and practices with regard to those people who require charitable assistance, public or private, from colonial times to the present.

HIST 346. Women in American History (3-5). A survey of the role of women, their treatment and response, in American society from colonial times to the present. *Cross-list with WS 346. - 12/7/93 BH*

HIST 348. Economic History of the United States (5). ~~Prerequisite, any economics course or consent of instructor.~~ Economic factors in the development of the American nation from the European background to the present. Same as ECON 348. Students may not receive credit for both.

HIST 352. The History of the American Family (3). American family patterns from early settlement to the present; demography, gender roles, courtship, marriage, child-raising, aging, ethnicity and alternative life styles.

HIST 365. The British Empire and Commonwealth (5). Colonial expansion and administration from the American Revolution to the present; the development of dominion status and commonwealth relations.

HIST 371. Medieval European History (3-5). From the breakup of the Roman Empire to the 16th century; political, economic, social, and religious thought and institutions.

HIST 383. East Asian Civilization (5). A general survey of the development of civilization in China, Japan, Korea, and Southeast Asia to about 1600.

HIST 385. Modern East Asia (5). Imperialism, nationalism and their effects in East Asia from ca. 1600 to the present.

HIST 386. The Latin American Colonies (5). Spanish and Portuguese colonial empires to completion of Latin American wars of independence (1825), focusing primarily on Peru and Brazil.

HIST 387. Argentina and Its Neighbors (5). Continuity and change in South America in the 19th and 20th centuries with emphasis on Argentina, Uruguay and Chile.

HIST 388. Economic History of Europe Since 1760 (3-5). The Industrial Revolution in Great Britain and on the Continent; the rise of trade unionism, socialism, anarchism, and imperialism in the 20th century. Same as ECON 388. Students may not receive credit for both.

HIST 395. Research in Local History (1-6). Comparative local history with emphasis on research techniques and the utilization of sources.

HIST 398. Special Topics (1-6).

HIST 421. Methods and Materials in History-Secondary (3). *Same as SO5C 421? Students may not rec credit for both.*

HIST 425. Renaissance and Reformation (5).

HIST 430.1. Tudor-Stuart England (3-5).

HIST 430.2. Britain in the 18th and 19th Centuries (5).

HIST 430.3. Britain in the 20th Century (5).

HIST 431. Africa: The Crisis of Nation Building (5). An in-depth multi-disciplinary approach to the present political and socio-economic issues, problems and tensions in selected areas of Africa.

HIST 442. Urban and Industrial America: 1877-1900 (3-5).

HIST 443. The West in American History (3-5). Exploration, territorial acquisition, patterns of settlement, economic development, and the influence of the frontier on American institutions.

HIST 444. Sectionalism, Civil War and Reconstruction (3-5). Slavery, the Old South, sectionalism, the breakdown of the Union, and secession. A military, political, social history of North and South during the Civil War, and the aftermath of the war. Not open to students with credit in HIST 441.

HIST 450. Research in Northwest History (5).

HIST 451. 20th Century U.S. 1896-1919 (3-5). Imperialism, Progressivism, and World War I.

College of Letters, Arts and Sciences

HIST 452. 20th Century U.S. 1919-1945 (3-5). Prosperity and depression; the New Deal and its implications; World War II, origins and conclusion.

HIST 453. 20th Century U.S. 1945 to the Present (3-5). Cold War, sedentary 50's, rebellious 60's, the Watergate era. Not open to students with credit in HIST 450.2

HIST 466. English Constitutional and Legal History (3-5). Anglo-Saxon origins; the Norman period; legal, administrative, and parliamentary development; the limitation of royal power, the rise of the cabinet system, and the democratization of the Constitution. Recommended for prelaw students.

HIST 467. Diplomatic History of Europe: 1815-1914 (3-5).

HIST 471. German History, 1815-1918 (3-5). A political, diplomatic, socio-economic, and intellectual study of Germany from the end of the Napoleonic Era through World War I. Emphasis on German unification and the socio-economic background to World War I. Not open to students with credit in HIST 477.

HIST 472. German History, 1918 to the Present (3-5). A political, socio-economic, and intellectual study of Germany with special attention to the causes, progress, and aftermath of the National Socialist State. Not open to students with credit in HIST 477.

HIST 473. Russia to 1881 (3-5). The political, social, economic and cultural development of Russia from ancient times to the assassination of Alexander II.

HIST 474. Russia Since 1881 (3-5). The political, economic, social and cultural history of Russia and the Soviet Union since 1881.

HIST 475. History of Modern France (5). France and its problems from the end of the Napoleonic Era to the present.

HIST 479. Europe in the 20th Century (3-5). Events and movements which led to two wars; change in governmental structure in the cycles of war and peace.

HIST 482. Revolutionary China (3). The causes, course, and effects of the 20th century Chinese Revolution 1911-present.

HIST 483. Modern China (5). The history of China in the 19th and 20th centuries, including the nature of China's response to the West and the Chinese Revolution of the 20th century. Emphasis on internal social and economic change.

HIST 484. Modern Japan (3-5). The recent historical development of Japan beginning with the collapse of the Tokugawa Shogunate and the resumption of foreign contacts in the mid-19th century. Emphasis is given to the modernization process with its concomitant political, social, economic, and intellectual changes.

HIST 485. Perspectives in Local History (3). Use of local historical documents and museum materials for the classroom and the local historian.

HIST 485.1. A Global Approach to Local History (5). A comparative study of communities in the United States and selected foreign countries. Students will also become acquainted with the use of local source materials.

HIST 486. European Intellectual and Cultural History since 1815 (5). European thought and expression in relation to political, social, economic development of 19th and 20th centuries.

HIST 487. The Russian Revolutionary Movement (3-5). Origins and development of Russian radicalism through the Bolshevik Revolution of 1917.

HIST 488. Mexico in the Modern Era (5). The modernization and nationalization of Mexico, with emphasis on the social history of Mexico's frontiers.

HIST 489. Cuba and the Caribbean (5). Foreign intervention and the domestic social structure of Caribbean America.

HIST 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

HIST 491. Workshop (1-6).

HIST 496. Individual Study (1-6). Prerequisite, permission of instructor.

HIST 497. Honors Individual Study (1-6). Open to students accepted into the departmental honors program. This course may be repeated once, but no more than an over-all total of 6 credits is permitted.

HIST 498. Special Topics (1-6).

*The depth of coverage of the content of variable credit courses will vary according to the number of credits offered.

The following courses are on reserve and may be offered subject to program needs. HIST 249 History of American Journalism (3), HIST 315 Muslim Middle East 570 A.D. to 1914 (3-5), HIST 316 Modern Middle East 1914 to the Present (3-5), HIST 336 India, Ancient and Medieval (3-5), HIST 337 India, Mughal and Modern (3-5), HIST 349 Selected American Biographies (3-5), HIST 358 The French Revolution and Napoleon (3-5), HIST 455 Intellectual History of the United States (3-5), HIST 463 History of American Foreign Relations to 1900 (3-5), HIST 463.1 History of American Foreign Relations, 1900 to 1941 (3-5), HIST 463.2 History of American Foreign Relations Since 1941 (3-5), HIST 481 Understanding History (3-5).

HOME ECONOMICS, FAMILY AND CONSUMER STUDIES

Chair:

David Gee
Michaelsen 100

Professor:

Pearl Douce', Clothing and Textiles

Associate Professors:

David L. Gee, Foods and Nutrition
Willia Dene Powell, Home Economics Education
Carolyn Schactler, Clothing and Textiles

Assistant Professors:

Ethan A. Bergman, Foods and Nutrition
James J. Ponzetti, Jr., Family Studies

The department offers programs of study leading to bachelor of arts degrees in home economics and in family and consumer studies. Bachelor of science degrees are available in home economics, fashion merchandising, and food science and nutrition. There is also a master of science program in home economics and family studies.

These programs offer training in a variety of fields as is indicated by their titles. Specific information concerning them and their options is described in the introduction to each of those degree programs.

Students planning to become certified for vocational home and family life education must take the B.S. home economics program and fulfill the additional requirements described there.

The B.A. family and consumer studies major offers an option to "create your own program". It is non-structured and designed to permit any combination of departmental courses (and may include a limited number of courses from other departments) to create a program best suited to a particular student's interests and professional goals. The department chair can provide further information and guidance.

Department advisors are available for all these programs and students are urged to make contact with an appropriate advisor as soon as possible. Contact the department chair for help in identifying an advisor.

Admission Policy for Home Economics, Family and Consumer Studies

1. Students must have successfully completed ENG 101 and 102 or equivalents.
2. The application for a major program form must be completed, then signed by a department advisor and chair. The completed form will be accompanied by a current credit evaluation from the registrar's office.
3. Students must have a university-level* cumulative GPA of at least 2.30 for full admission to a departmental major.
4. Students who have a cumulative GPA of at least 2.00 may be admitted conditionally by the department chair or designee. Students admitted conditionally

must achieve at least a 2.30 GPA as a full-time student for the following two consecutive quarters of enrollment to be fully admitted to a departmental major.

5. If the student does not meet admission requirements following conditional admission, reapplication for admission to a department program may be made when the cumulative GPA is at least 2.30.

*Baccalaureate institutions

Bachelor of Arts

Family and Consumer Studies Major

The bachelor of arts in family and consumer studies major prepares students for employment or advanced study in one of several professions or occupations in the broad area of family and consumer studies. This program allows the student to construct a personalized major. It may consist of a broad exposure to all the areas of the discipline or may concentrate on one or two areas of specialization. Curriculum guidelines have been established for a specialization in fashion design and construction. Curriculum requirements have been approved for a specialization in family studies.

A minimum of 45 credits are required, at least 50 percent of which must be at the upper-division level. With department chair approval a limited number of courses from other departments may be included.

The planned course of study must have the signature of both the student and a faculty advisor before submission to the department chair for approval.

Fashion Design and Construction

Graduates in the fashion design and construction specialization are prepared to enter the fashion world as designers, pattern makers, drafting and construction supervisors, professional tailors and dressmakers, or in quality control and consumer related positions. Courses in the program include those in the areas of clothing and textiles, art and business management.

Family Studies

The family studies specialization is an interdisciplinary study of interpersonal, as well as family, relationships. Graduates are well prepared for career opportunities in family service agencies, parent education programs, family counseling centers, other family life education settings, or advanced study in family relations. Before enrolling in upper division (300-400) courses, students selecting a major in family studies must complete, with a 2.0 GPA average, the following courses: ANTH 130, HOFs 234, PSY 101, and SOC 107.

Required Family Studies Core

Credits

HOFs/ECE 331, Child Development	3
PSY 447, Psychology of Adolescence	3
PSY 452, Adult Development and Aging	
OR with the approval of advisor, one of the following:	
SOC 325, Aging	
HOFs 435, Family Gerontology	3-5
SOC 356, Sex Roles in Society OR	
ANTH 356, Sex Roles in Cross Cultural Perspective	3-5
HOFs 231, Human Sexuality	4
HIST 352, History of the American Family	3

School of Professional Studies

SOC 357, Sociology of Families	5
ANTH/HOFS 333, Culture and Marriage	3
HOFS 436, Parent-Child Relations OR ANTH 336, Anthropology of Aging	3-4
LAJ 348, Family Law	4
HOFS 334, Family Problems	3
PSY 362, Basic Statistics OR SOC 364, Data Analysis in Sociology	4-5

Total 41-47

In addition to the core, family studies majors are required to select one of the following options: a) 9-15 credits with the approval of the student's advisor. b) A minor in one of the following areas: anthropology, gerontology, health education, history, home economics, leisure services, psychology, or sociology.

Total 75

Bachelor of Science

Food Science and Nutrition

The bachelor of science in food science and nutrition major prepares students for employment or advanced study in one of several professions and occupations in the broad area of foods and nutrition. Among these are public health nutrition, general dietetics, quality control or research and development in the foods industry, food service management and consumer advocacy in foods and nutrition. Option III, "Nutrition and Dietetics," fulfills the Plan IV minimum academic requirements of the American Dietetic Association and qualifies students for admission into a dietetic internship or approved pre-professional program. Following this, membership in the American Dietetic Association as a registered dietitian becomes possible.

Students will complete a basic core of courses (listed below) and those in one of the three specialization options, for a minimum total of 60 credits.

Students must register with the department and consult with a major advisor for approval of the program option.

The core requirement for CHEM 111, 111.1, Introduction to Chemistry and Laboratory, may be met by satisfactorily completing CHEM 181, 181.1, 182.1, General Chemistry and Laboratory. The core requirement for CHEM 112, 112.1, Introduction to Organic Chemistry, may be met by satisfactorily completing CHEM 311, 312, 312.1, Elementary Organic Chemistry and Laboratory. The core requirement for CHEM 113, 113.1, Introduction to Biochemistry and Laboratory, may be met by satisfactorily completing CHEM 371 and CHEM 372, Biochemistry.

Core Requirements:	Credits
HOFN 140, Introduction to Foods	4
HOFN 245, Basic Nutrition	3
HOFN 341, Nutrition I	3
BISC 313, Cellular Structures and Function	5
BISC 370, Microbiology	5
CHEM 111, 111.1, Introduction to Chemistry and Laboratory; CHEM 112, 112.1, Introduction to Organic Chemistry and Laboratory; CHEM 113, 113.1, Introduction to Biochemistry and Laboratory	15

MATH 311, Statistical Techniques OR ED 312, Educational Statistics OR OMIS 221, Business Statistics OR PSY 362, Descriptive Statistics	4 or 5
---	--------

Total 39-40

Field of Specialization:

I. Public Health Nutrition

For those interested in public health, nutrition advocacy, health agency counseling, or advanced study in foods and nutrition or public health.

Courses:	Credits
ZOOL 270, Human Physiology OR ZOOL 341, 342, Human Anatomy and Physiology	5 or 10
HOFN 340, Food Management	3
HOFN 345, Developmental Nutrition	3
HOFN 443, Nutrition II	5
HOFN 444, Diet and Disease	5
HOFN 446, Nutrition, Weight Control and Exercise	3
HOFN 447, Nutrition and Society	3
HOEE 421, Adult Education in Home Economics	3
HOEE 490, Cooperative Education	2 to 10

Total 31-44

II. Food Science and Technology

For those in food research and processing, food service management, agri-business, quality control for other food-related occupations.

Courses:	Credits
HOFN 440, Experimental Foods	5
HOEC 490, Cooperative Education	4 to 10
SED 180, Principles of Accident Prevention	3
LCM 386, Occupational Safety and Health	3
ECON 201, Principles of Economics Micro	5
BUS 335, Principles of Production	5
MKT 360, Principles of Marketing	5

Total 30-35

III. Nutrition and Dietetics

For those interested in general dietetics, a dietetic internship or approved pre-professional program and academic preparation for membership in the American Dietetic Association.

The nutrition and dietetics requirement for ZOOL 270, Human Physiology, may be met by satisfactorily completing ZOOL 341, 342, Human Anatomy and Physiology.

Courses:	Credits
*MATH 161, Intermediate Algebra	5
ZOOL 270, Human Physiology	5
HOFN 240, Quantity Food Production and Service	4
HOFN 340, Management of Food Resources	3
HOFN 345, Developmental Nutrition	3
HOFN 440, Experimental Foods	5
HOFN 443, Nutrition II	5

School of Professional Studies

HOFN 444, Diet and Disease	5
HOFN 446, Nutrition, Weight Control and Exercise	3
HOFN 447, Nutrition and Society	3
HOFN 448, Food Service Systems Management	4
**HOEC 490, Contracted Field Experience	6
ENG 310, Technical Writing	4
MGT 380, Organizational Management	5
HOEE 421, Adult Education in Home Economics	3
PSY 310, Learning and Evaluation	4

Total 67

*May be acquired prior to college entrance or by examination placement beyond MATH 161.

**Additional HOEC 490 credits may be taken and applied toward graduation. Please consult your food science and nutrition advisor.

In addition to the above major requirements the American Dietetic Association requires competence which may be satisfied by the following three courses: (these courses may also meet breadth requirements at Central Washington University).

PSY 101, General Psychology	5
ANTH 130, Introduction to Cultural Anthropology	5
ECON 101, Economic Issues	5

Bachelor of Science Home Economics

The B.S. home economics degree comprises a comprehensive study of the various fields of home economics. It provides the base for the general profession of home economics, and for advanced study in home economics.

Courses	Credits
HOEC 201, Professional Perspectives in Home Economics	2
HOCM 270, Personal and Family Decision-Making	3
HOCM 371, Consumer Awareness	3
HOCM 470, Family Life Management	4
HOCT 152, Clothing Selection OR	
HOCT 351, Cultural and Social Bases of Clothing	3
HOCT 355, Textiles Science	4
HOFS 234, Introduction to Family Studies	4
ECE 292, Assisting in the Child-Centered Classroom	5
HOFS 331, Child Development	3
HOFS 436, Parent-Child Relations	4
HOFN 140, Introduction to Foods	4
HOFN 245, Basic Nutrition	3
HOFN 345, Developmental Nutrition	3
HOHI 160, Creativity in the Home	3
HOHI 367, Family Housing	3

Electives:

HOCT 150, Clothing Construction OR	
HOCT 250, Clothing Construction Analysis (3)	
HOCT 350, Pattern Drafting and Design (3)	
HOFN 340, Management of Food Resources (3)	
HOFN 447, Nutrition and Society (3)	
HOFS 231, Human Sexuality (4)	
HOFN 435, Family Gerontology (4)	

HOFS 433, Family Life Education (4)	
HOHI 265, Basic Home Furnishings (4)	
HED 210, Drugs and Health (3)	

Total 60

Bachelor of Arts Home Economics

The B.A. home economics degree comprises a general introduction to the broad areas of home economics and, with an appropriate minor, can provide students with a well-rounded preparation for life or for further advanced study.

This program also may be useful in elementary school or non-vocational secondary education. Information about these options may be found on pages 105-111. It is also imperative that the department be contacted for an advisor.

Courses	Credits
HOEC 201, Introduction to Home Economics	2
HOCM 270, Personal and Family Decision Making	3
HOCM 371, Consumer Awareness	3
HOCT 150, Clothing Construction	3
HOCT 355, Textile Science	4
HOFN 140, Food Preparation	4
HOFN 245, Basic Nutrition	3
HOFN 345, Developmental Nutrition	3
HOFS 234, Introduction to Family Studies	4
HOFS 331, Child Development	3
HOFS 430, Principles and Practice in Child Care	4
HOHI 266, Housing and Society	3
HOHI 367, Family Housing	3
Electives	3

Total 45

Vocational Certification in Home and Family Life Education

Students wishing to obtain a teaching certificate in vocational home and family life education will be required to complete the bachelor of science in home economics degree, one of the education sequence options as described on page 105, and the home economics education courses identified below. Endorsement to student teach requires completion of 45 credits of subject matter in addition to HOEE 325 and HOEE 425.

Home Economics Education

HOEE 325, Methods and Materials of Teaching	
Home Economics	3
HOEE 401, Principles and Philosophy of Vocational	
Education	3
HOEE 421, Adult Education in Home Economics	3
HOEE 425, Curriculum Development in Vocational	
Home and Family Life	4

All vocational teachers are required to hold a valid first aid card with CPR and a certificate in occupational safety and health. (See advisor for options.)

School of Professional Studies

Home and Family Life Education Minor

This minor meets endorsement requirements to teach home economics in middle schools and non-vocational secondary schools. This minor may also be useful for students pursuing a degree in elementary education.

Courses**Credits**

HOFS 234, Introduction to Family Studies	4
HOFS 436, Parent Child Relations	4
ECE 292, Assisting in the Child-Centered Classroom	5
HOFS 331, Child Development	3
HOFN 245, Basic Nutrition	3
HOFN 345, Developmental Nutrition	3
HOCM 270, Personal and Family Decision-Making	3
HOCM 371, Consumer Awareness	3
HOEE 325, Methods and Materials of Teaching	
Home Economics	3

Total 31

See the major advisor for endorsement application.

Home Economics Minor

In consultation with a faculty advisor, students select a minimum of 20 credits of coursework as appropriate to individual interests and professional goals. The planned course of study must have the signature of both the student and the faculty advisor before submission to the department chair for approval.

Family Studies Courses

HOFS 231. Human Sexuality (4). The biophysical, psychosocial and behavioral aspects of sexuality. Same as HOFS 431. Student may not receive credit for both.

HOFS 234. Introduction to Family Studies (4). Origins and historical development of families; cultural variations, contemporary trends. Draws upon information and insight from numerous root disciplines to explore family structure and function.

HOFS 235. Courtship and Marriage (3). Preparation for marriage. Contribution of dating, courtship and engagement periods to successful marriage. Role of personality, financial, religious and sex adjustments, and emotional maturity. Reproduction, parenthood and family crises. HOFS 235 and PSY 235 are the same course. Students may not receive credit for both. May not be used for breadth if SOC 248 has been taken.

HOFS 298. Special Topics (1-6).

HOFS 331. Child Development (3). Developmental characteristics of children with emphasis from conception to eight years. Includes observation techniques. HOFS 331 and ECE 331 are the same course. Student may not receive credit for both.

HOFS 332. Theories in Child Development (3). Assists the student in formulating his or her own general assumptions about the nature of child development through study of various theoretical viewpoints and current issues. HOFS 332 and ECE 332 are the same course. Student may not receive credit for both.

HOFS 333. Culture and Marriage (3). The reciprocal relationships between the biophysical and cultural components in mating, nurturing and sexual access. Cross-cultural patterns in marriage. HOFS 333 and ANTH 333 are the same course. Student may not receive credit for both.

HOFS 298. Special Topics (1-6).

HOFS 334. Family Problems (4). Prerequisite, HOFS 234 or permission. Problems arising out of the interaction of family members, and the relationship of the family to other social institutions.

HOFS 335. Divorce and Remarriage (4). Prerequisite, HOFS 234 or permission. Personal, family, and legal aspects of divorce and remarriage; historical antecedents and trends.

HOFS 398. Special Topics (1-6).

HOFS 430. Principles and Practice in Child Care (4). Prerequisite, HOFS 331 or equivalent. Out-of-the-home care of children: Causes and trends, developmental needs of infants and children as they relate to substitute care; parameters of program quality and practice. On-site evaluation of programs. HOFS 430 and ECE 430 are the same course. Students may not receive credit for both.

HOFS 432. Child Development Research (3). Prerequisite, HOFS/ECE 331 or permission. The influence of family patterns and interaction on infant and child development; current research. HOFS 432 and ECE 432 are the same course. Students may not receive credit for both.

HOFS 433. Family Life Education (4). Prerequisites, HOFS 234 or permission. The broad objectives, trends, methods and materials of family life education programs in various settings.

HOFS 434. Comparative Family Systems (4). Prerequisite, HOFS 234 or permission. Reciprocal interaction of family and other social systems. Cultural variations in family patterns. Trends in family development.

HOFS 435. Family Gerontology (4). Prerequisite, HOFS 234 or permission. The natural, environmental and social changes which occur in the lives of individuals and families during the latter stages of the life cycle.

HOFS 436. Parent-Child Relations (4). Prerequisite, HOFS 234. HOFS 331 is recommended. Principles and problems of parenting. Personal and marital preparation for parenthood. Parent-child interaction. Implications for school and community educational settings.

HOFS 437. Principles of Sexuality Education (3). Prerequisite, HOFS 231 or permission. Principles and content for sex education in school and community settings.

HOFS 491. Workshop (1-6).

HOFS 498. Special Topics (1-6).

HOFS 499. Seminar (1-5).

Consumer Management Courses

HOCM 270. Personal and Family Decision-making (3). Use of family resources to achieve individual and family goals.

HOCM 298. Special Topics (1-6).

HOCM 371. Consumer Awareness (3). Consumer aids, protection, and information; problems of quality and quantity. Consumer decisions, how consumption influences the market.

HOCM 375. Household Equipment for Consumers (3). Principles of selection, operation and care of household equipment. Consumer comparisons in market place. Equipment operation through laboratory work and demonstrations.

HOCM 398. Special Topics (1-6).

HOCM 470. Family Life Management (4). Prerequisite, HOCM 270 or permission. Planning, implementing and evaluating managerial tasks in personal and family living with emphasis upon the quality of life. Examination of the reciprocal interaction between the family and other social systems.

HOCM 475. Homemaking for the Handicapped (3). Personal and family problems of adjusting to homemaking activities for the handicapped, chronically ill or aged. Applying work simplification to essential household activities. Adjusting low incomes to physical needs.

HOCM 491. Workshop (1-6).

HOCM 498. Special Topics (1-6).

HOCM 499. Seminar (1-5). May be repeated.

Food and Nutrition Courses

HOFN 140. Introduction to Foods (4) FWSp. Examination of scientific principles of food preparation, function of ingredients, effects of preparation techniques, and nutritional considerations. \$20 materials fee. Two hours lecture, four hours laboratory per week.

HOFN 240. Quantity Food Production and Service (4) F. Prerequisite, HOFN 140. Principles and techniques of food production for restaurants, health care facilities and other institutions.

HOFN 245. Basic Nutrition (3) FWSp. Fundamental nutritional concepts as related to health.

HOFN 298. Special Topics (1-6).

HOFN 340. Management of Food Resources (3) W. Prerequisites, HOFN 140 and HOFN 245. Food management principles involved in the planning, purchasing, preparing and serving of meals in relation to nutritional needs, social needs, food preferences and resources. \$20 materials fee. One hour lecture, four hours laboratory per week.

HOFN 341. Nutrition I (3) F. Prerequisite CHEM 112 or 312.1. Nutritional aspects of carbohydrates, proteins, lipids, water and energy.

HOFN 345. Developmental Nutrition (3) FW. Prerequisite, HOFN 245 or HOFN 341. Effects of nutrition on development, growth and health, from conception through aging.

HOFN 398. Special Topics (1-6).

HOFN 440. Experimental Foods (5) Sp. Prerequisite, HOFN 140, CHEM 112 or CHEM 312. Physical and chemical bases of food preparation. Experiment testing results of variations in ingredients and manipulative practice. Four hours lecture, two hours laboratory per week. \$20 materials fee.

HOFN 443. Nutrition II (5) W. Prerequisites, HOFN 341, CHEM 113 or CHEM 365, ZOOL 270 or ZOOL 342 or permission. Effect of nutritional and physiological state on the regulation of carbohydrate, lipid, and protein metabolism. Metabolic and physiological role of vitamins and minerals.

HOFN 444. Diet and Disease (5) Sp. Prerequisites, HOFN 443, ZOOL 270 or ZOOL 342, CHEM 113 or CHEM 365. Influence of nutritional deficiency on physiological malfunction; disease and diet therapy; nutrition and health management.

HOFN 445. Problems of Human Nutrition (3). Prerequisite, HOFN 245 or HOFN 341. Advanced study of normal nutrition; relationship of nutrition to disease.

HOFN 446. Nutrition, Weight Control and Exercise (3) F. Prerequisite, HOFN 245 or permission. Study of interrelationship of factors required for successful weight control; modification of diet, activity and behavior. Role of dietary factors in health and body function. This course is the same as PE 446. Student may not receive credit for both.

HOFN 447. Nutrition and Society (3) W. Prerequisite, HOFN 245 or HOFN 341. National and international nutritional problems and programs.

HOFN 448. Food Service Systems Management (4) S. Prerequisites, HOFN 140, HOFN 240 and MGT 380. Application of organizational management and principles to food-service systems including organizing, staffing, controlling, planning, marketing and leading.

HOFN 491. Workshop (1-6).

HOFN 498. Special Topics (1-6).

HOFN 499. Seminar (1-5). May be repeated.

School of Professional Studies

Clothing and Textiles Courses

HOCT 150. Clothing Construction (3) FWSp. Professional construction and fitting techniques; use of commercial patterns; selection and use of various fabrics. Principles and methods in classroom procedure. Six hours laboratory per week.

HOCT 152. Clothing Selection and Personal Appearance (3) FW. Application of the fundamental elements and principles of design to clothing selection. Consideration given to various figure types and personal appearance.

HOCT 250. Clothing Construction Analysis (3) F. Basic clothing construction theory, techniques and teaching methods covering basic garment components: collars, sleeves, bodices, pleats, etc. All work is executed in full-scale samples. Six hours laboratory per week.

HOCT 251. Merchandise Display (3). Visual promotion of retail merchandise and services. Development of effective display skills. This course is the same as ME 250 and ME 251. Student may not receive credit for more than one.

HOCT 298. Special Topics (1-6).

HOCT 350. Pattern Drafting (4) W. Prerequisite, HOCT 250 or HOCT 150 and permission of instructor. Principles and techniques of flat pattern drafting and pattern development, including skirts, pants, sleeves, bodices, collars. One garment is designed, drafted and sewn. Two hours lecture and four hours laboratory per week.

HOCT 351. Sociocultural Aspects of Apparel (3) Sp. Recommended, PSY 101, SOC 107. Study of clothing behavior as a reflection of social and cultural values.

HOCT 352. Consumer Behavior in Clothing and Textiles (3) F. The influence of fashion, fabric technology, advertising, distribution and marketing procedures, and consumer protection laws upon consumer decisions in clothing and textiles.

HOCT 354. Fitting Analysis (2) Sp. Prerequisite, HOCT 350. The study of how fabric fits the human form, recognizing incorrect fit and understanding how to correct those problems. One hour lecture, two hours laboratory per week.

HOCT 355. Textile Science (4) FW. Study of natural and synthetic textiles: generic classification, fiber-forming substances, morphology, fabrication, finishing and dyeing processes, properties and performances. \$10 material fee. Three-and-one-half hours lecture and one hour laboratory per week.

HOCT 356. Construction of Men's Clothing (3) W. Prerequisite, HOCT 250 or permission. Construction of men's trousers and outdoor jacket, using both ready-to-wear and traditional techniques. Six hours laboratory per week.

HOCT 357. Fashion Design Technique (3) Sp. Prerequisites, HOCT 350, ART 170, ART 352. Basic techniques used in creating apparel designs. Technical drawing, color and design line application to figure types and fabric varieties. Two hours lecture and two hours laboratory per week.

HOCT 358. The Fashion Apparel Industry (3) W. Prerequisite, ADOM 201. How the fashion apparel industry creates, produces, and markets fashion lines.

HOCT 398. Special Topics (1-6).

HOCT 450. Tailoring (3) F. Prerequisite, HOCT 250. Custom tailoring techniques and construction of a lined jacket. Six hours laboratory per week.

HOCT 451. Fashion Design Portfolio (5). Prerequisites, HOCT 357, HOCT 453 and HOCT 459. The creation of a portfolio of apparel designs presenting a "line" of clothing, including illustrations, story boards, patterns and several completed garments.

HOCT 452. History of Fashion (5) W. Historical changes in fashion and costume design from Egyptian period through western civilization to present. Social, political and religious influences on fashions. DR 452 and HOCT 452 are the same course. Students may not receive credit for both.

HOCT 453. Dress Design by Draping (4) Sp. Prerequisites, HOCT 350, HOCT 355. Pattern making and designing by the draping method. Emphasis on development of design line and location of grain. Completion of one original garment. Two hours lecture, four hours laboratory per week.

HOCT 454. Advanced Pattern Drafting (3) Sp. Prerequisite, HOCT 350. Principles of advanced pattern drafting techniques with an emphasis on application. Two original designs completed in fashion fabric. Two hours lecture and two hours laboratory per week.

HOCT 455. New Developments in Textiles (3) Sp. Prerequisite, HOCT 355. Characteristics of new fibers, blends and finishes. Properties necessary for consumer satisfaction. Laws and regulations relating to textiles.

HOCT 457. Problem Fabric in Clothing Construction (3) W. Prerequisite, HOCT 450 or permission. At least one garment will be constructed from a problem fabric. Six hours laboratory per week. May be repeated for credit.

HOCT 458. Advanced Tailoring (3) F. Prerequisite, HOCT 350, HOCT 450 or permission of instructor. Custom tailoring techniques as applied to construction of an overcoat and a lined skirt or pants. One hour lecture and four hours laboratory per week.

HOCT 459. Pattern Engineering (4) F. Prerequisites, HOCT 357, HOCT 454. Development of full scale patterns, drafted and draped, from original designs; includes illustrations, technical drawings and pattern grading. Two hours lecture, four hours laboratory per week.

HOCT 491. Workshop (1-6).

HOCT 498. Special Topics (1-6).

HOCT 499. Seminar (1-5).

HOCT 499.1. Fashion Merchandising Seminar (3). Prerequisites, ME 367 and ME 461. Also listed as ME 499.1. Student may not receive credit for both.

Housing and Interiors Courses

HOHI 166. Creativity in the Home (3). Development of creative understanding and expression, with emphasis on individual growth within the home.

HOHI 260. Weaving (3) FW. Recommended, ART 170. Color, design, interpretation of drafts in weaving. One hour lecture, four hours laboratory per week.

HOHI 265. Basic Home Furnishings (4). Prerequisite, HOHI 166. Recommended, ART 170. Application of principles and elements of design to selection and arrangement of home furnishings. Individual projects. Two hours lecture and four hours laboratory per week.

HOHI 266. Housing and Society (3). An introductory study into man's search for shelter.

HOHI 298. Special Topics (1-6).

HOHI 365. Interior Design Textiles (4). Prerequisite, HOCT 355. Selection, application and care of textiles in furniture, draperies, and other household use. Two hours lecture and four hours laboratory per week.

HOHI 366. Home Furnishings: Furniture (4). Prerequisite, HOHI 265. Design, materials, construction and care in household furniture. Two hours lecture and four hours laboratory per week.

HOHI 367. Family Housing (3). An evaluative study of the design, quality and cost of housing environment.

HOHI 398. Special Topics (1-6).

HOHI 460. Advanced Weaving (3) Sp. Prerequisite, HOHI 260 or permission. Advanced loom techniques, creative work with materials. Six hours laboratory per week.

HOHI 465. Domestic Lighting (3). Prerequisite, HOHI 265. Fundamentals of portable and structural lighting; aesthetics of lighting.

HOHI 466. Housing Issues (4). Prerequisite, HOHI 266. In-depth study into social, economic, and political issues which influence housing in America.

HOHI 491. Workshop (1-6).

HOHI 498. Special Topics (1-6).

HOHI 499. Seminar (1-5).

Home Economics Education Courses

HOEE 298. Special Topics (1-6).

HOEE 325. Methods and Materials of Teaching Home Economics (3) F. Prerequisite, ED 311. Philosophy, purposes and techniques of teaching and evaluation of home and family life programs in the secondary schools.

HOEE 398. Special Topics (1-6).

HOEE 401. Principles and Philosophy of Vocational Education (3).

HOEE 421. Adult Education in Home Economics (3). Prerequisite, permission of instructor. Methods and materials for teaching adult groups in a variety of community settings. Organization and use of advisory committees; involvement in planning, organizing and implementing adult programs.

HOEE 423. Demonstration Techniques (3). One hour lecture and four hours laboratory per week.

HOEE 424. Vocational Aspects of Family Life Education (1). Prerequisite, permission of instructor. Principles and objectives of (vocational) home and family life programs in the secondary schools.

HOEE 425. Curriculum and Evaluation in Vocational Home and Family Life. (3). Prerequisite, HOEE 325. Instructional organization and classroom procedure in vocational home and family life programs.

HOEE 491. Workshop (1-6).

HOEE 498. Special Topics (1-6).

HOEE 499. Seminar (1-5).

General Courses

HOEC 201. Professional Perspectives in Home Economics (2). History, philosophy and goals of home economics; exploration of career opportunities; and professional preparation.

HOEC 296. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

HOEC 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

HOEC 492. Teaching Experience in Home Economics (2). Prerequisite, permission of instructor. Supervised teaching experience in a specific area of home economics. May be repeated.

HOEC 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

HUMANITIES

Director:

Raymond A. Smith, Jr.

Language and Literature Building 408-G

HUM 101. Introduction to the Humanities (5). A topical introduction to the humanities with emphasis on education and the individual.

HUM 102. Introduction to the Humanities (5). A topical introduction to the humanities with emphasis on the individual and the problems of modern society.

HUM 103. Introduction to the Humanities (5). A topical introduction to the humanities with emphasis on the hopes, desires, and aspirations of the creative individual.

HUM 175. Ideas, Literature, and the Western Tradition (5). An introduction to selected works in the western tradition which have had great impact on generations of thinking individuals. For general education (breadth) credit, a student must be enrolled in or have completed ENG 101.

The following courses are on reserve and may be offered subject to program needs: HUM 199 Seminar (1-5), HUM 298 Special Topics (1-6), HUM 498 Special Topics (1-6), and HUM 499 Seminar (1-5).

INDIVIDUAL STUDIES PROGRAM

Bachelor of Arts
Bachelor of Science
Bachelor of Music

Program Coordinator:

Donald M. Schliesman, Bouillon 207 I

The individual studies program is intended for students interested in pursuing an area of scholarly inquiry which falls outside the purview of an established academic department or program of the University. It offers students an opportunity to develop, under the guidance of faculty advisors, a major which meets their specific needs. The program is available in the bachelor of arts, bachelor of music and bachelor of science degrees.

Detailed written procedures and advice about preparing a proposal are available from the office of the dean of undergraduate studies. The proposal must include a statement of purpose, a listing of courses which comprise the major, and a letter of support from the faculty advisor. The course of study must include courses from at least two separate subject areas and total at least 60 credits. All proposal materials must be submitted to the dean of undergraduate studies at least three quarters prior to anticipated graduation. Proposals are subject to the review and approval of a three-member faculty committee.

Application forms and guidelines are available in the office of the dean of undergraduate studies. Samples of recently approved programs are:

Consumer Advocacy
Cultural Awareness
Environmental Studies

Courses

IS 290. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

IS 199. Seminar (1-5). May be repeated.

IS 296. Individual Study (1-6). Prerequisite, permission of the dean of undergraduate studies.

IS 298. Special Topics (1-6).

IS 498. Special Topics (1-6).

INDUSTRIAL AND ENGINEERING TECHNOLOGY

Chair:

Robert Envick
Hebeler 102

Professors:

G. W. Beed, Metals, Professional
D. Ken Calhoun, Woods, Design
Robert M. Envick, Quality Control, Professional
Ronald M. Frye, Assistant Dean, School of Professional Studies
Ron Hales, Loss Control Management
Robert H. Wiekling, Power, Professional
Norman Wolford, Electricity and Electronics

Associate Professors:

Walter R. Kaminski, Mechanical Engineering Technology
Tim Yoxtheimer, Electricity and Electronics

Assistant Professors:

David Carns, Construction Management

The curricula of the department falls into three categories: engineering technology, industrial technology and industrial education.

Engineering technology is a baccalaureate degree program. It is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in a support of engineering activities; it lies in the occupational spectrum between the craftsman and the engineer at the end of the spectrum closest to the engineer.

Industrial technology is a baccalaureate degree program designed to prepare individuals for technical managerial, production supervisory, and related types of professional leadership positions. The curriculum, even though built on technical education, has a balanced program of studies drawn from a variety of disciplines relating to industry. Included are a sound knowledge and understanding of materials and manufacturing processes, principles of distribution, and concepts of industrial management and human relations; experience in communications skills, humanities, and social sciences, and a proficiency level in the physical sciences, mathematics, design, and technical skills to permit the graduate to capably cope with typical technical managerial, and production problems.

Industrial education curriculum leads to the degree of bachelor of science for one of the following: industrial art teachers at junior and senior high school levels; or individuals who are, or plan to become, teachers in either a community college or other trade and industrial or technical programs and who, in addition to state requirements, need or desire a college degree.

Students desiring vocational certification should see their major advisor about additional requirements.

**Bachelor of Science
Construction Management**

Advisors: Ken Calhoun, David Carns

This major prepares the graduate for management positions in the construction industry. Recent graduates are working in cost estimating, project scheduling, cost control, and project management. Students selecting this major should have a basic background in mathematics, physics, and chemistry. In the absence of an appropriate background the student may find it necessary to take MATH 163.1. Students pursuing this degree should work with the department advisor to assure that the prerequisites for the upper division courses have been satisfied. Due to the number of hours in this program, some students may find that this program requires additional time to complete.

	Credits
CMGT 120, Electrical Systems Design	3
CMGT 245, Light Commercial Construction	5
CMGT 266, Commercial Construction Blueprint Reading	3
CMGT 267, Plane Surveying	4
CMGT 311, Structures	5
CMGT 343, Construction Estimating	4
CMGT 344, Advanced Construction Estimating	4
CMGT 346, Construction Materials and Methods	4
CMGT 366, Architectural Drawing	4
CMGT 441, Wood and Steel Construction	4
CMGT 442, Building Service Systems	4
CMGT 444, Codes, Contracts and Specifications	4
CMGT 447, Construction Planning, Scheduling and Control	3
CMGT 455, Principles of Construction Management	4
CMGT 460, Concrete Construction	4
CMGT 499, Seminar (Special Topics or Special Project)	6
IET 160, Computer Aided Drafting and Design	3
IET 165, Engineering Drawing	4
LCM 386, Occupational Safety and Health	3
MATH 163.2, Pre-Calculus Mathematics II	5

MATH 172.1, Calculus	5
MATH 172.2, Calculus	5
PHYS 211, General Physics	5
CHEM 181, General Chemistry	4
CHEM 181.1, General Chemistry Laboratory	1
ADOM 202, Computer Applications for Business	3
ADOM 385, Business Communication and Report Writing	5
ECON 201, Principles of Economics Micro	5
ECON 202, Principles of Economics Macro	5
ACCT 301, Managerial Accounting Analysis	5
BUS 241, Advanced Business Law	5
MGT 379, Introduction to Industrial Relations	5
MGT 381, Management of Human Resources	5

Total 138

Industrial Technology

Advisors: K. Calhoun, G. W. Beed, Robert Envick, R. Wiekling, T. Yoxtheimer

Industrial technology is a bachelor of science degree program having a common core curriculum with six discipline specific options:

1. Industrial Distribution
2. Industrial Electronics
3. Power
4. Cast Metals
5. Metal Fabrication
6. Production Wood

Industrial technology options are algebra/trigonometry based, and MATH 130.1 is a prerequisite for OMIS 221.

Industrial Technology Core

Credits

IET 160, Computer Aided Design and Drafting	3
IET 165, Engineering Drawing I	4
IET 210, Energy Sources and Power	3
IET 255, Machining	4
IET 271, Basic Electricity with Laboratory	5
IET 310, Hydraulics/Pneumatics	4
IET 345, Production Technology	4
IET 351, Metallurgy/Materials and Processes	4
IET 380, Quality Control	5
IET 382, Plastics and Composites	4
MATH 162, Technical Math OR	
MATH 163.2, Pre-Calculus II	5
PHYS 111, Introduction to Physics	5
CHEM 111, 111.1, Introduction to Chemistry OR	
CHEM 181, 181.1, General Chemistry	5
ADOM 202, Computer Applications for Business	3
ADOM 385, Business Communication/Report Writing OR	
ENG 310, Technical Writing (4)	4-5
CPSC 101, Computer Basics	4
OMIS 221, Business Statistics	5

Total 71-72

Industrial Distribution Option

This option prepares students for occupations related to engineering and technical sales by providing knowledge of industrial materials, processes and products united with a strong business background in marketing and management.

IET 272, Basic Electronics	4
IET 301, Engineering Project Cost Analysis	5
ELT 372, Electric Power and Machinery	4
MKT 360, Principles of Marketing	5
MKT 361, Channels of Distribution Management	5
MKT 462, Marketing Promotions Management	5
MKT 464, Purchasing Management	5
MKT 466, Industrial Marketing	5
Total	38

Industrial Electronics Option

This option prepares students for occupations in manufacturing, technical support, sales, and supervision in the electrical/electronics industry.

IET 301, Engineering Project Cost Analysis	5
IET 375, Microprocessor Applications with Laboratory	4
IET 376, Intermediate Electronics	4
IET 377, Instrumentation	4
IET 378, Pulse Circuits	4
ELT 371, Advanced Digital	4
ELT 372, Electrical Power and Machinery	4
CPSC Elective	4
MKT 360, Principles of Marketing	5
Total	38

Power Option

Enables graduates to qualify for technical management positions in firms which manufacture and sell products such as heavy equipment, automobiles, packaging equipment, mechanical and fluid power components, and recreational vehicles.

The graduate applies his or her understanding of energy conversion, heat transfer, fluid power, mechanical power transmission, metal fabrication techniques, and electronic/electromechanical systems to the solution of problems in the installation, sales, service, and maintenance of complex industrial and consumer equipment.

Credits

IET 215, Small Engines	4
IET 219, Engine Performance Measurement	4
IET 272, Basic Electronics	4
IET 315, Vehicle Electrical Systems	4
IET 371, Advanced Digital Circuits	4
IET 375, Microprocessor Applications	3
IET 377, Instrumentation	4
IET 378, Pulse Circuits	4
IET 411, Mechanical Power Transmission	4
IET 415, Air Logic	4
Total	39

Cast Metals Option

This option prepares students for occupations related to the cast metals industry which may lead to the following types of positions: production supervision, line supervision, quality assurance supervision, sand laboratory supervision or process supervision. Students are provided a working knowledge of industrial materials and processes with in-depth study of cast metals.

LCM 386, Occupational Safety and Health	3
IET 257, Casting Processes	4
IET 301, Engineering Project Cost Analysis	5
IET 353, Pattern Making	4
IET 385, Industrial Design	3
IET 457, Advanced Foundry	4
IET 490, Cooperative Education	16
Total	39

Metal Fabrication Option

This option prepares students for occupations related to the metals industry which may lead to production supervision, line supervision, CNC machining, CNC programming, quality assurance, tool design, tool and production planning, expediting, estimating and scheduling. Students are provided with a working knowledge of industrial materials and processes in addition in-depth concentration of machining and fabrication.

LCM 386, Occupational Safety and Health	3
IET 257, Casting Processes	4
IET 272, Basic Electronics	4
IET 355, Advanced Machining and CNC Programming	4
IET 357, Welding/Fabrication	4
IET 385, Industrial Design	3
IET 388, Tool Design	4
IET 490, Cooperative Education	8
MGT 380, Organizational Management	5
Total	39

Production Wood Option

This option prepares students for occupations related to the wood product industry which may lead to the following types of positions: production supervision, line supervision, quality assurance, scheduling, design plant layout and plant superintendent. The wood production option provides the student with a working knowledge of industrial materials and processes with in-depth study pertaining to wood products and production.

IET 145, Machine Woodworking	4
IET 341, Furniture Construction	4
IET 385, Industrial Design	3
IET 386, Methods Analysis in Manufacturing	4
IET 446, Shop and Tool Maintenance	4
COM 375, Interviewing Principles and Techniques	4
CMGT 245, Residential Construction	5
MGT 379, Introduction to Industrial Relations	5
MGT 381, Management of Human Resources	5
Total	38

Electronics Engineering Technology Major

Advisors: T. Yoxtheimer, N. Wolford

The electronic engineering technology degree is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

The technologists graduating from this program are applications oriented, building upon a background of mathematics, science and technology. They interface with engineers at the product level and produce practical, workable results quickly; install and operate technical systems; devise hardware from proven concepts; develop and produce products; service machines and systems; manage production facilities; and provide support for technical systems.

Students interested in engineering courses after graduation should complete PHY 211, 212, 213 and MATH through differential equations.

Students pursuing this degree should work with the departmental advisor to assure that they have met the prerequisites for the upper-division electives. Due to the number of hours required, some students may find that this program requires additional time to complete.

CWU General Education Requirements	60
Electronics Engineering Technology program requirements.....	134

Required Courses Credits

A. Support Courses

MATH 172.1, Calculus	5
MATH 172.2, Calculus	5
MATH 265, Linear Algebra	4
MATH elective - one of the following courses by advisement	3-5
MATH 230, Discrete Mathematics (5)	
MATH 311, Statistical Concepts and Methods (5)	
MATH 376.1, Differential Equations (3)	
PHYS 111, 112, 113, Introductory Physics OR	
PHYS 211, 212, 213, Engineering Physics	15
CPSC 110, Fundamentals of Computer Science I	4
CPSC Elective by advisement	4
ADOM 385, Business Communication and Report Writing (5)	
OR	
ENG 310, Technical Writing (4)	4-5
IET 301, Engineering Project Cost Analysis OR	
ACCT 301, Managerial Accounting	5
IET 380, Quality Control OR	
MGT 380, Organizational Management	5

Total 54-57

B. Technical Core

IET 271, Basic Electricity	3
IET 271.1, Basic Electricity Laboratory	2
IET 272, Basic Electronics	4
IET 273, Network Analysis	4
IET 375, Microprocessor Applications	3
IET 375.1, Microprocessor Laboratory	1
IET 376, Intermediate Electronics	4
IET 377, Instrumentation	4

IET 378, Pulse Circuits	4
IET 475, Electronic Communications	4
ELT 371, Advanced Digital	4
ELT 372, Electric Power and Machinery	4
ELT 373, Active Linear Circuits	4
ELT 374, Advanced Electrical Networks	4
ELT 379, Process Control	4
ELT 474, Microprocessors and Instrumentation	4
ELT 489, Senior Technical Presentations	2
Technical Electives by Advisement	18-21

Electives should be chosen from a combination of the following disciplines to provide depth in a technical area. Students must have prior approval from the departmental advisor to assure course prerequisites and technical depth requirements are satisfied.

- Electronic Engineering Technology
- Mechanical Engineering Technology
- Industrial Technology
- Computer Science

Total 134

Manufacturing Engineering Technology Major

Advisor: G.W. Beed

The major prepares graduates for occupations related to manufacturing. Job titles might read as follows: tool designer, tool and production planner, numerical control programmer, machine planner, and computer assisted machine planner.

Credits earned in MATH 163.1 and PHY 111 will be allowed as partial fulfillment of the natural science breadth requirements as well as requirements of this major.

Students interested in engineering courses after graduation should complete PHYS 211, 212, 213 and math through differential equations.

Required Courses Credits

MATH 163.1, Pre-Calculus I	5
MATH 163.2, Pre-Calculus II	5
MATH 172.1, Calculus	5
PHYS 111, Introductory Physics-Mechanics and Heat	5
PHYS 112, Introductory Physics-Electricity and Magnetism	5
PHYS 113, Introductory Physics-Sound and Light	5
CHEM 181, 181.1, General Chemistry	5
MET 211, Structural Systems I	5
MET 212, Structural Systems II	5
MET 213, Technical Dynamics	5
MET 418, Mechanical Design I	5
MET 423, Computer Aided Design and Manufacturing	4
IET 160, Computer Aided Design and Drafting	3
IET 165, Engineering Drawing I	4
IET 255, Machining	4
IET 271, Basic Electricity	3
IET 271.1, Basic Electricity Laboratory	2
IET 272, Basic Electronics	4
IET 310, Hydraulics/Pneumatics	4
IET 345, Production Technology	4
IET 351, Metallurgy-Materials and Processes	4

School of Professional Studies

IET 355, Advanced Machining and NC Programming	4
IET 375, Microprocessor Applications	3
IET 380, Quality Control	5
IET 388, Tool Design	4
IET 485, Senior Project	6
CPSC 101, Survey of Computer Science	4
OMIS 221, Business Statistics	5
ADOM 385, Business Communications and Report Writing	5

Choose 8 credits from the IET courses listed below.

IET 257, Casting Processing (4)
IET 357, Welding (4)
IET 382, Plastics and Composite Materials (4)

Total 135

Mechanical Engineering Technology Major

Advisor: Walter Kaminski

The industrial and engineering technology department offers a bachelor of science degree in mechanical engineering technology (MET). The program provides a broad foundation in the practical application of mechanical engineering principles. Graduates may pursue one of the following career paths: machine and product design, product and system (test) evaluation, research laboratory experimental support, prototype evaluation, plant operation and management, quality assurance, technical sales, field service environmental quality control and energy exploration.

In the absence of an appropriate background, the student may find it necessary to take IET 165, Engineering Drawing I, and/or MATH 163.1, Pre-Calculus Mathematics I. Therefore, based upon a student's background the program may require additional time to complete.

Students pursuing this degree should work with the departmental advisor to assure that the prerequisites for the upper division electives have been met. Those students who are interested in engineering physics courses after graduation should complete the engineering physics sequence (PHYS 211, 212, 213) and mathematics through differential equations.

Required Courses

A. Support Courses	Credits
MATH 163.2, Pre-Calculus Mathematics II	5
MATH 172.1, Calculus	5
MATH 172.2, Calculus	5
PHYS 211 or PHYS 111, Engineering or Introductory Physics/Mechanics and Heat	5
PHYS 212 or PHYS 112, Engineering or Introductory Physics/Electricity and Magnetism	5
PHYS 213 or PHYS 113, Engineering or Introductory Physics/Sound and Light	5
CHEM 181, General Chemistry	5
ENG 310, Technical Writing	4
COM 345, Business and Professional Speaking	4
CPSC 101, Survey of Computer Science	4

Total 47

B. Technical Core

MET 211, Structural Systems I	5
MET 212, Structural Systems II	5
MET 213, Technical Dynamics	5
MET 314, Applied Thermodynamics	5
MET 315, Fluid Dynamics	5
MET 316, Applied Heat Transfer	5
MET 411, Energy Systems I	5
MET 412, Energy Systems II	5
MET 418, Mechanical Design I	5
MET 419, Mechanical Design II	5
MET 423, Computer Aided Design and Manufacturing	4
IET 160, Computer Aided Design and Drafting	3
IET 255, Machining	4
IET 265, Engineering Drawing II	4
IET 271, Basic Electricity	3
IET 271.1, Basic Electricity Laboratory	2
IET 351, Metallurgy/Materials and Processes	4
IET 372, Electrical Power and Machinery	4

Total 78

Technical Electives

Minimum of 10 credit hours chosen by advisement from the following courses:

MET 495 A, B, C., Senior Project I, II, III	6
IET 320, Fundamentals of Laser Technology	4
IET 355, Advanced Machining and NC Programming	4
IET 375, Microprocessor Applications	3
IET 377, Instrumentation	4

Total 10

Total 135

Vocational-Technical Trade and Industrial Major

Advisor: G.W. Beed

Qualifies for teaching vocationally reimbursable programs in the senior high school and community college. Candidates must possess a background of industrial/technical experience.

This curriculum is designed for individuals with a background of industrial/technical experience who are, or plan to become, teachers in reimbursable trade and industrial or technical programs. If the candidate wishes to teach secondary subjects in addition to vocational reimbursable programs, a Provisional Teaching Certificate valid in secondary schools of Washington must be obtained. The candidate must complete a 40-credit professional education sequence in the education department (Option I, II, or III) and an acceptable teaching minor in lieu of the 22-credit education sequence below.

	Credits
IET 401, Principles and Philosophy of Vocational Education	3
IET 430, Methods of Teaching Industrial Education	3
IET 431, Selection and Development of Instructional Materials	3
IET 432, Analysis, Advisory Techniques	3
IET 433, Industrial Education Laboratory Planning	3

IET 434, Evaluation in Industrial Education3
 IET 499, Seminar3
 LCM 386, Occupational Safety and Health3

Electives as approved by the chair may include credit for industrial experience*2

Total 46

Professional Education and Related Courses

Minimum 22 credits

PSY 314, Human Development and the Learner4
 PSY 315, Psychology for the Classroom4
 ED 311, Teaching: Curriculum, Methods and Materials5
 ED/PHIL 467, Philosophy of Education3
 ED 316, Instructional Media: Methods and Materials3

Select one of the following:

ED 301, Teaching: An Orientation (3)
 ED 431, Intercultural Education (3)
 ED/PSY 487, Group Processes and Leadership (3)

Total 22

Substitution may be taken with the consent of the chair of the department of industrial and engineering technology.

*Under certain conditions, up to 45 quarter credits may be granted for experience in industry. In all cases, a careful evaluation will be made of the appropriateness of such experience to fulfill degree requirements and vocational objectives. An examination will be arranged as follows:

- A. An advisory examination committee will be established to include representatives of the State Department of Vocational Education, employers in the occupation, and Central Washington University. The examination will be conducted within the state where convenient for all parties.
- B. A written and performance examination will be selected from standard examinations. Also, an oral examination may be given. Costs of the examination must be paid by the student. The examination may be waived in those cases where the student holds state or federal certification in appropriately related areas.
- C. The examination committee will recommend to the IET faculty the credits to be awarded up to a maximum of forty-five (45). Credits awarded will be placed on transcripts after completion of all other degree requirements.
- D. All examinations will be filed in the department of industrial and engineering technology.

Students must complete evidence of acceptable trade, industrial, or technical experience; or credentials which indicate that the candidate is qualified to teach or supervise vocational classes in the state of Washington or in his/her respective state, under the provisions of the State Plan for Vocational Education. Such credentials should be obtained from the candidate's State Department of Vocational Education and signed by the appropriate state officer.

Industrial Education Major - Broad Area

Advisor: Robert Wiekling

Qualifies for teaching secondary industrial arts and technology education.

Students selecting this major must have a basic background in industrial arts - woods, metals, and drafting; mathematics through trigonometry. One year high school proficiency in these subjects will normally suffice. Admission to this program requires that students must have completed CHEM 111, MATH 120 or 163.1 and PHY 111. (Equivalent courses will be allowed.) In absence of this background, courses may be taken at this University. IET 430 is a prerequisite for student teaching.

Credits

IET 145, Machine Woodworking4
 IET 160, Computer Aided Design and Drafting3
 IET 210, Energy Sources and Power3
 IET 255, Metal Machining4
 IET 265, Engineering Drawing II4
 CMGT 366, Architectural Drawing4
 IET 271, Basic Electricity3
 IET 271.1, Basic Electricity Laboratory2
 IET 272, Basic Electronics4
 IET 345, Production Technology4
 IET 357, Welding4
 IET 385, Industrial Design3
 LCM 386, Occupational Safety and Health3
 IET 382, Basic Industrial Plastics4
 IET 430, Methods in Teaching Industrial Education3
 IET 433, Industrial Education Laboratory Planning3
 IET 446, Shop and Tool Maintenance3

Total 58

Select seven to 10 hours from one of the following areas.

Group I GENERAL

IET 341, Furniture Constuction
 IET 355, Advanced Metal Machining
 IET 376, Intermediate Electronics
 IET 383, Reinforced Plastics and Mold Development

Group II WOOD

IET 341, Furniture Construction
 IET 353, Pattern Making
 IET 445, Residential Construction
 IET 447, Wood and Metal Finishing

Group III DRAFTING

IET 363, Machine Drafting Technology
 IET 388, Tool Design
 IET 463, Technical Illustrating
 IET 464, Electronics Drafting
 IET 465, Descriptive Geometry

Group IV METALS

IET 257, Foundry
 IET 351, Metallurgy
 IET 355, Advanced Metal Machining

School of Professional Studies

- IET 356, Sheet Metal
- IET 454, Advanced Forging and Welding
- IET 457, Advanced Foundry

Group V ELECTRONICS

- IET 376, Intermediate Electronics
- IET 377, Instrumentation
- IET 378, Pulse Circuits
- IET 475, Electronics Communication

Group VI POWER

- IET 215, Small Engines
- IET 219, Engine Performance Measurement
- IET 315, Vehicle Electric Systems
- IET 411, Mechanical Power Transmission
- IET 419, Alternative Energy Technology

Group VII OCCUPATIONAL CLUSTER

1-15 hours. This cluster would allow transfer students from a community college to obtain credit for technical work taken at that institution in which we do not have similar programs here on campus.

Industrial Education Major

Advisor: Robert Wiekling

Qualifies for teaching industrial education at the junior or senior high level.

Students selecting this major must have a basic background equivalent to one year of high school wood, metals, and drafting and high school mathematics through trigonometry. Admission to this program requires that students must have completed CHEM 111, MATH 120 or 163.1 and PHY 111. (Equivalent courses will be allowed.) In absence of this background, courses may be taken at this University. IET 430 is a prerequisite for student teaching. This major requires that a student also complete a minor in a field commonly taught in the public schools.

Credits

IET 145, Machine Woodworking	4
IET 160, Computer Aided Design and Drafting	3
IET 210, Energy Sources and Power	3
IET 255, Metal Machining	4
IET 265, Engineering Drawing II	4
IET 271, Basic Electricity	3
IET 271.1, Basic Electricity Laboratory	2
IET 345, Production Technology	4
IET 357, Welding	4
IET 272, Basic Electronics	4
IET 385, Industrial Design	4
CMGT 366, Architectural Drawing	4
IET 430, Methods in Industrial Education	3
IET 433, Industrial Education Laboratory Planning	3

Total 48

The IET department strongly suggests for a student to be more competitive in the job market, the following additional courses should be taken.

- IET 382, Basic Industrial Plastics
- LCM 386, Occupational Safety and Health
- IET 446, Shop and Tool Maintenance
- IET, Area of Concentration

Electronics - Computer Hardware Minor

Credits

IET 271, Basic Electricity	3
IET 271.1, Basic Electricity Laboratory	2
IET 272, Basic Electronics	4
IET 375, Microprocessor Applications	3
IET 375.1, Microprocessor Laboratory	1
IET 378, Pulse Circuits	4
ELT 371, Advanced Digital Circuits	4
ELT 474, Microprocessors/Instrumentation	4
ELT 476, Minicomputer Technology	4

Total 29

NOTE: MATH 163.1 or MATH 162 is required for IET 271.

Vocational-Technical Trade and Industrial Minor

Graduates with this minor meet state requirements for course work necessary to teach vocational trade industrial, technical and health occupation subjects in public schools and community college programs. The individual must also meet the state requirements for trade or occupational experience to gain full vocational certification.

Credits

*PE 245, First Aid	3
IET 401, Principles and Philosophy of Vocational Education	3
IET 430, Methods in Teaching Industrial Education	3
IET 431, Selection and Development of Instructional Materials	3
IET 432, Analysis, Advisory Techniques	3
IET 433, Industrial Education Laboratory Planning	3
IET 434, Evaluation in Industrial Education	3
SED 386, Occupational Safety and Health	3

Total 24

*First Aid card holders with CPR endorsement are exempt from this course.

Construction Management Courses

CMGT 120. Electrical Systems Design (3). Prerequisite, MATH 163.1 or permission of instructor. The design and specification of building electrical systems starting with the basic circuit principles and including three-phase distribution and low voltage controls. Two hours lecture and two hours laboratory per week.

CMGT 245. Light Commercial Construction (5). Prerequisite, CMGT 266 or permission of the instructor. Commercial carpentry; layout framing and enclosing of wood frame buildings. Students participate in the construction of a building. Two hours lecture, six hours laboratory per week.

CMGT 266. Commerical Construction Blueprint Reading (3). Prerequisite, IET 165. Introduction to plan reading and construction activities. Extensive work with plans of significant scope. Not open to students with credit in IET 266.

CMGT 267. Plane Surveying (4). Prerequisites, MATH 163.2, ADOM 202, CMGT 266. General surveying theory and use of instruments. Lectures and field work in distances, elevations and angles. Field note preparation and traversing. Three hours lecture and two hours laboratory per week.

CMGT 311. Structures (5). Prerequisites PHYS 211, MATH 172.2, CMGT 266 or permission of instructor. Introductory statics and strengths of materials. Forces, stresses, equilibrium, principles of structures including trusses, beams and columns. Student may not receive credit for both CMGT 311 and MET 211.

CMGT 343. Construction Estimating (4). Prerequisites, CMGT 266 and ADOM 202. Quantity surveying and bid preparation for general construction. Use of cost handbooks, specifications and bid documents.

CMGT 344. Advanced Construction Estimating (4). Prerequisite CMGT 343. Advanced quantity surveying and bid preparation for general construction.

CMGT 346. Construction Methods and Materials (4). Prerequisite, CMGT 266. Materials commonly used and the various methods employed in construction. Introduction to materials testing. Not open to students with credit in IET 346.

CMGT 366. Architectural Drawing (4). Prerequisite, IET 160, CMGT 266 or permission of the instructor. Architectural drawing techniques and practices as applied to residential projects. Preparation of a complete set of working drawings.

CMGT 441. Wood and Steel Construction (4). Prerequisites, CMGT 311, CMGT 346. A comprehensive study of the materials, design and erection of wood and steel structures.

CMGT 442. Building Service Systems (4). Prerequisites, CMGT 120, 346, PHYS 211 or permission of instructor. Mechanical systems, energy and insulation, acoustics, fire safety, vertical transportation, and heating systems.

CMGT 444. Codes, Contracts and Specifications (4). Prerequisites CMGT 343, BUS 241 and ENG 102. Construction contracts and liability, bonding, arbitration, specifications, and building codes administration.

CMGT 447. Construction Planning, Scheduling and Control (3). Prerequisites CMGT 343 and ADOM 202. Project scheduling and evaluation using network scheduling techniques, including critical path scheduling.

CMGT 455. Principles of Construction Management (4). Prerequisites CMGT 344, 444, 447, ECON 202, LCM 386 and ADOM 385. Managing the construction project. Professional applications of management principles.

CMGT 460. Concrete Construction (4). Prerequisites CMGT 346, CMGT 441, CHEM 181. Manufacturing and testing of concrete; field practices; and formwork. Two hours lecture and two hours laboratory per week.

CMGT 499. Seminar (1-5). May be repeated.

Industrial and Engineering Technology Courses

IET 145. Machine Woodworking (4). Machine and tool operations, wood technology, designing and construction principles, finishing methods and materials. Two hours lecture and four hours laboratory per week.

IET 160. Computer Aided Design and Drafting (3).

IET 165. Engineering Drawing I (4). Fundamentals of orthographic projection, isometric drawings, applied geometry, sections, auxiliary view, developments, lettering and drawing reproductions. Two hours lecture and three hours laboratory per week.

IET 210. Energy Sources and Power (3). A study of the various forms of power, its generation, application and implications for technology and a technological society.

IET 215. Small Engines (4). Prerequisite, IET 210 or permission of instructor. Maintenance and repair of one and two cylinder internal combustion engines. Two hours lecture and four hours laboratory per week.

IET 219. Engine Performance Measurement (4). Prerequisite, IET 210 or permission of instructor. Vehicle fuel and ignition systems and their import on heat. Two hours lecture, four hours laboratory per week.

IET 255. Machining (4). Basic operations and technical information concerning common metal working machines and metal machining processes. Two hours lecture, four hours laboratory per week.

IET 257. Casting Processes (4). Theory and practice in green sand, shell core, permanent mold, no bake and evaporation casting processes. Two hours lecture, four hours laboratory per week.

IET 265. Engineering Drawing II (4). Prerequisites, IET 160 and IET 165 or permission of instructor. Advanced working drawings, sections, auxiliary projection, revolutions, gears and cams, threads and fasteners, and technical illustrations. Two hours lecture and four hours laboratory per week.

IET 271. Basic Electricity (3). Prerequisite, MATH 120 or MATH 163.1. Corequisite, IET 271.1 (laboratory). Fundamental principles of electricity, Ohms law, Kirchoffs laws, and the power equation applied to DC and AC circuits.

IET 271.1. Basic Electricity Laboratory (2). Basic principles of electrical measurement and testing of DC and AC circuits. The laboratory material will be correlated with IET 271, Basic Electricity, and must be taken as a corequisite. Four hours laboratory per week.

School of Professional Studies

IET 272. Basic Electronics (4). Prerequisite: IET 271, 271.1. Solid state electronic devices and their application to power supplies and amplification utilizing both discrete and integrated circuit techniques. Two hours lecture and four hours laboratory per week.

IET 273. Network Analysis (4). Prerequisite, IET 271, MATH 120, or MATH 163.2. Network analysis techniques including computer solutions, loop and nodal equations, complex impedance. Thevenin and Norton equivalents, superposition, and Gauss elimination. Two hours lecture and four hours laboratory per week.

IET 290. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

IET 296. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

IET 298. Special Topics (1-6).

IET 299. Seminar (1-5). May be repeated.

IET 301. Engineering Project Cost Analysis (5). Techniques of economic cost analysis applied to engineering projects: interest, present value, annual equivalence, rate of return, payout criteria, and break even modeling.

IET 310. Hydraulics/Pneumatics (4). Prerequisite, IET 210 or permission of instructor. A study of the application, controls and uses of air and liquid for the transmission of power. Two hours lecture and four hours laboratory per week.

IET 315. Vehicle Electric Systems (4). Prerequisite, IET 210. Starting, charging, regulation, ignition, and onboard microprocessor systems as used in automobiles, industrial materials handling vehicles, and recreational vehicles. Two hours lecture, four hours laboratory per week.

IET 320. Fundamentals of Laser Technology (4). Prerequisite PHYS 113 or permission of instructor. Overview of laser technology with emphasis on laser characteristics, safety and applications. Four hours lecture per week.

IET 341. Furniture Construction (4). Prerequisite, IET 145 or permission of instructor. Design and construction of contemporary furniture. Individual problems. Two hours lecture and four hours laboratory per week.

IET 345. Production Technology (4). Prerequisite, IET 145 or permission of instructor. Mass production principles, organization for production, product engineering, production system design, jig and fixture development, special problems in wood production.

IET 351. Metallurgy/Materials and Processes (4). Prerequisite, IET 255 or permission of instructor. Ferrous and nonferrous metals and alloys; polymeric, ceramic and cellular materials; use of phase diagrams, cooling curves, stress-strain diagrams and metallography.

IET 353. Pattern Making (4). Prerequisite, IET 257 or permission of instructor. Two hours lecture and four hours laboratory per week.

IET 355. Advanced Machining and CNC Programming (4). Prerequisite, IET 255 or permission of instructor. Machining of metallic and non-metallic materials on automated equipment; mass production technology; programming and operation of CNC equipment.

IET 357. Welding/Fabrication (4). Theory and practice in arc welding, oxyacetylene welding and cutting, MIG, TIG, and plastic welding. Two hours lecture and four hours laboratory per week.

IET 375. Microprocessor Applications (3). Prerequisite, IET 272. Examine and compare the basic components of microprocessor systems as applied to numerical control and robotics. Two hours lecture and two hours laboratory per week.

IET 375.1. Microprocessor Applications Laboratory (1). Corequisite, IET 375. Using advanced digital test equipment to analyze microprocessor based systems. Two hours of lecture-laboratory per week.

IET 376. Intermediate Electronics (4). Prerequisites, IET 272 or permission of instructor. Linear circuits utilizing discrete and integrated components. FET's, SCR's, multistage systems, oscillators, regulators, timers and op-amps. Two hours lecture and four hours laboratory per week.

IET 377. Instrumentation (4). Prerequisite, IET 272. Analysis of instrumentation systems in the broad context of signal conditioning and data collection. Accuracy, transducers, analog and digital signal conditioning, information transmission and data collection. Two hours lecture and four hours laboratory per week.

IET 378. Pulse Circuit (4). Prerequisite, IET 271. An introduction to number systems, logic equations, Boolean algebra, DeMorgan's theorem, Karnaugh Maps, Quine-McCluskey reduction techniques, and combination logic elements. Three lectures and two hours laboratory per week.

IET 380. Quality Control (5). Prerequisite, BUS 221 or permission of instructor. Provides the foundation necessary to understand and apply statistical quality control techniques, product reliability procedures and the management aspects of quality assurance.

IET 382. Plastics and Composites (4). Composition, characteristics and classifications of plastics and composite materials incorporating industrial applications, processing and fabrication.

IET 384. Industrial Processes and Materials (3). A technical study of modern industrial materials and processes used in manufacturing. Metallic and nonmetallic materials are treated along with industrial aspects of each.

IET 385. Industrial Design (3). Principles of design as related to materials and construction methods, and their application to industrial problems. Three hours lecture per week. Not open to students with credit in IET 375.

IET 386. Methods Analysis in Manufacturing (4). Prerequisites, intermediate algebra or equivalent and junior standing, or permission of instructor. Methods study and work measurement for improved efficiency. Three hours lecture and two hours laboratory per week.

IET 388. Tool Design (4). Prerequisites, IET 160, IET 165 and IET 255 or permission of instructor. Principles of tool design for material removal, workholding, pressworking, joining and inspection processes, with emphasis on inventive ability and problem solving.

IET 398. Special Topics (1-6).

IET 401. Principles and Philosophy of Vocational Education (3).

IET 411. Mechanical Power Transmission (4). Prerequisite, permission of instructor. Design, analysis and construction of mechanical power transmission systems. Emphasis on design principles and calculations, product knowledge, use of catalogues and references, and troubleshooting techniques. Laboratory experiences include work on gear drives, chain, belt and couplings. Two hours lecture, four hours laboratory per week.

IET 415. Air Logic (4). Prerequisites, IET 271 and 310. Techniques of pneumatic logic control, design, analysis, proof, circuit layout, building and trouble-shooting. Two hours lecture and four hours laboratory per week.

IET 430. Methods of Teaching Industrial Education (3).

IET 431. Selection and Development of Instructional Materials (3). Selection and preparation of course materials: course of study, unit and lesson plans, instruction sheets.

IET 432. Analysis Advisory Techniques (3). Analysis of jobs and trades to determine related technical information, skills and advisory sources necessary to develop content materials for a course of study.

IET 433. Industrial Education Laboratory Planning (3). Planning of school shop and labs, new construction and remodeling of facilities. Management of industrial education facilities, inventories: records of tools, equipment, materials; safety and student personnel.

IET 434. Evaluation in Industrial Education (3). Classification, characteristics, and uses of tests, quality scales and project rating scales designed for industrial education. Emphasis upon manipulative performance tests.

IET 446. Shop and Tool Maintenance (3). Prerequisites, IET 145 and 255, or permission of instructor. Adjustment, maintenance, and repair of industrial machines. Demonstrations and lectures by factory representatives. Two lectures and two hours laboratory per week.

IET 447. Wood and Metal Finishing (3). Wood and metal finishing products and processes. One hour lecture and four hours laboratory per week. Not open to students with credit in IET 448.

IET 448. Cabinetmaking (3). Prerequisites, IET 145 and 345 or permission of instructor. Design, construction and finishing of kitchen, bath and utility cabinets.

IET 457. Advanced Foundry (4). Prerequisite, IET 257, 353, or permission of instructor. Two hours lecture and four hours laboratory per week.

IET 475. Electronic Communications (4). Prerequisite, IET 376 or permission of instructor. An introduction to communications circuits as applied to television, F.M.; microwave and teletype. Two hours lecture and four hours laboratory per week.

IET 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

IET 491. Workshop (1-6).

IET 495 A,B,C. Senior Project I,II,III (2,2,2) FWSp. Prerequisites, senior standing and permission of department chair. Must be taken in sequence. Application and integration of previous course material in the solution of industrial problems. Results of the project to be presented to the department in writing and orally before the technology faculty, students and selected industrial representatives. Part I of the project includes methods design, materials selection, engineering and preliminary costs. Part II includes manufacturing concepts, physical facilities, production equipment, personnel requirements, and PERT or CPM. Part III includes finance, quality control and distribution.

IET 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

IET 498. Special Topics (1-6).

IET 499. Seminar (1-5). May be repeated.

Electronic Engineering Technology Courses

ELT 370. Computer Applications in Electronics (2). Prerequisite, permission of instructor. Introduction to computer analysis of analog and digital circuits. Designed for transfer students. One hour lecture, two hours laboratory per week.

School of Professional Studies

ELT 371. Advance Digital Circuits (4). Prerequisite, IET 378 or equivalent. Analysis of electronic digital circuits. Topics include: Bipolar and MOS logic gates, loading and interfacing, counters, adders, memories, encoders, decoders, digital displays, AD and DA converters. Two hours lecture and four hours laboratory per week.

ELT 372. Electrical Power and Machinery (4). Prerequisite, IET 271 or equivalent. A study of power transformers, single and polyphase circuits. The study of DC machines and AC single and polyphase synchronous and induction machines.

ELT 373. Active Linear Circuits (4). Prerequisites, IET 376 or equivalent and MATH 172.1. Analysis and design of multistage transistor amplifier with emphasis on the operational amplifier and its applications. Low-frequency and high-frequency limitations, Miller effect, pulse testing, Bode Plots, Nyquist stability criteria. Barkhausen criteria for oscillation. Power amplifiers, heat sinks, integrated circuit voltage regulators.

ELT 374. Advanced Electrical Network (4). Prerequisites, IET 273, MATH 172.2, PHYS 111. An advanced course in analysis techniques applied to dynamic systems. Solution of time and frequency domain problems stressing the relationship between electrical and mechanical systems, including linear differential equations and transformation techniques.

ELT 379. Process Control (4). Prerequisite, IET 377. Application of analog and digital controller principles to process control systems. Three hours lecture and two hours laboratory per week.

IET 470. Optical Communications (4). Prerequisite, ELT 373. Application of fiber optics to communications systems including measurement of parameters, sources, detectors, construction of fiber optic communication links. Three hours lecture and two hours laboratory per week.

ELT 471. Generation and Transmission of Electrical Power (4). Prerequisite, ELT 372. A study of the generation and transmission of electrical energy. Includes techniques used by electric utilities for the protection of generating equipment and transmission lines, an introduction to the economic considerations of power plant operation and three-winding transformers, and methods of solving unbalanced three-phases systems.

ELT 472. Communications I (4). Prerequisites, ELT 373 and 375 or permission. Local Area Network communication systems, Manufacturing-Automation-Protocol, time domain to frequency domain conversions, and modulation techniques. Three hours lecture and two hours laboratory per week.

ELT 473. Communications II (4). Prerequisite, ELT 472. Analysis of the radiation and propagation of the communication signal, and the application of antennas for impedance matching and for providing systems gain. Analysis of circuits, including the phase lock loop uses in receivers and transmitters and techniques used in measuring their performance. Two hours lecture and four hours laboratory per week.

ELT 474. Microprocessors and Instrumentation (4). Prerequisites, ELT 371 and IET 375 or equivalent. Use of microprocessors and related components in the design of microprocessors-

based systems. Interfacing of microprocessors and measuring instruments are studied. Consideration is given to the trade-offs between hardware and software.

ELT 475. Electro-Mechanical Controls (4). Prerequisites, ELT 374 and ELT 379 or equivalent. A study of the components in open-loop and closed-looped systems. Included are sensing devices, error detectors, potentiometers, synchors, resolvers, modulators, demodulators, amplifiers, motors, generators, and network. An analysis course that stresses operation time and frequency-response characteristics, and proper adjustment of the components.

ELT 476. Mini-Computer Technology (4). Prerequisite, ELT 474. Analysis of mini-computer circuits. Organization of circuits into a complete computing system. Special purpose assembly language programming techniques for location of circuit malfunctions with the aid of computer maintenance manuals and laboratory equipment. Three hours lecture and two hours laboratory per week.

ELT 477. Robotics (4). Prerequisites, IET 375, 377. Microprocessor applications in robotics, automated systems, and digital control. Three hours lecture and two hours laboratory per week.

ELT 478. Senior Project, Phase I (2). Prerequisite, permission of instructor. An extensive individual design and/or analytical project performed in consultation with one or more faculty advisor. Collaboration with representatives of industry, government agencies, or community institutions is encouraged. Evidence of extensive and thorough laboratory performance is required.

ELT 479. Senior Project II (2). Prerequisite, ELT 478. An extensive individual design and/or analytical project performed in consultation with one or more faculty advisor. Collaboration with representatives of industry, government agencies, or community institutions is encouraged. Evidence of extensive performance is required.

ELT 489. Senior Technical Presentations (2). Prerequisites, senior standing and completion of the technical core.

Mechanical Engineering Technology Courses

MET 211. Structural Systems I (5). Prerequisite or corequisite PHYS 111 or 211, MATH 172.2 or permission of instructor. Statics and introductory strength of materials. Same as CMGT 311. Student may not receive credit for both.

MET 212. Structural Systems II (5). Prerequisite MET 211 or permission of instructor. Continuing study of strength of materials. Laboratory experiments in tensile hardness and impact testing, and experimental stress analysis. Four hours lecture, two hours laboratory per week.

MET 213. Technical Dynamics (5). Prerequisite MET 212 or permission of instructor. Topics include rectilinear motion, curvilinear motion, motion of two particles, motion of systems of particles, rotational kinematics, work and energy principle, power, conservation of energy, linear impulse and momentum, angular impulse and momentum, rigid body motion, relative

motion analysis, general plane motion, and vibrations. Four hours lecture, two hours laboratory per week.

MET 314. Applied Thermodynamics (5). Prerequisite PHYS 212 or 112 and MATH 172.2. Properties of pure substances, first and second laws of thermodynamics, enthalpy and entropy, perfect gases, Carnot cycle, steam cycles, refrigeration cycles, mixtures of perfect gases, chemical reactions and combustion. Four hours lecture, two hours laboratory per week.

MET 315. Fluid Dynamics (5). Prerequisite MET 314. Fluid statics, continuity, Bernoulli and the general energy equation, laminar and turbulent flow, friction losses in pipes and ducts, pump performance and selection, compressible flow, and fluid measurements. Four hours lecture, two hours laboratory per week.

MET 316. Applied Heat Transfer (5). Prerequisite, MET 314. Steady and unsteady state heat conduction, free convection, forced convection in tubes, forced convection over exterior surfaces, radiation heat transfer, change in phase heat transfer, heat exchangers and heat pipes. Four hours lecture, two hours laboratory per week.

MET 411. Energy Systems I (5). Prerequisite MET 316. Power generation, energy reserves, fuels, reciprocating machines, internal combustion engines, rotating compressors, axial flow turbines and gas turbine power. Four hours lecture, two hours laboratory per week.

MET 412. Energy Systems II (5). Prerequisite MET 411. Topics include fossil fuel-fired steam power plants, nuclear power plants, power plants and environmental issues, refrigeration, air conditioning, solar energy, wind energy and direct energy conversion.

MET 418. Mechanical Design I (5). Prerequisites, MET 213, IET 265. Study of shafts, springs, couplings, clutches, bearings, cams, linkages and crank mechanisms. Four hours lecture, two hours laboratory per week.

MET 419. Mechanical Design II (5). Prerequisite, MET 418. Fasteners, welds, machine frames, pressure vessels, hydraulic cylinders, motors, and actuators, electrical motors and actuators. Four hours lecture, two hours laboratory per week.

MET 423. Computer Aided Design and Manufacturing (4). Prerequisites MET 418, IET 160 and IET 255 or permission of instructor. Integrates Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM). Three hours lecture, two hours laboratory per week.

MET 495 A, B, C. Senior Project I, II, III (2,2,2). Prerequisites, senior standing and permission of MET advisor. Courses must be taken in sequence. The senior project is a capstone course that integrates all the major elements of the MET curriculum in a project related activity. The topic is chosen by the student in concurrence with the instructor and must include elements of planning, design and analysis (Phase I), construction (Phase II) and test and evaluation (Phase III). Collaboration with representatives of industry, government agencies or community institutions is encouraged. As an alternative, it will be possible to select a design study for the senior project for all three quar-

ters, providing it is sufficiently comprehensive and approved by the MET advisor.

INTERNATIONAL PROGRAMS

Director:

Stephen K. (Kelly) Ainsworth
Barge Hall

Central Washington University students enjoy a multitude of opportunities for U.S. and overseas study. The office of international programs coordinates bi-lateral and consortia exchange programs with more than 100 universities in approximately 38 countries abroad, including Argentina, Australia, Japan, China, Fiji, Colombia, Chile, Tanzania, Kenya, Togo, Malta, Cyprus, Hungary, Sweden, Finland, Switzerland, Italy, Spain, England, France, and the Soviet Union. These exchange programs generally cost about the same or less than spending a year on campus in Ellensburg.

Central Washington University is also a member of the National Student Exchange program which permits a student to attend colleges and universities in Massachusetts, New York, Florida, South Carolina, Pennsylvania and more than 40 other states in addition to Puerto Rico, Guam, and the U.S. Virgin Islands. Students need only pay in-state Washington tuition or the in-state tuition of the institution they will attend.

The University cooperates with several other Pacific Northwest institutions in the operation of study abroad sites in Siena (Italy), Avignon (France), Koln (FRG), Athens (Greece), Morelia (Mexico) and London (U.K.). Most classes in these centers are taught in English and receive University credit. A program focusing on international business and the European economic community will be offered in collaboration with Dublin City University in Ireland beginning in 1991 or 1992. Summer programs are available in Spain, Mexico, England, and the Soviet Union. International work/internship opportunities are also available in Turkey, Spain, Thailand, the United Kingdom and several other countries.

Students interested in any study abroad, exchange, or internship opportunity should visit the office of international programs in Barge Hall 103 or call (509) 963-3612.

LATIN AMERICAN STUDIES

Director:

Carlos E. Martin
Language and Literature Building 102H

The minor is designed to provide a broad, interdisciplinary base of studies related to Latin America which will supplement the academic major for those students who intend to teach as well as those who plan to seek employment in government or private enterprise. Students minoring in Latin American Studies can do so under one of the following options or a pre-approved combination of both.

Minor Option I

Prerequisite: Spanish or Portuguese language proficiency equivalent to the end of second year level (253).

Individual Studies

	Credits
LAS 399, Multi-disciplinary Seminar on Latin America.....	5
Two academic quarters enrolled in one of CWU exchange programs with a Latin American university taking preapproved courses related to Latin American in at least three different disciplines.....	
	25
Total	30

Option II (on-campus)

Prerequisite: Spanish or Portuguese language proficiency equivalent to the end of second year level (253).

	Credits
LAS 399, Multi-disciplinary Seminar on Latin America.....	5
Electives: With approval of an advisor in LAS, choose courses with emphasis on Latin America. Courses not requiring Spanish or Portuguese proficiency may be taken prior to completion of the language prerequisite with approval. Elective credits must be from at least three different disciplines.....	
	25
Total	30

Courses

LAS 398. Special Topics (1-6).

LAS 399. Multi-disciplinary Seminar on Latin America (5).

LAS 496. Individual Study (1-6).

The following courses are on reserve and may be offered subject to program needs: LAS 360 Survey of Modern Mexico (taught in Mexico only) (5), and LAS 460 Comparative Cultures-Mexico (taught in Mexico only) (5).

LAND STUDIES PROGRAM

Skilled individuals are needed to cope with the increasing demands being placed on land as a resource commodity. Land planning, development, management, and environmental impacts are topics of increasing importance in the United States. Land-related careers exist in government and in private enterprise.

The land studies program is designed to lead to an individualized individual studies major (see p. 152) associated with existing departments such as biological sciences, economics and business administration, geography, geology, etc. Several courses in these and other departments are useful in developing expertise in land studies.

Students interested in careers and background related to phenomena associated with land in our complex society should contact the department of geography and land studies for additional information. Graduate work is available through the resource management program.

LAW AND JUSTICE PROGRAM

Director:

Max D. Zwanziger

Psychology Building 462

The program in law and justice offers an interdisciplinary curriculum designed to help train students for careers as police officers, probation, parole and corrections workers, paralegal assistants, and court administrators. The program retains the breadth of a liberal arts degree by drawing heavily from some of its disciplines: political science, psychology and sociology. These courses seem most suitable for persons wishing to engage themselves professionally in the law and justice system or to prepare themselves for law school. The program provides courses which enable students to appreciate the needs and underlying theory of all segments of the law and justice establishment in order that they may come to see themselves and their professional activities in a larger context. To that end both classroom and field experience taught or supervised by practicing professionals will be offered.

Although many of the students registered in the program are police officers or aspiring police officers, the bulk of the program will be in liberal arts courses. This derives from the premise that Central is an institution of higher education which policemen attend, rather than a police academy. The program does not merely train policemen but aims to provide the best in higher education for all students of law and justice. Classes, both on and off campus, it is hoped, will accommodate shifting tours of duty of many of the students, with the result that full-time and part-time, day and evening students will meet on common ground. This meeting of several communities and professions is expected to be of intellectual and practical benefit to the student.

Students aspiring to law school should follow the paralegal specialization as modified by their advisor.

Bachelor of Arts Major

Students wishing to serve as law enforcement officers should be aware that employing agencies may require their applicants to meet certain standards of character and physique.

	Credits
ENG 310, Technical Writing	4
LAJ 347, Administration in Criminal Justice	5
LAJ 499, Seminar	2
POSC 210, American Government OR	
POSC 230, State and Local Government	5
POSC 320, Public Administration	5
POSC 350, Introduction to Public Law	5
POSC 451, Introduction to Constitutional Law	5
PSY 346, Social Psychology	4
PSY 447, Adolescent Psychology	3
PSY 449, Abnormal Psychology	4
SOC 346, Criminology	5
SOC 349, Law and Society	5

Interdisciplinary electives by advisement to complete a specialization in law enforcement; paralegal; or probation and parole.....

Total 75

Courses

LAJ 245. Evidence and Arrest (4).

LAJ 246. Patrol (4). Crime related functions, traffic control and safety, emergency services, and general community services.

LAJ 247. Investigation (4). Function and propriety of investigations; methods of gathering evidence. •

LAJ 248. The Practice of Law (4). Basic introduction to what lawyers do. Organization of law firms, prosecutorial and defenders' offices. Techniques of factual research. †

LAJ 250. Legal Research (4). Techniques of legal research; the case system, statutes, court decisions, Shepardizing. †

LAJ 251. Court Administration (4). The administrative problems facing our overloaded court systems, and the techniques by which court administrators attempt to deal with them. The coming institutionalization of court administration systems. •

LAJ 255. Introduction to Criminal Law (4). Scope and nature of law; classification of offenses; act and intent; capacity to commit crime and defenses. Elements of major criminal statutes.

LAJ 256. Police Personnel Administration (5). History and philosophy of federal, state and local police personnel programs; overview of personnel functions.

LAJ 340. Homicide Investigation (3). LAJ 247 or equivalent recommended.

LAJ 347. Administration in Criminal Justice (5). The sources of police power and authority in a democratic society, the internal organization and administration of federal, state and local agencies, their interaction with each other and with the communities they serve.

LAJ 348. Family Law (4). Marriage, divorce, state regulation, custody, and care and supervision of children.

LAJ 355. Criminal Organization (5). Structure and activities of criminal organizations.

LAJ 360. Industrial Security (5). Organization and management of physical and personnel security programs in the industrial context.

LAJ 361. Nuclear Security (3). Safety and security problems peculiar to nuclear industries.

LAJ 362. Nuclear Emergency Management (3). Prerequisite, LAJ 361 or permission of instructor. Responses to terrorism, sabotage and nuclear accident.

LAJ 398. Special Topics (1-6).

LAJ 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

LAJ 491. Workshop (1-6). Specialists will lead discussion of a variety of problems concerning the law and justice system. With the approval of the director of the program the course may be designated for S or U grades.

LAJ 496. Individual Study (1-6). Prerequisite, permission of instructor.

LAJ 499. Seminar (1-5). Prerequisite, permission of the instructor. With approval of the program director the course may be designated for regular letter grade or S or U depending upon course and method of instruction.

1937

The Washington State Normal School (at Ellensburg) officially became Central Washington College of Education.

1938

New elementary training school facility to replace Edison School completed. Later named Hebel Elementary.

1942

Central closes for three days in Fall to permit students to lend help in the apple harvest.

1943

The Air Force training program introduced.

1944

Temporary housing obtained from Army Surplus to accommodate the rising enrollment of World War II veterans.

1947

Legislation allowed degrees in both bachelor of arts and sciences and master of education. The first master's degree granted.

1947

Publication of the text History of the State of Washington, co-authored by Prof. Catherine Bullard (English) and Prof. Harold Barto (History).

MATHEMATICS

Acting Chair:

Stephen G. Hinthorne
Bouillon 115

Professors:

David R. Anderson, Differential Equations, Foundations
Dale R. Comstock, Algebra
Wm. Frederick Cutlip, Algebra, Automata Theory
William S. Eberly, Functional Analysis
Barney L. Erickson, Mathematics Education
Kenneth O. Gamon, Analysis, Differential Equations
Bernard L. Martin, Mathematics Education, Statistics
William B. Owen, Probability and Mathematical Statistics,
Actuarial Science

Assistant Professor:

Alla Ditta Raza Choudary, Algebraic Topology
James D. Harper, Harmonic Analysis
Stephen G. Hinthorne, Combinatorics, Mathematics Education,
Geometry
Scott M. Lewis, Mathematics Education, History of
Mathematics
Cen Tsong Lin, Probability and Mathematical Statistics,
Actuarial Science
Jan M. Rizzuti, Mathematics Education

Mathematics is an expanding and evolving body of knowledge as well as a way of perceiving, formulating and solving problems in many disciplines. The subject is a constant interplay between the worlds of thought and application. The student of mathematics will find worthy challenges and the subsequent reward in meeting them.

The general student will find preparatory courses in precalculus mathematics and traditional mathematics courses such as calculus, linear algebra, geometry, abstract algebra, analysis and topology. Also, more specialized courses in discrete mathematics, number theory and the history of mathematics are offered. Special needs of computer science majors, elementary education majors and general education requirements are also met by courses in the mathematics department.

For those desiring concentrated work in mathematics, the mathematics department offers three programs leading to bachelor degrees. A bachelor of arts or bachelor of science in mathematics prepares the student as a mathematician for industry or graduate work. A bachelor of arts in secondary teaching prepares the student to teach at the junior, middle or high school levels. A bachelor of science with actuarial science option prepares the student to work as an actuary in applied statistics. A bachelor of arts minor and a secondary teaching minor are also available.

Two graduate degrees are offered: the master of science and master of arts for teachers. Both are described in the graduate section of the catalog.

All programs (major, minor, including electives) must be on file and approved by the department at least one academic year preceding graduation.

In addition to general regulations for admission to master's degree programs, regular admission to graduate programs in mathematics requires that a student shall have earned a baccalaureate degree with a major in mathematics or equivalent from an accredited college or university. A student with a bac-

calaureate degree with a major other than mathematics may be admitted to the graduate program upon the recommendation and permission of the chair of the department of mathematics. Any deficiencies for regular admission must be removed during the first year of graduate study.

Students expecting to be admitted to the master of science program must take both the advanced test and the aptitude test of the Graduate Record Examination.

For further information, please contact the department of mathematics.

Bachelor of Arts Major

	Credits
MATH 172.1, 172.2, Calculus	10
MATH 260, Sets and Logic	5
MATH 265, Linear Algebra I.....	4
MATH 272.1, 272.2, Multivariable Calculus	10
MATH 461.1, 461.2, 461.3, Abstract Algebra	9
MATH 471.1, 471.2, 471.3, Advanced Analysis	9
Electives in upper division Mathematics by advisement	13
	Total 60

Bachelor of Arts Minor

	Credits
MATH 172.1, 172.2, Calculus	10
MATH 260, Sets and Logic	5
MATH 265, Linear Algebra I.....	4
Electives in Mathematics at 200 level or above by advisement	1-11
	Total 20-30

Teaching Major - Secondary

	Credits
MATH 172.1, 172.2, 272.1 Calculus	15
MATH 230, Discrete Mathematics	5
MATH 255, Intuitive Geometry for Secondary Teachers	4
MATH 260, Sets and Logic	5
MATH 265, Linear Algebra I.....	4
MATH 311, Statistical Concepts and Methods.....	5
MATH 320, History of Mathematics.....	3
MATH 324, Methods and Materials in Math-Secondary	3
MATH 360, Algebraic Structure	5
MATH 420, Problem-solving Techniques for Secondary Teachers	3
MATH 424, Microcomputers in the Secondary Mathematics Classroom.....	2
MATH 430, Introduction to the Theory of Numbers	3
MATH 455.1, Principles of Geometry.....	3
	Total 60

Teaching Minor - Secondary

(This minor is an endorsable minor for student teaching.)

	Credits
MATH 172.1, 172.2, Calculus	10
MATH 230, Discrete Mathematics	5
MATH 255, Intuitive Geometry for Secondary Teachers	4
MATH 260, Sets and Logic	5
MATH 265, Linear Algebra I	4
MATH 311, Statistical Concepts and Methods	5
MATH 324, Methods and Materials in Math-Secondary	3
MATH 420, Problem-solving Techniques for Secondary Teachers	3
MATH 455.1, Principles of Geometry	3
Total	42

Bachelor of Science Major

	Credits
MATH 172.1, 172.2, Calculus	10
MATH 260, Sets and Logic	5
MATH 265, Linear Algebra I	4
MATH 272.1, 272.2, Multivariable Calculus	10
MATH 311, Statistical Concepts and Methods	5
MATH 360, Algebraic Structures	5
MATH 365, Linear Algebra II	3
MATH 376.1, 376.2, Elementary Differential Equations	6
CPSC 177, Introduction to FORTRAN Programming	4
PHYS 211, 212, 213, General Physics	15
Choose by advisement one of the following:	
MATH 413, Introduction to Stochastic Processes OR	
MATH 464, Games and Programs	5
Choose by advisement two of the following sequences:	18-19
MATH 411.1, Introduction to Probability Theory and	
MATH 411.2, 411.3, Introduction to Mathematical	
Statistics	10
MATH 461.1, 461.2, 461.3, Abstract Algebra	9
MATH 471.1, 471.2, 471.3, Advanced Analysis	9
MATH 472.1, 472.2, 472.3, Applied Analysis	9
MATH 481.1, 481.2, 481.3, Numerical Analysis	9
Total	90-91

Actuarial Science Option

An actuary is a business professional who uses specialized mathematical skills from probability and statistics to define, analyze and solve financial and social problems. Actuaries create and manage insurance programs which reduce the adverse financial impact of both expected and unexpected things that happen to people, such as illnesses, accidents and death. In addition, actuaries design pension programs, making sure there are sufficient resources to pay retirement and death benefits while also charging participants in the insurance or retirement plan a fair price.

The bachelor of science in mathematics - actuarial science option is listed below and designed to prepare a student in both the mathematics and business areas necessary for success in the rigorous but rewarding actuarial profession.

Courses	Credits
MATH 172.1, 172.2, Calculus	10
MATH 265, Linear Algebra I	4
MATH 272.1, 272.2, Multivariable Calculus	10
MATH 311, 410.1, 410.2, Statistical Concepts and Methods	11
MATH 411.1, Introduction to Probability Theory	4
MATH 411.2, 411.3, Mathematical Statistics	6
MATH 412, Topics in Actuarial Science	5
MATH 464, Games and Programming	5
ACCT 251, Financial Accounting I	5
ACCT 252, Financial Accounting II	5
ECON 201, Principles of Economics, Micro	5
ECON 202, Principles of Economics, Macro	5
ECON 330, Money and Banking	5
ECON 356, Government and Business OR	
BUS 241, Legal Environment of Business	5
FIN 370, Business Finance	5
FIN 475, Investments	5
CPSC 177, Introduction to FORTRAN	4
ENG 310, Technical Writing	4
Total	103

Courses**ADMISSION AND PLACEMENT NOTES:**

1. Students with mathematics deficiencies may enroll in mathematics courses numbered 101 or higher only after the deficiencies are remedied. See the Academic Skills Center.
2. The Mathematics Placement Test (MPT) is used in all five public Washington universities to place students accurately into the sequence of courses leading to Calculus: Math 161 (Intermediate Algebra), Math 163.1-2 (Precalculus), Math 172.1-2 (Calculus). See the mathematics department for further information.
3. Admission to any mathematics course having prerequisites requires either a suitable math placement test score or a grade of C- or better in each listed prerequisite to that course.

MATH 100. Basic Mathematics (1-4). For all students whose mathematics skills scores indicate deficiencies in mathematics. Credits will not be allowed toward meeting bachelor's degree requirements at Central. Grades will be S or U. May be repeated. (For information, see Academic Skills Center, L&L 103.)

MATH 101. Mathematics in the Modern World (5). Intended for the student with limited mathematical background. Selected topics from the historical development and applications of mathematics together with their relationship to the development of our present society.

MATH 130.1. Finite Mathematics I (5). Fundamental concepts of mathematics emphasizing appreciation and respect for precise definitions and logical reasoning. A course especially suited for students in the behavioral, managerial and social sciences, as well as for the general student. Meets General Education "reasoning" requirement and prepares student for introductory statistics courses in various departments. The language of sets, counting procedures, introductory probability and decision-making, introductory descriptive statistics.

(See note on math placement test at beginning of section for information regarding placement into Math 161, 163.1, 163.2 or 172.1.)

MATH 161. Intermediate Algebra (5). A course in those basic algebra concepts and manipulative skills which are prerequisite to most college-level mathematics. Recommended primarily for students who have satisfactorily completed only one year or less of high school algebra and who anticipate entering the pre-calculus sequence.

MATH 162. Technical Mathematics (5). Prerequisite, MATH 161 or permission of math department chair. Intended for majors in industrial and engineering technology. Topics from algebra, geometry and trigonometry applications in technology. No credit for those with credit in MATH 163.1 and MATH 163.2 or equivalent.

MATH 163.1. Pre-Calculus Mathematics I (5). Prerequisite, MATH 161 or equivalent, or permission of department chair. A foundation course which stresses those algebraic and elementary function concepts together with the manipulative skills essential to the study of calculus.

MATH 163.2. Pre-Calculus Mathematics II (5). Prerequisite, MATH 163.1 or equivalent, or permission of department chair. A continuation of MATH 163.1 with emphasis on circular functions, trigonometric functions, vectors, the complex number system, and an introduction to analytic geometry.

MATH 164.1. Foundations of Arithmetic I (5). Structure of the real number system. Properties of and operations on integers, rationals. Decimal representation, percentages, proportion, graphing and elementary problem solving. Recommended for the prospective elementary school teacher.

MATH 170. Intuitive Calculus (5). Prerequisite, MATH 163.1 or permission. An intuitive approach to the differential and integral calculus specifically designed for students in the behavioral, managerial, and social sciences. Not open to students with credit in MATH 172.1 or higher.

MATH 172.1, 172.2. Calculus (5,5). Prerequisites, MATH 163.1 and 163.2 or equivalents, or permission of department chair. Theory, techniques and applications of differentiation and integration of the elementary functions.

MATH 230. Discrete Mathematics (5). Prerequisite, permission and either MATH 170 or 172.1. Topics from logic, combinatorics and counting techniques, graph theory, abstract algebra and theory of finite-state machines.

MATH 250. Intuitive Geometry (4). An intuitive approach to curves, surfaces, solids, networks, areas, volumes, and mensuration (including the metric system.) Recommended for the prospective elementary school teacher.

MATH 255. Intuitive Geometry for Secondary Teachers (4). Concepts of intuitive geometry that are taught at the secondary level. Not open to students with credit in MATH 250.

MATH 260. Sets and Logic (5). Prerequisite, Math 172.2 or equivalent. Essentials of mathematical proofs, including use of quantifiers and principles of valid inference. Set theory as a mathematical system. Cartesian products, relations, functions, countable and uncountable sets.

MATH 265. Linear Algebra I (4). Prerequisite, MATH 172.1 or permission. Vector spaces, linear systems, matrices and determinants.

MATH 272.1, 272.2. Multivariable Calculus (5,5). Prerequisite, MATH 172.2. Differential and integral calculus of multivariable functions and related topics.

MATH 298. Special Topics (1-6).

MATH 299. Seminar (1-5).

MATH 299.1. Seminar: Actuarial Science Problems I (2). Prerequisite, Math 272.1 or permission of instructor. Students discuss and present problems using techniques from calculus and linear algebra important for actuaries.

MATH 311. Statistical Concepts and Methods (5). Prerequisite, 163.1 or permission. Elementary probability, including the binomial and normal distributions. Sampling distributions and statistical inference, especially confidence intervals and hypothesis testing. Use of the Minitab Computing system (no prior computing experience necessary) is an integral part of the course.

MATH 320. History of Mathematics (3). Prerequisite, MATH 172.2. A study of the development of mathematics. Recommended especially for the prospective teacher.

MATH 324. Methods and Materials in Mathematics-Secondary (3). Prerequisites, MATH 255, MATH 265, ED 311 and permission of instructor.

MATH 360. Algebraic Structures (5). Prerequisites, MATH 260 and MATH 265. An introduction to the structure of the real number system and to the structure of other algebraic systems (groups, rings, fields).

MATH 365. Linear Algebra II (3). Prerequisite, MATH 265 or permission. Vector spaces, linear transformations, bilinear and quadratic forms, eigenvalues, eigenvectors, similarity, inner products and norms.

MATH 376.1, 376.2. Elementary Differential Equations (3,3). Prerequisites, MATH 265 and MATH 272.1 or permission. Elementary methods of solutions of ordinary differential equations. Some numerical methods for solving ordinary differential equations with applications to real world problems.

MATH 410.1, 410.2. Advanced Statistical Methods (3,3). Prerequisite, MATH 311, or permission. A thorough treatment of regression and correlation. Chi-square and other enumeration statistics. Non-parametric statistical principles of experimental design. Examples will be from a variety of fields.

MATH 411.1. Introduction to Probability Theory (4). Prerequisite, MATH 272.2 or permission. Principal topics include: combinatorial theory, conditional probability, random variables, expectation and moments, generating functions, various discrete and continuous distributions, law of large numbers, central limit theorem.

MATH 411.2, 411.3. Introduction to Mathematical Statistics (3,3). Prerequisite, MATH 411.1. Derived distributions, point and interval estimation, hypothesis testing. Correlation and regression theory. Distribution free methods. Bayesian inference.

MATH 412. Topics in Actuarial Science (5). Prerequisites, MATH 410.1 and Math 411.1 or permission of instructor. Specialized topics in mathematics and statistics important for actuaries. Emphasis on time series analysis and applied numerical analysis.

MATH 413. Introduction to Stochastic Processes (5). Prerequisite, MATH 411.1. The Wiener Process, conditional probability and conditional expectation. Stationary and evolutionary processes. Various Poisson processes. Renewal counting processes. Discrete parameter Markov chains.

MATH 420. Problem Solving Techniques for Secondary Teachers (3). Prerequisite, MATH 260. Patterns and techniques of problem solving; formulating hypotheses; programming solutions; creating problems.

MATH 424. Microcomputers in the Secondary Mathematics Classroom (2). Prerequisites, MATH 265 and knowledge of BASIC computer language. Uses of the microcomputer in teaching general math, algebra, geometry, trigonometry, etc.

MATH 425. Problem-Solving Techniques in Mathematics for Elementary School Teachers (3). Prerequisite, MATH 164.1. Patterns and techniques of problem-solving; formulating hypotheses; programming solutions; generalizing; investigating and creating problems.

MATH 430. Introduction to Theory of Numbers (3). Prerequisite, two years of college mathematics or permission. Euclidean Algorithm, fundamental theorem of arithmetic, congruences, diophantine equations, primitive roots and indices and quadratic reciprocity. Recommended for mathematics teachers and as an elective for arts and sciences.

MATH 455.1. Principles of Geometry (3). Prerequisites, MATH 255 and MATH 260. Geometry as a logical system; postulational systems; projective and non-Euclidean geometry.

MATH 461.1, 461.2, 461.3. Abstract Algebra (3,3,3). Prerequisite, Math 265. Algebraic structures such as groupoids, groups, rings and fields.

MATH 464. Games and Programs (5). Prerequisite, MATH 265. (MATH 311 recommended). The mathematics employed in model decision processes. Deterministic, stochastic and strategic games together with linear programming and their elementary applications.

MATH 471.1, 471.2, 471.3. Advanced Analysis (3,3,3). Prerequisite, MATH 260, 272.2. Further development of properties of calculus.

MATH 472.1, 472.2, 472.3. Applied Analysis (3,3,3). Prerequisite, MATH 376 or permission. Selected topics from advanced analysis especially useful to the engineer, chemist, physicist and applied mathematician.

MATH 481.1, 481.2, 481.3. Numerical Analysis (3,3,3). Prerequisites, MATH 376.1 and acquaintance with a scientific programming language, or permission of instructor. Finite differences, difference equations, interpolation, numerical differentiation and integration, algebraic computations, numerical solution of differential equations.

MATH 490. Contracted Field Experience (1-15). Prerequisite, approval by department chair. Individual contract arrangement involving student, faculty, and cooperating agency to gain practical experience in off-campus setting. Grade will be S or U.

MATH 491. Workshop (1-6). The title of the workshop and the credit to be earned shall be determined at the time the workshop is approved. Designed to give an opportunity for individual and group study of problems in mathematics.

MATH 492.1, 492.2. Laboratory Experience in Teaching Mathematics (2,2). Prerequisite, 30 credits in mathematics and permission of student's degree program advisor. Serves the purpose of providing the opportunity for competent senior or graduate students to receive credit and experience in developing procedures and techniques in teaching college level mathematics.

MATH 496. Individual Study (1-6). Prerequisite, permission of instructor.

MATH 498. Special Topics (1-6).

MATH 499. Seminar (1-5).

MATH 499.1. Seminar: Actuarial Science Problems II (1). Prerequisites, MATH 411.1 or permission. Students discuss and present problems in mathematical statistics important for the actuarial profession. May be repeated once for credit.

MATH 499.2. Seminar: Actuarial Science Problems III (1). May be repeated once for credit. Prerequisites, MATH 464, MATH 412 or concurrent registration. Students discuss and present problems in queueing theory, linear programming, applied statistics and numerical analysis important in the actuarial profession.

The following courses are on reserve and may be offered subject to program needs: MATH 130.2 Finite Mathematics II (5), MATH 162 Technical Mathematics (5), MATH 164.2 Foundations of Arithmetic II (3), MATH 165 Plane Trigonometry (3), MATH 197 Honors Individual Study (1-12), MATH 310 Discrete Probability (3), MATH 356 Introduction to Topology (3), MATH 373.1, 373.2 Introduction to Complex Calculus (3), MATH 397 Honors Individual Study (1-12), MATH 455.2 Principles of Geometry (3), and MATH 456 Differential Geometry (3).

MEDICAL TECHNOLOGY

Coordinator:
R.E. Pacha
Dean 225

Program Director: Claudia Steen

Medical Technology is a branch of laboratory medicine that includes the major areas of hematology, microbiology, clinical chemistry and immunohematology. It is a challenging field that is continually changing and becoming more and more sophisticated. Medical technologists, also called clinical laboratory scientists, are highly skilled members of the medical team. They perform complex, often automated, analyses on a variety of specimens to aid physicians in the detection, diagnosis, and treatment of disease. Individuals in this profession traditionally work in hospitals and clinics. However, the variety of laboratory skills which technologists possess allows them to work in such fields as medical research and in health related industries.

The medical technology program offered at the CWU Center for Medical Technology is fully accredited by the American Medical Association. The curriculum consists of three years on campus or at other accredited universities and 12 months of clinical laboratory training in Yakima. Classes begin in July and in January if space is available. Upon completion of the training program students are eligible to apply for a bachelor's degree in biology and are eligible to take national examinations to become a certified medical technologist. With prior arrangement, some credits may apply toward a master's degree in biology or chemistry.

Admission Requirement: Admission into the 12-month clinical program is competitive and requires application to the Center for Medical Technology by December 1, preceding the year the applicant plans to enroll. A cumulative grade point average of 2.5 and a science GPA of 2.7 is necessary for admission. The basic academic requirements are those established by certification agencies. Academic requirements include:

1. One hundred thirty-five credits or a baccalaureate degree earned in an accredited college or university.
2. Twenty-four credits of chemistry. (This must include organic and/or biochemistry. Quantitative analysis is recommended.)
3. Twenty-four credits of biology. (The courses must be acceptable toward a degree in biological science and must include general microbiology and immunology. Medical microbiology, physiology, parasitology, genetics and virology are highly recommended. Back-

ground courses in medical technology and laboratory management also are desirable.

4. One course in college-level mathematics. (Statistics is strongly recommended.)
5. Physics (including light and electricity) is required for licensure in the state of California but is not required for admission to this program.

MILITARY SCIENCE (Army ROTC)

Chair:
Gary G. Lynde, Lieutenant Colonel, Aviation
Peterson Hall 202

Professor:
Gary G. Lynde, Military Science

Assistant Professors:
Neil W. Brogren, Captain, Quartermaster
Warren R. Schultz, Captain, Field Artillery
William A. Anderson, Captain, Air Defense Artillery

Instructor:
Larry A. Booten, Master Sergeant, Infantry

The Army ROTC Program is designed to prepare selected students to serve as commissioned officers in the Regular Army, U.S. Army Reserve, or Army National Guard. The on-campus instructional program is designed to fit into the regular academic schedule of the University and is taught by Army personnel. It consists of military science and other academic classes, leadership laboratory and off-campus summer camp training. Academic studies include courses in military science and tactics, principles of leadership, officership, techniques of instruction, personnel and logistics management, staff procedures, physical conditioning, land navigation, and military law. Academic standards for entry into the ROTC program are the same as those of the University. The program is open to any student, male or female, and leads to a commission in either the Regular Army, Army Reserve, or Army National Guard. Both a four-year and two-year program are offered.

The Four-Year Program is divided into two phases--a two-year basic course and a two-year advanced course. The basic course normally is taken by the student during the freshman and sophomore years. The beginning student, must be or intend to become, a citizen of the United States. First- and second-year students may become familiar with the ROTC program by taking any of the basic course offerings. Various activities are scheduled each quarter to further familiarize the student with the ROTC program. There are no obligations of any kind during the first two years of Army ROTC for other than scholarship students.

Credit toward completion of Army ROTC courses may be given for prior ROTC or military training. Veterans routinely receive full credit for the first two years of Army ROTC and may enter the advanced course directly. All military textbooks and uniform items are furnished without charge. Upon entering the advanced course, students agree to complete the mili-

School of Professional Studies

tary science program, to accept a commission and to serve on active duty or in the United States Army Reserve Forces. If desired, students may be guaranteed reserve duty with the Army Reserve or National Guard. Active duty recipients are selected on a competitive basis. Students in the advanced course receive a tax free stipend of \$100 per month for a maximum of 20 months. Army Reserve or National Guard members may continue to serve with and be paid by their units while enrolled in the advanced course. (See SMP program below.) In the advanced course, students can expect a challenging course of instruction designed to prepare them for the position of second lieutenant. Classroom work requires a quarterly writing and speaking requirement. Advanced course students must attend a minimum of two field trips annually which are conducted during the academic year. Good physical conditioning is maintained within the cadet corps by taking a quarterly physical education class (PEF 118.) In addition, cadets in the commissioning program attend a six-week summer camp between their junior and senior years, during which they receive varied and challenging training for which they are paid both for the time at camp and for travel expenses to and from the camp location.

The two-year program is open to upper-division and graduate students presently enrolled at the University or to upper-division and graduate transfer students from other colleges. Students may qualify for entrance into the advanced course under this program in either of two ways. First, they may receive placement credit for prior military service or junior ROTC. Placement credit is substituted for the freshman and sophomore years of basic Army ROTC work.

The second alternative under this program includes attendance at a camp for six weeks at Fort Knox, Kentucky. No obligation is incurred by attending. Completion of this camp also qualifies students for direct entry into the advanced course. While at camp, the student receives pay, in addition to travel expenses to and from the camp location. Academic subjects covered in the two-year program, including the advanced camp, are the same as those covered in the advanced course of the four-year program and the program includes the same obligation.

Simultaneous Membership Program (SMP) members of the Army Reserve and National Guard may participate in the advanced course. As an SMP officer trainee in the Army National Guard and Army Reserve, the student will perform duties commensurate with those of a second lieutenant. Supervised by a commissioned officer, the student attends monthly drill meetings and summer training. SMP students receive E-5 (Sergeant's) pay as a member of the Reserve forces and can become eligible for the new GI bill.

Scholarships: Three- and two-year scholarships are offered. Selections are made on a regional level based upon the recommendation of the professor of military science. Each scholarship pays: full costs of tuition (up to \$7,000 per year), laboratory expenses, related fees, quarterly flat rate stipend for books (currently \$130 per quarter), and provides, in addition, \$100 per month tax free. Graduating seniors may compete for fully-funded army graduate fellowships.

High School Students: Those students considering enrolling in Army ROTC are encouraged to contact the military science department, Peterson Hall, for general information.

Transfer Students: Students transferring from other institutions, including community colleges, are urged to consult with one of the Army ROTC instructors in Peterson Hall to plan

their CWU program and apply for scholarships.

Graduate Students: Graduate students should contact the Army ROTC Department in Peterson Hall as soon as possible to plan program participation.

Veterans: Veterans are encouraged to contact one of the Army ROTC instructors for information, an outline of benefits and longevity considerations and placement credit.

Commissioning as an officer requires the successful completion of selected Professional Military Education (PME) courses. Appropriate courses of instruction to satisfy this requirement are those which include written communication skills, human behavior, military history, computer literacy, and math literacy in the course content. A list of appropriate courses is available from the department.

Additional information concerning the Army ROTC program may be obtained by writing: Central Washington University, Professor of Military Science, Peterson Hall, Ellensburg, Washington 98926, by visiting the Army ROTC offices in Peterson Hall, or by calling (509) 963-3518.

Bachelor of Science

Major

The major in military science is designed to give the student interested in a military career a broad background in various academic areas. The military science department strongly suggests that students majoring in military science also select a second major which can be completed in four years in conjunction with the military science major.

Participation in this degree program is contingent upon acceptance as a contract student in the advanced course of the Army ROTC program. Application may be made at the military science department, Peterson Hall. Students desiring to participate in the program are not required to major in military science.

Core Requirements

Credits

MLS 101, The Army Officer	1
MLS 103, Leadership	2
*MLS 104, Military Science and Tactics	2
MLS 205, Fundamental Tactics	2
MLS 210, Military Science and Tactics II	2
MLS 211, Principles of Land Navigation	1
MLS 310, Military Science and Tactics III	3
MLS 311, Military Science and Tactics III	3
MLS 312, Military Science and Tactics III	3
MLS 410, Military Science and Tactics IV	4
MLS 411, Military Science and Tactics IV	4
MLS 412, Military Science and Tactics IV	2
MLS 490, Military Science and Tactics III	8-15

Total 36-37

*MLS 102 may be substituted for MLS 104 with permission.

Required Supporting Courses

Credits

COM 207, Introduction to Communication Studies	4
GEOG 346, Political Geography	4
POSC 210, American Government	5
HIST 314.1, American Military History	5

School of Professional Studies

MGT 380, Organizational Management	5
PSY 205, Psychology of Adjustment	5

Total 28

Electives from various disciplines in consultation with the department advisor	15
---	----

Total 79-80

Minor

Participation in this degree program or the minor is contingent upon acceptance as a contract student in the advanced course of the Army ROTC program. Application may be made at the military science department, Peterson Hall.

Credits

MLS 310, Military Science and Tactics III	3
MLS 311, Military Science and Tactics III	3
MLS 312, Military Science and Tactics III	3
MLS 410, Military Science and Tactics IV	4
MLS 411, Military Science and Tactics IV	4
MLS 412, Military Science and Tactics IV	2
Plus successful completion of a 5 quarter-hour military history course	5

Total 24

Courses

MLS 101. The Army Officer (1). An orientation to the military life. Relationship of academic major and minors to Army officer skills, jobs and general life-style. Open to any student.

MLS 102. Smallbore Rifle Marksmanship (1). Designed to provide an understanding of the origin and evolution of firearms, proper handling and safety of weapons; interrelated aspects of positions and techniques in smallbore rifle marksmanship; discussion of marksmanship; discussion of marksmanship philosophy, psychology and development of psychomotor skills. Open to all students.

MLS 103. Leadership (2). Fundamentals of leadership theory, principles and techniques necessary for a military or civilian leader. Open to all students.

MLS 104. Military Science and Tactics (2). An introduction and overview of basic military operational skills and management techniques. Student may not receive credit for both MLS 102 and MLS 104.

MLS 205. Fundamental Tactics (2). Concepts on employing equipment utilized by the Army at the squad and platoon level for Second Lieutenants.

MLS 210. Military Science and Tactics (2). Prerequisite, MLS 101 or equivalent. An introduction to basic skills of value to the soldier. Four hours laboratory.

MLS 211. Land Navigation (1). Prerequisite, MLS 101 or permission of instructor. Principles of land navigation and orienting with practical field applications.

MLS 212. Leadership Laboratory (1). Prerequisites, MLS 101, 102 and permission of instructor. Practical experience in leadership and basic military skills. May be repeated.

MLS 292. Basic Camp (8). Basic military skills and leadership techniques taught at Ft. Knox, KY, during the summer. Qualifies the student for enrollment in the ROTC advanced course. Training emphasizes leadership development and can be taken in place of the basic course. Students receive pay, food, lodging and travel expenses to and from Ft. Knox, KY.

MLS 296. Individual Studies in Military Science (1-15).

MLS 298. Special Topics (1-6).

MLS 310. Military Science and Tactics (3). Prerequisites, MLS 101, 102, 103 and 211, or permission of department chair. Military methods of instruction, first aid, weapons, communications, and advanced land navigation. Prepares the student for advanced camp. Required for commissioning.

MLS 311. Military Science and Tactics (3). Prerequisite, MLS 310 or permission of department chair. Branches of the Army, small unit leadership techniques, and small unit tactics. Prepares the student for advanced camp. Required for commissioning.

MLS 312. Military Science and Tactics (3). Prerequisite, MLS 311 or permission of department chair. Small unit tactics, land navigation, techniques of fire support and review of military skills. Prepares the student for advanced camp. Required for commissioning.

MLS 314.1. Military History of the United States (5). A comprehensive and systematic survey and analysis of the American Military experience from Colonial times through the Vietnam War. Same as HIST 341.1. Students may not receive credit for both.

MLS 398. Special Topics (1-6).

MLS 410. Military Science and Tactics (4). Principles of war and military operations. Required for commissioning.

MLS 411. Military Science and Tactics (4). Prerequisite, MLS 410. Required for commissioning.

MLS 412. Military Science and Tactics (2). Prerequisite, MLS 411. Contemporary leadership problems. Required for commissioning.

MLS 490. Military Science and Tactics III (Advanced Camp) (8-15). Prerequisites, MLS 310, 311, and 312. Practical exercise in small unit leadership and tactics. Six-week camp at Ft. Lewis, Washington. Required for commissioning. Option of three weeks field experience as a second lieutenant in a military unit (Alaska, Hawaii, Korea, or in the Continental United States).

MUSIC

Chair:

Russ A. Schultz
Hertz Hall 101

Professors:

Bonalyn B. Bricker-Smith, Piano, Theory
Larry D. Gookin, Bands, Low Brass, Music Education,
Conducting
Peter Gries, Piano, Theory, Counterpoint, Analysis
J. Richard Jensen, French Horn, Theory, Chamber Music
John F. Moawad, Percussion, Jazz Studies
Russ A. Schultz, Conducting, Low Brass, Literature
Raymond L. Wheeler, Clarinet, Saxophone, Oboe, Bassoon,
Woodwind Methods

Associate Professors:

Linda Marra, Voice, Opera
Sidney L. Nesselroad, Voice, Opera, Appreciation
Hal Ott, Flute, Recorder, History, Literature
Eric Roth, Conducting, Theory, History, Literature

Assistant Professors:

Daniel F. Baldwin, Orchestra, Conducting, Theory
Geoffrey Paul Boers, Choir, Voice, Music Education,
Conducting
Patricia A. Bourne, Music Education
John Michel, Cello, Bass, Fundamentals
John F. Pickett, Piano, Theory, Music History
Carrie B. Rehkopf, Violin, Viola, Fundamentals
Andrew J. Spencer, Percussion, Band

The department offers undergraduate curricula leading to the bachelor of music and bachelor of arts degrees and graduate work leading to the master of music degree.

Training includes development of aural, analytical, and performance skills, orientation in the historical and cultural aspects of music, and opportunities for students to enact in a variety of roles as listener, performer, composer and scholar.

The preparation of professional musicians for careers as performers, teachers and scholars is a primary concern, although the curriculum serves as part of the program of liberal education for all students.

The music department is an accredited institutional member of the National Association of Schools of Music (NASM).

Baccalaureate Degrees

General Requirements:

1. All entering students who plan to pursue either a major or minor in the department of music must demonstrate their performance ability before a faculty committee. Based on this audition, the music department will determine the student's admissibility into a specific major or minor area. Auditions are scheduled for specific dates each year. However, other dates are available through prior scheduling. Information regarding audition dates, schedules, and repertoire requirements can be obtained by contacting the music office. Students who do not qualify for admission into the department may be placed on departmental probation. This will allow them to enroll in some basic musician-
2. A keyboard proficiency requirement must be met by all music majors. Students unable to demonstrate essential keyboard skills must enroll in MUS 254 I, II and III at the appropriate assigned level in the year of entrance. (Upper division transfer students not meeting the required keyboard proficiency may enroll in upper division courses only if concurrently enrolled in MUS 254.) If a student cannot meet the proficiency requirements at the conclusion of three quarters, he or she must continue to register for piano study until this requirement is displayed. Music education majors will not be placed or scheduled for student teaching until this proficiency is completed.
3. All music majors, including B.M. and B.A degrees, must register for a major ensemble which is appropriate to their major performance area during each quarter of enrollment as a full-time student. Piano majors may, with permission of the applied instructor and approval of the department chair, substitute up to three quarters of piano chamber music experience (MUS 217, 417) for major ensemble credit. Music education majors, during the quarter of student teaching, are exempt from this requirement.
4. All students majoring in music, and those students who are non-majors and enrolled in applied music study (MUS 171, 271 [when approved], or 371), must attend the student recital hour at 2 p.m. Thursdays and attend faculty and student recitals and other university music functions in accordance with requirements set forth each quarter.
5. Any student who has been accepted into the music department as a music major or music minor will enroll in "Major Performance Area" applied instruction (MUS 164, 264, 364, 464, 564) in compliance with their degree requirements; i.e., the correct number of credits per quarter as listed for their major. Music major students pursuing study in a secondary applied area and non-music major students will enroll in "Non-Major Performance Area" (MUS 171, 271 [when approved], 371) applied instruction. Enrollment for Non-Major Performance Area applied instruction will be available to students based on degree requirements and on a space available basis. Non-music major students must successfully complete an audition for a faculty committee to be considered for these lessons. An examination in performance (Jury) is required of all students who are enrolled in either "Major Performance Area" applied instruction or "Non-Major Performance Area" applied instruction at the conclusion of each quarter. Six hours practice per week is the minimum required for each 30 minutes of lesson time per week.
6. A theory placement examination is required for all incoming music students to determine their correct status in the theory program. This examination is given for freshmen during the first class period of MUS 144. A theory examination and an examination covering

basic music history will be administered to students transferring with advanced standing at the beginning of the quarter in which they enter the university. Based on the results of the examination, students will be placed into a theory level which is appropriate to their background and experience.

Bachelor of Music

Student advancement through performance levels (164-464) is determined by jury examination. In addition, an evaluation by appointed faculty committee of the student's general musicianship and performance abilities will be conducted at the end of the sophomore year to determine status toward the bachelor of music degree. All bachelor of music performance majors must successfully complete 464 level on their instrument, present a joint recital in the junior year and a full recital in the senior year.

Credits listed in the bachelor of music core and concentrations are the minimum required.

Theory-Composition Major

Credits

MUS 104, Introduction to Musical Studies	3
MUS 144, 145, 146, First Year Theory.....	9
MUS 244, 245, 246, Second Year Theory.....	9
MUS 280, 281, 282, Music History	12
MUS 340, 440, Analytical Techniques I and II	6
MUS 341, 342, Conducting I and II.....	6
MUS 164, 264, Performance (Individual Instruction)	12
MUS - Performance in approved ensembles, to include 12-18 credits in large ensemble(s) and 6-12 credits in chamber ensembles.....	24
MUS 343, 346, Counterpoint I and II.....	6
MUS 422.1, 422.2, 422.3, Orchestration	9
MUS 423.1, 423.2, 423.3, Composition	9
MUS 444, Canon & Fugue	3
MUS 254 or 371, Study in at least 3 instruments (keyboard not included) other than the major instrument.....	3
Music electives	12

Total 123

Keyboard and Guitar Performance Major

Credits

MUS 104, Introduction to Musical Studies	3
MUS 144, 145, 146, First Year Theory.....	9
MUS 244, 245, 246, Second Year Theory.....	9
MUS 280, 281, 282, Music History	12
MUS 340, 440, Analytical Techniques I and II	6
MUS 341, 342, Conducting	6
MUS - Approved ensembles to include 6-12 credits in large ensemble(s) and 9-15 credits in chamber ensembles and accompanying (minimum of 4 credits each)	21
MUS 164-464, Performance (Individual Instruction).....	36
MUS 430, Survey of Keyboard Music	3
MUS 425, Pedagogy (Studio)	3
MUS 343, Counterpoint I.....	3
Music Electives	12

Total 123

Percussion Performance Major

Credits

MUS 104, Introduction to Musical Studies	3
MUS 144, 145, 146, First Year Theory.....	9
MUS 244, 245, 246, Second Year Theory.....	9
MUS 280, 281, 282, Music History	12
MUS 340, Analytical Techniques I.....	3
MUS 341, 342, Conducting	6
MUS 343, Counterpoint I.....	3
MUS - Approved ensembles, to include 10-12 quarters (20-24 credits) in large ensemble(s) and 6-10 credits in chamber ensembles.....	30
MUS 164-464, Performance Studies - Percussion to include 3 quarters (3-6 credits) of keyboard study at 371 or 164 level. Student demonstrating higher level proficiencies may substitute further percussion studies.....	36
Music electives	12

Total 123

String Performance Major

Credits

MUS 104, Introduction to Musical Studies	3
MUS 144, 145, 146, First Year Theory.....	9
MUS 244, 245, 246, Second Year Theory.....	9
MUS 280, 281, 282, Music History	12
MUS 340, Analytical Techniques I.....	3
MUS 341, 342, Conducting	6
MUS 343, Counterpoint I.....	3
MUS - Approved ensembles to include 10-12 quarters (20-24 credits) in large ensemble(s) and 6-10 credits in chamber ensembles.....	30
MUS 164-464, Performance Studies - Major Instrument.....	36
Music Electives.....	12

Total 123

Vocal Performance

Prior to the attainment of MUS 464, the student must demonstrate competency in French and German equal to the successful completion of French and German 153.

Credits

MUS 104, Introduction to Musical Studies	3
MUS 144, 145, 146, First Year Theory.....	9
MUS 244, 245, 246, Second Year Theory.....	9
MUS 280, 281, 282, Music History	12
MUS 340, Analytical Techniques I.....	3
MUS 341, 342, Conducting	6
MUS 343, Counterpoint I.....	3
MUS - Approved ensembles to include 10-12 quarters (20-24 credits) in large ensemble(s) and 6-10 credits in chamber ensembles.....	30
MUS 164-464, Performance Studies-Voice	36
MUS 458, Introduction to Solo Vocal Literature	3
MUS 425B, Pedagogy (Studio) Voice	3

College of Letters, Arts and Sciences

Music Electives.....	6
Total	123

Wind Performance Major**Credits**

MUS 104, Introduction to Musical Studies	3
MUS 144, 145, 146, First Year Theory.....	9
MUS 244, 245, 246, Second Year Theory.....	9
MUS 280, 281, 282, Music History	12
MUS 340, Analytical Techniques I.....	3
MUS 341, 342, Conducting	6
MUS 343, Counterpoint I.....	3
MUS - Approved ensembles to include 10-12 quarters (20-24 credits) in large ensemble(s) and 6-10 credits in chamber ensembles.....	30
MUS 164-464, Performance (Individual Instruction).....	36
MUS 452 or 453, Woodwind or Brass Literature and Pedagogy.....	3
Music Electives.....	9
Total	123

Music Education Major

Qualifies for teaching elementary, junior high and senior high instrumental and choral music. Completion of this program will result in recommendation for endorsement in Music K-12, Instrumental Music (K-12), and Choral Music (K-12). To qualify for student teaching, the following courses must be completed: MUS 321, 323, 325, 341, 342, and if the assignment is on the junior high/middle school level, MUS 424 should be completed.

All students majoring in music education will be reviewed and counselled by the music education committee during each year of full-time enrollment. The purpose of these reviews is to assist the student in developing all the skills necessary to be an effective music educator. One year before student teaching, the student's accomplishments are reviewed by the entire music faculty. In order to receive an endorsement to student teach, the student must receive a satisfactory evaluation in all areas of music study.

Broad Area	Credits
MUS 144-146, 244-246, Theory	18
MUS 343, Counterpoint	3
MUS 280, 281, 282, History.....	12
MUS 104, Musical Studies	3
MUS 321, 323, 325, 424, Music Education	11
MUS 341, 342, Conducting	6
MUS 254, Class Instruction (Piano).....	2
MUS 254, Class Instruction (Voice).....	2
MUS 254, Class Instruction (Strings)	2
MUS 254, Class Instruction (Woodwinds).....	2
MUS 254, Class Instruction (Brass)	2
MUS 254, Class Instruction (Percussion).....	1

Major Ensemble participation each quarter in residence (six credits must be in ensemble of secondary instrument)	22
Major instrument study including a minimum of 4 credits of MUS 364 level.....	12

Total 98

All music education majors must pass the required piano proficiency examination prior to endorsement for student teaching.

Music Education Major - Instrumental Music

Qualifies to teach elementary, junior high and senior high instrumental/general music. Completion of this program will result in recommendation for endorsements in Music K-12 and Instrumental Music K-12. To qualify for student teaching, the following courses must be completed: MUS 321, 325, 341, 342, and if the assignment is on the junior high/middle school level, MUS 424 should be completed.

Instrumental Music Education	Credits
MUS 144-146, 244-246, Theory	18
MUS 343, Counterpoint	3
MUS 280, 282, 282, History	12
MUS 104, Musical Studies	3
MUS 321, 325, 424, Music Education	8
MUS 341, 342, Conducting	6
MUS 254, Class Instruction (Piano).....	2
MUS 254, Class Instruction (Strings)	2
MUS 254, Class Instruction (Woodwinds)	2
MUS 254, Class Instruction (Brass)	2
MUS 254, Class Instruction (Percussion).....	1
Major Ensemble participation each quarter in residence.....	22
Major instrument study including a minimum of 4 credits at MUS 364 level.....	12

Total 93

All music education majors must pass the required piano proficiency examination prior to endorsement for student teaching.

Music Education Major - Choral Music

Qualifies to teach elementary, junior high and senior high choral/general music. Completion of this program will result in recommendation for endorsements in Music K-12 and Choral Music K-12. To qualify for student teaching, the following courses must be completed: MUS 321, 323, 341, 342, and if the assignment is on the junior high/middle school level, MUS 424 should be completed.

Choral Music Education	Credits
MUS 144-146, 244-246, Theory	18
MUS 343, Counterpoint	3
MUS 280, 281, 282, History	12
MUS 104, Musical Studies	3
MUS 321, 323, 424, Music Education	8
MUS 341, 342, Conducting	6
MUS 230, Diction	3

College of Letters, Arts and Sciences

MUS 425, Voice Pedagogy.....	3
MUS 254, Class Instruction (Piano).....	2
Major Ensemble participation each quarter in residence.....	22
Major instrument study including a minimum of 4 credits at MUS 364 level.....	12
Total	92

All music education majors must pass the required piano proficiency examination prior to endorsement for student teaching.

Bachelor of Arts Music Major

	Credits
MUS 104, Introduction to Musical Studies	3
MUS 144, 145, 146, First Year Theory.....	9
MUS 244, 245, 246, Second Year Theory.....	9
MUS 280, 281, 282, Music History.....	12
MUS 341, Conducting I.....	3
MUS 343, Counterpoint I.....	3
MUS 346, Counterpoint II.....	3
*MUS 495, Senior Project	2
**Music Electives in guided upper division courses with a minimum of 6 hours in Music History and Literature.....	16
Total	60

Minor

	Credits
MUS 144, 145, 146, First-year Theory.....	12
MUS 280, 281, Musical History.....	6
MUS 341, Conducting I.....	3
Electives in Music.....	0-12
Total	21-33

*Students are required, as a senior project, to present a recital, a composition, or a research project.

**Students will elect music courses in their major area of interest:

- Performance - at least 12 credits in the major performance medium.
- History and Literature.
- Theory and Composition.
- General - courses selected from a, b, c above with advisement.

Music Teaching Minor - Choral Music (K-12)

	Credits
MUS 144, 145, 146, First Year Theory.....	9
MUS 104, Introduction to Musical Studies	3
MUS 341, 342, Conducting	6
MUS 323, Choral Music Methods.....	3
MUS 321 OR 431, Elementary General Music Methods.....	3
MUS 254, Class Piano OR MUS 384, Choral Literature OR MUS 441, Conducting III	3

Choral Performance Ensemble	3
Performance Instruction	6
Total	36

Music Teaching Minor - Instrumental Music (K-12)

	Credits
MUS 144, 145, 146, First Year Theory.....	9
MUS 104, Introduction to Musical Studies	3
MUS 341, 342, Conducting	6
MUS 325, Instrumental Music Methods.....	3
MUS 321 OR 431, Elementary General Music Methods.....	3
MUS 254, Class Piano OR MUS 383, Symphonic Literature OR MUS 441, Conducting III	3
Instrumental Performance Ensemble.....	3
Performance Instruction	6
Total	36

Music Teaching Minor - Broad Area Choral and Instrumental (K-12)

	Credits
MUS 144, 145, 146, First Year Theory.....	9
MUS 104, Introduction to Musical Studies	3
MUS 341, 342, Conducting	6
MUS 323, Choral Music Methods.....	3
MUS 325, Instrumental Music Methods.....	3
MUS 321 OR 431, Elementary General Music Methods.....	3
MUS 254, Class Piano OR MUS 384, Choral Literature OR MUS 383, Symphonic Literature OR MUS 441, Conducting III	3
Instrumental Performance Ensemble.....	6
Choral Performance Ensemble	6
Selected from the following one credit classes:	6
MUS 254: (Class) Woodwinds, Percussion, Strings, Brass or Voice	6
Performance Instruction	6
Total	60

Departmental Honors

Departmental honors in music may be awarded to the music major with outstanding ability who has demonstrated superior musicianship and scholastic attainment.

Admission to the Program

The student must submit a letter of application to the department chair in the junior or senior year, stating:

- the proposed honors project, date of completion, and name of the faculty advisor for the project;
- current grade average in music;
- current overall grade average.

The student must complete an interview with the honors committee and project advisor to establish:

- a. preliminary course requirements essential to successful completion of the proposed project; b. number of individual study credit hours (MUS 497, 1-12 credits) to be devoted to the project.

Projects Appropriate for Honors

Solo Recital

Original Composition

Arrangement (instrumental, choral, or combination)

Supervision or direction of musical performance

(This can include exceptional service as a teaching assistant under faculty supervision.)

Scholarly Research Paper

Major Operatic Role Performance

Major solo performance (concerto, oratorio, suite, cycle, etc.) with band, orchestra, choir, or chamber ensemble.

Scholarly and Musical Requisites

Cumulative overall grade point average of 3.00

Music grade point average of 3.40

Outstanding ability and superior musicianship demonstrated in completed project.

Final Project Acceptance Requirements

Approval of the completed project by the honors committee, after consultation with the faculty project advisor and department chair.

Interested students are encouraged to consult with the honors advisor.

Courses

MUS 101. History of Jazz (5). The evolution of jazz and the development of Black music in White America.

MUS 102. Introduction to Music (5). Fundamental musical concepts (melody, harmony, rhythm, form, etc.) through illustrations of the instrumental and vocal music of major composers from the earliest period through the present day.

MUS 104. Introduction to Musical Studies (3). Attitudes and concepts relevant to the music profession. Listening repertoire and reference materials. Designed for entering music majors.

MUS 144, 145, 146. First-year Theory (3,3,3). Courses must be taken in sequence. The melodic, rhythmic, and harmonic elements of music through ear-training, sight-singing, writing, analysis, and keyboard work. Two hours lecture, two hours laboratory per week.

MUS 164. Performance (Individual Instruction) (1,2 or 4). By permission of instructor. May be repeated for credit. One half-hour lesson per week for 2 credits, one hour lesson per week for 4 credits; 1 credit if offered one term only during summer session. All students enrolled in performance must attend the weekly recital hour, 7th period, Thursdays.

A. Piano

B. Voice

C. Strings

D. Woodwinds

E. Brass

F. Organ

G. Percussion

H. Guitar

I. Recorder

MUS 198. Special Topics (1-6).

MUS 210. Vocal Jazz Choir (1). By permission of instructor. May be repeated for credit. Two hours rehearsal per week plus all scheduled rehearsals and performances. For freshmen and sophomores.

MUS 214. Brass Choir (1). By permission of instructor. May be repeated for credit. Two hours rehearsal per week plus all scheduled rehearsals and performances. For freshmen and sophomores.

MUS 215. Chamber Orchestra (1). By permission of instructor. May be repeated for credit. Two hours rehearsal per week plus all scheduled rehearsals and performances. For freshmen and sophomores.

MUS 217. Chamber Music Ensemble (1). By permission of instructor. May be repeated for credit. One hour coaching plus two hours rehearsal per week plus all scheduled rehearsals and performances.

A. Piano

B. Voice

C. Strings

D. Woodwinds

E. Brass

F. Percussion

G. Guitar

H. Recorder

I. Mixed

MUS 229. Percussion Ensemble (1). By permission of instructor. May be repeated for credit. Two hours rehearsal per week plus all scheduled rehearsals and performances. For freshmen and sophomores.

MUS 230. Diction in Singing Foreign Languages (3). Covers Italian, French, and German pronunciation for the undergraduate voice student.

MUS 232. Stage Band (1). By permission of instructor. May be repeated for credit. Two hours rehearsal per week plus all scheduled rehearsals and performances. For freshmen and sophomores.

MUS 234. Central Swingers (1). By permission of instructor. May be repeated for credit. Two hours rehearsal per week plus all scheduled rehearsals and performances. For freshmen and sophomores.

MUS 235. Madrigal Singers (1). By permission of instructor. May be repeated for credit. Two hours rehearsal per week plus all scheduled rehearsals and performances. For freshmen and sophomores.

MUS 244, 245, 246. Second-year Theory (3,3,3). Prerequisite, MUS 146. Courses must be taken in sequence. 20th-century musical resources.

MUS 254. Class Instruction (1). May be repeated for credit. Piano I, II, III. Each course prerequisite to the next numeral. Voice I, II, III. Each course prerequisite to the next numeral. Strings I, II. I is prerequisite to II. Guitar I, II. I is prerequisite to II.
Woodwinds
Brass
Percussion
Recorders

MUS 255. Functional Piano Skills (1). Prerequisite, permission of instructor.

MUS 261, 262, 263. Opera Performance (1,1,1). For advanced vocal students, study leading to performance. Two hours laboratory per week.

MUS 264. Performance (Individual Instruction) (1,2 or 4). See MUS 164 for complete description.

MUS 265. Performance (Semi-private Instruction) (2). Prerequisite, satisfactory jury performance and completion of MUS 165 or 164. May be repeated for credit. May not be taken with 264 in same performance area. Student must attend the recital hour, 7th period, Thursday.

- A. Piano
- B. Voice
- C. String
- D. Woodwind
- E. Brass
- F. Organ
- G. Percussion
- H. Guitar
- I. Recorder

-MUS 266. Wind Ensemble (1-2). May be repeated for credit. Open to students with demonstrated proficiency on band instruments by audition or permission of the instructor. Five hours rehearsal per week plus all scheduled rehearsals and performances. One credit if offered one term only during summer session.

-MUS 267. Choir (1-2). May be repeated for credit. Open to all students by audition. Five hours rehearsal per week plus all scheduled rehearsals and performances. One credit if offered one term only during summer session.

-MUS 268. Chamber Choir (2). May be repeated for credit. Open to all students by audition. Three hours rehearsal per week plus all scheduled rehearsals and performances.

-MUS 277. Orchestra (1-2). May be repeated for credit. Open to all students proficient on orchestral instruments by permission of director. Five hours rehearsal per week plus all scheduled rehearsals and performances. One credit if offered one term only during summer session.

MUS 280. Music History to 1700 (4). Prerequisite, MUS 146.

MUS 281. Music History, 1700 to 1850 (4). Prerequisite, MUS 280.

MUS 282. Music History, 1850 to the Present (4). Prerequisite, MUS 281.

-MUS 287. Marching and Concert Band (2) Fall quarter only. May be repeated for credit. Five hours rehearsal per week plus all scheduled rehearsals and performances. This band functions as a marching band and is organized into a concert band at completion of the football season. For freshmen and sophomores.

-MUS 288. Symphonic Band (2) Winter and spring quarters only. Five hours rehearsal per week plus scheduled rehearsals and performances. During winter and spring quarters the symphonic band will present several formal concert programs. May be repeated for credit. For freshmen and sophomores.

MUS 292. Accompanying Practicum (1-3). May be repeated for credit. By assignment of instructor. Minimum three hours rehearsal weekly per credit plus performances. For freshmen and sophomores.

MUS 296. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

MUS 298. Special Topics (1-6).

MUS 299. Seminar (1-5). May be repeated.

MUS 321. Music Education for the Elementary School (3). Prerequisite, MUS 146, and suitable skill in piano and voice. Materials and methods, evaluation of basic texts.

MUS 322. Basic Music Skills for Teachers (2). For the general classroom teacher (not for music majors or minors). Basic theory; development of the singing voice and ability to play accompanying instruments.

MUS 323. Choral Music Education (3). Prerequisite, MUS 341. Philosophy, methods and materials. Individual research and presentation of teaching unit in class.

MUS 325. Instrumental Music Education (3). Prerequisite, suitable conducting and performance skill in piano or instrument. Philosophy and psychology of music education through methods and materials; observation of teachers in the rehearsal, individual research.

MUS 326. Music in the Classroom (3). For the general classroom teacher. (Not for music majors or minors.) Techniques used in helping children to develop musically through singing, rhythmic activities, creative activities, listening, and playing instruments.

MUS 327. Song Literature for Elementary Grades (3). Prerequisite, MUS 321 or MUS 326. Repertoire of best songs for children, experience in their presentation.

MUS 340. Analytical Techniques I (3). Prerequisites, MUS 246, 282, keyboard proficiency requirements. Analysis of the structure of tonal music.

MUS 341. Conducting I (3). Prerequisite, MUS 146. Open to music majors and minors only. Fundamental principles of baton techniques, practical experience in conducting.

MUS 342. Conducting II (3). Prerequisite, MUS 341. A continuation of MUS 341, conducting literature of junior-senior high school performing groups.

MUS 343. Counterpoint I (3). Prerequisite, MUS 244. Independent melodic line, harmonic background, motive structure and two-point counterpoint as practiced by the composers of the 18th and 19th centuries. Written exercises and analysis.

MUS 344. Theory Review (3). Prerequisite, MUS 246. A complete review of traditional harmony from rudiments of music through chromatic harmony.

MUS 346. Counterpoint II (3). Prerequisites, MUS 343. Three-voice counterpoint, imitation in three voices, the three-voice invention, and the trio sonata.

MUS 347. Electronic Music Synthesis (2). Prerequisite, MUS 246 or permission of instructor. Introduction to the ideas, tools and procedures involved in the electronic manipulation of and creation of sound, with particular emphasis on use of tape recorder and polyphonic keyboard synthesizer.

MUS 364. Performance (Individual Instruction) (1,2, or 4). See MUS 164 for complete description.

MUS 365. Advanced Keyboard Skills (2). Prerequisites, MUS 264 and permission of instructor. Laboratory instruction designed to include skills such as sight reading, accompanying, harmonization, score reading, and ensemble playing. May be repeated for credit.

MUS 371. Performance (Secondary Instrument) (1). Prerequisite, permission of instructor. One credit any quarter, may be repeated until a maximum of 3 credits has been achieved. Private study on instruments secondary to a student's major performance area. Intended particularly for upper division and graduate students who wish to develop additional skills on an instrument or in voice to enrich their total music background.

- A. Piano
- B. Voice
- C. String
- D. Woodwind
- E. Brass
- F. Organ
- G. Percussion
- J. Synthesizer

MUS 379. Philosophy of Music (3). Great music as a source of insights into human beings and the world. Students may not receive credit for both MUS 379 and PHIL 379.

MUS 382. Survey of Chamber Music (3). Prerequisite, MUS 282.

MUS 383. Survey of Symphonic Music (3). Prerequisite, MUS 282.

MUS 384. Survey of Choral Music (3). Prerequisite, MUS 282.

MUS 385. Survey of Opera (3). Prerequisite, MUS 282.

MUS 386. Survey of 20th Century Music (3). Prerequisite, MUS 282.

MUS 398. Special Topics (1-6).

MUS 410. Vocal Jazz Choir (1). By permission of instructor. May be repeated for credit. For juniors and seniors. See MUS 210 for description.

MUS 414. Brass Choir (1). By permission of instructor. May be repeated for credit. For juniors and seniors. See MUS 214 for description.

MUS 415. Chamber Orchestra (1). By permission of instructor. May be repeated for credit. For juniors and seniors. See MUS 215 for description.

MUS 417. Chamber Music Ensemble (1). By permission of instructor. May be repeated for credit. One hour coaching plus two hours rehearsal per week plus all scheduled rehearsals and performances.

- A. Piano
- B. Voice
- C. String
- D. Woodwind
- E. Brass
- G. Percussion
- H. Guitar
- I. Recorder
- K. Mixed

MUS 422.1. Orchestration (3). Prerequisites, MUS 246, 282, keyboard proficiency requirements. Instrumentation.

MUS 422.2. Orchestration (3). Prerequisite, MUS 422.1. Scoring for woodwind, brass, string and percussion ensembles. Introduction to keyboard transcription.

MUS 422.3. Orchestration (3). Prerequisite, MUS 422.2. Scoring for full orchestra. Transcriptions of keyboard music. Score analysis.

MUS 423.1. Composition (3). Prerequisite, MUS 246, 282, keyboard proficiency requirements, or permission of instructor.

MUS 423.2. Composition (3). Prerequisite, MUS 423.1. Creative approach to harmony.

MUS 423.3. Composition (3). Prerequisite, MUS 423.2. Creative approach to form and form-types.

MUS 424. General Music for the Secondary Level (2). Materials and methods for teaching middle level, junior high, and high school level students.

MUS 425. Pedagogy (Studio) (3). Prerequisite, permission of instructor. Teaching methods and materials.

- A. Piano
- B. Voice
- C. String
- D. Woodwind

E. Brass
G. Percussion

MUS 429. Percussion Ensemble (1). By permission of instructor. May be repeated for credit. For juniors and seniors. See MUS 229 for description.

MUS 430. Survey of Keyboard Music (3). By permission of instructor.

MUS 431. Techniques and Methods for Teaching Music in the Elementary School (3). Examination of current music education philosophies, techniques, and procedures in the elementary school and involvement in activities pertaining to them.

MUS 432. Stage Band (1). By permission of instructor. May be repeated for credit. For juniors and seniors. See MUS 232 for description.

MUS 434. Central Swingers (1). By permission of instructor. May be repeated for credit. For juniors and seniors. See MUS 234 for description.

MUS 435. Madrigal Singers (1). By permission of instructor. May be repeated for credit. For juniors and seniors. See MUS 235 for description.

MUS 440. Analytical Techniques II (3). Prerequisite, MUS 340. Emphasis on 20th Century music, including contemporary extrapolations from Schenker's methods, pitch class and parametric analysis techniques.

MUS 441. Conducting III (3). Prerequisite, MUS 342. A continuation of Conducting II with emphasis on score reading and rehearsal techniques.

MUS 444. Canon and Fugue (3). Prerequisite, MUS 346. Invertible counterpoint, canonic devices, fugal procedures.

MUS 452. Woodwind Literature and Pedagogy (3). By permission of instructor.

MUS 453. Brass Literature and Pedagogy (3). By permission of instructor.

MUS 458. Introduction to Solo Vocal Literature (3). By permission of instructor.

MUS 464. Performance (Individual Instruction) (1, 2 or 4). See MUS 164 for complete description.

-MUS 466. Wind Ensemble (1-2). By permission of the instructor. May be repeated for credit. See MUS 266 for description. For juniors and seniors. One credit if offered one term only during summer session.

-MUS 467. Choir (1-2). May be repeated for credit. Open to all students by audition. Five hours rehearsal per week plus all scheduled rehearsals and performances. One credit if offered one term only during summer session.

-MUS 468. Chamber Choir (2). May be repeated for credit. See MUS 268 for complete description.

-MUS 477. Orchestra (1-2). May be repeated for credit. Open to all students proficient on orchestral instruments by permission of director. Five hours rehearsal per week plus all scheduled rehearsals and performances. One credit if offered one term only during summer session.

MUS 480. Reed Making for Double Reed Instruments (1).

MUS 481. Instrument Repair (1). Reed, woodwind, string and percussion, minor repairs.

MUS 484. Band Arranging I (3). Prerequisites, MUS 246, 282 and keyboard proficiency fulfillment. For public school band directors; full band orchestration, small bands, including marching groups.

MUS 486. Stage Band Arranging (3). Prerequisite, MUS 246 and keyboard proficiency fulfillment. For public school band directors; full band orchestration, small bands, including marching groups.

-MUS 487. Marching and Concert Band (2). Fall quarter only. See MUS 487 for description. For juniors and seniors. May be repeated for credit.

-MUS 488. Symphonic Band (2). Winter and spring quarters only. See MUS 288 for description. May be repeated for credit. For juniors and seniors.

MUS 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

MUS 491. Workshop or Clinic (1-6).

MUS 492. Accompanying Practicum (1-3). May be repeated for credit. By assignment of instructor. Minimum three hours rehearsal weekly per credit plus performances. For juniors and seniors.

MUS 495. Senior Project (2). Students are required, as a senior project, to present a recital, composition, or piece of research.

MUS 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

MUS 497. Honors (1-12). Prerequisite, admission to department honors program.

MUS 498. Special Topics (1-6).

MUS 499. Seminar (1-5). May be repeated.

The following courses/programs are on reserve and may be offered subject to program needs: Music 211 Woman's Glee Club (1), Music 220 Introduction to Suzuki Pedagogy (2), Music 221 Suzuki Pedagogy I (3), Music 222 Suzuki Pedagogy II (3), Music 228 Men's Glee Club (1), Music 289 Pep Band (1), Music 293 String Practicum (3), Music 395 Suzuki Pedagogy: Practicum (2), Music 411 Women's Glee Club (1), Music 428 Men's Glee Club (1), Music 489 Pep Band (1).

PHILOSOPHY

Chair:

Chester Z. Keller

Language and Literature Building 337

Professors:

Jay E. Bachrach, Aesthetics, Philosophy of Science, Ancient and Medieval Philosophy

Peter M. Burkholder, Ethics, Epistemology, Modern Philosophy

W. Robert Goedecke, Philosophy of Law, Philosophical Anthropology, Ancient Philosophy

Raeburne S. Heimbeck, Eastern Philosophy and Religion, Comparative Religion, Philosophy of Self

Webster F. Hood, Existentialism, Applied Logic, Philosophy of Technology

Chester Z. Keller, Philosophy of Ecology, Philosophy of Religion, Philosophy of Education, Mysticism

Associate Professor:

John G. Utzinger, Ethics, Analytic Philosophy, Social and Political Philosophy

The original meaning of the word philosophy is "the love of wisdom." As such it represents not a body of doctrines to be learned but an ongoing process of critical and speculative inquiry into questions which represent people's deepest concerns, such as the meaning of human existence, the nature of reality, the justifications of human knowledge, and the search for the grounds of human conduct.

The programs offered by the department of philosophy are designed to fulfill three main objectives. 1. To acquaint general education students with the basic questions which have concerned philosophers over the past 2,500 years and to give them some skills and methods for developing their own answers to these questions. 2. To offer service courses for students in other disciplines such as the social sciences, history, speech, science, etc. 3. To prepare students who elect philosophy as their major subject for graduate study in this discipline.

Bachelor of Arts Major

Students planning to do graduate work in philosophy are expected to include PHIL 489 in their electives.

Credits

PHIL 201, Introduction to Logic	5
PHIL 302, Ethics	5
PHIL 352, Western Philosophy I	5
PHIL 353, Western Philosophy II	5

PHIL 354, Western Philosophy III	5
PHIL 355, Contemporary Thought	5
PHIL 499, Seminar	4
Electives in Philosophy	11-26

Total 45-60

Minor

Credits

PHIL 101, Introduction to Philosophy	5
PHIL 201, Introduction to Logic	5
Electives from Philosophy	10-18

Total 20-28

Students in teacher education must offer a minimum of 20 credits in this minor. If a student uses PHIL 201, Introduction to Logic, to satisfy the basic requirement for general studies, he/she may not include it in the philosophy major or minors. He/she should substitute an additional five credit elective for it.

Philosophy: Religious Studies Concentration Major

Director:

Jay E. Bachrach

The religious studies program is a path of inquiry into the nature of religion, its pervasive role in human life, and its contribution to understanding human existence and destiny. This study of religion is set in a frame of philosophy courses; thus the student will graduate as a major in philosophy with a concentration in religious studies. In addition, the student may range into other disciplines to see the practices and influences of religion in various fields of human culture. Some courses in other academic departments are suggested below.

The major provides a liberal education of an interdisciplinary yet focused character. It, as well as the minor, combines well with another major in the humanities or in the social sciences. The student is also prepared for graduate work in the humanities, social sciences, or religious studies itself, as well as for employment in the religious and social science fields.

Religious Studies Courses (required) 30 Credits

RELS 101, Introduction to Religion	5
RELS 201, Sacred Books of the World	5
RELS 301, Man in Religious Thought	5
RELS 351, Religions of Asia	5
RELS 353, Judaism, Christianity, Islam	5
RELS 499, Seminar	5

Philosophy Courses (required) 20 Credits

1. Two or more courses in Western Philosophy	
PHIL 351, Medieval Philosophy	5
PHIL 352, Western Philosophy I	5
PHIL 353, Western Philosophy II	5
PHIL 354, Western Philosophy III	5

2. One or more courses in Asian Philosophy
 PHIL 310, Philosophies of India5
 PHIL 445, Chinese Philosophy5

3. One or more courses from the following
 PHIL 302, Ethics5
 PHIL 305, Philosophy of Religion5
 PHIL 359, Mysticism5
 PHIL 376, Contemporary Religious Thought5

Electives0-25

Students may strengthen their preparation by taking additional upper division courses in religious studies, philosophy, or from among the following:

Anthropology

ANTH 347, Aboriginal Indian Cultures of North America4
 ANTH 354, Anthropology of Religion4

Art

ART 235, Ancient and Medieval Art4
 ART 336, Renaissance Through Mid-Nineteenth Century Art.....4
 ART 357, African and Oceanic Art3
 ART 410, Classic Tradition4
 ART 454, Art of China3
 ART 455, Art of Japan3
 ART 456, History of Eastern Art4

English

ENG 341, The Bible4
 ENG 342, Literature and Myth4

History

HIST 311, Ancient Egypt3-5
 HIST 312, Ancient Near East and Greece5
 HIST 313, History of Rome, 500 B.C.-500 A.D5
 HIST 315, Muslim Middle East, 570 A.D.-19143-5
 HIST 336, India, Ancient and Medieval, c.3000 B.C. to 1555 A.D3-5
 HIST 337, India, Mughal and Modern, 1556 to the Present3-5
 HIST 371, Medieval European History3-5
 HIST 383, East Asian Civilization5
 HIST 425, Renaissance and Reformation5

Music

MUS 380, Musical Styles, Middle Ages to 16003
 MUS 381, Musical Styles, 1600 to 17503

Sociology

SOC 367, Sociology of Religion5

Total 50-75

Minor

Credits

RELS 101, Introduction to Religion5
 RELS 201, Sacred Books of the World OR
 RELS 301, Man in Religious Thought OR
 PHIL 305, Philosophy of Religion5
 RELS 351, Religions of Asia OR

RELS 353, Judaism, Christianity, Islam5

Total 15

Electives

See electives recommended for the major5

Total 20

Courses

Some advanced philosophy courses are seldom offered except by arrangement.

PHIL 101. Introduction to Philosophy (5). May not be counted towards the philosophy major.

PHIL 115. The Meaning of Life (5). Man's deepest and most significant aspirations and values.

PHIL 201. Introduction to Logic (5). Principles, methods and techniques for analyzing, constructing, and evaluating arguments.

PHIL 210. Current Ethical Issues (5).

PHIL 212. Ethics of Health and Disease (5). Personal and social value-problems related to health and disease, e.g., ethical issues posed by recent and prospective medical advances such as heart transplants and genetic manipulation; how to treat invalids as persons; the morality of experimenting on humans. Intended for non-professionals, but may be of special interest to students planning careers in health fields.

PHIL 275. Comparative Religion (5). A comparative study of the living religions of the world. In any given quarter study would normally center on three to five of the following: Hinduism, Buddhism, Taoism, Confucianism, Judaism, Islam and Christianity.

PHIL 298. Special Topics (1-6).

PHIL 299. Seminar (1-5).

PHIL 302. Ethics (5). Man as moral agent; nature of moral decision; ethical theories; their relevance to moral practice.

PHIL 303. Aesthetics (5). Aesthetic object and its qualities, the aesthetic experience, and evaluation of works of art.

PHIL 304. Business Ethics (5). Ethical problems that arise in contemporary business practices and the relevance of recent ethical theory to these problems.

PHIL 305. Philosophy of Religion (5). Fundamental assumptions and issues in religious activity and thought; types of religious philosophy.

PHIL 308. Philosophy of Ecology (5). Philosophical issues pertaining to the maintenance and enhancement of ecosystems.

PHIL 310. Philosophies of India (5).

PHIL 312. Applied Logic (5). Principles of sound reasoning in practical human situations.

- PHIL 348. Social and Political Philosophy (5).** An examination of the philosophical foundations of major modern social and political systems - classical conservatism, liberalism, socialism, fascism, anarchism.
- PHIL 351. Medieval Philosophy (5).** Latin, Arabic and Jewish traditions.
- PHIL 352. Western Philosophy I (5).** Origins through Plato, Aristotle and Plotinus.
- PHIL 353. Western Philosophy II (5).** A study of some of the influential philosophies of the seventeenth and eighteenth centuries; Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume and Kant.
- PHIL 354. Western Philosophy III (5).** Nineteenth, early twentieth century. Hegel, Schopenhauer, Mill, Marx, Nietzsche, Kierkegaard and Bergson.
- PHIL 355. Contemporary Thought (5).** Twentieth century; James, Russell, Whitehead, Dewey, Ayer, Sartre and Jaspers.
- PHIL 356. American Philosophy (5).** Colonial period to the present.
- PHIL 358. Existentialism (5).** Kierkegaard, Nietzsche, Marcel, Heidegger, Jaspers and Sartre.
- PHIL 359. Mysticism (5).** An analysis of the strange and the uncanny in human experience, and of the attendant claims regarding the transcendent implications of these phenomena.
- PHIL 360. Introduction to Symbolic Logic (5).** Principles, methods and techniques of modern logic. The propositional calculus, truth tables, methods of proof and an introduction to some higher-order functional calculi.
- PHIL 362. Continental Rationalism (5).** Descartes, Spinoza and Leibniz.
- PHIL 363. British Empiricism (5).** Locke, Berkeley and Hume.
- PHIL 372. Philosophy of Technology (5).** A critical examination of the dimensions of technology: the nature of tools and machines, the distinction between pure and applied research, artificial intelligence, and the emergence of the industrial state as a political unit.
- PHIL 376. Contemporary Religious Thought (5).** An examination of recent and contemporary writings which reflect the "religious condition" in contemporary Western culture. Readings will be chosen from such writers as Nietzsche, Kierkegaard, Freud, Marx, Sartre, Marcel, Buber, Bonhoeffer, Maritain, Dewey, the Niebuhrs, Tillich, Whitehead and Teilhard de Chardin.
- PHIL 378. Philosophy of Love (5).** A study of various concepts of love as they occur in philosophy, literature, and other cultural expressions. The nature of romantic love, eros, agape, friendship, and fellow feeling will be discussed.
- PHIL 379. Philosophy of Music (3).** Great music as a source of insights into man and the world. Students may not receive credit for both PHIL 379 and MUS 379.
- PHIL 398. Special Topics (1-6).**
- PHIL 410. Plato (5).**
- PHIL 412. Aristotle (5).**
- PHIL 420. Kant (5).**
- PHIL 445. Chinese Philosophy (5).** Selected philosophical topics in classical Chinese literature.
- PHIL 450. Philosophy of History (5).** Nature of historical inquiry. Representative interpretations of history.
- PHIL 457. Contemporary Analytic Philosophy (5).** Philosophical analysis: the ordinary-language tradition. Moore, Wittgenstein, Ryle and Austin.
- PHIL 459. Phenomenology (5).** An historical and critical study of phenomenology as a philosophic method. Leading phenomenologists such as Husserl, Scheler, and Merleau-Ponty.
- PHIL 461. Theory of Knowledge (5).** Evidence, perception and the physical world, apriori knowledge, meaning, the analytic-synthetic distinction, theories of truth.
- PHIL 463. Philosophy of Mind (5).** Philosophical implications of recent approaches to mind.
- PHIL 465. Advanced Ethics (5).** Contemporary ethical theory. Ethical disagreement, moral truth, value concepts, moral reasoning, normative sentences.
- PHIL 470. Philosophy of Language and Communication (5).** A critical study of the nature and functions of language through analysis of concepts such as meaning, reference, truth, signs and symbols.
- PHIL 480. Philosophy of Science (5).** A critical study of the aims, structure, and methodology of the sciences. Explanation, prediction, reduction, theories, laws, and confirmation.
- PHIL 481. Philosophy of the Social Sciences (5).** A critical study of basic assumptions, distinctive methods and explanations, and value and normative considerations in the social sciences. Same as SOC 481. Students may not receive credit for both.
- PHIL 487. Philosophy of Law (5).** Basic irrational and rational factors in social interaction with regard to maintenance of free society; history of law, different kinds of law and legal philosophy, from ancient deliberations to the present.
- PHIL 489. Undergraduate Thesis (2, 2).** Prerequisites, advanced standing and permission of instructor. To be taken in two consecutive quarters. Credit granted at the conclusion of the second quarter.

PHIL 496. Individual Study (1-6). Prerequisite, GPA of 3.0 in philosophy and a cumulative GPA of 3.0 plus approval of the instructor and chair of the department.

PHIL 498. Special Topics (1-6).

PHIL 499. Seminar (1-5).

The following courses are on reserve and may be offered subject to program needs: PHIL 468 Logic (5), PHIL 488 Philosophy of the City (5).

Religious Studies Courses

RELS 101. Introduction to Religion (5). Religions of mankind through the ages. Beliefs, practices, symbols, and institutions. Human experiences and needs from which religions arise.

RELS 201. Sacred Books of the World (5). Comparative study of religious thought and literature from classics eastern and western: Upanishads, Bhagavad-Gita, Dhammapada, Tao Te Ching, Hebrew Bible, New Testament, Koran.

RELS 301. Man in Religious Thought (5). Human existence as perceived by religious thinkers, both classical and contemporary, in the Judaic, Christian, Hindu, Buddhist, Taoist and Confucian traditions.

RELS 351. Religions of Asia (5). Historical development of Hinduism, Buddhism, Taoism, Confucianism and Shinto from their origins to the present.

RELS 353. Judaism, Christianity, Islam (5). Historical development of the three dominant western religions from their origins to the present.

RELS 361. Zen (5). History, philosophy, and psychology of Zen Buddhism. Meditation, problem solving, ceremony, fine and martial arts.

RELS 363. Yoga (5). History, philosophy, and psychology of Yoga in India, China, and America. Postures, breathing, meditation, and parallel western techniques.

RELS 365. Meditation (5). History, philosophy, and psychology of meditation in the Buddhist, Hindu, and Islamic traditions. New developments in secular and radical meditation. Survey and exploration of techniques.

RELS 398. Special Topics (1-6).

RELS 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

RELS 491. Workshop (1-6). Task oriented approach to special topics.

RELS 496. Individual Study (1-6). Prerequisite, GPA of 3.0 and/or approval of the instructor and program director.

RELS 498. Special Topics (1-6).

RELS 499. Senior Seminar (3-5).

The following courses are on reserve and may be offered subject to program needs. RELS 299 Sophomore Seminar (3-5), RELS 347 Religion in American Culture (5), RELS 349 Religion and Contemporary Political Issues (5).

PHYSICAL EDUCATION, HEALTH EDUCATION AND LEISURE SERVICES

Chair:

John G. Gregor
Physical Education Building 107

Professors:

Kenneth Briggs, Health Education
Gary Frederick, Physical Education, Women's Basketball Coach
John G. Gregor, Physical Education, Health Education and Leisure Services
Erlice Killorn, Physical Education
James G. Nylander, Physical Education
John Pearson, Physical Education, Women's Volleyball Coach
Jean Putnam, Physical Education, Leisure Services
Sharon E. Schwindt, Health Education
William Vance, Leisure Services

Associate Professors:

Janice Boyungs, Physical Education
Robert Gregson, Physical Education, Men's and Women's Swim Coach
Stephen C. Jefferies, Physical Education
Dorothy Purser, Paramedic Program, Physical Education
Gary L. Smith, Physical Education, Athletic Trainer

Assistant Professors:

Walter Arlt, Physical Education, Men's and Women's Cross Country Coach
Deloris M. Johns, Physical Education
Patricia Maguire, Leisure Services
Vincent Nethery, Physical Education
Lana Jo Sharpe, Physical Education, Dance, Orchestration

Coaches:

Lori Clark, Physical Education, Assistant Men's and Women's Swim Coach
Gil Coleman, Physical Education, Men's Basketball Coach
Mike Dunbar, Physical Education, Head Football Coach
Greg Olson, Assistant Football Coach
Ken Wilson, Physical Education, Head Baseball Coach
Jeff Zenizek, Physical Education, Assistant Football Coach

The department of physical education, health education and leisure services has many programs which lead to the bachelor of science degree. In addition to professional preparation in health, physical education and leisure services, the department also encourages students to develop skills in physical activities that will enable them to promote their personal fitness, main-

School of Professional Studies

tain health, build morale, and establish an interest in future recreational activities.

Students majoring in physical education, health education and leisure services can prepare themselves for a variety of career possibilities.

PHYSICAL EDUCATION

Program Director:
Stephen C. Jefferies

**Bachelor of Science
Physical Education Major - Teaching K-12**

Qualifies student for teaching, supervising and coordinating physical education in the public schools K-12.

	Credits
PE 245, First Aid	3
PE 250, Anatomy I	3
PE 280, Professional Foundations	3
PE 300, Teaching Designs	4
PE 303, Teaching Methods: Basic Skills/Lead Up Activities	3
PE 304, Teaching Methods: Soccer/Track & Field	3
PE 305, Teaching Methods: Racquet Sports	3
PE 306, Teaching Methods: Basketball/Volleyball	3
PE 307, Teaching Methods: Fitness Activities	3
PE 308, Teaching Methods: Tumbling/Stunts/Gymnastics	3
PE 309, Teaching Methods: Rhythmic/Dance Activities	3
PE 313, Teaching Methods: Alternative Physical Education Activities	3
LES 340, Outdoor Leadership and Recreation	2
PE 348, Prevention and Treatment of Athletic Injuries	4
PE 351, Anatomy II	3
PE 356, Kinesiology	3
PE 361, Physical Education for the Handicapped	3
PE 448, Ethics in Sport	3
PE 449, Past and Current Concepts in Physical Education	3
PE 450, Physiology of Exercise	3
PE 454, Motor Learning Theories	3
PE 458, Measurement and Evaluation in Physical Education	3
PE 460, Legal Aspects in PE/Athletics	2
PE 481, Organization of Physical Education and Intramurals	3
PE 485, Physical Growth and Motor Development	3
Total	75

Fitness and Sport Management

Students interested in pursuing a major in fitness and sport management must contact the program director prior to admission to the program.

Admission Requirements:

1. Cumulative GPA of at least 2.25.
2. Completion of at least 75 percent of the general education program.

3. An interview with the fitness and sport management program committee. Students may be given conditional admission by the program committee.

Core	Credits
HOFN 245, Basic Nutrition	3
PE 245, First Aid	3
PE 250, Anatomy I	3
PE 250.1, Human Anatomy Laboratory	1
PE 300, Teaching Designs in Physical Education	4
PE 351, Anatomy II	3
PE 356, Kinesiology	3
PE 450, Physiology of Exercise	3
PE 458, Measurement and Evaluation in Physical Education	3
Total	26

Teaching Methods Courses

PE 305, Teaching Methods: Racquet Sports	3
PE 307, Teaching Methods: Fitness Activities	3
Total	6

Fitness Courses

PE 354, Foundations of Fitness	4
PE 455, Fitness Assessment and Exercise Prescription	4
PE 456, Administration of Adult Fitness Programs	3
Total	11

Internship and Practicums

PE 490, Internship	15
PE 495.2, Cardiac Rehabilitation OR PE 495.3, Geriatrics	2
PE 495.4, Fitness Assessment Laboratory	2
Total	19

Additional Requirements

PE 348, Prevention and Treatment of Athletic Injuries	4
HED 387, Principles of Stress Management	3
LES 325, Public Relations in Leisure Services	3
ADOM 202B, Computer Applications for Business	3
MGT 381, Management of Human Resources	5
PE 457, Exercise Adherence Strategies	3
PE 446, Nutrition, Weight Control and Exercise	3
Total	24

Total 24

Total 86

Physical Education Minor Program

	Credits
PE 245, First Aid, OR PE 348, Prevention and Treatment of Athletic Injuries.....	3-4

PE 250, Anatomy I3
 PE 250.1, Human Anatomy Lab1
 PE 300, Teaching Designs4
 PE 303, Teaching Methods: Basic Skills/Lead Up Activities3
 PE 356, Kinesiology3
 PE 361, Physical Education for the Handicapped3
 PE 448, Ethics in Sport3
 PE 450, Physiology of Exercise3
 PE 460, Legal Aspects in PE/Athletics2

Total 28-29

Select any two of the following classes:

PE 304, Teaching Methods: Soccer/Track & Field3
 PE 305, Teaching Methods: Racquet Sports3
 PE 306, Teaching Methods: Basketball/Volleyball3
 PE 307, Teaching Methods: Fitness Activities3
 PE 308, Teaching Methods: Tumbling/Stunts/Gymnastics3
 PE 309, Teaching Methods: Rhythmic/Dance Activities3
 PE 313, Teaching Methods: Alternative Physical Education Activities3

Total 34-35

Athletic Training Minor

Credits

HED 101, Health Essentials3
 HOFN 245, Basic Nutrition3
 PE 245, First Aid3
 PE 250, Anatomy I3
 PE 250.1, Anatomy Laboratory1
 PE 319, Emergency Medical Technician5
 PE 348, Prevention and Treatment of Athletic Injuries4
 PE 351, Anatomy II3
 PE 356, Kinesiology3
 PE 450, Physiology of Exercise3
 PE 452, Assessment of Athletic Injuries3

Total 34

Dance Minor

Requirement: Minimum of one year active membership in Orchesis.

Credits

PED 114, Advanced Jazz Dance1
 PED 115, Tap Dance1
 PED 116, Beginning Folk Dance1
 PED 118, Beginning Ballroom Dance1
 PEF 122, Aerobic Dance Conditioning1
 PE 161, Cultural History of Dance3
 PE 201.1, Modern Dance I2
 PE 201.2, Modern Dance II2
 PE 211, Rhythmic Analysis Related to Movement2
 PE 303.7, Theory/Practice in Motor Education3
 PE 462, Trends in Dance Programming3
 Electives by Advisement2

Total 22

Coaching Minor

Students selecting this minor must complete PE 250 as a pre-requisite to PE 356. Physical education majors selecting this minor are advised to have a second minor.

Prerequisite: Teaching method classes in the specific sports area or permission of instructor.

Credits

Select two of the following:

PE 321, Football Coaching3
 PE 322, Wrestling Coaching3
 PE 323, Basketball Coaching3
 PE 324, Track Coaching3
 PE 325, Baseball Coaching3
 PE 329, Tennis Coaching3
 PE 330, Volleyball Coaching3
 PE 333, Swimming Coaching3

Total 6

PE 346, Administration of Athletics3
 PE 348, Prevention and Treatment of Athletic Injuries4
 PE 356, Kinesiology3
 PE 450, Physiology of Exercise3
 PE 453, Psychological and Sociological Foundations of Coaching3

Total 22

Paramedic Major

The paramedic major is designed for students who plan to become professionals in emergency services. The program can be completed in one year.

The curriculum includes classroom lectures, group discussions, laboratory demonstrations, clinical experience, observations and practice, simulated operational exercise and on-the-job training with an advanced ambulance service all of which will fully prepare the student for occupations related to advanced emergency medical services. This program is not for students interested in medics, medex or physicians assistant programs.

All applicants must meet entrance criteria (EMT certification and experience) and be approved by the paramedic screening committee before being admitted into the program.

Completion of the major listed below and other degree requirements leads to the bachelor of science paramedic major and eligibility to take the national examination for paramedic certification.

Credits

PE 245, First Aid3
 PE 319, Emergency Medical Technician5
 PE 335, Introduction to Paramedic Training2
 PE 336, Techniques in Paramedic Clinical Training I3
 PE 337, Techniques in Paramedic Clinical Training II3
 PE 440, Medical Measurements and Terminology2
 PE 441, General Pharmacology for Paramedics3
 PE 443, Myocardial Disease and Arrhythmia Diagnosis3
 PE 444, Principles and Therapeutics of Advanced Life Support3

School of Professional Studies

PE 493, Practicum in Paramedic Training	12
ZOOL 341, Anatomy/Physiology I	5
ZOOL 342, Anatomy/Physiology II	5

Total 49

Physical Education Courses**FITNESS ACTIVITIES**

One credit (meets twice weekly)

PEF 110. Conditioning Exercises.

PEF 111. Intermediate Conditioning Exercises. Prerequisite, PEF 110 or permission.

PEF 112. Ski Conditioning.**PEF 113. Weight Training.**

PEF 114. Intermediate Weight Training. Prerequisite, PEF 113 or permission.

PEF 115. Jogging.

PEF 116. Aquacises. Designed to increase the physical fitness of individuals through water exercises. Open to both swimmers and non-swimmers.

PEF 118. Military Conditioning. Physical conditioning activities designed to prepare the Army ROTC Advanced Course student for Advanced Camp and Air Force ROTC student for Field Training. For Army ROTC Advanced Course and Air Force ROTC students only.

PEF 119. Advanced Military Conditioning. Prerequisites, PEF 118 and instructor permission, meets three times weekly.

PEF 120. Care Conditioning. Prerequisite, medical referral as CARE patient. Muscle stretching, ambulatory exercises and floor calisthenics for patients in the cardiac and rehabilitation exercise program.

PEF 121. Aerobic Conditioning.**PEF 122. Aerobic Dance Conditioning.**

PEF 123. Aerobic Walking. Assessment of present level of cardiorespiratory fitness and prescription of an individualized aerobic walking exercise program for increasing and maintaining fitness.

PEF 130. Triathlon Training.**PEF 198. Special Topics.****TEAM SPORTS**

One credit (meets twice weekly)

PETS 110. Basketball.**PETS 113. Soccer.****PETS 114. Softball (Slow Pitch.)****PETS 115. Touch Football.****PETS 116. Volleyball.**

PETS 117. Advanced Volleyball. Prerequisite, PETS 116 or permission.

PETS 118. Rugby.

PETS 119. Competitive Volleyball. Permission of instructor.

PETS 198. Special Topics.**DANCE**

One credit (meets twice weekly)

PED 110. Modern Dance.**PED 112. Orchesis: Performing Dancers.****PED 113. Beginning Jazz Dance.**

PED 114. Advanced Jazz Dance. Prerequisite, PER 113.

PED 115. Tap Dance.

PED 116. Beginning Folk Dance. Traditional recreational dances of various countries.

PED 117. Advanced Folk Dance.**PED 118. Beginning Ballroom Dance.**

PED 119. Advanced Ballroom Dance. Prerequisite, PER 118 or permission.

PED 120. Beginning Ballet.

PED 121. Prerequisite, PER 120 or permission.

PED 198. Special Topics.**AQUATICS**

One credit (meets twice weekly)

PEAQ 110. Springboard Diving.

PEAQ 111. Beginning Swimming. Prerequisite, must be a non-swimmer.

PEAQ 112. Intermediate Swimming. Prerequisite, must be able to swim 50 feet.

PEAQ 113. Advanced Swimming. Prerequisite, ability to swim 220 yards continuously, employing at least three strokes. Refinement of standard strokes and dives.

PEAQ 114. Swim Conditioning. Prerequisite, must be an intermediate swimmer.

PEAQ 115. Synchronized Swimming. Prerequisite, must be intermediate swimmer. An introduction to the nature of aquatic art, skills employed, and techniques for choreography.

PEAQ 116. Water Polo. Prerequisite, must be an intermediate swimmer.

PEAQ 118. Canoeing. Prerequisite, must be an intermediate swimmer.

PEAQ 119. Beginning Scuba Diving. Prerequisite: must be able to swim 250 yards. Introductory course that fulfills 2/3 of PADI certification. Eight hours lecture; 8 hours laboratory. Grade will be S or U.

PEAQ 198. Special Topics.

INDIVIDUAL AND DUAL SPORTS

One credit (meets twice weekly)

PEID 110. Beginning Badminton.

PEID 111. Intermediate Badminton. Prerequisite, PEID 110 or permission.

***PEID 113. Beginning Bowling.**

***PEID 114. Intermediate Bowling.** Prerequisite, PEID 113 or permission.

PEID 115. Beginning Golf.

PEID 116. Intermediate Golf. Prerequisite, PEID 115 or permission.

PEID 118. Beginning Handball.

PEID 120. Beginning Fencing.

PEID 123. Beginning Tennis.

PEID 124. Intermediate Tennis. Prerequisite, PEID 123 or permission.

PEID 125. Advanced Tennis. Prerequisite, PEID 124 or permission.

PEID 126. Beginning Wrestling.

PEID 127. Advanced Wrestling. Prerequisite, PEID 126 or permission.

PEID 128. Beginning Skiing.

PEID 129. Intermediate Skiing. Prerequisite, PEID 128 or permission.

PEID 130. Cross Country Skiing.

PEID 131. Snowshoeing.

PEID 133. Backpacking.

PEID 134. Bicycling.

PEID 136. Pickleball/Racquetball.

PEID 137. Hiking and Orienteering.

PEID 138. Karate.

PEID 198. Special Topics.

GYMNASTICS AND TUMBLING

One credit (meets twice weekly)

PEGT 110. Beginning Gymnastics.

PEGT 112. Beginning Tumbling.

PEGT 113. Intermediate Tumbling. Prerequisite, PEGT 112 or permission.

PEGT 198. Special Topics.

VARSITY SPORTS FOR MEN

One credit (two or three hours activity per day plus all regularly scheduled meetings and game sessions). May be repeated for credit.

PEVM 110. Baseball

PEVM 111. Basketball

PEVM 112. Cross Country

PEVM 113. Football

PEVM 114. Golf

PEVM 115. Swimming

PEVM 116. Tennis

PEVM 117. Track and Field

PEVM 118. Wrestling

PEVM 119. Soccer

VARSITY SPORTS FOR WOMEN

One credit (two or three hours activity per day plus all regularly scheduled meetings and game sessions). May be repeated for credit.

School of Professional Studies

PEVW 110. Basketball

PEVW 111. Cross Country

PEVW 114. Swimming

PEVW 115. Tennis

PEVW 116. Track and Field

PEVW 117. Volleyball

PEVW 118. Soccer

PE 161. Cultural History of Dance (3). A survey course in the evolution of dance through the ages with emphasis on the major forces which have influenced dance in the Twentieth Century.

PE 201.1. Modern Dance I (2). Basic modern dance techniques and beginning composition. One hour lecture; two hours laboratory per week.

PE 201.2. Modern Dance II (2). Four hours of intermediate modern dance theory and technique. Experience in solo and group compositions.

PE 201.3. Modern Dance III (2). Prerequisite, PE 201.2. Four hours of advanced modern dance theory and techniques. Emphasis on performance and solo composition. Experience in organizing and presenting programs.

PE 211. Rhythmic Analysis Related to Movement (2). Prerequisites, PER 116 and PE 201.1. A theory and practice course designed to identify rhythmic concepts as related to dance movements and composition. Students may not receive credit if PE 157 has been completed.

PE 220. Life Saving (2). Prerequisite, Intermediate swimming or permission of instructor. A senior life saving certificate will be awarded upon completion of course. One hour lecture and two hours laboratory per week.

PE 245. First Aid (3). American Red Cross First Aid Course for which standard certificate may be granted.

PE 250. Anatomy I (3). Examination of the skeletal and muscular systems of the human body.

PE 250.1. Human Anatomy Laboratory (1). Prerequisite, PE 250 or may be taken concurrently. Laboratory experience in human anatomy. Two hours per week.

PE 280. Professional Foundations of Physical Education (3). Introduction and orientation to the profession.

PE 298. Special Topics (1-6).

PE 300. Teaching Designs in Physical Education (4). Methodology of subject presentation and organization of teaching content. Three hours lecture, two hours laboratory per week.

PE 301. Choreography and Dance Production (3). Prerequisite, PE 201.1 or instructor's permission. Study and directed practice, individual and group dance composition and production. Students will meet for four hours laboratory work each week plus two hours lecture.

PE 303. Basic Skills/Lead-Up Activities (3). The development and practice of basic motor patterns elementary and complex physical skills, and organized physical activities appropriate for instruction in elementary school physical education. One hour lecture, four hours laboratory per week.

PE 304. Teaching Methods: Soccer/Track and Field (3). Prerequisites, PE 300 and PETS 113 or permission. Knowledge of skills and the teaching of soccer and track and field. One hour lecture, four hours laboratory per week.

PE 305. Teaching Methods: Racquet Sports (3). Prerequisites, PE 300, PEID 110, PEID 136, and PEID 123 or permission. Knowledge of skills and the teaching of badminton, handball, pickleball, racquetball, and tennis. One hour lecture, four hours laboratory per week.

PE 306. Teaching Methods: Basketball/Volleyball (3). Prerequisites, PE 300 PETS 110 and PETS 116 or permission. Knowledge of skills and the teaching of basketball and volleyball. One hour lecture, four hours laboratory per week.

PE 307. Teaching Methods: Fitness Activities (3). Prerequisites, PE 300, PEF 113, PEF 110, PEF 121 and PEAQ 111 or permission. Knowledge of skills and the teaching of indoor and outdoor fitness activities. One hour lecture, four hours laboratory per week.

PE 308. Teaching Methods: Tumbling/Stunts/Gymnastics (3). Prerequisites, PE 300, PEGT 110 or PEGT 112 or permission. Knowledge of skills and the teaching of tumbling/stunts/gymnastics. One hour lecture, four hours laboratory per week.

PE 309. Teaching Methods: Rhythmic/Dance Activities (3). Prerequisites, PE 300, and PER 116 or permission. Knowledge of skills and the teaching of rhythmic and dance activities. One hour lecture, four hours laboratory per week.

PE 311. Theory/Practice of Basic Skills and Low Organized Activities (2). Understanding basic motor patterns as related to movement exploration, basic skills and low organized activities.

PE 312. Theory/Practice of Lead-up and Highly Organized Activities (3). Prerequisite, PE 311. Understanding basic patterns as related to lead-up and highly organized activities.

PE 313. Alternative Physical Education Activities (3). Prerequisite, PE 300. Non-traditional games and activities taught in public school physical education curriculums. One hour lecture, four hours laboratory per week.

PE 319. Emergency Medical Technician (EMT) (5). Prerequisite, PE 245. Emphasizes the development of student skill in recognition of illness and injuries and proper procedures of emergency care.

PE 320. Water Safety Instructor (3). Prerequisites, PE 220 or current lifesaving certificate and 18 years of age. Students satisfactorily passing the Red Cross requirements will receive a Red Cross Water Safety Instructors Certificate. Two hours lecture, two hours laboratory per week.

PE 321. Football Coaching (3).

PE 322. Wrestling Coaching (3).

PE 323. Basketball Coaching (3).

PE 324. Track Coaching (3).

PE 325. Baseball Coaching (3).

PE 329. Tennis Coaching (3).

PE 330. Volleyball Coaching (3).

PE 333. Swimming Coaching (3).

PE 334. Physical Education Activities for the Elementary School (3). Selection, organization, and presentation of physical education activities in the elementary school. This course is not recommended for elementary PE majors or minors.

PE 335. Introduction to Paramedic Training (2). Prerequisites, PE 319 and permission. Patient care skills, new equipment for patient treatment, medical-legal requirements.

PE 336. Paramedic Clinical Training I (3). Prerequisites, ZOOL 342, PE 335 and permission. Intensive training in Asepsis Procedures, CPR, Dog Lab I, IV Team, Morgue, Operating Room, Recovery Room, Respiratory Laboratory, and Shock Treatment.

PE 337. Paramedic Clinical Training II (3). Prerequisites, ZOOL 342, PE 336 and permission. Intensive training in Cardiac Catheterization Laboratory, Cardiology, Dog Lab II, Emergency Room, Endotracheal Suctioning, Medication, Mobile Telemetry, Obstetrics, and Pediatrics.

PE 345. Instructor's First Aid (3). Prerequisite, PE 245 or instructor's permission. American Red Cross First Aid course for instructor's certificate. Meets requirements for ski patrol.

PE 346. Administration of Athletics (3). Credit not allowed for PE majors.

PE 347. Advanced First Aid (3). Prerequisite, PE 245. American Red Cross and State Industrial First Aid course for which an advanced certification may be granted.

PE 348. Prevention and Treatment of Athletic Injuries (4). Prerequisite, PE 250. Prevention and treatment of injuries and rehabilitation of injured athletes. Three hours lecture, two hours laboratory per week.

PE 351. Anatomy II (3). Prerequisite, PE 250. Examination of the digestive, respiratory, urinary, circulatory, nervous, endocrine, and reproductive systems of the human body. Two hours lecture, two hours laboratory per week.

PE 352.1. Officiating: Hockey/Volleyball (2)

PE 352.2. Officiating: Basketball (2).

PE 354. Foundations of Fitness (5). Contributions and principles of fitness activities and training in the development of an individual's state of wellness.

PE 356. Kinesiology (3). Prerequisite, PE 250. The application of principles derived from anatomy, physiology and mechanics to the understanding of human movement, body development and body maintenance.

PE 361. Physical Education for the Handicapped (3). Review of the major physical handicaps; planning the physical education program for these conditions.

PE 398. Special Topics (1-6).

PE 440. Medical Measurements and Terminology (2). Prerequisites, PE 319 and permission of instructor. Specialized medical terminology and measurements. Spelling, pronunciation, and workable definition of commonly used medical words.

PE 441. General Pharmacology for Paramedics (3). Prerequisite, PE 440. Mechanism of action, indications and contraindications of drugs, their side effects, and dosage of administration.

PE 442. Field Work in Physical Education (1-5). Class to be arranged by college supervisor. Grade will be S or U.

PE 443. Myocardial Disease and Arrhythmia Diagnosis (3). Prerequisite, ZOOL 342. Study of abnormalities of the myocardial muscle, interpretation of EKGs. Permission only.

PE 444. Principles and Therapeutics of Advanced Life Support (3). Prerequisite, PE 443. Follow-up procedures involving drugs, defibrillation and oxygen therapy. Permission only.

PE 446. Nutrition, Weight Control and Exercise (3). Prerequisite, HOFN 245 or permission. Study of interrelationship of factors required for successful weight control; modification of diet, activity, and behavior. Role of dietary factors in health and body function. This course is the same as HOFN 446. Students may not receive credit for both.

PE 447. Physical Education Equipment and Facilities (3). Knowledge relating to purchase and care of equipment; planning of areas and facilities for athletics, recreation and physical education.

PE 448. Ethics in Sports (3). Ethical considerations involved in coaching, playing and administering sports.

PE 449. Past and Current Concepts in Physical Education (3). The historical background of physical education and sport; their roles in society and education.

School of Professional Studies

PE 450. Physiology of Exercise (3). Prerequisite, PE 351 or permission. Physiology of muscle activity; correlates of nervous system behavior; heart-rate-work load relationships; respiratory hyperventilation. Two hours lecture, two hours laboratory per week.

PE 452. Assessment of Athletic Injuries (3). Prerequisite, PE 348. A detailed examination of injuries common among athletes.

PE 453. Psychological and Sociological Foundations of Coaching (3). Investigation of factors affecting individual and group behavior in the coaching of interscholastic sports.

PE 454. Motor Learning Theories (3). Theories dealing with factors which affect individual performance and learning differences in relation to human movement and skill learning. Two hours lecture, two hours laboratory per week.

PE 455. Fitness Assessment and Exercise Prescription (4). Prerequisite, PE 354. Concepts and principles of appraising level of fitness, evaluating the results and designing physical fitness/exercise programs. Three hours lecture, two hours laboratory.

PE 456. Administration of Adult Fitness Programs (3). Prerequisite, PE 354. Philosophy, principles, policies and procedures of administration as applied to fitness.

PE 457. Exercise Adherence Strategies (3). Review of psychological factors involved in the exercise treatment of normal and special populations.

PE 458. Measurement and Evaluation in Physical Education (3). The construction and use of tests which are unique to the field of physical education; physical fitness tests, skill tests, knowledge tests, attitude tests and medical tests.

PE 460. Legal Aspects in PE/Athletics (2). Prerequisite, ED 444. An investigation of federal and state laws, and their impact on planning and instruction in physical education teaching and coaching.

PE 462. Trends in Dance Programming (3). Prerequisites, PE 201.2, PE 303.7. The scope and role of dance in educational and recreational programming.

PE 466. Supervision and Evaluation of Program (3).

PE 468. Philosophy and Physical Education (4). Consideration of the significance and meaning of philosophic processes and their relationship to movement and behavior.

PE 475. Racism in Sport (3). The study of how racism may manifest itself psychologically, sociologically, and politically in the realm of sport.

PE 481. Organization of Physical Education and Intramurals (3). The nature, processes, and philosophy of physical education and intramural sports.

PE 485. Physical Growth and Motor Development (3). Prerequisites, PE 450 and PE 454. Study of patterns of physical growth and motor development that affect the learning and performance of physical skills from birth through senescence.

PE 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

PE 491. Workshop Clinic (1-6). Letter grades or S or U grades may be given at the option of the physical education department.

PE 492. Practicum (1-4). Prerequisite, permission of elementary physical education advisor. Practical experience working with children in physical education activities. May be repeated for credit. Four credits required in major.

PE 493. Practicum in Paramedic Training (3-12). Prerequisites, PE 444 and permission of instructor. Experience in the following: hospital, ambulance, emergency room, ICU/CCU. Paramedic majors must complete 12 credits. Grade will be S or U.

PE 495.1. Practicum in Fitness Centers/Clubs (2). Prerequisite, PE 455. Observation of and assistance in fitness programs. Grade will be S or U.

PE 495.2. Practicum in Fitness: Cardiac Rehabilitation (2). Prerequisite, PE 455. Observation, monitoring and supervised leadership of fitness activity applied to physician referred adults. Grade will be S or U.

PE 495.3. Practicum in Fitness: Geriatric Fitness (2). Prerequisite, PE 455, PSY 452. Observation, monitoring, and supervised leadership of fitness programs applied to the elderly. Grade will be S or U.

PE 495.4. Practicum in fitness Laboratory Assessment (2). Prerequisite, PE 455. Practical application of testing procedures in cardiovascular fitness, body composition, muscular fitness and flexibility. Grade will be S or U.

PE 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

PE 498. Special Topics (1-6).

PE 499. Seminar (1-5). May be repeated.

HEALTH EDUCATION

Program Director:
Kenneth A. Briggs

Health education programs intended to promote the maintenance of health, the betterment of health, or the recovery of health are essential to the very existence of human life. Individuals, families, and communities need help in negotiating

the many issues today which effect health and wellness.

Clearly, health education is one of the most dynamic and important majors in colleges today. Central's health education/promotion programs are recognized throughout the state as the premier supplier of quality students to help fill the job demands of health education/promotion in the state of Washington.

There are two essential sequences of courses. First, the professional sequence begins with HED 230, then HED 422 must be taken prior to or concurrently with HED 345 for school health education majors/minors, and HED 422 must be taken prior to or concurrently with HED 371 for community health education majors/minors. Secondly, for the science sequence, ZOOL 270 and CHEM 111 (when specified in the major or minor) must be taken prior to BISC/HED 323 and 324, and when required, BISC/HED 323 must be taken prior to HED 380.

Bachelor of Arts

School Health Education Major

This program allows majors to develop comprehensive health education knowledge and process skills necessary for the vitally important job of promoting health among young people. The teacher preparation program which school health education majors take and the individually selected minor are useful complements to this professional preparation program.

	Credits
HED 209, Consumer Health	3
HED 210, Drugs and Health	3
HED 230, Health Behavior and Promotion - Total Health	4
HED 345, School Health Curriculum and Materials	3
HED 387, Principles of Fitness and Stress Management	3
HED 492, Health Education Practicum	4
HED/BISC, 323, Biology of Infectious Disease	5
HED/BISC 324, Biology of Noninfectious Disease	5
HOFN 245, Basic Nutrition	3
HOFN 231, Human Sexuality	4
SED 180, Principles of Accident Prevention	3
ZOOL 270, Human Physiology	5
Total	45

School Health Education Minor

	Credits
HED 210, Drugs and Health	3
HED 230, Health Behavior and Promotion-Total Health	4
HED 345, School Health Curriculum and Materials	3
HED 387, Principles of Fitness and Stress Management	3
HED 492, Health Education Practicum	4
Total	27

Bachelor of Science

Community Health Education Major

Students majoring in community health education acquire the academic background and technical skills necessary for working in a variety of health education settings. The community health education option culminates in a 10 credit field experience that permits students to apply the professional knowledge and skills developed within the health education program.

	Credits
HED 209, Consumer Health	3
HED 210, Drugs and Health	3
HED 230, Health Behavior and Promotion/Total Health	4
HED 371, Program Planning I	3
HED 372, Program Planning II	3
HED 380, Epidemiology	3
HED 387, Principles of Fitness and Stress Management	3
HED 410, Community Health	2
HED 430, Health Appraisal-Screening Techniques	4
HED 492, Health Education Practicum	4
HED 490, Cooperative Education	10-15
BISC/HED 323, Biology of Infectious Disease	5
BISC/HED 324, Biology of Noninfectious Disease	5
CHEM 111, 111.1, Introduction to Chemistry	5
COM 345, Business and Professional Speaking OR COM 365, Organizational Communication	4
CPSC 101, Survey of Computer Science	4
HOFN 245, Basic Nutrition	3
SED 180, Principles of Accident Prevention	3
ZOOL 270, Human Physiology	5
Electives by Advisement	15
Total	91

Community Health Education Minor

	Credits
HED 230, Health Behavior and Promotion-Total Health	4
HED 371, Program Planning I	3
HED 372, Program Planning II	3
HED 380, Epidemiology	3
HED 410, Community Health	2
HED 323/BISC, Biology of Infectious Disease	5
HED 324/BISC, Biology of Noninfectious Disease	5
ZOOL 270, Human Physiology	5
Total	30

Health Education Courses

HED 101. Health Essentials (3). The principles and practices of healthful living, personal and community health.

HED 205. Drugs and Sport (2). Survey of the potential hazards of recreational, ergogenic and restorative drugs commonly used by athletes.

HED 209. Consumer Health (3). Analysis of health aids, cosmetics, non-prescription drugs, health fads and fallacies. Critical evaluation of advertising and promotional schemes; quackery.

School of Professional Studies

HED 210. Drugs and Health (3). Uses and abuses of drugs. Special emphasis will be on psycho-physiological effects upon human health and responsible drug use.

HED 230. Health Behavior and Promotion-Total Health (4). Basic principles of maintenance, management, and the promotion of total health.

HED 296. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

HED 298. Special Topics (1-6).

HED 299. Seminar (1-5). May be repeated.

HED 305. Alcohol and Alcoholism (3). An examination of our nation's number one drug problem. Multifaceted aspects of causes, treatments, prevention and alternatives are discussed.

HED 315. Positive Health Decisions (3). Develops attitudes of self-help, provides tools which students can use to analyze their own life situations, and their relationships with friends, peers, family members, public health personnel, and others.

HED 323. Biology of Infectious Disease (5). Prerequisites, junior standing and ZOOL 270, or permission of instructor. Emphasis on human diseases; causes, transmission, disease producing and resisting mechanisms. May not be counted toward the biology, botany, or zoology major. HED/BISC 323 are the same course. Student may not receive credit for both.

HED 324. Biology of Noninfectious Disease (5). Prerequisites, junior standing and ZOOL 270, or permission of instructor. Emphasis on human diseases; causes, disease producing and resisting mechanisms. May not be counted toward the biology, botany, or zoology major. HED/BISC 324 are the same course. Student may not receive credit for both.

HED 336. Dependency Behavior and Drug Education (4). Prerequisite, HED 230 or permission of instructor. Individual and social problems of habituation and addiction. Current information and techniques for drug education in the school and community setting.

HED 345. School Health Curriculum/Materials (3). Prerequisites, HED 210 and 230. Examination of existing curricula and teaching materials. Design and development of school health curricula.

HED 371. Program Planning I (3). Prerequisite, HED 230, PSY 309 or 313 or permission of instructor. Health program planning; needs assessment and goal setting.

HED 372. Program Planning II (3). Prerequisite, HED 371. Health program planning; implementation and evaluation.

HED 380. Epidemiology (3). Prerequisites, BISC/HED 323 and 324, or permission of instructor.

HED 387. Principles of Fitness and Stress Management (3). Prerequisites, HED 230 or permission of instructor. The theory and practice of health enhancement through fitness and stress management.

HED 398. Special Topics (1-6).

HED 410. Community Health (3). An overview of contemporary community health programs; problems in community health at the local, national, and international levels.

HED 412. Health Aspects of Aging (3). Prerequisite, HED 101 or permission of instructor. Examination of total health as it relates to the aged and the aging process.

HED 422. Methods for Health Promotion (4). Prerequisites HED 101 and HED 230, or permission of instructor.

HED 430. Health Appraisal - Screening Techniques (4). Designed to appraise the health status of individuals and/or groups and to develop techniques and skills for screening vision, hearing, dental problems, posture, height/weight and other health conditions.

HED 440. Health Consultation and Planning (3). Prerequisite, HED 372 or permission of instructor. Models and procedures of effective professional health consultation and planning.

HED 442. Field Work and Experience in Health Education (1-5). Prerequisite, permission of the instructor. Observation and participation in health programs, and/or HED 101.

HED 446. Health Education Curriculum for Elementary Teachers (3). Examination of available curricula and teaching materials in health education for elementary school teachers. Students must develop an elementary health education curriculum.

HED 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

HED 491. Workshop (1-6). Topics in health education, including work sessions, lectures and demonstrations.

HED 492. Practicum (4). Prerequisite, HED 345 or 372 or permission of instructor. Practical experience and application of responsibilities and competencies necessary for practicing health education.

HED 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

HED 498. Special Topics (1-6).

HED 499. Seminar (1-5). May be repeated.

LEISURE SERVICES

Program Director:
William Vance

The leisure services curriculum provides study of leisure and recreation as preparation for a variety of careers in different leisure services agencies and businesses. Dependent upon course selections, each major completes a 90 or 91 credit program consisting of a 66 or 67 credit "professional core" and a 24 credit elective area which guides the student toward a specific career path within the profession.

Professional Core	66-67 credits
24-credit career path elective area	24 credits
Total credits, B.S. in Leisure Services.....	90-91 credits

**Bachelor of Science
Leisure Services Major**

Core Courses	Credits
LES 201, Foundations of Recreation	3
LES 220, Leadership for Leisure Services	5
LES 292, Practicum	6
LES 301, Professional Development in Leisure Services	3
LES 302, Leisure and Freedom	3
LES 320, Programming for Leisure Services	5
LES 325, Public Relations in Leisure Services	3
LES 330, Outdoor Recreation Resource Management	3
LES 350, Leisure Services for Special Groups	3
LES 420, Problems, Issues and Trends in Leisure Services.....	3
LES 480, Administration of Leisure Service Agencies	5
LES 483, Budget and Finance	2
LES 490, Cooperative Education	15
ADOM 202, Computer Applications for Business	3
One of the following:	
PSY 205 Psychology of Adjustment	5
PSY 314, Human Development and the Learner	4
Core	66-67
Elective credit applied to the major	24
Total	90-91

The 24 credit elective requirement provides the opportunity for each leisure services major to select courses beyond the "core" requirements in order to develop a more specific career path.

- A. Leisure services courses that are not part of the professional core, and which are to be applied to the degree program must be approved by the academic advisor. A minimum of 12 of the 24 elective area credits must be prefixed LES.
- B. A maximum of six LES 292, Practicum credits beyond those taken to satisfy the professional core requirement may be applied to the 24-credit elective area.
- C. A maximum of eight (8) LES 490, Cooperative Education credits beyond those taken to satisfy the professional core requirement may be applied to the 24-credit elective area.

- D. All courses outside of the leisure services program which the student wishes to apply to the degree program must be approved by the faculty advisor.

Leisure Services Minor

	Credits
LES 201, Foundation of Recreation	3
LES 220, Leadership for Leisure Services	5
LES 292, Practicum	4
LES 302, Leisure and Freedom	3
LES 320, Programming for Leisure Services	5

Total 20

Leisure Services Minor - Teaching

	Credits
LES 201, Foundations of Recreation	3
LES 220, Leadership in Leisure Services	5
LES 302, Leisure and Freedom	3

Total 20

LES 432, Leadership for the Outdoors	3
LES 434, Camp Administration	3
LES Electives by Advisement	3

Leisure Services Courses

LES 201. Foundation of Recreation (3). History, basic philosophy and modern developments for professional application. Emphasis on careers in various recreation and leisure services agencies.

LES 220. Leadership for Leisure Services (5). Prerequisite, LES 201 or permission of instructor. Theories and techniques of leadership applicable to the leisure services profession. Development of practical leadership techniques coupled with an understanding of appropriate leadership actions in specific situations. Three hours lecture, four hours laboratory per week.

LES 234. Camp Craft Skills (3). Modern trends, development of skills for outdoor living through practical experiences, planning and organizing camping events. Emphasis on the northwest's natural recreation resources.

LES 271. The Travel, Tourism and Commercial Recreation Industry (3).

LES 292. Practicum (1-3). Prerequisite, LES 220 and permission. Thirty-five (35) "on-the-job" hours of practical experience per one (1) credit hour earned. Six (6) credit hours required for the leisure services "core." Six (6) additional hours may be applied toward the LES "elective" area. No more than three (3) credits may be earned in the same agency/program. May be repeated for credit. (Formerly LES 242)

LES 296. Individual Study (1-6) FWSp. May be repeated.

School of Professional Studies

LES 298. Special Topics (1-6).

LES 299. Seminar (1-5).

LES 301. Professional Development in Leisure Services (3). Prerequisite, LES 201. Overview of leisure services as a profession. Topics to include history, funding, legislation and organizations.

LES 302. Leisure and Freedom (3). History, philosophy, and development of leisure, recreation and play. Development of leisure life-styles and patterns. Review of leisure role and influence in life and living. Individualized profile and planning for future.

LES 303. Community Program Assessment for Leisure Services (4). Prerequisite, LES 201. Theory, objectives, methods and evaluation techniques for assessment of regional and community leisure services programs.

LES 309. Planning and Development of Park and Recreation Areas (4). Prerequisite, LES 201. Objectives, procedures, and techniques for the planning, development and construction of park and recreation facilities.

LES 320. Programming for Leisure Services (5). Prerequisite, LES 220. Principles and theories of planning, organizing and implementing of programs in leisure services. Techniques for identifying needs; analyzing resources; promoting, implementing and evaluating services. Practical experience in preparing materials and resources, organizing, and developing, scheduling, budgeting, and evaluating information which is essential to initiate and conduct a total recreation services program.

LES 325. Public Relations in Leisure Services (3). Prerequisite, LES 201 or permission. Practical projects in written, verbal, and visual communications vital to information needs for leisure services. Planning and organizing a public relations/communications program.

LES 330. Outdoor Recreation Resource Management (3). Prerequisite, LES 201 or permission. Historical antecedents and current issues and practices in the use and management of parks, forests, wilderness areas and other North American outdoor recreation resources.

LES 332. Wilderness Skills (3). Designed to prepare students for participating in outdoor adventure pursuits. Developing and expanding each student's skills and awareness of wilderness and back-country environments.

LES 340. Outdoor Leadership and Recreation (2). Integrating the development, availability, and administration of recreational facilities in natural and indoor settings into the school curriculum.

LES 350. Leisure Services for Special Groups (3). Prerequisite, LES 201 or permission. Distinguishing leisure needs of special populations; mentally ill, developmentally disabled, physically disabled, aged, and incarcerated. Review of accessibility standards, observation and voluntary experiences with selected population groups. Adaptation of recreation experiences to special populations.

LES 371. Tourism Essentials (3). Prerequisite, LES 271 or permission of instructor. Travel and tourism, including history, spatial aspects, economics, planning, marketing, research and trends for domestic and international tourism. Same as LES 383. Student may not receive credit for both.

LES 372. International Tourism (3). Global travel trends including the geographic, political, spatial, economic, cultural, health, legal and technological aspects of international tourism.

LES 381. Sports Supervision (2). Organization and implementation of recreational sports programs in community recreation settings. Emphasis on facilities, personnel, materials and supplies, tournament bracketing and other practical considerations.

LES 382. Commercial Recreation (3). Prerequisite, LES 201. An overview of commercial recreation including agencies, facilities, philosophy, history and personnel.

LES 393. Leisure Service Agency Visitations (1). Off campus field visits, usually from two to three days in duration. Review of leisure agency facilities, programs and clientele. Lecture and discussion by and with agency leader/supervisor/manager personnel pertaining to agency operations. Grade will be S or U. May be repeated for credit under different titles.

- A. Public Recreation Agencies
- B. Voluntary/Youth Serving Agencies
- C. Military Recreation Agencies
- D. Commercial Recreation Agencies
- E. Employee/Industrial Recreation Agencies
- F. Tourism Related Agencies
- G. Therapeutic/Rehabilitation Related Agencies
- H. Senior Centers/Nursing Homes
- I. Outdoor Recreation/Education Agencies
- J. Resident Camps
- K. Parks and Playgrounds
- L. Sports and Aquatics
- M. Community Centers.

LES 398. Special Topics (1-5).

LES 420. Senior Project (3). Student research and presentation of an array of contemporary problems, issues and trends in the leisure services profession.

LES 431. Resident Camp Programming (3). Prerequisite, permission of instructor. Methods, techniques and skills used in the organization and operation of a resident camp program.

LES 432. Leadership for the Outdoors (3). Prerequisite, LES 332. Methods and techniques for leading groups on outdoor/recreation field trips. Instruction will include classroom theory coupled with an experiential field trip.

LES 434. Camp Administration (3) W. Prerequisite, LES 234. Planning, development, and administering the environmental resident camp program to coordinate the optimum learning experience and appreciation for the students' relationship with nature.

LES 435. Outdoor Education Programs (3). Organizing and conducting outdoor education programs in the school.

LES 454. Recreation for Aging (3). Understanding and appreciation of the varying stages of aging from preretirement to death and adaptive recreation programming for leisure needs. Specific leadership techniques for senior citizen centers and nursing.

LES 471. Planning and Development of Tourism (5). Prerequisite, LES 371 or permission. Economic, social, fiscal, environmental and political impacts of tourism; identifying and accessing tourism markets; the tourism planning and marketing process.

LES 480. Administration of Leisure Service Agencies (5). Prerequisite, LES 320. Organizational development, political infrastructure, policy development. Emphasis on personnel management, human relations, legal liability and risk management. Traditional and alternative agency resources (human, physical, financial), budget, and preparation for budget review and presentation.

LES 481. Computer Applications in Leisure Services (2). Prerequisites, ADOM 202 and LES 320. Software packages currently in use in a variety of leisure services agencies and businesses.

LES 482. Grantsmanship (3). Overview of the grantsmanship process including sources, process, application and administration.

LES 483. Budget and Finance (2). Prerequisite, LES 320. Budget types commonly used in leisure services agencies. Budget preparation skills, funding sources, budget presentation and defense, execution of allocated financial resources.

LES 485. Games and Adventure Activities for Children (3). Games and activities appropriate for the playground or outdoor recreation setting. Includes activities for socialization, trust building, cooperation, adventure and creativity. Emphasis is on the development of organization and leadership skills by the student.

LES 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

LES 491. Workshop (1-6).

LES 496. Individual Study (1-6) FWSp. May be repeated.

LES 498. Special Topics (1-6).

LES 499. Seminar (1-5).

The following courses are on reserve and may be offered subject to program needs: PEF 117 Relaxation (1); PETS 111 Field Hockey (1); PETS 112 Lacrosse (1); PER 111 Advanced Modern Dance (1); PEID 112 Advanced Badminton (1); PEID 117 Advanced Golf (1); PEID 121 Intermediate Fencing (1); PEID 122 Advanced Fencing (1); PEID 127 Advanced Wrestling (1); PEID 132 Snowmobiling (1); PEID 135 Billiards (1); PEGT 111 Advanced Gymnastics (1); PEVW 112 Field Hockey (1); PEVW 113 Gymnastics (1); PEMM 111 Basketball (1); PEMM 112 Softball (1); PEMM 113 Beginning Swimming (1); PEMM 114 Intermediate Swimming (1); PEMM 115 Wrestling; PE 202 Teaching Creative Dance (2); PE 310 Stage Dance (2); PE 328 Gymnastics Coaching (3); PE 331 Field Hockey Coaching (3); PE 340 Application of Teaching Designs in Gymnastics (1); PE 341 Application of Teaching Designs in Individual and Dual Sports (1); PE 342 Application of Teaching Designs in Team Sports (1); PE 343 Application of Teaching Designs in Dance (1); PE 344 Application of Teaching Designs in Dance (1); PE 350 Theory and Practice in Teaching Neuromuscular Relaxation (2); PE 352.3 Officiating: Track and Field/Gymnastics (2); PE 362 Dance in Education (4); PE 446 The Athletic and Intramural Program (4); PE 461 Dance Administration, Curriculum and Evaluation (4); PE 471 Philosophy of Elementary School Physical Education (3).

1947

Dedication of the new Science Building on Eighth Street.

1947

Enrollment exceeds 1,000 for the first time.

1951

Air Force ROTC program introduced.

1951

First state-wide Alumni Association organized.

1959

Whitney-Stephens Hall completed.

1959

Dr. Robert E. McConnell resigns as president of the college following an unprecedented 28 years of service. Dr. Perry H. Mitchell, business administrator, appointed acting-president.

1960

First unit of a new dining hall completed and named in honor of Hal and Margaret Holmes.

PHYSICS

Chair:
 Robert C. Mitchell
 Lind Hall 201

Professors:
 Robert B. Bennett, Optics
 Robert C. Mitchell, Astronomy
 Willard C. Sperry, Nuclear Physics

Assistant Professors:
 Sharon L. Rosell, Nuclear Physics
 Roger Yu, Solid State

The basis of all science is observation and explanation, seeing something and asking why. Physics is the most fundamental of the sciences in the sense that its ultimate goal is to unravel the mysteries of the stuff from which the universe is made. It is also a very practical subject, and physicists have contributed much in the past and continue to participate in many other fields of human endeavor as well.

All of the physics major programs at Central contain both elements, the intellectual excitement of beginning to understand the very structure of matter itself, and the widely applicable experiences of problem solving, quantitative reasoning, and manipulative skills. Throughout these programs, stress is placed on careful development of key concepts and skills in a logical sequence, often from an historical perspective. This emphasis is intended to produce the habits of independent study and self improvement essential to success after graduation.

The particular program followed by any student will be determined by that student's own career objective. The B.A. major is for students wishing a broad liberal education with an emphasis in physics and for students contemplating teaching physics. The B.S. physics majors are designed for individuals planning careers in physics and related technical fields. Students intending to teach at the high school level should obtain adequate preparation in another field—mathematics is particularly recommended—since very few high school teaching assignments involve only physics.

All required physics courses, including the basic sequence PHYS 211, 212, 213 are offered once each year only. All physics majors also require four quarters of calculus, and this sequence must be started at least concurrently with PHYS 211. Thus, it is vital that prospective physics majors consult a departmental advisor early in their careers to plan efficient schedules. Failure to do so could mean requiring an additional year to complete degree requirements. Students planning to teach must take SCED 324.

Bachelor of Arts Major

Physics majors are required to complete four quarters of calculus with (or prior to) PHYS 211, 212, 213 and 314.

	Credits
PHYS 211, 212, 213, General Physics.....	15
PHYS 314, 315, 316, Modern Physics	9
PHYS 333, 334, Laboratory Practices and Techniques	6
PHYS 381, 382, 383, Electromagnetic Theory.....	15

CHEM 181, 181.1, 182, 182.1, 183, 184, General Chemistry15

Total 60

Bachelor of Science Major

Two alternative programs are available leading to this degree: Option I, designed for individuals planning careers in physics and related scientific and technical fields; and Option II, a joint five-year program leading to this degree from CWU and an engineering degree from another institution.

Physics majors are required to complete four quarters of calculus with (or prior to) PHYS 211, 212, 213 and 314.

Option I

	Credits
PHYS 211, 212, 213, General Physics.....	15
PHYS 314, 315, 316, Modern Physics	9
PHYS 333, 334, 335, Laboratory Practices and Techniques	9
PHYS 381, 382, 383, Electromagnetic Theory.....	15
CHEM 181, 181.1, 182, 182.1, 183, 184, General Chemistry	15

Total 63

Twenty-seven credits chosen from the following list of courses. (Students may petition to have other

upper-division courses apply)	27
PHYS 371, 372, 373, Theoretical Physics	15
PHYS 451, 452, 453, Project Laboratory	9
PHYS 471, 472, 473, Quantum Mechanics	15
CHEM 381, 382, 382.1, 383, 383.1, Physical Chemistry	15
CHEM 452, 452.1, Instrumental Analysis.....	5
CHEM 454, Introduction to Spectroscopy.....	3
CPSC 320, Machine Structure and Programming	4
CPSC 321, Systems Programming	4
MATH 365, Linear Algebra II	3
MATH 376.2, Elementary Differential Equations	3
MATH 472.1, 472.2, 472.3, Applied Analysis.....	9
MATH 481.1, 481.2, 481.3, Numerical Analysis.....	9

Total 90

Option II (Physics-Engineering)

Completion of the three-year program specified below will generally prepare the student to enter the third and fourth year courses of most engineering curricula, but it is solely the student's responsibility to apply and gain admission to an institution offering degrees in engineering. Early consultation with the engineering advisor is mandatory to insure that specific additional requirements of particular pre-engineering curricula are also satisfied. After transfer to an accredited engineering program, completion of 27 credits of upper division engineering courses in that program, of the 65 hour Basic and Breadth requirements, and a minimum total of 180 acceptable credits will satisfy remaining requirements for the B.S. degree at CWU with a major in physics. It is the individual student's responsibility to submit an official transcript of the work completed after leaving CWU and to request awarding of this degree.

Physics majors are required to complete four quarters of calculus with (or prior to) PHYS 211, 212, 213 and 314.

	Credits
PHYS 211, 212, 213, General Physics.....	15
PHYS 251, Statics OR	
MET 211, Structural Systems I	5
PHYS 252, Dynamics OR	
MET 213, Technical Dynamics	5
PHYS 314, 315, 316, Modern Physics	9
PHYS 333, 334, 335, Laboratory Practices and Techniques	9
PHYS 381, 382, 383, Electromagnetic Theory.....	15
MATH 265, Linear Algebra	4
MATH 376.1, Elementary Differential Equations	3
CHEM 181, 181.1, 182, 182.1, General Chemistry	10
CPSC 177, Introduction to FORTRAN Programming.....	4
IET 165, Engineering Drawing I	4

Total 83

Twenty-seven credits of upper-division engineering courses in an approved engineering discipline in any accredited engineering program

Total 110

Minor

Physics minors are required to complete three quarters of calculus with (or prior to) PHYS 211, 212 and 213.

Credits

PHYS 211, 212, 213, General Physics.....	15
PHYS 314, 315, Modern Physics	6
PHYS 333, 334, Laboratory Practices and Techniques	6

Total 27

Courses

PHYS 102. Concepts of Physics - Light (5). Historical development of the modern understanding of light through observation and interpretation. Four class meetings and two hours laboratory per week.

PHYS 105. Processes in Physical Science - Physics (5). An introductory lecture-laboratory course in concepts of physics applicable to teaching in elementary school (K-6). Four class meetings and two hours laboratory per week.

PHYS 106. Concepts of Physics - Musical Sound (3). Two class meetings and two hours laboratory per week. Students should be able to sing or play a major chord.

PHYS 111, 112, 113. Introductory Physics (5, 5, 5). Courses must be taken in sequence. Prerequisites, three semesters of high school algebra or MATH 163.1 and one semester of high school trigonometry or MATH 163.2. A broad coverage of physical topics using algebra and trigonometry as mathematical tools. Four class meetings and three hours laboratory per week. Not open to students with credit in PHYS 211, 212, 213.

PHYS 201. The Sky (5). Identification of constellations, bright stars, and planets; apparent motions of sun, moon, planets, and stars; time and the calendar; telescopes. Four class meetings and two hours laboratory or observation per week.

PHYS 211, 212, 213. General Physics (5,5,5). Courses must be taken in sequence. Corequisites (or prior completion) MATH 172.1, 172.2 and 272.1, respectively. A broad coverage of physical topics using the techniques of elementary calculus; intended primarily for students with career interests in the physical and engineering sciences. Four class meetings and three hours laboratory per week.

PHYS 251. Statics (5). Prerequisites, PHYS 213 and MATH 272.2 (may be taken concurrently). Five class meetings per week.

PHYS 252. Dynamics (5). Prerequisite, PHYS 251. Five class meetings per week.

PHYS 296. Individual Study (1-6). Prerequisite, permission of instructor.

PHYS 298. Special Topics (1-6).

PHYS 314, 315, 316. Modern Physics (3,3,3). Courses must be taken in sequence. Prerequisites, PHYS 213 and MATH 272.2 (may be taken concurrently with PHYS 314). Three class meetings per week.

PHYS 333, 334, 335. Laboratory Practices and Techniques (3,3,3). Courses must be taken in sequence. Prerequisite, PHYS 213. One class meeting and six hours laboratory per week.

PHYS 371, 372, 373. Theoretical Physics (5,5,5). Courses must be taken in sequence. Prerequisites, PHYS 316, MATH 265, MATH 272.2 and MATH 376.1.

PHYS 381, 382, 383. Electromagnetic Theory (5,5,5). Courses must be taken in sequence. Prerequisite, PHYS 316. Five class meetings per week.

PHYS 396. Individual Study (1-6). Prerequisite, permission of instructor.

PHYS 398. Special Topics (1-6).

PHYS 433, 434. Senior Research (2,2). Prerequisite, permission of instructor.

PHYS 451, 452, 453. Project Laboratory (3,3,3). Prerequisites, PHYS 316 and 335. One class meeting and six hours laboratory per week.

PHYS 471, 472, 473. Quantum Mechanics and Applications (5,5,5). Courses must be taken in sequence. Prerequisites, PHYS 383 and PHYS 373 or MATH 472.3.

PHYS 486. Senior Thesis (2). Prerequisites, PHYS 433, 434 and permission of instructor.

College of Letters, Arts and Sciences

PHYS 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

PHYS 491. Workshop (1-6). Prerequisite, permission of instructor.

PHYS 493. Laboratory Experience in Teaching Physics (2). Prerequisite, permission of instructor. May be repeated twice for a total of six credits.

PHYS 496. Individual Study (1-6). Prerequisite, permission of instructor.

PHYS 498. Special Topics (1-5).

PHYS 499. Seminar (1-5).

The following program is on reserve and may be offered subject to program needs: physical science teaching major.

POLITICAL SCIENCE

Chair:
Michael A. Launius
 Psychology Building 414

Professors:
 James R. Brown, Jr., Political Theory, Middle East Politics, Soviet Politics, Strategic Arms and Negotiations, U.S. Foreign Policy
 Robert V. Edington, International Politics, Political Development
 Robert C. Jacobs, Public Law and Government, American Politics, Constitutional Law, American Presidency
 Thomas J. Kerr, American Politics, Congress, Public Opinion, Parties and Elections, Political Economy, American Thought and Culture

Associate Professors:
 Rex Wirth, Public Administration, International Politics, State and Local Politics, Western Europe

Assistant Professor:
 Michael A. Launius, Comparative Politics, Asian Politics, International Political Economy, Pacific Rim Studies

The department provides an opportunity for students to become knowledgeable about the general subject matter of political science, while also offering a variety of courses that can provide depth in an area of the student's interest. Flexibility in the selection of courses is stressed. Students declaring a B.A. or B.A. teaching major or minor in political science are required to register with the department and to seek careful and regular advisement.

Graduates of the department enter career fields such as federal or state government, other public service vocations, secondary school teaching, business, public relations, and the like; or they continue on to graduate study in law or political science.

Bachelor of Arts Major

Credits

POSC 101, Introduction to Politics	5
POSC 210, American Politics.....	5
POSC 360, Comparative Politics.....	5
POSC 370, International Politics.....	5
POSC 487, Studying Politics.....	3
One of the following.....	5
POSC 481, Early Political Thought	
POSC 482, Early Modern Political Thought	
POSC 483, Recent Political Thought	
POSC electives by department approval	20-35

Total 48-63

Teaching Major

Credits

POSC 101, Introduction to Politics	5
POSC 210, American Politics.....	5
POSC 360, Comparative Politics.....	5
POSC 370, International Politics.....	5
One of the following.....	5
POSC 481, Early Political Thought	
POSC 482, Early Modern Political Thought	
POSC 483, Recent Political Thought	
SOC 421, Methods and Materials in the Social Sciences	
Secondary	
OR	
HIST 421, Methods and Materials in History Secondary.....	2
Electives by department approval.....	18

Total 45

Minor

Students in teacher education must include POSC 370 and either POSC 481, 482, or 483 to the program listed below.

Credits

POSC 101, Introduction to Politics	5
POSC 210, American Politics.....	5
POSC 360, Comparative Politics.....	5
POSC 370, International Politics.....	5
Upper division electives in Political Science.....	10

Total 30

Teaching Minor

POSC 101, Introduction to Politics	5
POSC 210, American Politics.....	5
POSC 385, American Political Thought and Culture	5
POSC 360, Comparative Politics.....	5
POSC 370, International Politics.....	5

One of the following:

POSC 230, State and Local Government	
POSC 313, The Legislative Process	
POSC 314, American Presidency	
POSC 318, Political Parties and Interest Groups OR	
POSC 350, Public Law	5

Total 30

Courses

POSC 101. Introduction to Politics (5). The basic ideas around which political debate revolves and from which political institutions evolve.

POSC 210. American Politics (5). Origin and development of the United States government; structure, political behavior, organizations and processes; rights and duties of citizens. For general education (breadth) credit, a student must be enrolled in or have completed ENG 101.

POSC 230. State and Local Government (5).

POSC 298. Special Topics (1-6).

POSC 311. Women and Politics (5). The politics of human sexuality: men's and women's rights, sex roles, sexual discrimination, laws governing sexuality, and related issues.

POSC 312. Public Opinion and Political Communication (5). The formation, measurement, and political impact of public opinion. The relationship of mass media to American political attitudes and opinions.

POSC 313. The Legislative Process (5). The Congress of the United States, drafting of bills, legislative leadership, the committee system, relation to executive and judicial branches, pressure groups.

POSC 314. American Presidency (5). The Office of the Chief Executive: its constitutional, political and administrative processes.

POSC 315. Political Campaigns and Elections (5). Evaluations of campaign techniques and practices; campaign financing and expenditures; voting behavior; election theory; elections and public policy.

POSC 318. Political Parties and Interest Groups (5). Theories of party systems; elitism and pluralism; party organization, functions, and activities; status, functions, and activities of interest groups in the public policy-making process.

POSC 320. Public Administration (5). Setting, purpose, functions and performance of public bureaucracy in the United States.

POSC 340. Politics and American Capitalism (5). A political economy approach to the study of American politics; how economic forces affect political behavior; the structure of the American state; and specific areas of public policy such as health, energy, defense, environment, and consumer protection.

POSC 350. Introduction to Public Law (5). Legal bases and structure of governmental organization; fundamental doctrines and principles of constitutional, international and administrative law.

POSC 360. Comparative Politics (5). Comparative political analysis, utilizing a variety of methods and theoretical approaches; application to selected western and non-western systems. Recommended to precede other courses in comparative politics.

POSC 362. Western European Politics (5). Emphasis upon France, the United Kingdom, West Germany and selected systems of the West European continent.

POSC 363. Soviet Politics and Government (5). Evolution, patterns and comparative analyses.

POSC 366. Government and Politics of East Asia (5). An introduction to the politics and governments of selected East Asian countries. Focus will center on China, Japan, and Korea.

POSC 367. Politics of Japan (5). Investigation and analysis of politics and government in contemporary Japan.

POSC 368. Chinese Politics (5). Institutions, processes, policies and personalities of contemporary China.

POSC 369. Korean Politics (5). Political systems, institutions and processes of contemporary North and South Korea.

POSC 370. International Politics (5). Conditions and principles governing the contemporary nation-state system.

POSC 373. International Politics of the Pacific Rim (5). Political and economic relations of the contemporary Pacific Rim. Special focus on North America, the Soviet Union, and East Asia.

POSC 375. The Middle East and International Politics (5).

POSC 376. International Organization (3). Background, concepts, structure and functions of international organization.

POSC 377. Model United Nations (2). May be repeated for credit.

POSC 378. International Political Economy (3). Political problems of management and development in the global economy and the prospects for creating improved mechanisms at the international level and for the less developed countries.

POSC 379. U.S., U.S.S.R., and Nuclear War (3). Soviet-American relations in the context of the nuclear arms race, strategic arms negotiations, and related domestic factors within each country.

POSC 385. American Political Thought and Culture (5). The ideas and circumstances that have shaped the political culture of the U.S., as reflected in the works of selected political theorists, politicians and literary figures.

POSC 398. Special Topics (1-6).

POSC 442. U.S. Foreign Policy (5). Factors, processes and techniques in the formulation and execution of the foreign policy of the United States.

POSC 451. Introduction to Constitutional Law (5). Role of the United States Supreme Court in shaping governmental structure of the United States.

POSC 452. The Constitution and Human Rights (5). Role of the United States Supreme Court in the development of political and social rights.

POSC 481. Early Political Thought (5). Plato to Machiavelli.

POSC 482. Early Modern Political Thought (5). Political thought in the Sixteenth, Seventeenth, and Eighteenth centuries.

POSC 483. Recent Political Thought (5). Political thought in the Nineteenth and Twentieth centuries.

POSC 486. Marxism and Socialism (3). Prerequisite, permission of instructor. An examination of significant Marxist and Socialist thinking from the Nineteenth century to the present, concentrating primarily on Europe and the United States.

POSC 487. Studying Politics (3). Prerequisites POSC 101, 210, and junior or senior standing. The dimensions of political science; theory formulation; utilization of materials; research methods; construction of a research design.

POSC 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

POSC 496. Individual Study (1-6). Prerequisite, permission of instructor.

POSC 498. Special Topics (1-6).

POSC 499. Seminar (1-5).

The following courses are on reserve and may be offered subject to program needs. POSC 264 Perspectives on Southeast Asia (5); POSC 345 Government, Science and Technology (5); POSC 365 Comparative Political Systems: Great Britain and Canada (5); POSC 371 International Relations Among Communist States and Parties (5); POSC 381 Politics of Non-violence (5); POSC 454 Administrative Law (5); POSC 460 Comparative Political Systems: Southeast Asia (5); POSC 467 Communism in the Developing Areas (5); POSC 472 International Relations of

Major Powers in Southern and East Asia (5); POSC 473 Regional Politics in Southeast Asia (5); POSC 474 International Law (3).

PSYCHOLOGY

Chair:

Philip Tolin

Psychology Building 422

Professors:

Richard V. Alumbaugh, General Experimental, Aggression, and Psychometrics

Terry L. De Vietti, Physiological Psychology, Experimental James L. Eubanks, Organization Development, Management Information Systems, Training Research and Development

Roger S. Fouts, General Experimental, Language Acquisition, Primate Behavior, Comparative Psychology

James G. Green, Counseling

Donald E. Guy, Child Development, Human Learning

Margaret E. Lloyd, Behavior Analysis, Clinical Psychology

Owen Pratz, Counseling, Personality, Social Psychology, Human Development

Donald R. Shupe, Experimental Design, Statistics, Developmental Psychology, Gerontology

John L. Silva, Child Development, Clinical, Counseling, Testing

Elizabeth M. Street, Educational Psychology, Learning Theory, Exceptional Children

Warren R. Street, Social Psychology, General Experimental, Computer Methods

Philip Tolin, Perception, Human Factors, General Experimental

Max Zwanziger, Clinical Psychology, Personality

Associate Professors:

Darwin J. Goodey, School Psychology, Clinical, Mental Health, Counseling, Exceptional Children, Indian and Minority Education

Susan D. Lonborg, Counseling Psychology, Psychotherapy Research, Psychology of Women, Substance Abuse, Sports Psychology

Larry M. Sparks, States of Consciousness, Self Theory, Systems of Psychology, General Experimental

Anthony J. Stahelski, Organization Development, Social Psychology, Small Group Interaction

Assistant Professors:

Eugene R. Johnson, School Psychology, Psychological and Educational Evaluation, Exceptional Children

Stephen B. Schepman, Organization Development, Work Motivation, Personality Theories

Stephanie Stein, Counseling, Psychological Assessment of Children, Lifespan Development, Abnormal Psychology

Bachelor of Arts Major

The courses of study leading to the bachelor of arts degree in psychology are described below. Students may pursue either a general psychology degree program or one of four areas of concentration. Each of the major programs provides an appropriate academic background for students intending to pursue graduate study in psychology.

The General Psychology Program

The general psychology degree program is intended for students who wish a liberal arts background in behavioral science or who intend to become teachers of psychology. A faculty advisor can recommend electives appropriate to the student's objectives.

Core Courses	Credits
PSY 101, General Psychology	5
PSY 300, Research Methods in Psychology	4
PSY 301, Learning	5
PSY 362, Introductory Statistics	4
PSY 363, Intermediate Statistics	4
Total	22

One or more courses from each of the following clusters:

I.

PSY 346, Social Psychology (4)	
PSY 444, Tests and Measurements (4)	
PSY 456, Industrial and Organizational Psychology (4)	4

II.

PSY 313, Developmental Psychology (4)	
PSY 447, Psychology of Adolescence (3)	
PSY 452, Adult Development and Aging (4)	3-4

III.

PSY 373, Psychology of Thought and Language (4)	
PSY 450, Perception (4)	
PSY 478, Physiological Psychology (3)	
PSY 478.1, Techniques in Physiological Psychology (2)	3-5

IV.

PSY 445, Clinical, Counseling and Community Psychology (5)	
PSY 449, Abnormal Psychology (4)	
PSY 453, Theories of Personality (5)	4-5
Credits in required courses	36-40

Electives in psychology (may include a maximum of five lower division credits)

60 hour major	20-24
45 hour major	5-9

Total 45-60

Areas of Concentration in Psychology

Students who have specific interests or firm career goals may elect one of four 60-credit programs leading to bachelor of arts degrees. These programs include additional required courses beyond those required of the general psychology major. Electives are chosen from an approved list, which is available in the psychology department office. Upon graduation, the student's transcript will bear the title of his/her area of concentration. Interested students should inquire at the psychology department office for details and assignment to an appropriate advisor.

Programs are offered in community psychology, personnel/industrial/organization psychology, experimental psychology, and developmental psychology. The required courses of study for these programs are described below.

A. Community Psychology

This program is designed for students who are interested in careers in community/social agencies.

	Credits
Core Courses	22
One or more courses from each of clusters I, II and III.....	10-13 (see General Psychology Program clusters)
PSY 445, Clinical, Counseling and Community Psychology	5
PSY 454, The Helping Interview	3
PSY 490, Cooperative Education	5-15
Electives from approved list	2-15
Total	60

B. Personnel/Industrial/Organization Psychology

This program is designed for students who are interested in human resources management, job aptitude evaluation and placement, and personnel relations and services.

	Credits
Core Courses	22
One or more courses from each of clusters II, III and IV (see General Psychology Program clusters)	10-14
PSY 444, Tests and Measurements	4
PSY 454, The Helping Interview	3
PSY 456, Industrial and Organizational Psychology	4
Electives from approved list	13-17
Total	60

C. Experimental Psychology

This program is designed for students who are interested in behavioral and social research, program evaluation, and behavioral data analysis and interpretation.

	Credits
Core Courses	22
One or more courses from each of clusters I, II and IV	11-13 (see General Psychology Program clusters)
PSY 450, Perception	4
PSY 478, Physiological Psychology	3
PSY 478.1, Techniques in Physiological Psychology	2
Electives from approved list	16-18
Total	60

D. Developmental Psychology

This program is for students who are interested in child and adult development, child and juvenile care, and senior citizen services.

	Credits
Core courses	22
One or more courses from each of clusters I, III and IV	11-14 (see General Psychology Program clusters)
PSY 313, Developmental Psychology	4
PSY 452, Adult Development and Aging	4

Electives from approved list	16-19
Total	60

Teaching Major or Area Endorsement

Secondary teachers with a major in psychology must also complete a major in another discipline in which the major portion of a full-time teaching assignment can be expected. This combination will qualify the student for teaching both psychology and the second major field.

Non-majors who seek a subject area endorsement to teach psychology at the secondary level should contact the psychology department chair or the director of certification for information regarding this option.

Minor	Credits
PSY 101, General Psychology	5
PSY 300, Research Methods in Psychology	4
Upper Division Electives in Psychology	11
Total	20

Courses

PSY 101. General Psychology (5). An introduction to the science of behavior.

PSY 205. Psychology of Adjustment (5). The nature of the adaptive process and the means by which people adjust to their environment.

PSY 235. Courtship and Marriage (3). Also listed as HOF5 235. Student may not receive credit for both. May not be used for breadth if SOC 248 has been taken.

PSY 295. Laboratory Experience in Psychology (1-5). Permission of department chair required. PSY 101 recommended. May be repeated. Not more than 5 credit hours may be applied to a psychology major. Grade will be S or U.

PSY 298. Special Topics (1-6).

PSY 299. Seminar in Psychology (3).

PSY 300. Research Methods in Psychology (4). Prerequisites, PSY 101 and Math 130.1. It is recommended that PSY 362 be taken concurrently.

PSY 301. Learning (5). Prerequisites, PSY 300, 362. It is recommended that PSY 363 be taken concurrently. Classical and instrumental conditioning, memory processes and cognition. Four hours lecture per week plus 20 hours of laboratory.

PSY 302. Principles of Applied Psychology (4). Prerequisite, PSY 300.

PSY 313. Developmental Psychology (4). Prerequisites, PSY 301 and 362. Not recommended for students planning to take PSY 314.

PSY 314. Human Development and the Learner (4). Physical, intellectual, emotional, and social development through the life cycle. Theories of development and research methods. Cannot be used for credit for psychology majors and minors.

PSY 315. Psychology for the Classroom (4). Prerequisites, PSY 314, admission to the teacher education program or permission of the chair. Application of learning theories, instructional principles, and evaluation processes for the classroom. Cannot be used for credit for psychology majors or minors.

PSY 340. Teaching of Psychology (3). Prerequisites, completion of course in which teaching or assisting is to be done and approval of department chair. May be taken twice for credit. Grade will be S or U.

PSY 346. Social Psychology (4). Recommended prerequisite, PSY 101. Social influences on individual behavior.

PSY 350. Sleep and Dreaming (3). Prerequisite, PSY 101 with PSY 300 recommended. Research and theory concerning the functions and dysfunctions of sleep and dreaming. Theories of dream interpretation and control.

PSY 362. Introductory Statistics (4). Prerequisite, MATH 130.1 or equivalent course in mathematics. Descriptive statistics and introduction to inferential statistics.

PSY 363. Intermediate Statistics (4). Prerequisite, PSY 362. Analysis of variance and selected non-parametric inferential techniques.

PSY 373. Psychology of Thought and Language (4). Prerequisite, PSY 301, PSY 362 recommended. Symbolic processes, concept formation, problem solving, language development.

PSY 396. Individual Study (1-6). Prerequisite, permission of the instructor. May not be repeated, except by honor students.

PSY 398. Special Topics (1-6).

PSY 401. Psychology of Sport (4). Prerequisite PSY 101. Current theory and research on sports psychology; application of psychological interventions in sports and fitness.

PSY 404. Psychology of the Gifted (3). Psychological factors related to the intellectual and emotional development and adjustment of gifted individuals.

PSY 438. Assessment and Treatment of the Alcoholic and Family (3).

PSY 444. Tests and Measurements (4). Prerequisite, PSY 315 or 362. Psychological and educational tests, theory and practice.

PSY 445. Clinical, Counseling and Community Psychology (5). Prerequisite, PSY 101, PSY 449 recommended. History, current trends, fields of employment, professional ethics, methods of psychological diagnosis and treatment.

PSY 446. Experimental Personality and Social Psychology (4). Prerequisites, PSY 346 and 363. Research methods, theories, and review of selected topics.

PSY 447. Psychology of Adolescence (3). Prerequisite, PSY 101 with PSY 314 recommended. Physiological, cognitive, and social aspects of maturation; problems of vocational choice and of increasing autonomy.

PSY 448. Sexual Behavior (4). Prerequisite, PSY 101. The scientific study of the learned and innate bases of sexual behavior in humans and lower animals.

PSY 449. Abnormal Psychology (4). Prerequisites, PSY 101 and four additional credits in psychology. Symptoms, etiology and treatment of psychopathology and behavior problems.

PSY 450. Perception (4). Prerequisite, PSY 300 with ZOOL 270 recommended. Research, theoretical models of perceptual processes.

PSY 452. Adult Development and Aging (4). Prerequisite, PSY 313 or 314 recommended. Principles of adult psychological development and the aging process. Examination of adult behavior, life styles, crises in adult development, and cognitive, personality, and intellectual changes with aging.

PSY 453. Theories of Personality (5). Prerequisites, PSY 101 and four additional credits in psychology or permission of instructor.

PSY 454. The Helping Interview (3). Recommended prerequisite, PSY 302. Theory and practice of supportive interviewing skills.

PSY 455. Behavioral Medicine and Health Psychology (4). Prerequisite, PSY 449 recommended. The application of psychology to the understanding of illness, its prevention and treatment.

PSY 456. Industrial and Organizational Psychology (4). Prerequisite, PSY 362 or permission of instructor. Application of psychological principles to personnel and organizational problems in labor, industry, government, education, and the military.

PSY 457. Psychology of Exceptional Children (3). Prerequisite, PSY 301 or PSY 314 or permission of instructor.

PSY 461. History and Systems of Psychology (5). Prerequisite, PSY 300.

PSY 462. Computer Methods for Social Science (4). Prerequisite, at least one course in statistics. Assumes no prior computer experience. How to produce descriptive and inferential statistics and simple graphs using Minitab and SPSS-X. Same as CPSC 462. Student may not receive credit for both.

PSY 463. Parapsychology (3). Prerequisites, PSY 300 or equivalent, recommended PSY 362 or equivalent. Review of theory and research in parapsychology.

PSY 464. Emotional Growth of Children (3). Prerequisite, PSY 313, or 314 or permission of instructor. Emotional development from infancy through adolescence; characteristics and assessment of stages of emotional growth.

PSY 465. Psychology and the Law (3). How the discipline of psychology contributes to our understanding of matters related to the law.

PSY 467. Maladjusted Children (3). Prerequisites, PSY 313 or 314 or permission of instructor. Discovery and treatment of the severely maladjusted child; the home, school, and community in relation to the child's mental health; relevant resources and research.

PSY 469. Adlerian Approach to Changing Behavior (4). Examines methods and techniques of changing undesirable behavior.

PSY 475. Instrumentation of Psychology (2). Prerequisite, PSY 301. Design, construction and calibration of apparatus.

PSY 476. Drugs (4). Common drugs, psychotherapeutic agents and hallucinogens. Behavioral effects and physiological mechanisms.

PSY 478. Physiological Psychology (3). Prerequisite, ZOOL 270 or permission of instructor. Problems, methods and techniques of neurophysiology and the physiology of human and infrahuman behavior patterns.

PSY 478.1. Techniques in Physiological Psychology (2). Surgical techniques, ablation techniques, electrical stimulation of the brain, and various methods used in recording responses. One lecture, one two-hour laboratory per week. Must be taken concurrently with PSY 478.

PSY 479. Biofeedback: Principles and Practice (3). Prerequisite, PSY 300. Study of biological response systems, relaxation techniques and procedures for clinical practice.

PSY 483. Psychology of Women (3). Prerequisite, PSY 101 or permission of instructor. The psychology of women from a social psychological perspective, which examines gender and situation and male-female interaction.

PSY 484. Violence and Aggression (3). Prerequisite, PSY 101 with PSY 346 recommended. Violence and aggression directed toward self, others, and society. Problems of prevention and treatment, related ethical and legal issues.

PSY 487. Group Processes and Leadership (3). Human relations in group situations. Grade will be S or U. Same as ED 487. Student may not receive credit for both.

PSY 488. Group Dynamics and the Individual (3). Prerequisite, PSY/ED 487 or permission of instructor. A human interaction laboratory to facilitate the development of self-insight, understanding of the basis of interpersonal operators in groups and the acquisition of skills in diagnosing individual, group, and organized behavior. Grade will be S or U. Same as ED 488. Student may not receive credit for both.

PSY 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

PSY 491. Workshop (1-6).

PSY 495. Directed Research (1-5). Prerequisite, Psy 295, 300, 362 or equivalent and permission of department chair. May be repeated. Not more than 10 hours of PSY 295 and PSY 495 combined may be applied to a psychology major. Grade will be S or U.

PSY 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated by honors students only.

PSY 497. Undergraduate Honors Thesis (4-6). By invitation of department chair. Research supervised by three-member committee of the department of psychology.

PSY 498. Special Topic (1-5). Prerequisite, permission of instructor. Student- and faculty-initiated courses. Topics published in quarterly class schedule. May be repeated.

PSY 499. Seminar (1-5). May be repeated.

The following courses are on reserve and may be offered subject to program needs: PSY 355 Environmental Psychology (4); PSY 477 Neurological Basis of Behavior (4).

RELIGIOUS STUDIES PROGRAM (see page 182.)

SAFETY EDUCATION PROGRAM

Coordinator:

Ron Hales

Central Safety Center, Black 212

Professors:

Ron Hales, Safety Education

Bachelor of Science

Loss Control Management

The interdisciplinary loss control management (formerly occupational safety and health) major is a program to help prepare students as loss control managers in business, industry, and in public and private agencies and organizations. The professional loss control manager plans, develops, implements and administers loss control systems in cooperation with others such as production and marketing managers within the organization, and other support services. A basic biological, physical, and social sciences background is necessary. CHEM 111 is prerequisite to CHEM 112. MATH 130.1 is prerequisite to PSY 362.

Courses

Credits

ADOM 304, Microcomputer Word Processing	2
ADOM 385, Business Communications and Report Writing	5
CHEM 112, 112.1, Introduction to Organic Chemistry	5
COM 345, Business and Professional Speaking	4
COM 365, Organizational Communication	4
ENG 310, Technical Writing	4
BUS 241, Legal Environment of Business	5
BUS 357, Risk and Insurance	5
MGT 381, Management of Human Resources	5
LAJ 360, Industrial Security	5
MGT 380, Organizational Management	5
PE 245, First Aid	3
PE 250, Anatomy	3
PSY 362, Descriptive Statistics	4
PSY 456, Personnel and Industrial Psychology	4
SED 180, Principles of Accident Prevention	3
LCM 383, Transportation Systems	3
LCM 386, Occupational Safety and Health	3
LCM 387, Accident Investigation	3
LCM 388, Loss Control Management	3
LCM 486, Industrial Operations	3
LCM 487, Occupational Environment Control	3
LCM 488, Risk Assessment	3
LCM 489, Emergency, Compensation and Consumer Systems	3
LCM 490, Cooperative Education	6
LCM 499, Seminar: Loss Control Management	1
IET 430, Methods of Teaching Industrial Education	3

Total 100

Students who can document 2,000 hours of acceptable occupational experience may substitute experience for LCM 490 with advisor approval. No credits applied. Fire safety administration, industrial safety, public safety or other concentration fields can be scheduled in the major.

Loss Control Management Minor

Courses

Credits

PE 245, First Aid.....	3
SED 180, Principles of Accident Prevention	3
LCM 383, Transportation Systems	3
LCM 386, Occupational Safety and Health	3
LCM 387, Accident Investigation	3
LCM 388, Loss Control Management	3
LCM 486 OR 487 OR 488 OR 489	3

Total 21

Safety Education Minor

Students desiring endorsement for teaching traffic safety education in the public schools are required to take SED 180, 382, 482 and one other course listed in the minor. For the most comprehensive background with the best opportunity for employment the student should plan on taking all courses as listed in the minor.

School of Professional Studies

Courses	Credits
*SED 180, Principles of Accident Prevention	3
*SED 382, Driver Task Analysis	3
LCM 383, Transportation Systems	3
SED 480, Teaching Safety Education: K-12	3
SED 481, Teaching Traffic Safety Education: Classroom and Simulation	3
*SED 482, Teaching Traffic Safety Education: In Car	3
SED 484, Safety Program Supervision	3
Total	21

*Required for state endorsement, plus one additional course approved by the safety education advisor.

Loss Control Management Courses

LCM 383. Transportation Systems (3). SED 180 recommended prior to enrollment. Transportation systems loss control management.

LCM 386. Occupational Safety and Health (3). SED 180 recommended prior to enrollment. Occupational safety and health legislation, hazard control management for school and industry personnel. Meets state requirements for vocational teacher safety certification.

LCM 387. Accident Investigation (3). SED 180 recommended prior to enrollment. Application of the accident investigation process to loss control management. Meets state requirements for vocational teacher safety certification.

LCM 388. Loss Control Management (3). SED 180 recommended prior to enrollment. Systems concepts applied to the management of loss control programs. Meets state requirements for vocational teacher safety certification.

LCM 486. Industrial Operations (3). Prerequisite, LCM 386. Concepts of industrial loss control and an overview of industrial processes.

LCM 487. Occupational Environment Control (3). Prerequisite, LCM 386. An overview of the reasons for, benefits of, and activities related to occupational environment control programming and industrial hygiene practice.

LCM 488. Risk Assessment (3). Measurement procedures to monitor and audit organizational loss control programs. Procedures to determine incident rates and trends as a basis to determine risks and implementing loss control measures. Inspection and instrumentation practice.

LCM 489. Emergency, Compensation and Consumer Systems (3). Prerequisite, LCM 386. A survey of emergency services, worker's compensation and consumer protection systems.

LCM 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

LCM 491. Workshop (1-6).

LCM 496. Individual Study (1-6). Prerequisite, permission of instructor.

LCM 498. Special Topics (1-6).

LCM 499. Seminar (1-5). May be repeated.

Safety Education Courses

SED 180. Principles of Accident Prevention (3). The underlying principles and theories of accident causation and prevention. Impact of accident on society today, psychological factors related to accidents, legal requirements, accident prevention in business and industry, the schools and community.

SED 298. Special Topics (1-6).

SED 382. Driver Task Analysis (3). Prerequisite, SED 180. Introduction to traffic safety education, the highway transportation system, driver task analysis, classroom instruction techniques.

SED 398. Special Topics (1-6).

SED 480. Teaching Safety Education: K-12 (3). Concepts, methods, techniques and instructional materials of safety education integrated into the school curriculum, kindergarten through high school, including student and teacher rights and responsibilities.

SED 481. Teaching Traffic Safety Education: Classroom and Simulation Instruction (3). Prerequisite, SED 382 or permission of instructor. Methods, materials and techniques for teaching classroom and simulation. Experience in teaching beginning drivers.

SED 482. Teaching Traffic Safety Education: In Car (3). Prerequisite, SED 382 or permission of instructor. Methods, materials and techniques for teaching in dual-control vehicles. Experience teaching beginning drivers.

SED 484. Safety Program Supervision (3). Prerequisite, SED 382 or permission of instructor. Development and management of a total school safety program.

SED 491. Workshop (1-6).

SED 496. Individual Study (1-6). Prerequisite, permission of instructor.

SED 498. Special Topics (1-6).

SED 499. Seminar (1-5). May be repeated.

SCIENCE EDUCATION

Program Director:
Donald G. Dietrich
 Dean 127A

Professors:
 Ronald J. Boles, Biology and Science Education
 Robert H. Brown, Biology and Science Education
 Donald G. Dietrich, Chemistry and Science Education

Students seeking endorsement for certification to teach a specialized science at the high school level must satisfactorily complete the teaching major within the specific science department. Students desiring to become middle or junior high school specialized teachers of science must obtain a teaching major in one or more of the following areas: biology, chemistry, earth sciences or physics. All students are advised to work toward a second major for certification.

All students enrolled in science majors leading to certification are required to have an approved schedule on file in the science education office as early as possible and before endorsement for student teaching.

Bachelor of Science Science-Mathematics Major

This major is open only to students seeking certification as elementary teachers. The major does not lead to certification as a specialized science teacher. May not be used for 30-credit area in a three-area program (30-20-20).

Students electing this major must have an approved schedule on file in the science education office in order to be endorsed for student teaching.

Credits

MATH 164.1 Foundation of Arithmetic, MATH 250, Intuitive Geometry and MATH 425, Problem Solving.....	12
BISC 211, 212, and 213, Concepts in Life Science I, II, and III	10
CHEM 105, Processes in Physical Science, (Chemistry).....	5
PHYS 105, Processes in Physical Science, (Physics).....	5
GEOL 145, Physical Geology and GEOL 145.1, Physical Geology Laboratory.....	5
SCED 322, Science Education in the Elementary School (If used in Professional Subjects minor, substitute science elective.)	3
Electives by advisement of Science Education staff	5

Total 45

Science Minor - Elementary

This minor may be used only by students seeking certification as elementary teachers. Does not lead to endorsement as a specialized science teacher.

Credits

A Biological Science with Laboratory	4
CHEM 105 or PHYS 105, Processes in Physical Science.....	5

GEOL 145, Physical Geology and GEOL 145.1, Physical Geology Laboratory OR GEOL 345, Principles of Geology	5
SCED 322, Science Education in Elementary School	3
Electives by advisement from Biology, Chemistry, Geology or Physics.....	3-5

Total 20-22

Math - Science Minor

This minor may be used only by students seeking certification as elementary teachers. Does not lead to endorsement as a specialized science teacher.

Credits

MATH 164.1, Foundation of Arithmetic I.....	5
MATH 250, Intuitive Geometry (4 cr.) OR MATH 425, Problem Solving (3 cr.).....	3-4
CHEM 105 or PHYS 105, Processes in Physical Science.....	5
BISC 212 or 213, Concepts in Life Science	4
Electives by advisement from Science Education, Science, or Mathematics	4-5

Total 22

Courses

SCED 322. Science Education in the Elementary School (3). Techniques, selection of materials and appropriate subject matter for the various grade levels. Demonstrations and student investigative activities for use in classroom science teaching.

SCED 324. Science Education in the Secondary Schools (5). Techniques and materials appropriate for teaching science at the secondary level. Demonstration and experiments for use in teaching.

SCED 398. Special Topics (1-6).

SCED 420. Inquiry Activities for Elementary School Science (3). Prerequisite, SCED 322. An inquiry-based course which approaches science teaching from the standpoint of the processes of science and their utilization.

SCED 422. Advanced Teaching Strategies in Elementary Science (3). Prerequisite, SCED 322 or permission of instructor. This course is designed to give students experience and training in the preparation of unique materials and teaching strategies in the area of science, as well as perfect techniques already possessed by the teacher.

SCED 442. Development of Special Materials (2) FWSp. Prerequisite, permission of instructor.

SCED 491. Workshop (1-6).

SCED 496. Individual Study (1-6). Prerequisite, permission of instructor.

SCED 498. Special Topics (1-6).

The following program is on reserve and may be offered subject to program needs: broad area science major.

SOCIAL SCIENCE

Program Coordinator:
Lawrence L. Lowther
Language and Literature Building 100M

Social science programs are designed to provide students with a study of human society which is interdisciplinary in nature. Major and minor areas of study are carefully constructed from the disciplines of anthropology, economics, geography, history, political science, psychology, and sociology. Professional methodology courses in the teaching of the social sciences are offered for those students preparing to teach.

Social science credits obtained in international programs may be used in major or minor programs either as elective credits or as substitutions for required courses. In either case, however, consent for such application must be obtained in writing from both the academic department concerned and the social science program coordinator or designee prior to the experience being obtained.

The program coordinator will assist students with individual problems. Students are encouraged to seek advice from the coordinator when designing programs of study. Any deviation from program requirement as listed in the catalog requires approval of the program coordinator and the dean of the college of letters, arts and sciences.

Internship and contracted field experiences are available through various social science departments. For further information, see the appropriate social science chair.

Bachelor of Arts Major

	Credits
ANTH 107, General Anthropology, OR	
PSY 101, General Psychology, OR	
SOC 107, Principles of Sociology	5
SOC 101, Social Problems OR	
SOC 450, Social Theory II	5
ECON 101, Economic Issues OR	
ECON 201, Principles of Economics Micro OR	
ECON 202, Principles of Economics Macro	5
POSC 210, American Government	5
POSC 370, International Politics	5
HIST 348, Economic History of the United States OR	
HIST 388, Economic History of Europe since 1760	5
Upper division electives chosen from Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology	15-30
Total	45-60

Teaching Major - Elementary

Designed for elementary school teachers. May not be used for 30-credit area in a three area program (30-20-20).

	Credits
HIST 143, 144, United States History	10
HIST 101, 102, 103, (Select two courses), World Civilization*	10
GEOG 101, Man's Changing Earth, OR	
GEOG 107, Introduction to Physical Geography, OR	
GEOG 308, Cultural Geography	5
SOC 107, Principles of Sociology	5
ANTH 107, General Anthropology	5
GEOG 205, Economic Geography	5
HIST 301, Pacific Northwest History	3
GEOG 350, Resources, Population and Conservation	4
ECON 101, Economic Issues, OR	
ECON 201, Principles of Economics Micro, OR	
ECON 202, Principles of Economics Macro	5
POSC 210, American Government	5
SOSC 420, Methods and Materials in the Social Sciences - Elementary	3 4
Total	60

*Western Civilization may be substituted.

Teaching Major - Junior High/Middle School

Designed for junior high school (middle schools) social science teaching. Transfer students must take at least 10 hours of work in social science at CWU prior to application for endorsement for student teaching.

	Credits
HIST 143, 144, United States History	10
HIST 101, 102, 103 (Select two courses), World Civilization* ..	10
SOC 107, Principles of Sociology	5
ANTH 107, General Anthropology	5
POSC 210, American Government	5
ECON 101, Economic Issues, OR	
ECON 201, Principles of Economics Micro, OR	
ECON 202, Principles of Economics Macro	5
GEOG 205, Economic Geography	5
HIST 301, Pacific Northwest History	3
GEOG 352, Geography of Anglo America, OR	
GEOG 371, Geography of Europe, OR	
GEOG 475, Geography of Asia	5
HIST 348, Economic History of the United States OR	
HIST 388, Economic History of Europe Since 1760	5
HIST 421, Methods and Materials in History - Secondary OR	
SOSC 421, Methods and Materials in the Social Sciences - Secondary	3 3
Electives in Upper Division courses in at least two of the above areas	15
Total	75

*Western Civilization may be substituted.

Courses

- SOSC 298. Special Topics (1-6).
- SOSC 399. Seminar (1-5).

← SOSC 420. Methods and Materials in the Social Sciences - Elementary (3).

← SOSC 421. Methods and Materials in the Social Sciences - Secondary (2). Prior completion of ED 311 recommended.

SOSC 491. Workshop (1-6).

SOSC 496. Individual Study (1-6).

SOSC 498. Special Topics (1-6).

SOSC 499. Seminar (1-5).

SOCIOLOGY

Chair:

David Kaufman
Farrell Hall 409

Professors:

Laura L. Appleton, Sex Roles, Social Movements, Theory
Donald L. Garrity, Criminology
Charles H. Hawkins, Families, Demography, Aging
David E. Kaufman, Sociology of Education, The Media, Community and Urban Life
Charles L. McGehee, Theory, Child Abuse, Crime and Delinquency
Virgil J. Olson, Criminology and Deviance
Frank Q. Sessions, Social Ecology, Leisure, Sociology of Education

Associate Professors:

William L. Benson, Sociology of Organizations, Medical Sociology, Theory
John R. Dugan, Statistics, Methodology, Social Psychology
Russell W. Hansen, Criminology, Social Stratification, Sociology of Law

Through its curriculum, the department of sociology provides opportunities for students to understand the major conceptual and methodological tools used by sociologists and others to understand society. Students will be encouraged to: 1) see society as a concrete, day-to-day behavior of human beings; 2) grasp the relationship between history, society and the individual's own life; 3) realize that social patterns are tools for the accomplishment of human ends and are not necessarily unalterable facts of life; and 4) develop the ability to observe critically and analyze social phenomena.

In providing these intellectual skills, the sociology program is relevant to a wide variety of academic and occupational pursuits and is concerned with developing skills of analytic thought and practice in areas including the social services profession, labor and business organization, personnel work, government program administration and graduate study.

Students who major in sociology are required to register with the department, at which time an advisor will be selected. In order to develop a program of study, students are required to meet once a year with their advisor. Further information on specific courses, the faculty and career opportunities is available in the department office.

Bachelor of Arts Major - General

The B.A. degree in sociology is for those students who wish to develop a liberal arts program with sociology as the primary field of study. Students selecting Plan II must complete a minor or a second major.

Plan I

SOC 107, Principles of Sociology	5
SOC 350, Social Theory I	5

One listed class from each of the following categories:

Social Control

SOC 344, Juvenile Delinquency	5
SOC 345, Deviance	5
SOC 346, Criminology	5
SOC 349, Law and Society	5

Social Structure

SOC 326, Population	5
SOC 380, Social Ecology	5
SOC 445, Social Inequality	5
SOC 459, Organizations	5
SOC 460, Community Structure and Organization ..	4

Social Institutions

SOC 330, Sociology of Leisure	5
SOC 338, Political Sociology	3
SOC 351, Sociology of Work	5
SOC 357, Sociology of Families	5
SOC 367, Sociology of Religion	5
SOC 425, Sociology of Education	5

Social Process

SOC 307, Individual and Society	5
SOC 320, Death and Dying	5
SOC 325, Aging	3-5
SOC 340, Social Interaction	5
SOC 356, Sex Roles in Society	5
SOC 362, Social Movements	5
SOC 369, Mass Media and Society	3

Total 15-20

*Electives in sociology approved by advisor30-35

Total 60

*A maximum of 5 credits of SOC 490, Cooperative Education and 10 credits of elective lower-division coursework may be counted toward the major.

Plan II

Credits

SOC 107, Principles of Sociology	5
--	---

One listed class from each of the following categories:

Social Control

SOC 344, Juvenile Delinquency5
 SOC 345, Deviance5
 SOC 346, Criminology5
 SOC 349, Law and Society5

Social Structure

SOC 326, Population5
 SOC 380, Social Ecology5
 SOC 445, Social Inequality5
 SOC 459, Organizations5
 SOC 460, Community Structure and Organization ..4

Social Institutions

SOC 330, Sociology of Leisure5
 SOC 338, Political Sociology3
 SOC 351, Sociology of Work5
 SOC 357, Sociology of Families5
 SOC 367, Sociology of Religion5
 SOC 425, Sociology of Education5

Social Process

SOC 307, Individual and Society5
 SOC 320, Death and Dying5
 SOC 325, Aging3-5
 SOC 340, Social Interaction5
 SOC 356, Sex Roles in Society5
 SOC 362, Social Movements5
 SOC 369, Mass Media and Society3

Total 15-20

*Electives in sociology approved by advisor20-25

Total 45

*SOC 490, Cooperative Education, does not count toward the major. A maximum of 5 credits of elective lower-division course work may be counted toward the major.

Teaching Major

Credits

SOC 101, Social Problems5
 SOC 107, Principles of Sociology5
 SOC 350, Social Theory I5
 *SOC 364, Data Analysis in Sociology5
 SOC 425, Sociology of Education5
 SOC 465, Methods of Social Research5
 SOC 465.1, Methods of Social Research Laboratory1

One listed class from each of the following categories:

Social Control

SOC 344, Juvenile Delinquency5
 SOC 345, Deviance5
 SOC 346, Criminology5
 SOC 349, Law and Society5

Social Structure

SOC 326, Population5
 SOC 380, Social Ecology5

SOC 445, Social Inequality5
 SOC 459, Organizations5
 SOC 460, Community Structure and Organization4

Social Institutions

SOC 330, Sociology of Leisure5
 SOC 338, Political Sociology3
 SOC 351, Sociology of Work5
 SOC 357, Sociology of Families5
 SOC 367, Sociology of Religion5

Social Process

SOC 307, Individual and Society5
 SOC 320, Death and Dying5
 SOC 325, Aging3-5
 SOC 340, Social Interaction5
 SOC 356, Sex Roles in Society5
 SOC 362, Social Movements5
 SOC 369, Mass Media and Society3

Total 15-20

**Upper-division electives in sociology approved by advisor9-15

Total 60

*MATH 130.1 or an equivalent course is a prerequisite for SOC 364. ED 312 may substitute for SOC 364, with the provision that the prerequisite of MATH 130.1 or an equivalent course is still required.

**SOC 490, Cooperative Education, does not count toward the major.

To qualify for secondary teaching, students need to enroll for an additional 26 credits as follows: a minimum of 24 credits chosen from history, geography, economics, and political science with at least some credits in three of the four areas; and SOSC 421, Methods and Materials in Social Science (2).

Bachelor of Science Major

This program is suggested for students preparing for graduate study.

Credits

SOC 107, Principles of Sociology5
 SOC 350, Social Theory I5
 *SOC 364, Data Analysis in Sociology, or equivalent5
 SOC 450, Social Theory II5
 SOC 465, Methods of Social Research5
 SOC 465.1, Methods of Social Research Laboratory1
 SOC 493, Sociological Research5

Total 31

One listed class from each of the following categories:

College of Letters, Arts and Sciences

Social Control

SOC 344, Juvenile Delinquency5
 SOC 345, Deviance5
 SOC 346, Criminology5
 SOC 349, Law and Society5

Social Structure

SOC 326, Population5
 SOC 380, Social Ecology5
 SOC 445, Social Inequality5
 SOC 459, Organizations5
 SOC 460, Community Structure and Organization4

Social Institutions

SOC 330, Sociology of Leisure5
 SOC 338, Political Sociology3
 SOC 351, Sociology of Work5
 SOC 357, Sociology of Families5
 SOC 367, Sociology of Religion5
 SOC 425, Sociology of Education5

Social Process

SOC 307, Individual and Society5
 SOC 320, Death and Dying5
 SOC 325, Aging3-5
 SOC 340, Social Interaction5
 SOC 356, Sex Roles in Society5
 SOC 362, Social Movements5
 SOC 369, Mass Media and Society3

Total 15-20

**Electives in sociology approved by advisor24-29

Total 75

*MATH 130.1 or an equivalent course is a prerequisite for SOC 364. ED 312 may substitute for SOC 364, with the provision that the prerequisite of MATH 130.1 or an equivalent course is still required.

**SOC 490, Cooperative Education, does not count toward the major. A maximum of 5 credits of elective lower-division coursework may be counted toward the major. PSY 363, Inferential Statistics, is an approved elective.

Social Services Major

This major which leads to a B.S. degree is for students interested in careers which meet human needs through organized social services. It is suggested that the student develop a specialty area, such as families, children and youth services, aging, or public assistance, from among the elective credits. Interested students should contact the sociology department early for assignment to an advisor.

Credits

SOC 201, Introduction to Social Services5
 SOC 310, Social Casework3
 HIST 345, History of Social Service in the U.S3
 SOC 350, Social Theory I5

*SOC 364, Data Analysis in Sociology5
 SOC 411, Comparative Social Service Systems3
 **SOC 445, Social Inequality5
 PSY 454, The Helping Interview3
 SOC 465, Methods of Social Research5
 SOC 465.1, Methods of Social Research Laboratory1
 **SOC 490, Cooperative Education5
Total 43

Upper division electives in sociology approved by advisor32
Total 75

*MATH 130.1 or an equivalent course is a prerequisite for SOC 364. ED 312 may substitute for SOC 364, with the provision that the prerequisite of MATH 130.1 or an equivalent course is still required.

**SOC 107 is prerequisite for SOC 350 and 445.

***Additional credits in SOC 490 may count toward graduation.

Minor

SOC 107, Principles of Sociology5
 *Selected electives in Sociology20
Total 25

*SOC 490, Cooperative Education, does not count toward the minor. A maximum of 5 credits of elective lower-division coursework may be counted toward the minor.

Teaching Minor

Qualifies for an additional teaching endorsement.

Required	Credits
SOC 107, Principles of Sociology	5
SOC 340, Social Interaction	5
SOC 350, Social Theory I	5
SOC 425, Sociology of Education	5
Total 20	

One listed class from each of the following categories3-5

Social Institutions

SOC 338, Political Sociology3
 SOC 351, Sociology of Work5
 SOC 357, Sociology of Families5
 SOC 367, Sociology of Religion5

Social Process

SOC 320, Death and Dying5
 SOC 325, Aging3-5
 SOC 356, Sex Roles in Society5
 SOC 362, Social Movements5

Social Control

SOC 344, Juvenile Delinquency	5
SOC 345, Deviance	5
SOC 346, Criminology	5
SOC 349, Law and Society	5
Total	11-15

Total 31-35

Social Services Minor

SOC 201, Introduction to the Social Services	5
SOC 310, Social Casework	3
SOC 411, Comparative Social Service Systems	3
PSY 454, The Helping Interview	3
*Electives in Sociology approved by advisor	16
Total	30

*SOC 490, Cooperative Education, does not count toward the minor. A maximum of 5 credits of elective lower-division coursework may be counted toward the minor.

Honors in Sociology

1. The sociology department's honors program is designed for students who wish to explore a particular research problem in depth.
2. The program is open to sociology majors who have completed 20 credit hours in sociology and have achieved a junior standing.
3. The student: (a) selects an honors advisor and designs a research project in consultation with him/her; (b) writes a letter of application to the chair of the department; and, (c) if accepted, completes a research paper that is approved and supervised by his/her honors advisor and a second member of the department.
4. Credit for this paper may be obtained through Sociology 497.

Courses

SOC 101. Social Problems (5). An introduction to the study of contemporary issues such as poverty, military policies, families, crime aging, racial and ethnic conflict, and the environment.

SOC 107. Principles of Sociology (5). An introduction to the basic concepts and theories of sociology with an emphasis on the group aspects of human behavior.

SOC 201. Introduction to the Social Services (5). Introduction to the fields of social welfare, health services and corrections; organization and function of agencies.

SOC 205. American Society (5). Introduction to the social structure and processes of American society; emphasis on institutions such as government, family, schools, and religion, and processes such as conflict, change, stratification, mobility, and communication.

SOC 210. Culture of Poverty (5). The culture associated with poverty in contemporary U.S., and its place in the wider society.

SOC 248. Marriage and Families (5). Marriage as a social institution, courtship and family interaction. May not be used for breadth if HOPS/PSY 235 has been taken.

SOC 265. Minority Groups (5). Racial, religious, ethnic, and other minority groups as subcultural solutions to human problems.

SOC 291. Workshop (1-6).

SOC 296. Individual Study (1-6). Prerequisite, permission of instructor.

SOC 299. Seminar (1-5). Prerequisite, permission of instructor.

SOC 307. Individual and Society (5). An analysis of the relationship between social structure and the individual.

SOC 310. Social Casework (3). Prerequisite, SOC 201 or permission of instructor. Casework interviewing techniques and skills, traditional and contemporary methods, emphasis upon developing a personal casework style.

SOC 320. Death and Dying (5). An analysis of social attitudes, practices, and institutions associated with death and dying in American society.

SOC 325. Aging (3-5). Problems and advantages of growing old in society; post-parental families, retirement, the economics of pensions, importance of interaction in old age, residential facilities, geriatric medicine, and dying.

SOC 326. Population (5). Demographic analysis, fertility and the birth control movement, mortality and life expectancy, and migration.

SOC 327. Sociology of Health (5). The social causes of disease and illness behavior, organization of medical care and comparative health systems.

SOC 330. Sociology of Leisure (5). The emergence of leisure as a major social institution and its impact on society, culture and personality.

SOC 331. Sociology of Sport (3). Sports and games as social phenomena.

SOC 333. Genealogy (1). Kin names, pedigrees, family trees, and ancestral histories. Research with records, family documents, and interviews.

SOC 338. Political Sociology (3). Major theories of power in society. Analysis of the political/economic structure of society as it determines the differential access to social power by different social groups.

SOC 340. Social Interaction (5). Face-to-face contact, communication and social psychological features of groups.

SOC 343. Child Abuse (3). An analysis of the causes, consequences of and prospects for dealing with the phenomena of child abuse and neglect in American society.

SOC 344. Juvenile Delinquency (5). Prerequisite, SOC 107. A study of social factors causing delinquency in youth; major theories, analysis of treatment and control.

SOC 345. Deviance (5). A survey of approaches to the field of deviance with emphasis on contemporary work and focus on the problematics of the field.

SOC 346. Criminology (5). A study of the adult criminal, criminal behavior, and criminality in human societies.

SOC 347. Industrial Sociology (3). An analysis of the social relations within industrial organizations; the relationship between industrial organizations, and institutions and processes in the broader society.

SOC 349. Law and Society (5). Prerequisite, SOC 107. Origin, maintenance and change of legal structures and processes in society with particular emphasis on legal institutions in American society.

SOC 350. Social Theory I (5). Prerequisite, SOC 107 or permission of instructor. An introduction to social theory through study of early social thinkers, emphasizing the works of Durkheim, Marx, and Weber.

SOC 351. Sociology of Work (5). An historical view of the impact of technology on society and social change. Importance of work as an institution. How work relates to the other social institutions, to culture, and to the development of personality.

SOC 352. Punishment and Corrections (5). Origin, maintenance, structure and function of institutions of punishment and correction with particular emphasis on American society; problems of change in punishment and corrections.

SOC 355. Culture and Personality (4). A cross-cultural analysis of personality as a function of cultural organization and transmission. Same as ANTH 355. Students may not receive credit for both.

SOC 356. Sex Roles in Society (5). A review and analysis of the development, maintenance, and consequences of masculine and feminine social roles.

SOC 357. Sociology of Families (5). Theory and research about familial interaction and society.

SOC 362. Social Movements (5). Causes, organizational problems, and consequences of revolutions, and political, religious and social movements.

SOC 364. Data Analysis in Sociology (5). Prerequisite, MATH 130.1 or equivalent.

SOC 367. Sociology of Religion (5). The social organization of religious experience in small and large societies and the relationship of religious beliefs to human life.

SOC 369. Mass Media and Society (3) FSp. Relationship of the mass media to social institutions; including philosophy, responsibilities, regulations and criticism. Same as COM 369, students may not receive credit for both.

SOC 380. Social Ecology (5). The structure and development of human communities as they interact with environment conditions.

SOC 388. Women in Management (3). An examination of the ways in which American sex roles, together with corporate cultural practices and organization structures, affect women's attainment of and performance in managerial roles within business, educational, and professional organizations. Same as MGT 388. Formerly SOC/MGT 368. Student may receive credit for one course only.

SOC 390. Field Experience in Sociology (1-15). Prerequisite, SOC 465 and permission of instructor. Supervised field experience at a location to be selected by the instructor and the students. The instructor will accompany students into the field, help in the selection of a project, and assist in evaluation of student work.

SOC 398. Special Topics (1-6).

SOC 411. Comparative Social Service Systems (3). Prerequisite, SOC 201 and SOC 350 or permission of instructor. A cross-culture comparison of social service programs and policies in various countries. Students may not receive credit for both SOC 311 and SOC 411.

SOC 415. Urban Society (4). Prerequisite, SOC 107 and 10 credits of 300 level sociology, or permission of the instructor. Growth, structure, and functions of the city; their relationships to surrounding and rural areas, urban ecological patterns, planning, and the problems of urban living.

SOC 425. Sociology of Education (5). Impact of culture on schools. Examination of contemporary social trends and relationships among church, school and government; contributions of sociology to the area of education in its broadest sense.

SOC 445. Social Inequality (5). Prerequisite, SOC 107. The distribution of wealth, power and prestige in society.

SOC 450. Social Theory II (5). Prerequisite, SOC 350. Study of selected modern social theories, including structural functionalism, conflict theory, exchange theory, symbolic interactionism, ethnomethodology and the dramaturgical school.

SOC 459. Organizations (5). Theory and research on the structure and development of organizations.

SOC 460. Community Structure and Organization (4). Prerequisite, SOC 107 and 10 credits of 300 level sociology work. Community formation from inner city to rural hamlet. Changes in community institutions and organizational life related to industrialization, politics, social stratification and ethnicity. Students will conduct field research on specific community functions and social structures.

SOC 465. Methods of Social Research (5). Principles and applications of social research methods.

SOC 465.1. Methods of Social Research Laboratory (1). Prerequisites, SOC 364 or equivalent and PSY 462 or equivalent. SOC 465.1 must be taken concurrently with SOC 465.

SOC 470. Contemporary Social Thought (4). Prerequisite, SOC 450 or permission of instructor. Prospects for sociology theory.

SOC 490. Cooperative Education (1-15). An individualized contracted field experience with business, industry, government, or social service agencies. This contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated. Grade will be S or U.

SOC 491. Workshop (1-6).

SOC 493. Sociological Research (1-15). Prerequisites, SOC 350, 364, 465 and permission of instructor. Individual research project. This course may be repeated up to a maximum of 15 credits.

SOC 496. Individual Study (1-6). Prerequisite, 10 hours or more in sociology.

SOC 497. Honors Thesis (1-5). Prerequisite, admittance to Honors Program. May be repeated up to a total of 5 credits.

SOC 498. Special Topics (1-6).

SOC 499. Seminar (1-5).

The following courses are on reserve and may be offered subject to program needs. SOC 207, Sociology of Attitudes (5); SOC 303, Sociology of Disaster (3); SOC 370, Social Change (5); SOC 271, Sociological Analysis (5); SOC 375, Sociology of Conflict (5); SOC 385, Comparative Sociology (5); SOC 455, Collective Behavior (5); SOC 466, Social Service Program Evaluation (3); SOC 475, Communication and Human Relations (5); SOC 481, Philosophy of the Social Sciences (5).

WOMEN STUDIES

For information contact Ann Denman, College of Letters, Arts and Sciences, Hebel 201.

Women studies is an interdisciplinary program which provides a frame of reference for understanding the contemporary and historical experience, roles, and contributions of both women and men.

The objectives of women studies are:

1. To explore existing knowledge about women in a variety of disciplines.
2. To assess, critically, the traditional disciplines in the light of new data concerning women.
3. To provide an academic foundation for students planning careers in women studies or related fields.

4. To promote research about women within existing disciplines.

Women studies offers an interdisciplinary minor as described below. With approval of the director of women studies, the student will select appropriate electives to meet personal and professional goals.

With faculty advisement, interested students may construct individualized majors in women studies through the interdisciplinary major program.

Minor

Required

Credits

WS 201, Introduction to Women Studies3

Plus a minimum of three courses from the following list:

SOC 356, Sex Roles in Society (5)

PSY 483, Psychology of Women (3*)

HIST 346, Women in American History (5)

ENG 230, Women in Literature (4)

ANTH 356, Sex Roles in Cross-Cultural Perspective (4)

Total 11-14

*Prerequisite, PSY 101 (5)

Electives by advisement. Electives may include courses not selected as requirements from the list above. Possible electives are ENG 335, SOC/MGT 388, as well as special topics, individual study, and seminar courses in women studies and related departments8-11

Total 25

Courses

WS 201. Introduction to Women Studies (3). A survey of women studies from a multi-disciplinary perspective.

WS 491. Workshop (1-6).

WS 496. Individual Study (1-6). May be repeated.

WS 498. Special Topics (1-6).

WS 499. Seminar (1-5). May be repeated.

PRE-PROFESSIONAL PROGRAMS

These programs are planned for two groups of students - those who wish one or two years of college work prior to entering an occupation and those who wish to do preprofessional work for one, two, three or four years before entering a professional school, university or college.

The programs described are not to be considered unalterable. They represent patterns that generally agree with the requirements of many professional schools. Since there are many variations in the requirements of the professional schools, students should, after consulting the catalog of the institution from

which they expect to earn a degree, select courses required by that institution.

Pre-Dental Hygiene

Advisor: Dr. Sharon Schwindt
Department of Health Education
Physical Education Building 112
(509) 963-2481

Dental hygienists normally assist dentists in a variety of ways, particularly in cleaning teeth. In some states dental hygienists may open their own offices and conduct their practice without a supervising dentist. Generally, certification as a dental hygienist involves two years of study at a school that has a certification program. Central does not have a dental hygiene program but students may take some courses at Central which can be transferred. Consultation with the dental hygiene advisor is important.

Pre-Dentistry

Advisor: Dr. Walter Emken
Department of Chemistry
Dean Hall 317
(509) 963-2902

Dentistry requires a bachelors degree followed by four years (usually) of dental school. Undergraduate students should pursue a major in the sciences and consult frequently with the pre-dentistry advisor to ensure that they are meeting dental school requirements which vary somewhat. Students applying to dental school must have taken the Dental Aptitude Test which particularly tests knowledge of biology, chemistry and mathematics.

Pre-Dietetics

Advisor: Dr. Ethan Bergman RD, CD
Department of Home Economics—
Family and Consumer Studies
Michaelsen Hall 135
(509) 963-2366

A registered dietitian (RD) is an expert on foods and how they affect human health. An RD is registered by the American Dietetic Association (ADA) as an individual who has completed an approved four-year undergraduate program. The B.S. in food science and nutrition (nutrition and dietetics specialization) is an ADA-approved program. In addition, the individual must complete a 900+ hour approved training experience at one of approximately 100 dietetic internship sites or at one of over 70 approved pre-professional practice programs (AP4). Finally, individuals must then pass the registration examination to attain the RD designation. Please see the advisor for more information. Dietitians may work in hospitals, clinics, and nursing homes as clinical dietitians, for government and public health agencies as community dietitians, and in food service departments of hospitals, schools, nursing homes, and restaurants as management dietitians. In addition, dietitians also are employed as researchers, educators, and as consultants in a variety of settings.

Pre-Engineering

Advisor: Dr. Willard Sperry
Department of Physics
Lind Hall 205
(509) 963-2759

The course requirements in engineering vary considerably for different fields of engineering and for various colleges of engineering. The most important step a pre-engineering student can take is to consult the catalog of the particular college of engineering the student hopes to attend and then to plan a program at CWU to satisfy as many specific requirements of that college as possible. Students whose plans are not definite are advised to follow the typical two-year program outlined below. After completing the pre-engineering curriculum, students are generally required to study three additional years at a college of engineering to complete bachelor's degree requirements.

Students selecting this program must have completed high school chemistry as a prerequisite to CHEM 181. A full year of high school calculus, or a satisfactory score on the Math Placement Test Form PC, which is given by the department of mathematics, or MATH 163.2 are prerequisites to MATH 172.1.

The department of physics also offers a bachelor of science, physics major - Option II, in which the student receives degrees in physics and engineering. Consult the chair, department of physics for additional information about this program.

First Year

PHYS 211, 212, 213	15
MATH 172.1, 172.2, 272.1	15
IET 165	4

CPSC 177	4
ENG 101, 102	6
Electives	5

Total 49

Second Year

PHYS 251, 252	10
PHYS 314, 315, 316	9
MATH 265, 272.2, 376.1, 376.2	15
CHEM 181, 181.1, 182, 182.1	10
Electives	5

Total 49

Pre-Law

Advisor:
Professor Robert Jacobs
Department of Political Science
Psychology Building 481
(509) 963-2375

The attainment of a law degree ordinarily involves a seven-year program - the completion of an undergraduate degree (four years) followed by three years at law school. During the

School of Professional Studies

final undergraduate year, the student aspiring to pursue a career in law should plan to take the Law School Admission Test (LSAT) and make application to law schools.

Law schools do not require a particular major or courses as a condition for admission. About half of those admitted to law school have taken degrees in political science because that is the discipline which deals most directly with the institutions that make and enforce law. Other common undergraduate majors found in the law school population are law and justice, English, economics, and business. The pre-law student should seek a course of study which enhances his or her verbal comprehension and expression and which helps attain a critical understanding of the human institutions and values with which the law deals.

The political science department offers an advisory program designed to assist students in choosing and gaining admission to law schools. The pre-law student should carefully plan his or her program in close consultation with a pre-law advisor.

Pre-Medicine

Advisor: Dr. Sheldon Johnson
Department of Biological Sciences
Dean Hall 219
(509) 963-2800

This program prepares students for entering professional schools of medicine (M.D. or D.O.). In addition to the required science courses, a broad humanities and liberal arts background is encouraged. Although pre-medical students usually major in the sciences (85 percent), any arts and science major is acceptable. Regardless of their academic major, pre-medicine students must work closely with the pre-med advisor in order to insure their proper preparation for medical school. The university's pre-medicine program is supported by approximately 20 to 25 full tuition and books scholarships, which are based on academic excellence, not need.

Pre-Occupational Therapy

Advisor: Dr. David Darda
Department of Biological Sciences
Dean Hall 235
(509) 963-1333

The pre-occupational therapy program is a program through which a student can prepare for admission to a professional occupational therapy program at another institution. The university does not offer a degree program in occupational therapy or pre-occupational therapy, but does offer all prerequisite courses necessary for successful admission to the professional phase at another university.

Most pre-occupational therapy students will spend only two or three years at Central before transferring to the professional institution where the final degree will be granted. The student must meet the graduation requirements of the degree granting institution, therefore, close contact with an advisor at that institution is essential.

Detailed information concerning professional occupational therapy programs in the Pacific Northwest is available in the biological sciences office. See the program advisor.

Pre-Optometry

Advisor: Dr. Robert Brown
Department of Biological Sciences
Dean Hall 119
(509) 963-7231

Optometrists are primarily involved in testing eyesight for the purpose of prescribing corrective lenses. Students interested in optometry may take a three year pre-optometry program at Central and then transfer to the optometry school of their choice where they will complete a two or three year program. The pre-optometry program at Central consists of one year of biology, one year of mathematics, one year of physics, two years of chemistry, and selected basic and breadth courses. Students interested in pre-optometry should work closely with their advisor and establish early contact with optometry schools to be certain they are meeting the requirements of the school to which they wish to transfer.

Pre-Pharmacy

Advisor: Dr. Richard Hasbrouck
Department of Chemistry
Dean Hall 309
(509) 963-0246

Pre-pharmacy programs can be developed which prepare students for admission into pharmacy programs at any university granting the bachelor of science in pharmacy degree. If the students know the university to which they intend to transfer, a pre-pharmacy program can be designed in such a way that bachelor's degree prerequisites are all met. For more advice and assistance, students should contact the advisor at the room given above.

Pre-Physical Therapy

Advisor: Dr. David Darda
Department of Biological Sciences
Dean Hall 235
(509) 963-1333

The pre-physical therapy program is a program through which a student can prepare for admission to a professional physical therapy program at another institution. The university does not offer a degree program in physical therapy or pre-physical therapy, but does offer all prerequisite courses necessary for successful admission to the professional phase at another university.

Most pre-physical therapy students will complete their undergraduate degree at Central and then apply to the program(s) of their choice. Some students may prefer to transfer to the professional institution before obtaining a degree at Central. For students choosing this second option, close contact with an advisor at the final degree granting institution is essential.

Detailed information concerning professional physical therapy programs in the Pacific Northwest is available in the biological sciences office. See the program advisor.

Pre-Veterinary

Advisor: Dr. Glen Clark
Department of Biological Sciences
Dean Hall 229
(509) 963-2975

A pre-veterinary program at Central Washington University should prepare the student for admission into a veterinary medicine program. Students planning a career in veterinary medicine must complete the following before applying to a college of veterinary medicine.

BISC 365, Genetics	5
BISC 111, 112, 113, General Biology	15
CHEM 181, 181.1, 182, 182.1, 183, General Chemistry	13
CHEM 311, 312, 312.1, Organic Chemistry	8
CHEM 371, 372, Biochemistry	6
MATH 163.1, 163.2, Pre-Calculus	10
PHYS 111, 112, General Physics	10
Minimum Natural Science and Mathematics credits for admission to a College of Veterinary Medicine	67
Electives: General university requirements for graduation by advisement	45
Total Pre-Veterinary credits required for admission	112

1960

Dedication of the Leo Nicholson Athletic Pavilion.

1960

Initial organization of the student honors program.

1961

Dr. James E. Brooks appointed president. Dr. Brooks is, thus far, the only graduate of Central to serve as its chief administrator.

1961

By Legislative action, the name of the school is changed to central Washington State College.

1961

Dedication of Black Hall and Grupe Conference Center.



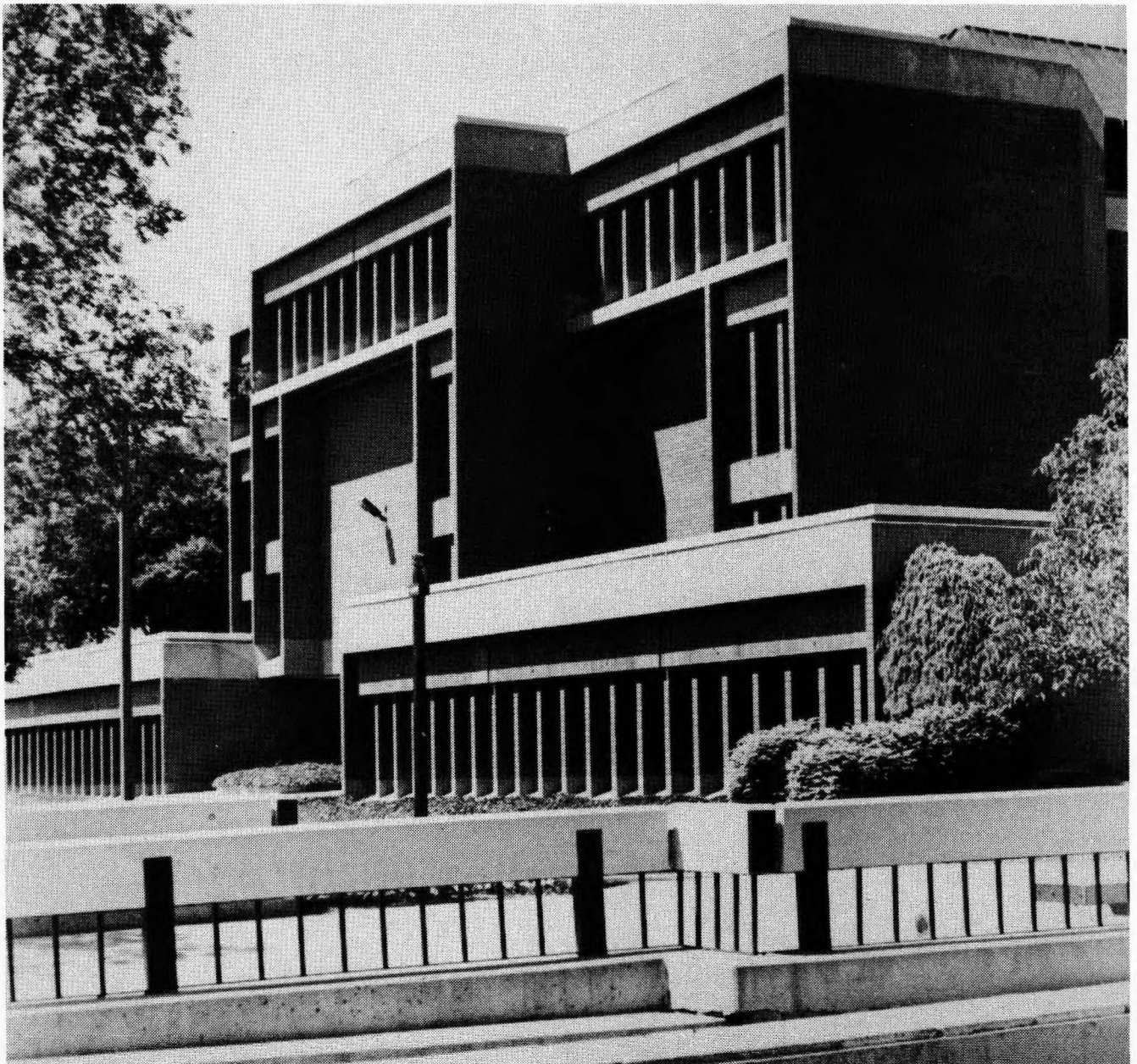


1962

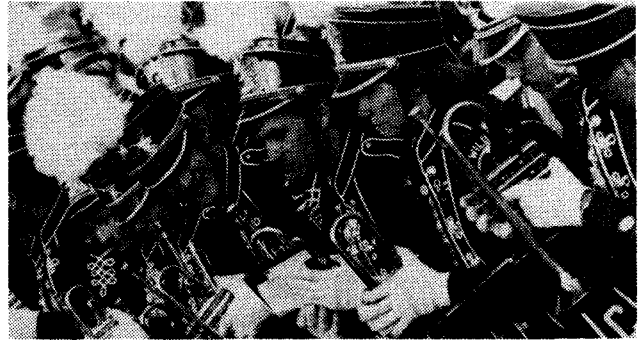
*The symposium of 1962 held
concurrently with the inauguration of
Dr. Brooks.*

1962

Wahle Apartments opened.



GRADUATE STUDIES



Graduate students are expected to know the requirements of their programs. The office of the dean of graduate studies and research and the faculty will aid in the communication of university regulations, but the responsibility for errors of enrollment and interpretation remains with the student.

Although regulations for graduate study will generally not change before the publication of a new issue of this catalog, the university reserves the right to change regulations without notice.

Graduate students should contact their department upon arrival on campus and provide the department and graduate admissions and records (Bouillon 205) with their campus address and permanent address. The mailing of notices to the last address on record constitutes official notification.

Graduate Student Definition

A graduate student is any student holding a bachelor's degree enrolled in a graduate program. Studies available for graduate students include the master's program, fifth year and other certification programs, and non-degree study as a resident or transient.

Graduate Admissions and Records Office

General and specific inquiries regarding graduate study, graduate admissions, and graduate student records should be addressed to the office of graduate admissions and records. Located in Bouillon 205, the office is open from 8 a.m. to noon and 1 to 5 p.m., Monday through Friday, except holidays. The telephone number is (509) 963-3103.

Graduate Studies and Research Office

The offices of the dean and associate dean of graduate studies are located in Bouillon 207. Anyone desiring an appointment is requested to make arrangements in advance. Student appointments are arranged through graduate admissions and records, (509) 963-3103. Most matters dealing with a student's program can be handled by the staff of graduate admissions and records, so an appointment with the dean is not often necessary.

Other Information

For other information on university policies and regulations applicable to graduate programs such as accreditation and memberships, affirmative action, grading practices, mission and roles, and tuition and fees, consult other parts of the university bulletin (see Table of Contents or Index).

Certification and Fifth Year Office

The office is located in Black Hall 216. It is open daily, Monday through Friday, from 8 to noon and 1 to 5 p.m. General inquiries and information regarding the fifth year program and teacher certification should be addressed to the director of certification. The telephone number is (509) 963-2661.

Programs of Graduate Study

Graduate Degrees. Central Washington University offers the following graduate degrees:

- Master of Arts (M.A.)
- Master of Arts for Teachers (M.A.T.)
- Master of Education (M.Ed.)
- Master of Fine Arts (M.F.A.)
- Master of Music (M.M.)
- Master of Science (M.S.)

General and specific requirements for the following specializations are given in appropriate sections in this catalog.

MASTER OF ARTS

- Art
- English
- English Language Learning
- English: Teaching Option
- English: TESL/TEFL
- History
- Individualized Studies

MASTER OF ARTS FOR TEACHERS

- Mathematics

MASTER OF EDUCATION

Administration
Business and Marketing Education
Individualized Studies
Master Teacher
Reading Specialist
School Counseling
School Psychology
Science
Social Science
Special Education
Supervision and Curriculum

MASTER OF FINE ARTS

Art

MASTER OF MUSIC**MASTER OF SCIENCE**

Biology
Chemistry
Counseling Psychology
Experimental Psychology
Home Economics and Family Studies
Individualized Studies
Mathematics
Organization Development
Physical Education, Health, and Leisure Studies
Resource Management

Graduate Certificate Programs

In addition to the degree programs outlined above, the following graduate certificate programs are offered at the university. Further information about these programs can be found at the end of this section.

Fifth Year of Study for Continuing Certificate
Renewal of Initial Certificate
Conversion to Continuing Certificate
Educational Staff Associate Certificate:
 School Counselor
 School Psychologist
 Reading Resource Specialist

APPLICATION AND ADMISSION TO GRADUATE STUDY



General

Each prospective graduate student must submit a formal application for admission to the university. Admission to the university does not constitute admission to a master's degree program. A graduate student is expected to have a bachelor's degree from a college or university accredited by recognized accrediting associations prior to registering for courses. Students with a baccalaureate degree from an institution holding candidacy status will be considered only after reviewing the Analysis Report and Evaluation Committee Report of the accrediting association which must be provided by the institution before admission is determined.

All prospective graduate students must apply for admission to graduate study in either a degree program, fifth year or other certificate program, or non-degree study (professional improvement, scholarly development).

An application fee of \$25 is required. A check or money order (no cash) for \$25 made out to Central Washington University must accompany each application. The fee is not refundable.

Foreign Graduate Students

In addition to the requirements below, foreign students must complete the application for foreign students obtainable from the office of graduate admissions and records and submit the results of the Test of English as a Foreign Language (TOEFL) given by the Educational Testing Service, CN 6155, Princeton, New Jersey 08541-6155, U.S.A. A minimum TOEFL score of 550 is required for admission to graduate study.

All application and other records submitted to graduate admissions and records become a part of official files at the university and can be neither returned nor duplicated for any purpose. A student should obtain an additional copy of such records before submission if copies are needed. Failure to submit complete and accurate credentials may result in permanent dismissal from the university.

Application for Study Leading to a Master's Degree

Processing of applications takes time. To insure the thorough evaluation of transcripts, letters of recommendation, etc., it is required that all application materials be submitted by the following dates: Winter, October 1; Spring, January 1; Summer, April 1; Fall, July 1. Applicants for fall wishing to apply for a graduate assistantship should have their admission and assistantship applications completed by February 15 in order to insure consideration.

A master's degree program involves a close graduate faculty-student relationship in order to plan a study program most appropriate to the professional goals and purposes of each individual applicant admitted. Consequently, no more than nine (9) quarter credits completed before formal admission will be accepted on the official course of study for the master's degree. This does not preclude the student from taking prerequisite or other background courses prior to admission that do not count towards the degree.

The graduate admission application form can be obtained from the office of graduate admissions and records. It should be returned to the office of graduate admissions and records to meet the appropriate dates cited. Admission to the university does not constitute admission to a master's degree program. Applicants to master's study are only admitted by formal letter from the dean of graduate studies for a specified quarter. A student applicant will not be admitted for a quarter in which the application materials are submitted after the deadline date specified above, but will be admitted the subsequent quarter.

The application for study leading to a master's degree must be accompanied with the following additional items:

1. Official transcripts of all undergraduate and graduate study at other institutions must be sent directly to the office of graduate admissions and records from the registrar of the other institution. It is the student's responsibility to arrange for timely submission of transcripts from institutions previously attended. Unofficial transcripts are not acceptable to the graduate admissions and records office.
2. Three letters of recommendation should be sent to graduate admissions and records from persons making the recommendation. At least two of the letters should come from instructors familiar with the applicant's academic preparation. In case of applicants for the M.Ed. program, one reference must be from an appropriate school official certifying at least one year of successful teaching experience by the applicant.
3. A personal letter of educational objectives and professional aims (500 words or less) must be attached to the application or submitted directly to graduate admissions and records.
4. Scores on the General (Aptitude) Test and appropriate Subject (Advanced) Test of the Graduate Record Examination (GRE) must be submitted to graduate admissions and records before application to graduate study will be considered. The General Test is an institutional admission requirement for all master's programs and

scores must be available before consideration for admission. The Subject Test is optional by department. Contact graduate admissions and records for information.

Admission will not be considered until scores are available. Applicants should take this into account in scheduling their examinations. Scores are not reported for approximately four weeks after the test date.

GRE scores are normally not acceptable if older than five years. ETS does not recommend their use and does not forward scores for a student without a specific request.

The Graduate Record Examinations are administered periodically at testing centers throughout the world and should be taken at the center nearest you. The schedule for GRE administrations at Central Washington University and the deadlines for registration at ETS, Princeton, are available from graduate admissions and records, Bouillon 205 or from the Educational Testing Service, P.O. Box 6000, Princeton, New Jersey 08541-6000.

An additional special administration of the Aptitude Test only will be given in July. Contact the testing center, Bouillon 237, for details on registration.

Graduate students or prospective graduate students may petition the dean of graduate studies and research to modify graduate school regulations applying to their admission or program.

Admission Procedures

An applicant must have completed all of the application requirements outlined in the section above.

Admission to master's degree study is determined by the dean of graduate studies and research upon the recommendation of the department involved after departmental review of the complete application file of the student. A formal letter will be directed to the student by the dean of graduate studies and research indicating admission or rejection.

The following minimum criteria will be applied for full admission:

1. A bachelor's degree from a regionally accredited institution in the U.S. or other recognized institution in the case of foreign institutions.
2. Minimum scholastic requirement is a 3.0 (B) average for the applicant's last 90 quarter hours (60 semester hours) of undergraduate study.
3. Additional criteria as specified by the program or department.

Applicants not meeting this scholastic requirement may be admitted on probation provided the department concerned provides justification for admission to master's degree study and no more than 10 percent are admitted on probation. If admitted, the student is placed on probationary status for one quarter during which time the student must complete at least 10 credits of courses approved by the student's department. A grade point average of 3.0 (B) or more is required. Upon meeting this requirement, the student will be fully admitted and allowed to continue towards candidacy for a degree.

Applicants may also be conditionally admitted to master's programs with conditions formally stipulated in the formal admission letter from the dean.

Students admitted to non-degree studies and who subse-

quently decide to apply for degree study must reapply and complete all the steps outlined above.

Application For Study Leading To Post-Baccalaureate Certification And Non-Degree Study

The university application for admission to graduate study can be obtained from the office of admissions or the office of graduate admissions & records. The form should be returned to the office of admissions to meet the appropriate deadlines cited.

Official transcripts of all undergraduate study at other institutions must be sent directly to the office of admissions.

Applicants for the continuing certificate must contact the certification office to organize an approved program.

Applicants are admitted to non-degree study with the approval of the dean of graduate studies and research. If applicants subsequently decide to apply for master's degree study, they must reapply and complete all the steps outlined above for master's degree admission.

Applicants for school counseling or school psychology programs leading to certification must also submit references and GRE scores. Admission procedure is the same as for master's program admission.

Graduate Student Service Appointments

Employment opportunities which provide financial support for graduate students at Central Washington University include part-time appointments in teaching and research. They also include other university activities relevant to the graduate student's program of advanced study and research. A graduate student holding such an appointment renders important service to the university, while at the same time gaining valuable experience in teaching, research or related activities and receiving a stipend which assists in financing graduate study.

Central Washington University believes in equal educational and employment opportunity for all without regard to race, color, creed, national origin, sex, age, marital status or any sensory physical or mental handicap.

Positions are generally only available in the various academic departments offering master's degree programs.

Graduate assistantship stipends during the 1990-91 academic year carried a remuneration of a maximum of \$7,783. These assistantships require 20 hours of service per week and require enrollment in at least 10 but not more than 14 credit hours per quarter with a minimum grade point average of 3.0 each quarter. Some assistantships are available through work study funds and are usually limited to 19 hours per week of service. A limited number of assistantships may be available during the summer session. When budgets are determined for a new year, increases in the amount of the stipend may occur.

Applicants for graduate student service appointments must (1) be fully admitted to the master's degree program at the commencement of the contract period, (2) have the recommendation of the department where the appointee will be assigned, and (3) show professional and academic promise.

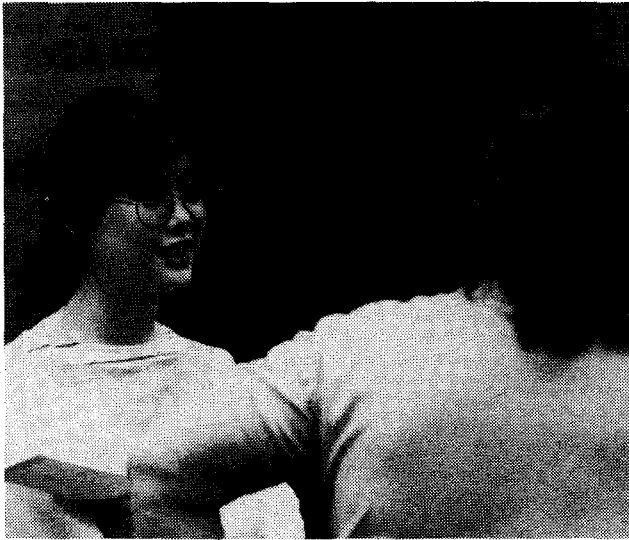
Students who are selected for university graduate student service appointments are normally those who manifest achievement and promise in their fields of study and who, in the judgment of their department and other university officials, are likely to render a high quality of service to the university. In particular, where teaching assignments are made, the individu-

al must be able to articulate concepts and ideas as well as sustain student interest in the subject being presented.

Graduate student service appointees employed 20 hours per week are considered residents for tuition and fee purposes.

Applicants for assistantships for fall quarter should have all application materials completed by February 15 in order to insure consideration for a graduate student service appointment the following fall.

Interested persons should contact the graduate admissions and records office for applications and information. All graduate student service appointments are made through formal written contract letter from the dean of graduate studies and research.



1963

Legislative approval to confer master of arts and master of sciences degrees.

1963

Faculty Senate organized.

1964

Completion of Hertz Music Hall.

1964

Installation of the Samuelson Union Building carillon, providing hourly melodies on campus.

1965

Additional dormitories were constructed to accommodate the rapidly expanding enrollment: Beck, Meisner, Sparks and Hitchcock.

1966

Purchase of an additional 31 acres of land by the college for future expansion, thereby producing a total campus area of nearly 170 acres.

1966

Highrise dormitories constructed.

1969

Mitchell Hall constructed.

1970

Language and Literature building constructed.

1970

Hogue Technology Building constructed.

1970

Highest number of graduates in teacher education.

1971

Jongeward Plant Services Building dedicated.

1971

Brooklane Village opened for occupancy.

1972

New psychology building on north end of campus opened.

1972

Enrollment reached more than 8,000 students.

1972

The Yearbook ceased production.

GENERAL MASTER'S DEGREE REGULATIONS



The following general master's degree regulations establish the minimum standards of the institution. The student is advised to note also any specific or additional requirements of the department or program in which graduate study is anticipated. Generally, these additional requirements may be found in this catalog under the special heading of the appropriate department or program. Before any final plan to enter into a particular graduate degree program is made, the student is strongly urged to communicate directly with the department chair or the program coordinator in order to determine the most current program requirements. The student is responsible for seeking advice in the department or program of the specialization chosen.

Graduate students or prospective graduate students may petition the dean of graduate studies and research to modify graduate school regulations applying to their admission or program.

Residence Requirement. Although no institutional-wide requirement is specified, some period of residence study is normally required for an advanced degree in the sense that most courses are not offered except through regular on-campus enrollment. Note the restriction on continuing education (extension) credit cited below.

Specific department residence requirements are established for some degree programs. Please consult the appropriate department for further information.

Graduate Level Credit. Graduate credit is given for all courses at CWU numbered at the 500 level and above. Undergraduate credit for some courses numbered at the 300 and 400 level may be accepted for credit towards a graduate degree at CWU provided they are approved as part of the student's official course of study. Higher performance is expected of graduate students enrolled in undergraduate classes—higher performance may include extra papers or extra work. Students not in a master's degree program at CWU and who wish to transfer credit earned at CWU to another college or university should check with that institution prior to enrolling in the course as to whether they will accept the transfer credit as graduate level. One hundred and 200 level credit is not applicable to a master's degree at CWU.

Graduate courses numbered 501 and above are typically restricted to students who have a bachelor's degree and who have formally been admitted to a graduate program of the university. Some courses may also require competitive admission to a departmental graduate program.

Undergraduate Level Credit. Higher performance is expected of graduate students enrolled in undergraduate classes—higher performance which may include extra papers or extra work.

Transfer of Credit. A maximum of nine (9) quarter credits may be applied to the master's degree from other accredited institutions which offer graduate degrees, provided the credits are approved as a part of the official Course of Study filed in graduate admissions and records and did not apply to another degree. The university reserves the right to determine the acceptability of transfer credit from any institution.

As a general practice, the only credits accepted in transfer are those that are a regular part of an accredited institution's graduate degree program (i.e., credit for continuing education, short courses, attendance at conferences, brokered courses, and pass-fail courses are normally not accepted in transfer).

Approval of transfer credit applicable to the master's degree shall be considered through graduate admissions and records only after filing an official Course of Study and only after submission of official transcripts directly to the graduate admissions and records office from the registrar of the transfer institution. Transfer credit must be graded with A or B.

Credit from any non-accredited institution or accredited institution not approved for graduate study will not be accepted for transfer for application to an advanced degree.

Credit obtained within the state from an accredited institution whose main campus is outside of the state will be considered for transfer only by special petition to the dean of graduate studies and research.

All of the above restrictions also apply to the master of fine arts (MFA) degree except for the 9-credit restriction for those students already holding a graduate degree. See department of art section for further information on the MFA.

Credit for work taken while simultaneously enrolled at Central Washington University and other educational institutions will be accepted on transfer to Central ONLY when the following conditions have been met: 1) Written approval for simultaneous enrollment must be obtained from the dean of graduate studies prior to enrollment at the second institution. 2) If the total enrollment at all institutions exceeds Central Washington University load limits, overload approval must be obtained. 3) A maximum of nine quarter credits may be accepted as transfer credit.

Credit-No Credit. Credit-no credit courses will not be counted toward master's degree credits or in the graduate grade point average. Graduate students are urged to use the credit-no credit option as a way to explore academic areas in which they are interested. Students are allowed to select one class per quarter for a credit-no credit grade. A student must designate a class as credit-no credit during registration or during change of schedule period. The credit-no credit option is distinct from courses graded on a satisfactory/unsatisfactory basis.

Credit by Examination. Graduate students enrolled in the university may receive credit for a course by taking a special examination establishing the required performance standards for courses on the current course challenge list. Permission to take such exams must be obtained from the instructor of the course, the student's advisor, and the dean of graduate studies and research.

Credits from Extension, Workshops, and Correspondence. A maximum of 9 credits earned through continuing education (extension) from the office of extended university programs may be applied toward a master's degree but will not apply in satisfying residence requirements.

Not more than a combined maximum of 8 credits of workshops and "Studies in" courses (541's) can be applied towards a master's degree. Courses numbered 441 and titled "Studies in" are not applicable to the master's program.

Professional development courses numbered 500 are not applicable to master's degree credit.

Credits earned in correspondence courses may not be applied to any master's degree.

Scholastic Standards. Any graduate student in the master's program who receives a grade point average of less than 3.0 in any quarter will be placed on probation. A student can be removed from probation by attaining a 3.0 for at least 10 credits during the next quarter enrolled and a cumulative grade point average of 3.0. Grade point average is calculated on the basis of all courses taken whether part of the Course of Study or not. Grades for all courses included on the Course of Study for the master's degree must average at least a 3.0 (B). Credit will not be accepted for courses on the Course of Study in which a grade lower than "C" is earned.

Students whose grade point averages remain below 3.0 after 30 credits are no longer eligible to receive a master's degree from Central Washington University.

Student Study Load. The normal load for graduate students is 15 credits per quarter. Study loads above 16 and up to 20 credits may be approved by the chair of the department of the student's specialization or an appropriate dean. Loads above 20 credits are not normally permitted. Any load in excess of 20 credits may be approved only by the appropriate school dean or the graduate dean.

Maximum Time Limit. No credit earned more than six years before the date of the master's degree award may be counted as part of the degree credit requirement except as may be approved by formal action by the dean of graduate studies and research. This includes applicable work transferred from other institutions.

Continuous Registration. All master's degree students, including students in attendance only during Summer Session, must satisfy the continuous registration requirement each fall quarter to maintain active status. A master's student may register as a full-time, part-time or as an on-leave student to satisfy the requirement. Registration in extension or continuing education credit does not meet the continuous registration requirement. Failure to maintain continuous registration as a full-time, part-time or on-leave student will be taken by the university to signify the student's resignation from the program. Students who resign and later wish to resume study towards a degree must reapply for admission and complete all steps outlined for master's admission. Master's students seeking to interrupt their studies while remaining on active status pay a non-refundable fee of \$25 for registration as an on-leave student; this fee covers four successive academic quarters beginning

with fall quarter.

An on-leave student is entitled to access to the library. No other service or benefits are afforded an on-leave student.

Program Advisement. Graduate students should seek out program advice in the department in which they are specializing. The department can assist in many of the details necessary to complete requirements, especially early in the student's program. It is the students' responsibility to seek advice in the department of their specialization.

Graduate Committee. Every master's candidate will have a three-member graduate faculty committee. Students usually organize their committee in consultation with an advisor or committee chair, although some departments assign committees. The department chair of the specialization and the dean of graduate studies and research approves committee assignments. Contact the department in your area for assistance if needed. The thesis or non-thesis project advisor is the student's graduate committee chair and generally is a faculty member in the department of the specialization.

For the master of education and master of arts for teachers, the student's graduate committee must include a faculty member of the department of education.

The student's graduate committee approves the official Course of Study and the thesis, and supervises and evaluates the final examinations over course work and thesis.

The student's graduate committee is initially established by filing an official Course of Study acceptable to graduate admissions and records.

Only regular graduate faculty may serve as chair of a graduate committee. Normally, neither non-faculty nor adjunct faculty may serve as committee members except in an advisory capacity and without vote.

For the final examination, an outside representative of the graduate council will be assigned by the dean of graduate studies and research.

Credits Required. The student must complete at least 45 quarter credits (some programs require more credits) in the 300, 400, 500 and above credit level groups. Normally, no more than 10 credits are allowed at the 300 level. Not less than 25 credits of the total required for the degree must be in the 501 and above group.

Some departments restrict the number of 300 and 400 level credit for the master's degree. Some departments and programs require more than 45 credits. Please consult the department for specific additional credit level requirements.

At least 30 credits appearing on the Course of Study for the master's degree shall be on a graded scale (not S/U). Credit/no credit courses are not allowed on the Course of Study.

Course of Study. All candidates shall complete at least 45 credits (some programs require more) as outlined in an approved Course of Study filed in the office of graduate admissions and records. The credit on the Course of Study must be separate and distinct from credit applied towards any other degree. Course of Study forms are available in graduate admissions and records (Bouillon 205).

The Course of Study requires the approval of the student's graduate committee, the department chair of the specialization, and the dean of graduate studies and research.

The Course of Study should be filed by the end of the second quarter of study. No more than nine (9) quarter credits completed before the quarter of formal admission will be accepted on the official Course of Study for the master's degree. Students expecting to pursue an individualized studies degree

must file a proposed Course of Study for planning purposes prior to formal admission to the individualized studies program. Students run a risk of losing any credits taken prior to admission to a master's degree program.

The official Course of Study reflects the credit required to meet requirements for the master's degree. Unless revisions are approved, the student must complete satisfactorily or be currently enrolled for all credit specified before advancement to candidacy for the degree award will be processed.

An approved Course of Study must be on file before the thesis, option, or questionnaire will be considered for approval.

Thesis. The thesis problem must be approved in its preliminary stages by the student's graduate committee, the chair of the department of specialization, and the dean of graduate studies and research. A form for this purpose is available in graduate admissions and records.

Final thesis copies must be available to the student's graduate committee at least two full weeks in advance of final examination. The thesis grade is assigned on a satisfactory/unsatisfactory basis.

The thesis approval page and the thesis grade report are signed at the student's final examination. Only an individually authored thesis will meet the thesis requirement. Joint theses are not permitted.

The thesis must be prepared according to standards of format, style, type and paper quality, as outlined in Thesis Regulations available at the office of graduate admissions and records.

It is very important that the student maintain close contact with committee members during thesis preparation. Draft copy must be provided with sufficient lead time to allow faculty review and critique.

The thesis must be accompanied by four copies of an 80-word abstract described in Thesis Regulations available in the office of graduate admissions and records.

The original and at least two copies of the completed approved thesis, with pages in proper order, must be submitted to graduate admissions and records and accepted for binding. The student pays all necessary binding fees. After the binding, the original and one copy are deposited in the library and one copy is returned to the student. Additional copies may be provided for binding on payment of the necessary binding fees.

It is strongly recommended that thesis copies be obtained through the copy facilities of the instructional media center in Bouillon Hall to insure approved copy quality and paper.

Arrangements for copying of theses through the instructional media center are to be made as far in advance as possible at Bouillon Hall. At least three days must be allowed for processing in order to accommodate machine failures, lack of staff, and distribution of the workload. Do not request special copying consideration because of degree deadlines. Unforeseen copy delays will result in delay of the degree award. Do not delay until the peak period just before the deadline.

Theses will be rejected by graduate admissions and records for such defects as strikeovers, incorrect word divisions at the end of lines, misspelled words, smeared copy, careless spacing or centering, evidence of dirty type, errors in grammar, narrow margins or other similar deficiencies. Dot matrix printed theses are not acceptable. High standards will be rigorously applied.

Restricted Use of Questionnaire for Thesis Studies. Graduate students who plan to use a questionnaire in connection with their master's degree thesis or project study must have committee and graduate admissions and records approval

prior to circulation of the questionnaire. No action will be taken to approve any questionnaires before the thesis or project problem has been formally approved through graduate admissions & records.

Thesis Option. Some master's degree programs allow an option to the thesis requirement. All students pursuing the master's degree will demonstrate their ability to communicate effectively in writing by satisfactorily completing one or more of the following: (a) a thesis, (b) a written report of a field study, internship, or creative project, or (c) a comprehensive written examination. In programs allowing the option, the student's graduate committee in the area of specialization will decide with the student whether to carry out (a), (b), or (c) above. A prospectus of the thesis, field study, internship or creative project must be approved by the student's committee before work begins. The report on the thesis, field study, internship or creative project must conform to standards described in Thesis Regulations and available in the office of graduate admissions and records.

Required Educational Foundations and Research Courses (M.Ed. and M.A.T. only). Education 510 is required of all students earning the M.Ed. or M.A.T. degree. It is recommended that the course be taken in the first quarter of residence. The candidate further must choose at least six credits from the following: Education 501, Educational Foundations, 3 credits; Education 502, History of Education, 3 credits; Education 503, Philosophy of Education, 3 credits; Education 504, Advanced Educational Statistics, 4 credits; Education 508, Comparative Education, 3 credits; Psychology 552, Advanced Human Growth and Development, 3 credits; Psychology 559, Advanced Educational Psychology, 4 credits (Only one of PSY 552 or PSY 559 may be included to meet the foundations requirement); Sociology 525, Society and Education, 3 credits; as approved by the student's committee. Related courses may be substituted with permission of the student's committee, the chair of the department of education and the dean of graduate studies and research.

Teaching Experience (M.Ed. and M.A.T. only). The M.Ed. or M.A.T. degree candidate must have met requirements for a teaching certificate and, with the exception of certain school psychologist candidates, must have completed at least one year of successful teaching experience certified by an appropriate school official. Some programs have additional experience requirements.

Master's Degrees and Certification. The graduate student enrolled in a master's degree program does not necessarily satisfy all certification requirements by completing the advanced degree. Students pursuing advanced degrees in combination with certificate programs should maintain contact with the department of their specialization, and with the office of the director of certification.

Final Folder Evaluation. All students must report to graduate admissions and records for a final evaluation no later than the first week of their final quarter. At this evaluation candidacy requirements, grade point average, Course of Study, and examination scheduling will be processed. Advancement to candidacy and final examination scheduling will not be permitted except during the final quarter.

Required Enrollment During Final Quarter. A student admitted to a master's degree program must be registered for a minimum of two (2) credits at the university during the quarter the master's degree is conferred.

Enrollment for this purpose should be completed during the

usual pre-registration or regular registration periods to insure degree conferral.

A student who has been approved for the degree list for a particular quarter and does not complete the requirements for degree conferral by the published deadline (two weeks before the last day of finals), but who does complete all the requirements by the last day of that quarter, receives the degree the following quarter without further registration.

Final Examination. After students have registered for courses which will complete the Course of Study, they must pass oral and/or written examinations covering courses, seminars and thesis or such other examinations as stated necessary to complete degree requirements. Permission to schedule the final examination must be obtained from graduate admissions and records before determining the date of the exam.

An application for final examination, approved by the committee, must be filed in the office of graduate admissions and records at least three weeks in advance of the examination. The final examination must be scheduled between the hours of 7 a.m. and 6 p.m. when the university is in session (not between quarters). Final examinations are conducted by the candidate's committee and are open to the faculty. The committee alone shall decide upon the merit of the candidate's performance. Final assessment of the examination will be reported on a satisfactory/unsatisfactory basis. The candidate shall pass the examination if two-thirds of the official graduate faculty committee members so indicate. In the event of an unsatisfactory final examination, a second examination may be scheduled upon the endorsement of the major department chair and with the approval of the dean of graduate studies and research the subsequent quarter with at least two months' lapse.

An application for final examination must be accompanied by four (4) copies of a "Brief" which will include information of previous degrees, the Course of Study, and biographical data typed in the format described in Thesis Regulations available in the office of graduate admissions and records. Copies will be distributed to the student's graduate faculty committee. One copy will remain in the student's file.

All degree requirements must be completed within the same or next quarter from the exam date. Failure to complete remaining requirements by the end of the next quarter will result in requiring the exam to be retaken.

Graduation. Candidates for the master's degree are expected to participate in the commencement exercises following the completion of degree requirements. See the academic calendar in the front of this catalog for deadline dates to arrange for regalia.

Second Master's Degrees. Students seeking a second master's degree must be readmitted to the second program and must complete an approved Course of Study (of at least 45 credits) distinct from the courses offered for the first master's degree.

Advancement to Candidacy

A student becomes eligible for advancement to candidacy for a master's degree upon fulfillment of the following requirements.

1. Completion of the course requirements as set forth in the Course of Study. These courses are approved by the student's graduate committee, the department chair, and the dean of graduate studies and research as filed with graduate admissions and records.

2. Completion of the thesis or thesis option where appropriate.
3. Attainment of a cumulative grade point average of 3.0 (B) or better for all work included in the Course of Study.
4. Completion of additional departmental requirements, e.g., proficiency in a foreign language.
5. Fulfillment of residence and the statute of time limitation (six years) requirements.
6. Passing of an oral and/or written examination covering courses, seminars, and thesis, or other examinations deemed necessary by the major department. Permission to schedule the final exam must be obtained from graduate admissions and records at least three weeks in advance of the date of the final examination.

Upon completion of the above requirements, the student must apply to graduate admissions and records for candidacy. No student is a candidate until authorization is given by graduate admissions and records. Admission to candidacy must be verified two weeks prior to the end of the student's final quarter. Failure to meet this deadline will result in the date of the degree award being the end of the following quarter. Application for a master's degree is authorized by graduate admissions and records. The application will not be completed without payment of binding and degree fees. The fee for the master's degree is \$10 plus a \$1 student benefit fee. Thesis binding fees are \$48 for the three required copies; additional copies are bound for \$16 per copy. The application is for a specific quarter of degree conferral. If requirements are not met, the student will have to reapply and pay degree fees for degree conferral in a subsequent quarter.

GRADUATE CERTIFICATE PROGRAMS



Renewal of the Initial Teaching Certificate and Conversion to the Continuing Teaching Certificate. The initial certificate is valid for four years from the date of issuance and may be renewed once for a three-year period when the following requirements are met:

1. The individual must complete an initial certificate renewal application which may be secured from the office of teacher certification, Black Hall 216.
2. The individual must be fully admitted to an approved master's degree program.

Candidates for the continuing certificate must meet the following requirements:

1. Verify at least one year of service as a teacher in a classroom teaching role.
2. Complete an approved master's degree.
3. Have a planned program of course work on file at the office of teacher certification.

These requirements are subject to change by the state board of education, for current information contact the office of teacher certification in Black Hall 216.

School Administration Certificates. Central Washington University has been authorized by the state board of education to recommend issuance of initial and continuing principal's certificates valid for service as vice principal, assistant principal or principal of elementary, middle, junior high, and/or high schools. The university is also authorized to recommend issuance of the program administrator certificate as director of supervision and curriculum or special education. These programs of preparation include formal study and internship experiences. (See master of education, administration, special education, or supervision and curriculum.)

Requirements for the Initial Certificate include:

1. Possession of a valid teacher or educational staff associate (whichever is appropriate) certificate.
2. Completion of the master's degree.
3. If the master's degree is already earned from an accredited institution, please check with the department of education regarding program requirements.
4. Normally three years of successful teaching experience in a state approved K-12 setting, including at least one year at the level for which certification is being sought, is required for the administrative certificate. Check with the department of education for exceptions.

5. One academic year as an administrative intern at the level for which certification is being sought.

Requirements for the Continuing Certificate include:

1. Three years experience as a practicing administrator.
2. Fifteen credits earned after issuance of the initial certificate. These credits and experiences must meet the generic standards as identified by the state board of education.

Persons seeking further information are invited to correspond with the chair of the department of education.

Special Certificates. Preparation for special certificates, authorized by the state board of education, is available at Central Washington University. Programs leading to the educational staff associate certificate are available in the following areas: 1) school counselor; 2) school psychologist; and 3) reading resource specialist. Programs leading to certification in specific vocational areas are available in: 1) business and office education; 2) marketing education; 3) diversified occupations; 4) home and family life education; and 5) trade and industrial (including health occupations and technical education.)

Applications for the school counselor or school psychologist ESA certificate can be obtained and are processed through the office of graduate admissions & records, Bouillon 205.

For the reading resource specialist or other ESA certificates, please contact the office of teacher certification, Black Hall 216, for additional information and assistance.

Those interested in other special certificates should contact the supervisor of certification, office of the superintendent of public instruction, Olympia, Washington.

Master's Degree and Certification. The graduate student enrolled in a master's degree program does not necessarily satisfy all certification requirements by completing the advanced degree. Students pursuing advanced degrees in combination with certificate programs should maintain contact with the department office of their specialization, and with the certification office.

1975

New library building on north end of campus opened.

1977

The name of the school is changed to Central Washington University.

1978

Donald Garrity appointed president.

1980

University closed for one week because of eruption of Mt. St. Helens.

1981

Hebeler Elementary School closed.

1981

Acquisition of old Milwaukee rail lines brings campus to 360 acres.

1984

Name of student newspaper changed from The Crier to The Observer.

1987

New Physical Education building constructed.

1989

Farrell bequest of 1.3 million dollars to the CWU Foundation.

1990

Greatest number of wins for father-son coaching in collegiate basketball.

GRADUATE PROGRAMS AND COURSES



ALLIED HEALTH SCIENCES PROGRAM

Coordinator:
William Barker
Dean 203

Graduate Courses

AHSC 596. Individual Study (1-6). Prerequisite, permission of instructor.

AHSC 598. Special Topics (1-6).

AHSC 599. Seminar (1-5).

ANTHROPOLOGY AND MUSEUM PROGRAM

Chair:
Catherine J. Sands
Farrell 309

Graduate Faculty Professors:

James M. Alexander, Forensic Anthropology, Cultural Resource Management
Marco G. Bicchieri, General Anthropology, Ecology, Order Control Systems, Mating-Marriage-Family, Hunting-Gathering, Africa
Anne S. Denman, Cultural Anthropology, Community Studies, Sex Roles, Intercultural Communication
Clayton C. Denman, Cultural Anthropology, Cultural Adaptation and Change, Small Town Economic Development, North America
Linda M. Klug, Linguistics, Language and Culture, Social Structure, Political Organization, Southeast Asia, Philippines
William C. Smith, Archaeology, Cultural Adaptation and Evolution, Settlement Systems, Cultural Resource Management, Computer/Geographic Information Systems Applications, Western North America

Associate Professor:

Catherine J. Sands, General Anthropology, Nonverbal Communication, Non-Western Art, Northwest Coast Ethnology, Medical Anthropology, Aging, Forensic Anthropology

Anthropology jointly coordinates the master of science degree program in resource management with the department of geography and land studies. For further information, see resource management.

Graduate Courses

ANTH 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

ANTH 521. Cultural Resources Management (3). Philosophy, history and legislation relating to archaeology and historic preservation; design and implementation of cultural resources management programs.

ANTH 596. Individual Study (1-6). Prerequisite, permission of department chair.

ART

Chair:
Constance W. Speth
Randall 100

Graduate Faculty Professors:

J. John Agars, Printmaking, Drawing, Graphics
Kenneth R. Cory, Metalsmithing, Design, Drawing
Richard T. Doi, Art Education, Art History
William V. Dunning, Painting, Drawing, Sculpture, Art History
Gary M. Galbraith, Sculpture, Wood Design, Ceramics, Design
Cynthia K. Kriebel, Painting, Drawing

College of Letters, Arts and Sciences

Chris Papadopoulos, Sculpture
 James M. Sahlstrand, Photography
 Margaret Ahrens Sahlstrand, Printmaking, Papermaking
 Constance W. Speth, Drawing, Graphics

Associate Professor:

Quentin W. Fitzgerald, Art History

Graduate degrees include: The 45 credit M.A. degree with emphasis in studio art terminating with a creative studio project; or with emphasis in art history concluded by a thesis project; and a 90 credit M.F.A., a terminal degree, offered in two and three dimensional studio areas.

Master of Arts**Program Coordinator:**

Constance W. Speth

Randall 100

The purpose of the program is to provide graduate level study in the creative and academic areas of visual arts. Programs are designed to enable graduate students to (1) pursue a career as a professional artist, (2) work in business and industry, or (3) teach.

Program. All candidates shall complete at least 45 credits as outlined in an approved Course of Study filed with graduate admissions and records. A minimum of 30 credits, exclusive of thesis, must be in the field of art.

Required Courses:**Credits**

Art 589, Art Concepts and Criticism.....	3
Art History.....	6-8
Major area of concentration in Art.....	15-17
Departmental electives in Art.....	9-11
Art 700	6
Electives in Fields other than Art.....	0-6

The area of concentration will be from ceramics, design, wood design, drawing, history of art, metalsmithing, painting, photography, printmaking and sculpture.

A minimum of 18 studio credits exclusive of thesis must be included in the program.

Any variations from the above program may be recommended by the department of art to the dean of graduate studies.

Studio space is available on a limited basis.

Studio Project. The studio project is that body of studio art work presented as a final project. The content of the studio project is determined by advisement with the student's graduate committee.

A selection of the candidate's studio work will be presented in public exhibition.

Associated with the studio project is a written document that supports the studio work. Graduate students pursuing a degree in a studio area are required to distribute Art 700 credits over two quarters. These quarters need not be consecutive, nor commence during the first quarter. Upon completion of the first quarter of credit in Art 700, students are required to submit a draft copy of their written document to their committee. Committee approval is required before students can register for the remaining credits in Art 700 or progress with the studio study.

The final written document, approved by the student's graduate committee, will be submitted in conjunction with the studio project. Slides of the project will accompany the original copy of the written document. The original written document will be filed with the department of art. The written document must meet thesis format and typing standards.

Thesis. A written thesis dealing with the field of art is an option. Thesis content will be determined in consultation with the student's thesis committee. A Thesis Problem Approval outline must be endorsed by the student's graduate committee, the department chair, and filed with graduate admissions and records. The thesis is approved by the student's graduate committee upon the completion of the final examination. The original and two copies are submitted to graduate admissions and records for binding.

Final Examination. The final examination will be developed on the basis of the student's graduate program. The examination will concentrate on the thesis/studio project and may also cover other work in the student's graduate program.

Master of Fine Arts**Program Coordinator:**

Constance W. Speth

Randall 100

The primary objective of the program is to bring students to professional levels of competency and personal levels of excellence in the studio arts through graduate level study in the visual arts.

A secondary objective is to prepare students to teach the visual arts in institutions of higher learning.

A tertiary and optional objective is to prepare students to enter art vocations related to the studio arts.

Program. The MFA is a two-year, 90-quarter credit program.

Required Courses:**Credits**

Art 589, Art Concepts and Criticism.....	3
Art History, 400 level and above	15
Major studio concentration	38-54
Electives outside major studio concentration.....	6-28
Art 700, Studio Project (or Thesis option)	6-12

The major studio concentrations are:

1. Ceramics
2. Drawing
3. Metalsmithing
4. Painting
5. Photography
6. Printmaking
7. Sculpture
8. Wood Design

Application and Admission. In addition to the university regulations concerning admission to graduate degree programs, the following specific regulations apply to the MFA Program:

- A. Acceptance is primarily based on the student's potential as evidenced by a portfolio, previous course work in art, or by other means.

- B. Applicants are required to submit examples of their work in the form of 2" x 2" slides. This documentation should represent the specific direction of the applicant's work as well as some breadth in other art activities. If feasible, students should visit the campus and arrange a personal interview with the art department chair and faculty members in their major area of concentration.

Applicants with a high degree of competency in another field, e.g., anthropology, computer science, physics, psychology, philosophy, or sociology, who can demonstrate their adaptability to the making of visual statements will be considered for acceptance on an individual basis.

Transfer of Credits. The general provisions for the transfer of credits are set forth under the catalog heading, General Master's Degree Regulations.

A student who already holds a graduate degree from an area of the studio arts may be granted advanced standing upon the request of the student, the recommendation of the student's graduate committee, the chair of the art department, and approval by the dean of graduate studies. If approved, the credit would be accepted after the student's first term in residence. Up to 45 hours of such credit may be applied towards the MFA.

Residence Requirements. Students must be in residence three consecutive full-time quarters. Furthermore, all studio credits, except those approved under the transfer of credit provisions, must be taken in residence. For these purposes, residence includes any work taken in travel study, internship programs or other study taken elsewhere and listed on the approved Course of Study.

Graduate Committee. A three-member faculty committee will be organized during the student's first quarter of residency. The members of this committee will be chosen in consultation with the department chair, the student's program advisor and the student. The chair of the committee, in consultation with the student, will schedule a meeting at least once each quarter. More frequent meetings may be scheduled, especially during the start of the program.

The purposes of these meetings are:

- To satisfy the members of the committee that the student is making satisfactory progress in the degree program.
- To evaluate the student's studio work.
- To identify problems and offer solutions.
- To disseminate information.
- To render academic, vocational and personal advisement.

The chair of the student's graduate committee will render a report of the student's progress to the department chair.

The last meeting held during the third quarter of residency will consist of a review of all the student's work, completed or in progress, including a review of non-studio class work. The entire committee will then prepare a written report to the chair of the art department. This report will state whether the student should be allowed to continue in the program. In the event continuation is denied, the student may request a second review at a later date. The decision resulting from the second review will be final.

Based upon the written recommendations of the student's graduate committee, the chair will forward to the dean of graduate studies a departmental recommendation concerning the student's continuance in the program. A copy of this recom-

mendation will be furnished to the student.

Program Changes. In rare instances a student may wish to change studio emphasis. For example, a student with a strong background in photography and printmaking, who was accepted in printmaking, may wish to change to a photography emphasis. Such a request will be made, in letter form, to the chair of the department of art. The chair will approve or disapprove the request after consulting with all appropriate members of the faculty. Furthermore, the department chair may set forth whatever stipulations are appropriate, e.g., the submission of another portfolio.

Graduate Assistantships. Teaching or staff assistantship appointments are awarded competitively and by vote of the entire art faculty. Assistants are appointed by the dean of graduate studies upon recommendation of the department chair.

Studio Space. Individual studio space is available and will be allocated by the chair of the art department.

Studio Project. The studio project is that body of studio work presented as a terminal project. The content of the studio project is determined by advisement with the student's graduate committee. A selection of the candidate's studio project will be presented in public exhibition.

Associated with the studio project is a written document that supports the studio study. Graduate students are required to distribute Art 700 credits over two or more quarters. These quarters need not be consecutive, nor need they commence during the first quarter. Upon completion of the first quarter of Art 700, students are required to submit a draft copy of their written document to their committee. Committee approval is required before students can register for the remaining credits of Art 700 or progress with studio study.

The final written document, approved by the student's graduate committee, will be submitted in conjunction with the studio project. Slides of the project will accompany the written document. The original written document will be filed with the department of art. The written document must meet thesis format and typing standards.

Thesis. A written thesis dealing with the field of art is an option. Thesis content will be determined in consultation with the student's graduate committee. A Thesis Problem Approval outline must be endorsed by the student's graduate committee, the department chair, and the dean of graduate studies. The thesis is approved by the student's graduate committee upon the completion of the final examination. The original and two copies are submitted to the office of graduate admissions and records for binding.

Final Examination. A final examination will be based on the student's graduate program. The examination will concentrate on the thesis/studio project and may also cover other work in the student's graduate program.

Program on Reserve: MFA Refresher Program. May be offered subject to need.

Graduate Courses

ART 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

ART 525. Advanced Studies in Photography (2-5). Prerequisite, ART 425 or equivalent. May be repeated for credit.

College of Letters, Arts and Sciences

ART 541. Advanced Studies in Wood (2-5). Prerequisite, ART 441. May be repeated for credit.

ART 547. Advanced Studies in Metalsmithing (2-5). Prerequisite, ART 447. May be repeated for credit.

ART 550. Advanced Studies in Drawing (3). Prerequisite, ART 450 or equivalent. May be repeated for credit.

ART 560. Advanced Studies in Painting (2-5). Prerequisite, ART 460 or equivalent. May be repeated for credit.

ART 565. Advanced Studies in Ceramics (2-5). Prerequisite, ART 465. May be repeated for credit.

ART 570. Advanced Studies in Design (2-5). Prerequisite, permission of instructor. May be repeated for credit.

ART 580. Advanced Studies in Sculpture (2-5). Prerequisite, ART 480 or equivalent. May be repeated for credit.

ART 585. Advanced Studies in Printmaking (3). Prerequisite, ART 388, or 485, or 486 or 487 or permission of instructor. May be repeated for credit.

ART 589. Art Concepts and Criticism (3). Study of the attitudes and values in relation to recent changes in art forms and contents. Analysis and practice in critical judgment.

ART 595. Art Teaching Practicum (1-6). Prerequisite, permission of instructor. May be repeated for a total of 12 credits. Restricted to graduate students in the master of fine arts program. Grade will be S or U.

ART 596. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

ART 598. Special Topics (1-6).

ART 599. Seminar (1-5). May be repeated.

ART 700. Master's Thesis, Project Study and/or Examination (1-12). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit not to exceed 6 credits for MA degree and 12 credits for MFA degree.

BIOLOGICAL SCIENCES

Chair:

William W. Barker

Dean 203

Graduate Faculty

Professors:

William W. Barker, Taxonomy of Vascular Plants

Ronald J. Boles, Biology Education

Robert H. Brown, Vertebrate Anatomy, Science Education

John E. Carr, Plant Anatomy, Horticulture
 Glen W. Clark, Invertebrate Zoology, Parasitology
 David R. Hosford, Mycology, Algology
 Sheldon R. Johnson, Zoophysiology, Mammalogy
 Edward P. Klucking, Plant Morphology, Paleontology
 Robert F. Lapen, Immunology, Virology, Zoopathology
 Robert E. Pacha, Environmental Microbiology, Medical Microbiology
 Stamford D. Smith, Entomology, Aquatic Biology
 Thomas H. Thelen, Human and General Genetics
 Curt A. Wiberg, Plant Ecology, Limnology

Assistant Professors:

*David M. Darda, Herpetology, Evolutionary Vertebrate Morphology

Paul W. James, Fisheries Biology

*Associate Graduate Faculty

Master of Science

Biology

Program Coordinator:

Sheldon R. Johnson

Dean 219

Several objectives may be met through the completion of the master of science in biology.

1. The degree will provide an expanded opportunity for students to prepare themselves for biological careers not normally open to students with only an undergraduate major in a biological science.
2. The program may prepare students for further graduate work leading to the Ph.D. degree. Students considering further graduate study should elect the thesis option for their master's program.
3. The program may be designed so that the student may meet the requirements for continuing certification in secondary education while concurrently earning a master of science degree in biology.

Admission. Admission is a two-step process. Applicants must first meet the general requirements for graduate study as determined by the office of graduate admissions and records, and then the specific requirements of the department of biological sciences which are:

1. An undergraduate degree in biology or its equivalent. Deficiencies in the student's undergraduate training as determined by the department of biological sciences at the time of admission to the program must be removed without graduate credit during the first year of graduate study.
2. Students must submit Graduate Record Examination scores for both the general test and the biology subject test.
3. Students must arrange for a graduate faculty advisor in the department of biological sciences to serve as their major professor.

Program. The course work leading to the master of science in biology will total at least 45 credits in the biological sciences and related subjects as outlined in an approved Course of Study filed with graduate admissions and records. Thesis and non-thesis options are available. The non-thesis option requires a study project. The individual's program of course work and thesis problem or project study will be developed in consultation with the student's major professor and other members of the student's graduate committee. Two quarters in residence are required.

Final Examination. Candidates must pass a final oral and/or written examination of all course work offered for their degree, on their thesis or project, and on their area of specialization. Students electing a non-thesis option ideally should have a valid teaching certificate before entering the program and must have a valid teaching certificate before the master's degree will be granted.

Graduate Biological Sciences Courses

BISC 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

BISC 501. Ecological Diversity in Washington (3). Prerequisite, BISC 375. An ecological survey of the major terrestrial habitats in Washington state. Emphasis is on the interrelationships between environmental factors and the flora and fauna of the habitat.

BISC 502. Laboratory Studies in Plant Physiology (3). Prerequisite, ZOOL 472 or BOT 461. Techniques used to study the physiology of plants. Two hours lecture and two hours laboratory per week.

BISC 503. Current Advancements in Human Physiology (3). Prerequisite, ZOOL 472 or BOT 461. The impact of current advancements in molecular biology, biochemistry and physiology on man and society.

BISC 505. Field Zoology (3). Prerequisites, BISC 112 and BISC 375. The taxonomy, behavior and adaptations of animals with special reference to vertebrates and macroinvertebrates. Two hours lecture and three hours laboratory/field work per week.

BISC 506. Field Botany (3). Prerequisites, BISC 111 and BISC 375. The taxonomy, distribution, and adaptations of plants with special reference to vascular plants and larger non-vascular plants. Two hours lecture and two hours laboratory/field work per week.

BISC 511. Developments in Organismic Biology (3). Prerequisite, graduate standing or permission. Ways in which new information is being integrated with the basic concepts of evolutionary and systematic biology.

BISC 513. Developments in Cellular Biology (3). Prerequisite, graduate standing or permission. Ways in which new information is being integrated with the basic concepts of cellular and molecular biology.

BISC 575. Microbial Physiology (3). Prerequisite, BISC 370. Biochemistry is recommended. Fundamental physiological processes of bacteria. Three hours lecture per week.

BISC 590. Cooperative Education (1-5). An individualized contracted field experience with business, industry, government, or social service agencies. The contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval is required. Grade will be S or U.

BISC 593. Biological Field Studies (1-15). Prerequisite, post-graduate standing, permission of instructor and department chair. Individual or group off-campus experience in the field study of biological phenomena. May be taken more than once for a maximum of 15 credits. Grade will be S or U.

BISC 595. Graduate Research (1-10). Prerequisite, permission of instructor. Organization or conduct of an approved laboratory and/or field research problem. May be repeated. Maximum of 10 credits may be included on course of study for the master's degree.

BISC 596. Individual Study (1-6). Prerequisite, permission of instructor.

BISC 598. Special Topics (1-6).

BISC 599. Seminar (1-5). May be repeated.

BISC 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

Graduate Botany Courses

BOT 596. Individual Study (1-6). Prerequisite, permission of instructor.

BOT 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

Graduate Zoology Courses

ZOOL 502. Advanced Animal Physiology (3). Prerequisite, ZOOL 472 or equivalent. A laboratory oriented course emphasizing the study of lower vertebrates and invertebrates. Two hours lecture and two hours laboratory per week.

ZOOL 571. Vertebrate Endocrinology (4). Prerequisites, one year of college chemistry, one quarter of animal physiology and permission of instructor. A study of the vertebrate endocrine glands, their hormones and regulatory mechanisms. Three hours lecture and two hours laboratory per week. Students may not receive credit for both ZOOL 371 and ZOOL 571.

School of Professional Studies

ZOOL 596. Individual Study (1-6). Prerequisite, permission of instructor.

ZOOL 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

The following courses are on reserve and may be offered subject to program needs. BISC 548 Paleocology (6), BISC 576 Morphology, Physiology and Systematics of Higher Bacteria (5), ZOOL 509 Advanced Mammalogy (5), ZOOL 510 Advanced Ornithology (5), ZOOL 511 Advanced Herpetology (4), ZOOL 512 Advanced Ichthyology (4), ZOOL 562 Aquatic Entomology (5), ZOOL 572 Environmental Physiology (5), ZOOL 580 Advanced Parasitology (5).

BUSINESS ADMINISTRATION

Chair:
Gerald Gunn
Michaelsen 204

Graduate Faculty
Professor:
Edward S. Esbeck, Management and Organization

Associate Professor:
James L. Nimnicht, Human Resource Management,
Organizational Management, Organizational Behavior

Assistant Professor:
*Arthur G. Bowman, Real Estate/Law

*Associate Graduate Faculty

BUSINESS EDUCATION AND ADMINISTRATIVE MANAGEMENT

Chair:
F. Ross Byrd
Barge 308

Graduate Faculty
Professors:
F. Ross Byrd, Business Education, Business Communications
Kenneth K. Harsha, Administrative Management,
Information Processing
V. Wayne Klemin, Business Education, Administrative
Management, Information Processing
Dolores J. Osborn, Business Communications, Business
Education, Executive Secretary, Word Processing
Connie M. Roberts, Business Communications, Office
Management, Information Processing

Blaine R. Wilson, Marketing Education, Fashion
Merchandising, Retail Management

Associate Professors:
*Charles L. Guatney, Fashion Merchandising, Retail Management, Business Communications

*Associate Graduate Faculty

In addition to general regulations for admission to master's programs, admission to the graduate program in business and marketing education will require appropriate undergraduate background in business education or marketing education and the professional education sequence.

Master of Education Business and Marketing Education

Business Education Program Coordinator:
F. Ross Byrd
Barge 308

Marketing Education Program Coordinator:
Blaine R. Wilson
Shaw-Smyser 218C

Program. The student shall complete at least 45 credits as outlined in an approved Course of Study filed with graduate admissions and records. The Course of Study is developed on the basis of individual needs and interests in consultation with the student's committee and the chair of the department of business education and administrative management.

Business Education

Required Courses:	Credits
BSED 524, Business Education Program Design	3
BSED 525, Business and Marketing Education Issues	3
BSED 551, Philosophy and Principles of Vocational Business Education	3
BSED 595, Research	3
BSED 700, Thesis (or option)	0 or 6
Education Foundations and Research Courses (see page 233) .	9
Select 5 credits in content coursework by advisement	5
Select a minimum of 6 credits from the following:	
BSED 426, 445, 520, 527, 528, 529, 530	6

Marketing Education

Required Courses:	Credits
BSED 551, Principles and Philosophy of Vocational Business Education	3
ME 595, Research	3
Education Foundations and Research Courses (see page 233) .	9
ME 700, Thesis (or option)	0 or 6
Select at least 6 credits from the following:	
ME 525, 531, 561	6
Select at least 6 credits from related areas in Business Administration such as marketing, management and personnel, Administrative (Office) Management	6

Select 3 to 9 credits from the areas of Business Education,
Marketing Education, Psychology and Education,
Administrative (Office) Management3-9

Thesis. Students in consultation with their graduate committee and the department chair have an option to follow a thesis or non-thesis program.

Final Examination. An oral examination is administered under the thesis option. Under the non-thesis option, the student must pass a final written and oral examination.

Graduate Administrative Office

Management Courses

ADOM 510. Supervisory Skills (3). Examines the role of the office supervisor, the responsibilities involved, and ways of developing and improving supervisory skills and techniques. Same as ADOM 451. Student may not receive credit for both.

Graduate Business Education Courses

BSED 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

BSED 520. Tests and Measurements in Business Education (3).

BSED 524. Business Education Program Design (3).

BSED 525. Business and Marketing Education Issues (3). Identification and analysis of current issues and trends in business and marketing education. Same as ME 525. Student may not receive credit for both.

BSED 527. Improvement of Instruction in Office Procedures (3). Prerequisite, one year of teaching experience in business education.

BSED 528. Improvement of Instruction in Keyboarding and Word Processing (3). Prerequisite, one year of teaching experience in business education.

BSED 529. Improvement of Instruction in Accounting (3). Prerequisite, one year of teaching experience in business education.

BSED 530. Improvement of Instruction in Shorthand and Transcription (3). Prerequisite, one year of teaching experience in business education.

BSED 551. Philosophy and Principles of Vocational Business Education (3).

BSED 561. Administration of Occupational Education (3). The study of occupational needs, survey federal laws, state plans, finance, advisory committees, organization of programs and staffing. Not open to students with credit in OCED 551. BSED/HOEE/IET 561 are the same course. Student may receive credit for one.

BSED 591. Workshop (1-6). No more than two workshops for a combined maximum of 8 credits can be applied towards a master's degree.

BSED 595. Research (3).

BSED 596. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

BSED 598. Special Topics (1-6).

BSED 599. Seminar (1-5). May be repeated.

BSED 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

Graduate Marketing Education Courses

ME 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

ME 525. Business and Marketing Education Issues (3). Identification and analysis of current issues and trends in business and marketing education. Same as BSED 525. Student may not receive credit for both.

ME 531. Improvement of Instruction in Marketing and Distribution (3). Prerequisite, one year of teaching experience in marketing education.

ME 561. Program Development in Marketing Education (3). Prerequisite, appropriate undergraduate or comparable preparation in marketing education.

ME 591. Workshop (1-6). No more than two workshops for a combined maximum of 8 credits can be applied towards a master's degree.

ME 595. Research (3).

ME 596. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

ME 598. Special Topics (1-6). May be repeated.

ME 599. Seminar (1-5). May be repeated.

ME 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

College of Letters, Arts and Sciences

The following courses are on reserve and may be offered subject to program needs: BSED 546 Office Internship (1-6), and BSED 550 Principles of Business Education (3).

CHEMISTRY

Chair:

Robert D. Gaines

Dean 303

Graduate Faculty

Professors:

Donald Dietrich, Science Education

L. Clint Duncan, Inorganic, Environmental

Walter C. Emken, Physical

Robert D. Gaines, Biochemistry

Helmi S. Habib, Inorganic

Richard W. Hasbrouck, Organic

Jerry L. Jones, Analytical

David G. Lygre, Biochemistry

The department of chemistry offers advanced study programs leading to the master of science in chemistry. Options are offered to prepare the student for employment in government or industry, as a teacher in community college, or for further graduate study in chemistry or a related field. Emphasis is offered in all major areas of chemistry, with opportunities for in-depth study in a specific area through appropriate courses and seminars. On-campus graduate research or practical experience in the form of industrial or community college teaching internships may be integrated into the graduate program.

Community College Transfer Program. It is possible for community college transfer students with appropriate backgrounds to earn both the B.S. and M.S. degree in a total of three years. Such programs are individualized according to the specific needs and background of the student. For additional information contact the graduate program advisor, department of chemistry.

Program Admission Requirements. In addition to general regulations for admission to master's programs, admission to programs in chemistry will require an appropriate undergraduate background in chemistry. (See requirements for B.A. in chemistry.) Deficiencies in the student's undergraduate training as determined by the department of chemistry at the time of admission to the program must be removed without graduate credit during the first year of graduate study.

Students expecting to be admitted to the master of science program must take both the Chemistry Subject Test and the General Test of the Graduate Record Examination.

Program. The student shall complete at least 45 credits as outlined in an approved Course of Study filed with graduate admissions and records. The Course of Study is selected by advisement of the chemistry department by the end of the student's first quarter of residence.

Master of Science

Required Courses

Three of the following: CHEM 510, 550, 561 or

562, 571, 581, 582 or 583	9
CHEM 599, Seminar	3
Upper division/graduate courses in chemistry or related fields (by advisement)	18-21
Select one of the following options:	

a) RESEARCH THESIS OPTION

CHEM 595, Research	9
CHEM 700, Thesis	6

b) FIELD EXPERIENCE OPTION

CHEM 590, Field Experience (Industry/Community College) (May not exceed 12 credits for 45 hour program.)	12
--	----

c) PROJECT OPTION

Additional hours of upper division/graduate courses in chemistry or related fields by advisement	6
CHEM 700, Non-thesis project	6

Total 45

Students who may wish to pursue additional graduate work after completion of the M.S. degree should take the research thesis option. The field experience option will be designed to meet the needs of 1) students seeking a terminal degree with the intention of pursuing a career with the chemical industry, or 2) students seeking a terminal degree with the intention of pursuing a career in community college teaching. The field experience will be arranged by the mutual agreement of the chemistry department and a selected industrial company or community college, and must be approved by the office of cooperative education. A written report is required and will be specified in the field experience contract. The project option is intended for professional chemists wishing to pursue the M.S. degree.

Graduate Committee. The student will have a four-member graduate committee with the chair of the committee selected as described below. Two additional members will be assigned by the department. The fourth member will be assigned by the dean of graduate studies as an observer at the time of the final examination. By the end of the student's first quarter in the chemistry graduate program and after consultation with all members of the chemistry faculty, the student must request the department chair to approve selection of and acceptance by, one of the faculty as the chair of the graduate committee.

Examination. Each candidate must pass a final oral examination on all phases of the student's program. The final examination will be open to faculty members, but the success or failure of the candidate will depend solely on the decision of the graduate committee.

Graduate Courses

CHEM 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

CHEM 510, 511, 512. Advanced Biochemistry (3,3,3) Prerequisite, CHEM 371.

CHEM 515. Biochemical Methods (3). Prerequisite, CHEM 511. Three laboratory sessions weekly.

CHEM 550. Advanced Analytical Chemistry (3). Prerequisites, CHEM 452 and 452.1.

CHEM 561. Organic Reaction Mechanisms (3). Prerequisites, CHEM 363, 363.1 and 383. Three lectures weekly.

CHEM 562. Synthetic Organic Chemistry (3). Prerequisites, CHEM 363, 363.1 and 383. Three lectures weekly.

CHEM 570.1, 570.2. Advanced Inorganic Chemistry (3,3). Prerequisite, CHEM 350.

CHEM 571. Chemistry of the Transition Elements (3). Prerequisite, CHEM 350. Three lectures weekly.

CHEM 581. Thermodynamics (3). Prerequisite, CHEM 383. Three lectures weekly.

CHEM 582. Chemical Kinetics (3). Prerequisite, CHEM 383. Three lectures weekly.

CHEM 583. Quantum Chemistry (3). Prerequisite, CHEM 383. Three lectures weekly.

CHEM 590. Cooperative Education (1-12). An individualized contracted field experience with business, industry, government, or social service agencies. The contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval is required. Grade will be S or U.

CHEM 595. Graduate Research (1-10). May be repeated for credit. Maximum of 10 credits in a 45-hour program.

CHEM 596. Individual Study (1-6). Prerequisite, permission of instructor.

CHEM 598. Special Topics (1-6).

CHEM 599. Seminar (1-5). May be repeated.

CHEM 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

COMMUNICATION

Chair:
Philip M. Backlund
Bouillon 252

Graduate Faculty

Professors:

Philip M. Backlund, Speech Communication

College of Letters, Arts and Sciences

Corwin P. King, Speech Communication, Public Relations

Associate Professors:

Roger L. Garrett, Speech Communication

Graduate Courses

COM 598. Special Topics (1-5).

COM 599. Seminar (1-5). May be repeated.

COMPUTER SCIENCE

Chair:

George G. Town

Hebeler 219

Graduate Faculty

Professors:

Barry J. Donahue, Formal Language Theory

Bernard Martin, Mathematics, Languages

Carl Steidley, Architecture, Organization, and Hardware
of Computers

George Town, Systems Programming

Graduate Courses

CPSC 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

COUNSELING

Graduate Faculty

Associate Professors:

*William O. Dugmore, Counseling

*Gregory Trujillo, Counseling and Research Methods

*Associate Graduate Faculty

DRAMA

Chair:

Richard E. Leinaweaver

McConnell 106

Graduate Faculty

Professors:

A. James Hawkins, Children's Theatre, Puppetry,
Creative Dramatics

School of Professional Studies

Graduate Courses

DR 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

DR 596. Individual Study (1-6).

DR 599. Seminar (1-5). May be repeated.

ECONOMICS**Chair:**

Donald J. Cocheba
Farrell 320

Graduate Faculty**Professors:**

Donald J. Cocheba, Resource Economics and Regional Development
Gerald P. Gunn, Quantitative Methods, Economics and Business, Statistics, and Futures and Options Markets for Agricultural Commodities
Richard S. Mack, Resource Economics and Regional Development

EDUCATION**Chair:**

Dale LeFevre
Black Hall 201

Graduate Faculty**Professors:**

Jimmie R. Applegate, Social Studies, Curriculum and Instruction
D. Daryl Basler, Mathematics
Donald E. Black, Industrial and Vocational Education
Franklin D. Carlson, Social Studies, Curriculum and Instruction
Byron L. DeShaw, Curriculum and Instruction, Mathematics
Calvin G. Greatsinger, Elementary Education, Language Arts, Reading
George C. Grossman, Curriculum and Instruction
Dale LeFevre, Special Education
Glenn A. Madsen, Special Education
Dale E. Otto, ECE Curriculum, Administration, Child Language Acquisition and Bilingualism, Child Care Operation and Supervision, Teacher Preparation
Conrad H. Potter, Administration and Finance
Samuel P. Rust, Jr., Special Education
Donald M. Schliesman, Administration and Supervision
Dan A. Unruh, Curriculum and Instruction
Timothy W. Young, Curriculum and Instruction, Teaching Effectiveness

Associate Professors:

Minerva L. Caples, Curriculum and Instruction
Jack L. McPherson, Educational Administration
*Robert L. Myers, Special Education
Mary Jean Potter, Elementary Education
Joe H. Schomer, Elementary Education, Language Arts, Reading
David Shorr, Child Development, Language and Cognition, Research
Arne Sippola, Reading, Language Arts
Larry A. Wald, Educational Administration
Randall R. Wallace, Early Childhood Education

Assistant Professors:

Osman Alawiye, Curriculum and Instruction
Andrea C. Bowman, Curriculum and Instruction, Qualitative Research
Linda D. Douglas, Special Education
*Parker C. Fawson, Reading, Language Arts, Elementary Education
Nancy E. Jurenka, Children's Literature, Reading Education
Susan M. Madley, Curriculum and Instruction, Educational Administration

*Associate Graduate Faculty

Master of Education

The master of education degree program is mainly for elementary and secondary school teachers and school service personnel. Since the program may also prepare the student for community college teaching and for advanced study, the student should seek advice from the program advisors. For advice regarding specializations under the department of education contact the chair, department of education, Black Hall. For M.Ed. programs in academic areas contact the advisors in the appropriate departments.

Program Admission Requirements

In addition to general requirements for admission to master's programs, students desiring admission to programs in education must meet department of education requirements. Members of the department will review the student's application materials from graduate admissions and records and, if deemed necessary, may meet with the student personally before a recommendation for admission can be made.

Master of Education**Administration**

Program: This program prepares teachers for the initial principal's certificate. Two options are available: Option I is General Administration and Option II couples General Administration with a Bilingual Education specialization. A student shall complete at least 54 credits in an approved course of study to be developed in consultation with the graduate advisor. For requirements of general master's degree regulations please refer to p. . The master of education administration program provides options for the various school levels, but does not necessarily qualify the student for the initial principal's certificate, which requires that an applicant also complete the 16 credit internship as described under Education 692 and 693.

Option I: General Administration

The general administration program prepares individuals who can provide appropriate leadership and direction to the school professional staff and to the community by (1) developing a unified system for managing human resources; (2) developing long-range plans, policies and goals; and (3) executing the policies developed by the district.

Required Courses	Credits
Educational Foundations and Research Courses (see page 233)	9
ED 561, School Supervision	3
ED 580, Educational Administration	5
ED 581, Public School Finance: Introduction OR	
ED 587, Educational Grants Management and Budget	3
ED 586, The Principalship	5
ED 594, School Law	3
ED 700, Thesis or option	6
Select one of the following	3 or 5
Elementary and Middle School Principals	
ED 562, Elementary School Curriculum, 3 credits	
Junior and Senior High School Principals	
ED 564, Secondary School Curriculum, 5 credits	
Total	37-39

Electives for Option I:

Fifteen to 17 credits of electives are to be selected from the following list to total a minimum of 54 credit hours for the degree: ED 487, 488, 503, 506, 542, 560, 563, 565, 566, 567, 571, 578, 582, 583, 584, 599, 693 (not to exceed 4 credits), PSY 444, SPED 585, SOC 360, 459, courses in organizational development, ED 588, and other administration related courses.

It is suggested that prospective middle school principals elect ED 563 and/or 582.

Total 15-17

Program Total 54

Option II: General Administration with a Bilingual Education Specialization

This program prepares school principals to serve in schools with large numbers of Limited English Proficient children. Completion of the specialization requires appropriate field activities and a graduate level core of bilingual education coursework.

Prerequisites: The student must have an undergraduate major in bilingual education or must demonstrate proficiency in speech and writing judged to be equivalent to that of SPAN 300, Spanish for Bilingual School Personnel, or the equivalent in another language. Determination of proficiency will be made by the chair of the foreign languages department.

Required Courses

The required courses are the same as those listed for Option I, with two exceptions. ED 700, Educational Development Project must be taken and the 10 additional credits listed below must also be taken:

	Credits
ED 556, Bilingual Education Curriculum	3
ED 507, Studies and Problems in Intercultural Education	3
ED 512, Legal Rights of the Limited English Proficient	2
ED 518, Studies and Problems in Educational Linguistics	2
Total	10

Electives

To be selected from the courses listed as electives under Option I for the master of education, administration program to total a minimum of 54 credit hours.

The Initial Principal's Certificate

The granting of the initial principal's certificate requires completion of the master's degree, completion of the required courses listed under Option I, and a full year's internship under the supervision of a practicing principal.

Recommended Courses (for second year)

ED 692, Pre-Autumn Internship in School Administration	4
and	
ED 693, Internship in School Administration	12
Electives (see courses listed under Option I and credential advisor)	30-40

The Continuing Principal's Certificate

The continuing principal's certificate requires that at least an additional 15 quarter credits be earned, generally after starting experience as a principal. Most principals need more than the minimum of 15 credits in order to provide the depth and breadth of preparation necessary for administering schools in the modern setting.

Master of Education

Master Teacher

The master teacher is conceived as a program of advanced preparation for classroom teachers intending to assume positions of leadership within their schools with respect to the development of curriculum, instructional strategies, and related classroom concerns.

The program is diversified to allow students to select an area of emphasis within the three concentrations of elementary, middle school, or secondary teaching.

Program. The student will complete at least 45 credits as outlined in an approved Course of Study filed with graduate admissions and records. The development of a Course of Study most appropriate to the professional goals and purposes of each individual student is encouraged.

School of Professional Studies

Required Courses	Credits
Educational Foundations and Research Courses (see page 233)	9
ED 700, Thesis (or option)	6
Area of emphasis and related study (see guidelines following)	30
Program Total	45

Elementary Teaching

This concentration is designed for teachers in the elementary grades comprising ages 5-11 (grades K-6).

Students in consultation with an appropriate advisor will design a course of study appropriate to their professional goals, comprising the professional required courses, thesis or option, and normally at least 15 credits (variable 12-18) from one of the following areas of emphasis:

1. Teaching strategies, curriculum and materials (e.g., ART 330, ED 421, 513, 521, 526, 528, 592.1, 531, 539, 542, 545, 551, 562, 565, ENG 320, DR 343, 420, MATH 552, 560, SCED 422, SOSC 520, SPED 521, 522);
2. Media (e.g., ED 450, 516, 550, 578, COM 341, 366, 442);
3. Bilingual Ed. (e.g., ED 507, 512, 518, 556 plus language arts option courses or special education option courses);
4. Contemporary trends (e.g., ED 401, 432, 506, 571, 583, SPED 512).

Middle School Teaching

This concentration is designed for teachers in middle and junior high schools comprising ages 11-14 (grades 5-8).

Normally 15 credits (variable 12-18) of related studies will be selected from an academic field or fields in which the student wishes to become more proficient. An exception may be made if the student has had appropriate previous advanced study (e.g., fifth year or other post-baccalaureate work). If related studies are not taken, then work in the areas of emphasis will be expanded accordingly.

Normally 15 credits (variable 12-18) of course work selected from at least one of the following areas of emphasis:

1. Teaching strategies, curriculum, and materials (e.g., ED 513, 526, 528, 592.1, 539, 542, 545, 563, 582, SOSC 520);
2. Evaluation and counseling (e.g., ED 487, 488, 504, 505, 543, 544, 560, 566, PSY 552, 559, 569, 573);
3. Media (e.g., ED 450, 516, 550, 578, COM 341, 366, 442);
4. Contemporary trends (e.g., ED 401, 432, 506, 567, 571, 583, 588, SPED 512).

Secondary School Teaching

This concentration is designed for teachers in high schools comprising ages 14-18 (grades 9-12). One of the student's graduate committee members must be from the academic field.

Normally 15 credits (variable 12-18) of related studies will be selected from an academic field in which the student wishes to become more proficient. An exception may be made if the student has had appropriate previous advanced study (e.g., fifth year or other post baccalaureate work). If related studies are

not taken, then work in the areas of emphasis will be expanded accordingly.

1. Teaching strategies, curriculum, and materials (e.g., ED 424, 513, 539, 545, 564);
2. Evaluation and counseling (e.g., ED 487, 488, 504, 505, 543, 544, 560, 566, PSY 552, 559, 569, 573);
3. Media (e.g., ED 450, 516, 550, 578, COM 341, 366, 442);
4. Contemporary trends (e.g., ED 401, 506, 567, 571, 583, 588, SPED 512).

Master of Education

Reading Specialist

A minimum of one year of teaching experience before formal admission to the program. The following courses should be taken prior to enrollment in the specialization courses and may not be counted as part of the required credits in the reading specialist program:

- Basic Reading Course
- Basic Language Arts Course
- Basic Children's Literature Course

Program. The student shall complete at least 45 credits as outlined in an approved course of study filed with graduate admissions and records.

Required Courses	Credits
Education Foundations and Research Courses (see page 233)	9
ED 700, Project Study or Thesis	6
Total	15

Reading Specialist Core

ED 521, Reading in the Elementary School	4
ED 523, Survey of Research in Reading	3
ED 525, Psychology of Reading	3
ED 526, Diagnosis of Reading Difficulties	3
ED 528, Remediation of Reading Difficulties	3
ED 592.1, Practicum: Diagnosis and Remediation of Reading Difficulties	3
Total	19

Electives

Elective courses from the list below or by committee approval to complete at least 45 credits.

ED 418, Reading and Linguistics	3
ED 423, Reading in the Secondary School	3
ED 424, Reading in the Content Fields	3
ED 520, Advanced Teaching of Reading: Methods and Materials	3
ED 522, Middle School Reading	3
ED 532, Organization and Administration of Reading Programs	3
ED 561, School Supervision	3
ED 599, Seminar	1-5
SPED 520, Introduction to Learning Disabilities	3
Total	11

Program Total 45

**Master of Education
Special Education**

The master of education with specialization in special education is designed to provide graduate level study in the various areas of special education.

Prerequisites: Students must have an undergraduate major in special education or a minimum of one year teaching experience in a special education classroom as a certified teacher. Students without a major in special education will be required to take appropriate background courses. One year of successful teaching in a special education classroom prior to taking the final 30 credits of course work is also required. Students must submit documented evidence of teaching experience to their program advisor.

Program. Students will complete at least 45 credits as outlined by selecting one of three options: The Mildly/Moderately handicapped, the Severely/Profoundly Handicapped, or the Bilingual Mildly Handicapped. Students will file an approved Course of Study with graduate admissions and records in consultation with their major advisor from special education and their graduate committee.

Required Courses	Credits
Education Foundation and Research Courses (see page 233)	9
ED 700, Thesis (or option)	6
Total	15

Special Education Core	
SPED 512, Educational Rights of the Handicapped	3
SPED 513, Introduction to Mental Retardation	3
SPED 520, Introduction to Learning Disabilities	3
SPED 567, Introduction to Behavioral Disorders	3
SPED 581, Current Issues in Special Education (may be repeated and counted as an elective)	1
Total	13

Students will select one of the following options:

Mildly/Moderately Handicapped:	
SPED 521, Diagnostic Techniques for the Mildly/Moderately Handicapped	3
SPED 522, Remediation of Learning Disorders of the Mildly/Moderately Handicapped	3
SPED 523, Curriculum for the Mildly/Moderately Handicapped	3
SPED 585, Administration and Supervision of Programs for Mildly/Moderately Handicapped	3
Total	12

Severely/Profoundly Handicapped:	
SPED 514, Curriculum for the Severely/Profoundly Handicapped	3
SPED 515, Assessment of the Severely/Profoundly Handicapped	3
SPED 568, Implementing Instructional Programs for the Severely/Profoundly Handicapped	3

SPED 586, Administration and Supervision of Programs for the Severely/Profoundly Handicapped	3
Total	12

Bilingual Mildly Handicapped:	
SPED 521, Diagnostic Techniques for the Mildly/Moderately Handicapped	3
SPED 534, The Bilingual Exceptional Student	3
SPED 535, Curriculum for Bilingual Mildly Handicapped Students	3
SPED 585, Administration and Supervision of Programs for Mildly/Moderately Handicapped	3
ED 433, Educational Linguistics	5
Total	17
Guided Electives	5
Program Total	45

**Program Administrator
Special Education**

For entry to the program leading to the program administrator's certificate in special education, three years of certified service in a K-12 educational setting is required. Candidates without background preparation and/or experience in special education will be required to take additional credits prior to full admittance to the program. The initial director of special education certificate is valid for four years of service and may be renewed for three years.

Candidates must, in addition to a master's degree in either special education, counseling or psychology, complete the following courses:

ED 580, Educational Administration	5
ED 561, School Supervision	3
ED 587, Educational Grants Management and Budget	3
SPED 512, Educational Rights of the Handicapped	3
SPED 585, Administration and Supervision of Programs for Mildly/Moderately Handicapped	3
*SPED 682 and SPED 683, Internship in Special Education School Administration	16
Total	33

*Internship for one year. Special Education 682 and 683: 16 credits. No more than four (4) credits may be applied to the master's degree.

**Master of Education
Supervision and Curriculum**

Prerequisites. A minimum of one year of successful teaching experience before admission to the program. For certification as a program administrator three years of certificated service in a K-12 setting is required.

Program. A student shall complete at least 54 credits as outlined in an approved Course of Study filed with graduate admissions and records. The development of a Course of Study

School of Professional Studies

most appropriate to the professional goals and purposes of each individual student is encouraged.

Applicants for program administrators in supervision and curriculum must have a year's internship described under ED 694 in addition to the M.Ed.

Required Courses**Credits**

Educational Foundations and Research Courses (see page 233)	9
ED 561, School Supervision	3
ED 562, Elementary School Curriculum	3
ED 564, Secondary School Curriculum	5
ED 580, Educational Administration	5
ED 583, School and Community	3
ED 581, Public School Finance: Introduction	3
ED 594, The Educator and the Law	3
ED 700, Thesis (or Option)	6

Total 40**Electives:**

Graduate or upper division courses in subject or specialization area selected with advice from chair14

Program Total 54

One quarter (4 credits) of ED 694, Internship in Improvement of Instruction and Curriculum Development, may be taken in the M.Ed. program as part of the elective requirement.

Graduate Education Courses

ED 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

ED 501. Educational Foundations (3). Provides a background in selected areas of sociological, historical, and philosophical foundations of education. Also considers current and emerging problems of education.

ED 502. History of Education (3). Background: historical development in America.

ED 503. Philosophy of Education (3). Various philosophic positions which lead to an understanding of the educational enterprise. Same as PHIL 503. Student may not receive credit for both ED/PHIL 467 and ED/PHIL 503.

ED 504. Advanced Educational Statistics (4). Use and interpretation of complex statistical principles.

ED 505. Educational Measurement for Teachers (3). Designed primarily for graduate students. Emphasis is on formal and informal measurement. Test theory, formative and summative evaluation; criterion and norm referenced measurements, and construction and use of classroom tests are emphasized.

ED 506. Education Futurism (3). A study of the literature on alternative futures in American society and their possible impacts upon education. The methods of creative forecasting or future research. The desirability of deciding between alternative futures in education and the methodology of helping to bring about the more desirable future. Futurism in elementary and secondary schools.

ED 507. Studies and Problems in Intercultural Education (3). Research and analysis of models in intercultural and interpersonal school relations. Awareness of the student-teacher relation in creating school climate in multicultural settings. Analysis of the principles used to interpret these interactions, and practice in brief interventions involving staff, teachers and students.

ED 508. Comparative Education (3). A comparative look at national systems of education.

ED 510. Educational Research and Development (3). A study of the types, methodology, and uses in practice of educational research and development skills pertinent to the design and execution of research thesis and education developmental projects.

ED 512. Legal Rights of the Limited English Proficient (2). Historical developments and legal foundations in bilingual education with particular attention to Washington state law and federal legislation.

ED 513. Creative Teaching (3). Prerequisite, teaching experience. Includes opportunity for creative expression as well as sharing creative teaching ideas, aids and methods. The purpose of the course is to help teachers become more imaginative and creative in planning, conducting and evaluating classroom instruction. Emphasis on classroom management and organization.

ED 516. Media Utilization: Advanced Theory (5). Prerequisite, ED 316. Explores recent research, experimental programs and new developments in the utilization of media.

ED 518. Studies and Problems in Educational Linguistics (2). Prerequisites, ED 433 or English as a Second Language (ESL) methods course, or equivalent, and classroom experience. Identification and study of problems related to educational linguistics and second language instruction.

ED 520. Advanced Teaching of Reading: Methods and Materials (3). Prerequisites, a reading methods course at the undergraduate level and teaching experience. An in-depth research-based analysis of reading methods and materials used in elementary and secondary settings.

ED 521. Reading in the Elementary School (4). Prerequisites, a basic undergraduate reading course and classroom experience, or permission. Contemporary influences in reading instruction in American elementary schools.

ED 522. Middle School Reading (3). Prerequisites, a basic undergraduate reading course and classroom experience. An advanced course on the teaching of reading designed for middle school teachers.

ED 523. Survey of Research in Reading (3). Prerequisites, reading methods course and teaching experience. Identification and in-depth study of problems related to reading instruction. Recent reading research is pursued with emphasis on classroom application.

ED 525. Psychology of Reading (3). Prerequisites, a reading methods course, a basic psychology of learning course, or permission of instructor. Principles of learning and readiness, perception, psychological and physiological aspects of reading. Same as PSY 525. Student may not receive credit for both.

ED 526. Diagnosis of Reading Difficulties (3). Prerequisites, an undergraduate reading methods course and teaching experience. Designed to inform practicing teachers about materials and procedures for diagnosing and interpreting reading problems of students.

ED 527. Whole Language Approach to Teaching Reading (3). Oral language development as a bridge to reading. Specific techniques and materials which use the whole language of the child will be developed into a reading program.

ED 528. Remediation of Reading Difficulties (3). Prerequisite, ED 526. Techniques and materials for remediating children's reading difficulties. Should be taken concurrently with ED 592.1.

ED 531. Teaching Elementary School Language Arts, Advanced (3). Prerequisite, ED 420 or equivalent or permission of instructor. The current aspects of the elementary school language arts curriculum except reading.

ED 532. Organization and Administration of Reading Programs (3). Prerequisites, ED 528 and ED 592.1 and permission of the instructor. Designed for administrators, coordinators, consultants, and reading specialists. Program operations, new techniques and materials, grant writing, supervisory skills, and inservice presentations. Student may not receive credit for both ED 524 and ED 532.

ED 539. Educational Games (3). Prerequisite, graduate standing or one year of teaching experience. This course will emphasize the purpose and benefits of educational games and provide each student with experience in planning, developing, and presenting as well as playing, games of their own creation for use as an instructional tool. Participants will be responsible for any expense involved in the construction of their games.

ED 542. Individualizing Instruction (3). Prerequisite, ED 311 or equivalent. Basic techniques appropriate to elementary and secondary schools.

ED 543. Teacher Counseling (3). Theory and techniques interviewing, advising and counseling; school personnel services, community and state special services.

ED 544. Parent-Teacher Conferences (2). Planning, organizing and conducting.

ED 545. Classroom Teaching Problems (3). Prerequisite, teaching experience. Open to experienced teachers.

ED 546. Advanced Laboratory Experience (2-5). Consult chair of department of education for permission to register for this course.

ED 550. Instructional Media Production II (5). Prerequisite, ED 450. Advanced instruction in the production of instructional materials including still and motion pictures. Emphasizes design as well as production skills.

ED 551. Teaching Elementary School Mathematics, Advanced (3). Prerequisite, ED 323 or equivalent or permission of instructor. Research findings in mathematics education, number abilities needed by children; designing number experiences; desirable teaching procedures, selection and use of materials. Course content and experiences are designed for the experienced teacher or graduate level student.

ED 556. Bilingual Education Curriculum (3). Prerequisite, ED 435 or permission of instructor. Planning, implementation and evaluation of the bilingual education program curriculum for the elementary school.

ED 560. Teacher Evaluation (3). Evaluation of classroom instruction including observations, pre-conferences, interview skills, and feedback techniques.

ED 561. School Supervision (3). Prerequisites or corequisites, ED 580 and one year of teaching experience. For those students enrolled in either the M.Ed. program in administration or the administrator certification program. Development of observation skills, assessment skills, and the ability to work with teachers for the improvement of instruction.

ED 562. Elementary School Curriculum (3). Prerequisite or corequisite, ED 580. For those students enrolled in either the M.Ed. in administration or the administrator certification program.

ED 563. Middle School Curriculum (4).

ED 564. Secondary School Curriculum (5). Prerequisite or corequisite ED 580. For those students enrolled in either the M.Ed. in administration or the administrator certification program.

ED 565. Program of Curriculum Improvement (3).

ED 566. Evaluation of the School Program (3).

ED 567. Educational Change (3). Education change; barriers, characteristics, trends, processes; role of change agent in school organization; leadership techniques for facilitating change.

ED 569. Supervision of Student Teachers (3). Prerequisite, one year of teaching experience.

ED 571. Continuous Progress School (3). The relationship of the instructional program to levels of learning based on individual capacities and maturity.

ED 577. In-Service Programs (3).

School of Professional Studies

ED 578. Administration of Media Programs (5). Explores problems involved in administering media programs in schools and other educational institutions. Includes writing equipment specifications, examining scheduling problems, and planning new facilities.

ED 580. Educational Administration (5). Prerequisite, one year of teaching experience.

ED 581. Public School Finance: Introduction (3). Prerequisite or corequisite, ED 580. For those students enrolled in either the M.Ed. in administration or the administrator certification program.

ED 582. The Middle School (3). Middle School background, goals, programs, organizational patterns, staffing, facilities, and trends.

ED 583. School and Community (3). For classroom teachers, principals, administrators and lay leaders. An examination of the relationship between the school and community.

ED 584. Personnel Relations in School (3). For school administrators.

ED 585. Public School Finance-Advanced (3). This course provides an in-depth study of revenue sources, tax theory, and distribution formulas. A comparative review of methods of apportioning funds is included to provide a basis for analyzing the Washington problem. Program planning and budgeting systems are emphasized. The current press for accountability, cost effectiveness, and systems for assessing quality of performance are considered.

ED 586. The Principalship (5). Prerequisite, one year of teaching experience in a state-approved K-12 program. The administration of elementary, middle, junior high and high schools. Covers common elements and those peculiar to specific levels.

ED 587. Educational Grants Management and Budget (3).

ED 588. Politics of Education (3).

ED 590. Cooperative Education (1-12). An individualized contracted field experience with business, industry, government, or social service agencies. The contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval is required. Grade will be S or U.

ED 591. Workshop (1-6). No more than two workshops for a combined maximum of 8 credits can be applied towards a master's program.

ED 592.1. Practicum: Diagnosis and Remediation of Reading Difficulties (3). Prerequisite, ED 526. Supervised experience working with one or more students. Includes the preparation of a case study. Grade will be S or U. Should be taken concurrently with ED 528.

ED 593. Systems Approach to School Administration (3). General overview, definitions, and understanding of administrative and budgeting systems.

ED 594. School Law (3). Prerequisite or corequisite, ED 580. For those students enrolled in either the M.Ed. in administration or the administrator certification program. An introduction to U.S. constitutional, legislative and regulative school law, with particular attention to the state of Washington. Covers the legal issues of governance, church/state relations, tort liability, personnel and student rights, property and funding, minorities. Also covers basic legal research skills.

ED 595. The Community Junior College (3).

ED 595.2. Community College Instructional Problems (3). An analysis of the type of teaching applicable to the community college with an open door policy with special reference to lectures, assignments, uses of textbooks, programmed materials, newer media, student reports, quiz techniques, panel discussions, and preparations of instructional objectives, syllabi, and bibliography.

ED 596. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

ED 597. Graduate Research (1-10). Individual student research under the direction of a faculty member. May be repeated for credit. Maximum of 10 credits may be included on course of study for the master's degree.

ED 598. Special Topics (1-6).

ED 599. Seminar (1-5). May be repeated.

ED 692. Pre Autumn Internship in School Administration (4). Prerequisites, minimum of two years of successful teaching experience, ED 580 and 586. Emphasis on the principal's responsibilities prior to and during the opening of the school year. Permission to register only after approval of department chair. Combines with ED 693 for 16 total credits in administrative internship. Grade will be S or U.

ED 693. Internship in School Administration (4-16). Prerequisites, minimum of two years of successful teaching experience, ED 580 and 586. (Meets the laboratory and internship requirements outlined by the State Board of Education for candidates for principal's credentials.) Permission to register only after approval of department chair. Grade will be S or U. Credits earned in an administrative internship may not exceed a total of 16. Not more than 4 credits are applicable to credit requirements for the master's degree. Combines with ED 692 for 16 total credits in administrative internship.

ED 694. Internship in Improvement of Instruction and Curriculum Development (4-16). (Meets the laboratory and internship requirements outlined by the State Board of Education for candidates for a program administrator's credential in supervision instruction, and curriculum development specializations.) Permission to register only after approval of the department chair. Grade will be S or U. Credits earned in an administrative internship may not exceed a total of 16. Not more than 4 credits are applicable to credit requirements for the master's degree.

ED 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, ED 510 and permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

Graduate Early Childhood Education Courses

ECE 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

Graduate Special Education Courses

SPED 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

SPED 512. Educational Rights of the Handicapped (3). Prerequisite, teaching experience or permission of instructor. A review of federal and state legislation and litigation affecting the handicapped. Included are procedures by which legislation can be affected.

SPED 513. Introduction to Mental Retardation (3). Etiology of retardation, unresolved social questions and problems related to training and management.

SPED 514. Curriculum for the Severely/Profoundly Handicapped (3). Prerequisite, SPED 513 or permission of instructor. Design and implementation of curriculum and materials appropriate for teaching cognitive psychomotor and effective domain skills. Emphasis on individual educational planning process.

SPED 515. Assessment of the Severely/Profoundly Handicapped (3). Prerequisite, SPED 513 or permission of instructor. Selection, administration and interpretation of formative and summative evaluation techniques.

SPED 520. Introduction to Learning Disabilities (3). Orientation of students to current problems and trends in the field of learning disabilities. Provides background in behavioral management techniques and an overview of elementary screening instruments.

SPED 521. Diagnostic Techniques for the Mildly/Moderately Handicapped (3). Prerequisite, teaching experience or permission of instructor. Interpretation of formal and informal diagnostic instruments, both group and individual will be explored. Instruments pertaining to academic and social behavior and the development of a diagnostic report will be emphasized.

SPED 522. Remediation of Learning Disorders of Mildly/Moderately Handicapped (3). Prerequisite, SPED 521 or permission of instructor. Procedures to implement and evaluate programs and activities to remediate academic and social behaviors will be emphasized.

SPED 523. Curriculum for the Mildly/Moderately Handicapped (3). Focuses on advanced curriculum development including evaluation design and implementation. Correlation between major teaching strategies and learning theories is included.

SPED 533. Education of Disadvantaged Students (3). Teaching experience or permission of instructor. Techniques of teaching and curriculum modification for teaching the disadvantaged. Emphasis on early education as a prevention of failure and compensatory education for later grades.

SPED 534. The Bilingual Exceptional Student (3). Prerequisite, SPED 301, graduate standing or permission of instructor. Develops knowledge of cultural and linguistic factors affecting the education of minority handicapped students.

SPED 535. Curriculum for Bilingual Mildly Handicapped Students (3). Prerequisite, SPED 301, graduate standing or permission of the instructor. A sociocultural approach to instructional program planning and implementation in regular and resource classrooms, with an emphasis on mainstreaming.

SPED 567. Introduction to Behavioral Disorders of the Handicapped (3). Teaching experience recommended. Theories and methods in working with the maladjusted child.

SPED 568. Implementing Instructional Programs for the Severely/Profoundly Handicapped (3). Prerequisite, SPED 513 or permission of instructor. The design and implementation of service delivery and instructional strategies.

SPED 581. Current Issues in Special Education (1). May be repeated. Graduate standing required.

SPED 585. Administration and Supervision of Programs for Mildly/Moderately Handicapped (3). Current practices in writing grants, hiring personnel, administering programs and supervising for improvement of curriculum and teaching methods for teachers.

SPED 586. Administration and Supervision of Programs for the Severely/Profoundly Handicapped (3). Organization and administration strategies; federal programming and legislation; national trends; behavior qualities of administrators; facilities and technology; and personnel preparation and staffing for the severely/profoundly handicapped.

SPED 596. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

SPED 598. Special Topics (1-6).

SPED 599. Seminar (1-5). May be repeated.

SPED 682. Internship In Special Education School Administration (4-16). Meets the internship requirements outlined by the State Board of Education for candidates seeking director of special education certification. Permission to register after admittance by the administrator preparation board. Grade will be S or U. Credits earned in an administrative internship will not exceed a total of 16. Not more than 4 credits are applicable to the credit requirements for the master's degree.

School of Professional Studies

SPED 683. Pre-Autumn Internship in Special Education School Administration (4). Prerequisite, permission of the director of the administrator preparation board. Emphasis is on the responsibilities of special education prior to and during the opening of the school year. Combines with SPED 682 for 16 total credits in administrative internship. Grade will be S or U.

The master of science, early childhood services and various courses are on reserve and may be offered subject to program needs. ECS 541 Studies in Early Childhood Services (1-4), ECS 546 Program Models and Design (5), ECS 550 Organizing and Operating the Child Care Program (4), ECS 575 Staff Management and Development (3), ECS 585 Research and Assessment in Child Services Programs (4), ECS 591 Workshop (1-6), ECS 596 Individual Study (1-6), ECS 598 Special Topics (1-6), ECS 599 Seminar (1-5), ECS 700 Thesis or Project Study (1-6).

1990

Registration via telephone implemented.

1990

New swimming pool dedicated.

ENGLISH

Chair:

John L. Vifian
 Language and Literature 423

Graduate Faculty

Professors:

Robert M. Benton, American Literature
 Bobby Cummings, Rhetoric, Teacher Education, Writing on Computers
 Donald W. Cummings, Rhetoric, Lexicology, Poetics
 Mark W. Halperin, Poetry Writing, Folk Literature, Modern Poetry
 John M. Herum, Rhetoric, Syntax, Technical Writing
 Gerald J. Stacy, Renaissance Literature
 John L. Vifian, Eighteenth Century Literature, English Novel, Literary Criticism

Associate Professors:

Thomas L. Blanton, Renaissance Literature, Milton
 Patricia Callaghan, Rhetoric, World Literature, English Education
 Philip B. Garrison, Poetry Writing, World Literature, Mythology, American Literature
 Donald R. King, Romantic Literature, Technical Writing, Fiction Writing

Assistant Professors:

Frank L. Cioffi, American Literature, English Education
 John F. Clark, Medieval Literature, Linguistics, TESL
 James L. Hale, Shakespeare, Medieval and Renaissance Literature
 Teresa L. Martin, English Education, Rhetoric
 Steven D. Olson, American Literature, Film
 Joseph E. Powell, Creative Writing, Modern Poetry
 Christine Sutphin, Victorian Literature, English Novel

The department offers four options for the master of arts degree:

Master of Arts

English (Standard)

The standard master of arts in English is a conventional but flexible program of advanced studies in British and American literature and language. It prepares students for doctoral work and research in the field, yet it also serves as a terminal degree for public school teachers wishing to strengthen their backgrounds, competencies, and qualifications. Since it combines the flexibility of a generally individualized course of study with the professional discipline of a required thesis and examination over a standard reading list, the standard master's is both traditional and adaptable.

Program. Each student must complete at least 45 credits. Thirty must be graduate credits in English, including English 512, Introduction to Graduate Studies; English 700, Thesis; and two graduate seminars. Up to 10 credits may be taken in approved non-English courses.

Thesis. Students must present a thesis prospectus to their advisor and committee and to the dean of graduate studies for approval no later than the last half of the quarter preceding the

final quarter of their program. Final thesis copy must have the approval of the thesis chair and at least one other member of the student's graduate committee.

Final Examination. All students must pass a master's examination, written or written and oral, over a standard reading list.

Master of Arts

English (English Language Learning)

The English language learning option is for people who plan to work in the field of basic adult literacy, teaching the basic skills of reading, writing, and reasoning-through-language to students who are past the usual first learning age. It is for people who plan to teach in adult education centers, in college basic English and remedial programs, and in remedial and skills programs in the secondary school.

The program merges abstract theory with concrete practical experience. This merger begins and is sustained in the four-quarter English language learning sequence, which combines reading about and discussion of theory with extended practicum in which the candidates tutor students in the skills of reading, writing, and reasoning. The other coursework is intended to strengthen the candidate's grasp of theory. The thesis and final examination are to demonstrate this grasp and the candidate's ability to apply it to the concrete experience of teaching basic adult literacy.

Program. The student shall complete at least 54 credits as outlined in an approved Course of Study filed with graduate admissions and records.

Required Courses:	Credits
ENG 512, Introduction to English Graduate Studies.....	5
Courses numbered 300 or above in English Language.....	8
Courses numbered 300 or above in Literature	8
English Language Learning Sequence:	
ENG 586, 587, 588, 589 (16 credits)	
ENG 592 (4 credits).....	20
Elect from:	
ED 526, Diagnosis of Reading Difficulties (3 credits)	
ED 528, Remediation of Reading Difficulties (3 credits)	
ED 592.1, Practicum: Diagnosis and Remediation of Reading Difficulties (2-5 credits)	
PSY 525, Psychology of Reading (3 credits) OR	
Approved substitutions in the teaching of reading	7
ENG 700, Thesis	6
Reading List and Final Examination	

Total 54

Coursework. Students in the English language learning sequence will work as tutors in the academic skills center for at least six hours per week. The practicum class will meet formally twice a week to discuss the techniques and problems of tutoring in the Center. The class discussion also covers broader issues of basic literacy. Students use the English language learning sequence to begin to read and discuss titles for their master's reading lists. The class discussions are structured so that during a four-quarter sequence some time and attention is paid to the following abstract topics and their role in teaching basic English: syntax, orthography, rhetorical analysis, diagnosis, testing and evaluation.

sis, testing and evaluation.

English 512 should be taken during the first quarter of graduate work.

Thesis and Final Examination. The thesis offers the final product of the candidate's on-going theoretical work and demonstrates the merger of theory and practice. The candidate will sit for a three-hour written examination over a reading list developed by the candidate and his or her committee. The list will include the equivalent of 15-20 book-length studies dealing with various issues involved in English language learning. The reading list must include works dealing with the following areas: English syntax, phonology, semantics, and orthography; history of the language, rhetorical theory and analysis; the psychology of reading and writing; diagnosing, testing, and evaluating language skills. Students will also be required to sit for a one-hour defense-of-thesis, the final step in the program.

Master of Arts

English (Teaching Option)

The English master of arts (teaching option) is a broadbased program that can be completed in summer sessions and through approved off-campus courses. It requires a balance of advanced work in the traditional classroom areas of literature and language/rhetoric, yet allows for individualized selection within these broad areas. One year of K-12 teaching is a prerequisite for entry into the program.

The student must complete at least 47 credits in English (30 of them at the graduate level) as outlined below, submit a thesis (or select the non-thesis option which includes approved courses and two substantial papers), and pass a master's examination, written and oral.

Required Courses:	Credits
ENG 512, Introduction to English Graduate Studies.....	5
ENG 588, English Language Learning: Rhetoric.....	4
Courses numbered 340 and above in Literature	16
Electives from: ENG 320, ENG 322, ENG 413, ENG 586, ENG 587, ENG 589, approved ENG 498 and ENG 599	12
A Creative Writing Course: ENG 312 or ENG 313 or approved equivalent	4
ENG 700, Thesis (6 credits)	
OR	
Non-Thesis Option (6 credits of approved courses).....	6
Total	47

Master of Arts

English (Teaching English as a Second Language/ Teaching English as a Foreign Language— TESL/TEFL)

The TESL/TEFL option is for people who plan to teach English as a second or foreign language to adults. The major markets for such graduates would be in the ESL programs in American colleges and universities, in private ESL institutes, and in programs and schools that provide instruction in English in foreign countries.

Program. The program consists of 42 required core credits plus 10 guided elective credits. It includes an optional thesis and a required written examination. A prerequisite to completion of the program is at least the equivalent of two years of study of a second language at the college level.

Required Courses:	Credits
Required Core	
English Language Core.....	15
ENG 512, Introduction to Graduate Studies	5
English Language Learning sequence:	
ENG 586, 587.....	8
ENG 592, Practicum	2
TESL/TEFL Core.....	14
ENG 599, TESL/TEFL Seminar.....	4
ENG 589, ELL: Diagnosis and Testing	4
ENG 592, Practicum (peer teaching)	3
ENG 531, TESL/TEFL Methods and Materials	3
Language Development Core	7
ECE 415, Child Language Acquisition.....	3
PSY 373, Psychology of Thought and Language.....	4
ENG 700, Thesis or Non-thesis Option.....	6
Guided Electives	10
Culture Studies	
ANTH 381, Language in Culture	
ED 431, Intercultural Education	
Courses in English or foreign literature at the 300-level or above	
Linguistics Studies	
ENG 320, 322, 413, 516, 588, 599	
ED 433, Educational Linguistics	
ED 418, Reading in Linguistics	
FNLA 491, Introduction to Romance Linguistics	
SPAN 383, Spanish-English Contrastive Linguistics	
PHIL 470, Philosophy of Language and Communication	
Pedagogical Studies	
ECE 312, Bilingual Education	
ENG 430, Teaching English in the Secondary School	
ENG 510, 511, Teaching Freshman English	
ED 434, Principles in Second Language Instruction	
ENG/ED 498, 598, Special Topics in TESL/TEFL	
Written examination required	

Total 52

Final Examination. The written exam will be four hours long and will cover an individualized reading list (equivalent to about 24 book-length studies) developed in consultation with the student's committee and growing out of work in the core courses.

Graduate Courses

ENG 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

ENG 510, 511. Teaching Freshman English (2,2). Prerequisite, permission of instructor. Both courses are to be taken in consecutive quarters, unless specific exceptions are approved by the department chair. The study of various methods and theories of the teaching of composition. Associated practical experience in the classroom as a teaching assistant or as provided by the department. Normally offered fall and winter quarters only. Grade will be S or U.

ENG 512. Introduction to English Graduate Study (5). The philosophy of literature; research methods. Required of all master of arts candidates.

ENG 514. Advanced Studies in English Literature (4). Prerequisite ENG 512. Course content identified by title in the University Class Schedule. May be repeated for credit under different titles.

ENG 515. Advanced Studies in American Literature (4). Prerequisite ENG 512. Course content identified by title in the University Class Schedule. May be repeated for credit under different titles.

ENG 516. Advanced Studies in English Language (4). Prerequisite, ENG 512. Course content identified by title in the University Class Schedule. May be repeated for credit under different titles.

ENG 531. TESL/TEFL Methods and Materials (3). Research in language, language acquisition and second language learning with reference to teaching and learning English as a second or foreign language; demonstration, discussion and practice of selected approaches to teaching listening, speaking, reading and writing to adult learners.

ENG 586. English Language Learning: Syntax (4). English syntax, especially modern grammars and their role in teaching basic reading and writing.

ENG 587. English Language Learning: Lexicology (4). The history and analysis of words into meaning elements.

ENG 588. English Language Learning: Rhetoric (4). The various modes of discourse and their implications for teaching reading and writing; the analysis of the rhetorical act.

ENG 589. English Language Learning: Diagnosis and Tests (4). Testing and evaluating students' abilities to read and write expository prose.

ENG 591. Workshop (1-6). No more than two workshops for a combined maximum of 8 credits can be applied towards a master's degree.

ENG 592. Practicum (1) FWSp. Supervised tutoring in the academic skills center. Involves six hours of tutoring per week plus weekly conferences with the supervisor. May be repeated with consent of instructor. Grade will be S or U.

ENG 595. Graduate Research (2-10). Prerequisite, ENG 512 and permission of department chair. For students doing advanced research, writing, and study. Students using faculty time and departmental resources for thesis work must be registered for ENG 595 or 700. May be repeated for credit. May not be included in the Course of Study for the master's degree. Grade will be S or U.

ENG 596. Individual Study (1-6). Prerequisite, permission of instructor.

ENG 598. Special Topics (1-6).

ENG 599. Seminar (1-5). Course content identified by title in the University Class Schedule. May be repeated for credit under different titles.

ENG 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

FOREIGN LANGUAGES

Chair:

Rosco N. Tolman

Language and Literature Building 102

Graduate Faculty

Professors:

Elbert E. Bilyeu, Spanish

Carlos E. Martin, Spanish

Rosco N. Tolman, Spanish

Graduate Courses:

FNLA 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

SPAN 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

GEOGRAPHY AND LAND STUDIES

Chair:
Kenneth A. Hammond
 Lind 119

Graduate Faculty

Professors:

Joel M. Andress, Cartography, Asia, Climatology
 James E. Brooks, Anglo-America, Economic Geography, Growth Management
 Kenneth A. Hammond, Resource Planning and Legislation, The Pacific Northwest, Conservation
 George Macinko, Resources and Man, Geography of the Future, Environmental Studies
 John Q. Ressler, Human Geography, Cartography, Culture and Resources, Third World Development

Assistant Professor:

Morris L. Uebelacker, Human Geography, Field Methods, Planning, Air Photo Interpretation, Yakima River Basin

Geography and land studies jointly coordinates the master of science degree program in resource management with the department of anthropology. For further information see resource management.

Graduate Courses

GEOG 546. Water Resource Development (3). Objectives and institutions for water resources development. Current trends, specific problems and implications for associated resources.

GEOG 596. Individual Study (1-6). Prerequisite, permission of department chair.

GEOG 599. Seminar (1-5). May be repeated.

GEOLOGY

Chair:
James R. Hinthorne
 Lind 101A

Graduate Faculty

Professor:

James R. Hinthorne, Mineralogy, Geochemistry, Petrology

HISTORY

Chair:
Daniel B. Ramsdell
 Language and Literature 100

Graduate Faculty

Professors:

James F. Brennan, Russia
 Earl T. Glauert, Latin America
 Beverly A. Heckart, Germany, Social and Economic History
 Zoltan Kramar, Military, Ancient History
 Paul E. LeRoy, 19th Century British Empire, Africa
 Lawrence L. Lowther, Colonial America, American Revolution
 Daniel B. Ramsdell, East Asia
 Kent D. Richards, American West, Pacific Northwest

Assistant Professor:

Karen J. Blair, 20th Century U.S., Women's History

In addition to general regulations for admission to master's programs, students desiring admission to programs in history with insufficient preparation may be required to take additional work before being admitted to graduate programs. Students admitted are required to demonstrate an ability to discover and interpret historical evidence and to write cogently and lucidly.

Master of Arts

History

Program Coordinator:

Beverly Heckart
 Language and Literature 100

The purpose of the program offered by the department of history is to develop graduates possessing a range of historical knowledge and special competency in a particular area. This will be achieved by systematic training in historical methods, sources, tools, and the interpretation of history. It is a further purpose of the program to train students for lives of productive scholarship and stimulating teaching as well as non-academic pursuits where historical background is required. Finally, in recognition that all students do not have the same objective, the M.A. degree program contains two options designed to suit different objectives. To achieve the purposes of the program students will enroll in research seminars, historiography, reading courses, and lecture courses where needed. The individual's program will be established in consultation with a graduate committee.

Prerequisites:

1. Attainment of undergraduate major in history.
2. Attainment of a 3.00 cumulative GPA for undergraduate work and a 3.25 GPA or better in the history major. Applicants with a GPA deficiency may petition the department of history graduate committee for special consideration.

3. Students whose undergraduate major was in a subject other than history, but who nevertheless wish to complete a history graduate degree, must have completed at least 20 undergraduate, upper division history credits with a GPA of 3.00 or better prior to full admission to the graduate program.
4. Endorsement of the applicant by the history graduate committee.

Program. The department offers two options leading to the M.A. The option selected by each student must be approved by the history graduate committee, and must include at least 45 credits as outlined in an approved Course of Study filed with graduate admissions and records.

Master of Arts

History (Standard Option)

This option is intended primarily for those students intending to pursue additional graduate work.

Required Courses:	Credits
History 511, Historiography	5
History 515.1, 515.2, 515.3, History Graduate Seminar	15
History 700, Thesis.....	6
Select by advisement from 400 or 500 level courses.....	19
Total	45

Thesis. A thesis is required. A thesis prospectus must be approved and filed with graduate admissions and records. The final thesis copy must be in a form according to graduate school requirements.

Language Requirement. Reading knowledge of a foreign language acceptable to the history graduate committee is required. The examination will be conducted within the history department. A research tool necessary for the student's area of specialization may be substituted for the language requirement with permission of the graduate committee. This requirement must be met before the student is admitted to candidacy.

Final Examination. Passing an oral examination in defense of the thesis, including the general field of the thesis.

Master of Arts

History (Teaching Option)

This option is directed mainly toward those intending careers in secondary teaching or non-academic fields. It is not ordinarily intended for the student planning to pursue a Ph.D.

Required Courses:	Credits
HIST 511, Historiography.....	5
HIST 515.1, 515.2, History Graduate Seminar	10
HIST 700, Thesis or Project Study	6
Select by advisement from 400 or 500 level courses in History.....	15
Select by advisement from 400 or 500 level courses in History or other approved fields.....	9
Total	45

The courses selected must be pertinent to the student's project or thesis.

Project Study. The completion of a satisfactory project either within the history department or another approved field is required. The primary emphasis of the project shall be historical rather than pedagogical research. A project prospectus must be approved and filed with graduate admissions and records. In lieu of the special project, a thesis may be submitted.

Final Examination. The student must pass: (1) A written comprehensive examination on the general field of the project or thesis, (2) An oral examination in defense of the project or thesis.

Graduate Courses

HIST 511. Historiography (5).

HIST 515.1, 515.2, 515.3. History Graduate Seminar (5).

HIST 596. Individual Study (1-6).

HIST 598. Special Topics (1-6).

HIST 599. Seminar (1-5). May be repeated.

HIST 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

HOME ECONOMICS, FAMILY AND CONSUMER STUDIES

Chair:

David L. Gee
Michaelsen 100

Graduate Faculty

Associate Professors:

David L. Gee, Food and Nutrition
Willa Dene Powell, Home Economics Education
Carolyn Schactler, Clothing and Textiles

Assistant Professors:

Ethan A. Bergman, Food and Nutrition
James J. Ponzetti, Family Studies

The graduate program in home economics and family studies is flexible and facilitates advanced study in home economics education, nutrition, clothing and textiles, child and family services, or any combination of these. Application to graduate study is made through the office of graduate studies and research and is described in detail on page 227 of this catalog. Interested students are urged to contact the department chair for information and guidance.

**Master of Science
Home Economics and
Family Studies**

Program Coordinator:
David L. Gee
Michaelsen 100

Purpose. The purpose of this program is to provide students an opportunity to concentrate at the master's degree level in one or more of the subject matter areas in home economics, family and consumer studies. Its goal is to prepare persons for further graduate study, for public school or college teaching, as specialists in community health, welfare or other service agencies, or as professionals in, or consultants to, business, industry, and government.

Program. In consultation with a faculty advisor, and with approval by the department chair, students may develop a program of courses of a comprehensive nature, or may concentrate on one or more of the subject matter emphases listed below. Certain appropriate courses from other departments may be included, provided there is a minimum of 18 credits in departmental courses in addition to the core credits. Independent study, to a limit approved by the student's graduate committee, may be included. All candidates shall complete at least 45 credits as outlined in an approved course of study filed with the office of graduate admissions and records. The faculty advisor will help assure that all regulations are met.

Area of Concentration. Students may concentrate upon a single subject matter area for which advanced coursework and major advisors are available, or may combine two or more areas to develop a program most suited to academic background, interest and professional goals. The subject matter areas within the department include:

- Clothing and Textiles
- Consumer Management
- Family Studies
- Foods and Nutrition
- Home Economics Education
- Housing and Interiors

The student's graduate committee, comprised of faculty from the area(s) of concentration, will assist in the development of the program. In certain cases, and with approval by the department chair, one member of the committee may be drawn from another department.

Core Courses. The following core of courses will be included in all programs:

Required Courses:	Credits
4 credits in statistics, selected from:4 (May be satisfied at the Undergraduate level) PSY 362, Descriptive Statistics, or PSY 363, Inferential Statistics, or ED 312, Educational Statistics, or MATH 311, Statistical Techniques	
HOEC 530, Research Design4	
HOEC 700, Thesis (6 credits) or Project Study (4-6 credits).....4-6	

Thesis. It is normally expected that a six-credit thesis, based upon an independent research project, will be included in the student's program. However, students may petition to substitute one of the following options: (1) a creative project accompanied by a formal explanatory presentation, or (2) preparation of one or two scholarly papers for publication. The number of such papers and their publishability will be determined by the student's graduate committee. Four to six credits may be awarded these options under HOEC 700 as determined by the committee.

Graduate Courses

Home Economics Education Courses

HOEE 520. Supervision in Vocational Home Economics Education (3). Explore recent trends and issues in home economics education; identify and analyze professional competencies for beginning home and family life teachers and explore strategies for helping student teachers to develop needed competencies.

HOEE 521. Curriculum Development in Home Economics Education (3). Employ steps of curriculum development in total home economics programs or in a specific area and allows teachers and administrators to plan for program needs in the school or school district.

HOEE 522. Survey of Literature in Home Economics Education (3). Current issues and historical perspective in vocational home and family life education to serve as a basis for curriculum change, program development and professional growth.

HOEE 561. Administration of Occupational Education (3). The study of occupational needs, survey federal laws, state plans, finance, advisory committees, organization of programs and staffing. Not open to students with credit in OCED 551. BSED/HOEE/IET 561 are the same course. Student may receive credit for one.

Family Studies Courses

HOFS 531. Conceptual Frameworks in Family Analysis (3). Sociological, psychological and developmental theories relating to study of family patterns and practices.

HOFS 532. Family Interaction (4). Prerequisite, 8 credits of upper division course work in family studies or the behavioral sciences. Analysis of relevant literature associated with establishing and maintaining interpersonal and family relationships.

Food and Nutrition Courses

HOFN 540. Nutrition Education (3). Principles and procedures in nutrition education for public and private agencies. Program and curriculum planning and evaluation. Emphasis on current research in the field.

HOFN 545. Advanced Studies in Developmental Nutrition (4). Prerequisite, HOFN 345 or equivalent. Review of effects of nutrition on growth and development. Nutritional assessment and evaluation of individuals and programs. Current issues in nutrition policies and programs with emphasis on early childhood.

HOFN 547. Nutrition Update (3). Prerequisite, HOFN 245 or permission. Recent advances in nutrition research. Advanced study of selected nutrition problems. With permission, may repeat every other year.

Clothing and Textiles Courses

HOCT 550. Alternative Clothing Construction Techniques for Home and Classroom (3). Permission of instructor. Six hours laboratory per week.

HOCT 551. Social Implications of Clothing (2). Review of research relating to the social and psychological aspects of clothing.

HOCT 552. Learning Packages for Clothing Construction (3). Prerequisite, HOCT 150 or permission of instructor. Design and creation of individualized learning packages. Discussion of problems associated with beginning sewing. Students furnish their own materials. Two hours lecture and four hours laboratory per week.

HOCT 553. Advanced Studies in Garment Fabrication with Designer Fabrics (4). Prerequisites, HOCT 454, 455, 458 or permission. Analysis of fabric content and structure as it relates to fabric behavioral characteristics. Application of theory to construction problems.

HOCT 554. Men's Tailoring (3). Prerequisite, permission of instructor. Custom tailoring techniques specifically designed for the construction of a man's suit. This will include trousers, vest and lined suit coat. Six hours laboratory per week.

Housing and Interiors Courses

HOHI 565. History of Housing and Furnishing (3).

HOHI 566. Advanced Home Furnishing (5). Two hours lecture and six hours laboratory per week.

HOHI 577. Housing Practicum (3-9). Prerequisites, HOHI 266, 466. A work-study course including practical experience in a phase of housing of the student's choice, accompanied with a seminar.

General Home Economics Courses

HOEC 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

HOEC 530. Research Design (4). Prerequisite, any course in statistics. Design, data collection and analysis in behavioral science research.

HOEC 595. Graduate Research (1-10). Prerequisite, permission of major advisor. Development and investigation of an approved laboratory or field research problem. May be repeated. Maximum of 6 credits may be included in course of study for the master's degree.

HOEC 596. Individual Study (1-6). May be repeated.

HOEC 598. Special Topics (1-6).

HOEC 599. Seminar (1-5). May be repeated.

HOEC 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

INDIVIDUAL STUDIES PROGRAM

Master of Arts

Master of Education

Master of Science

Program Coordinator:

Gerald J. Stacy

Bouillon 207D

Central Washington University means to provide master's programs so organized they constitute a meaningful whole, a basis for continuing advanced study and are appropriate to the goals and purposes of each individual student.

Within the curricula, students may organize a program of Individual Studies designed to cut across the artificial barriers of specializations, discipline, and departments and explore, develop and elaborate a central theme in a systematic way. Examples include environmental studies, land use studies, probation and parole, educational technology, and other interdisciplinary concentrations. Such an individual studies program is usually interdisciplinary, but is not required to be so.

All students contemplating the pursuit of a graduate degree under the individual studies option are strongly advised to visit the office of graduate admissions and records as early as possible and before any plans for program content are made. Responsibility for construction of an acceptable program rests with the student. Students in this program are expected to be self-starting, highly motivated, reasonably independent individuals willing to accept full responsibility for the successful completion of the admission requirements and the degree program.

As a matter of information students previously accepted into the program held a median undergraduate grade point average of 3.32 and presented median GRE verbal scores around the 70th percentile.

All general regulations for formal admission to a graduate degree program must be met (see page 225). In addition, certain specific requirements for acceptance as a student in the individual studies graduate program must be met. A supplement guide for the preparation of an individual studies program is available from the graduate admissions and records office. All application materials must be on file in the graduate office before formal admission will be considered.

School of Professional Studies

Admission to the individual studies option is in two stages. Stage one is the same as with all other programs, except that a standing admissions committee of graduate faculty appointed by the dean will serve the role of the department in screening files for a preliminary recommendation on admission. Before the admissions committee will act upon the student's application, the following materials must be on file in graduate admissions and records: A graduate application for admission, a statement of educational objectives and professional aims, GRE aptitude test scores, at least three letters of recommendation, and two official copies of transcripts of all previous undergraduate and graduate study.

If the admission committee recommends advancement to the second stage, and the dean of graduate studies concurs, then the student will be invited to submit stage two as outlined below:

1. A detailed statement of educational objective and professional (career) aims that can be related to the course of study being proposed. This statement should make it clear that no existing departmental program is available to meet the needs of the student.
2. A proposed course of study accompanied by written rationale on how the program leads to the student's educational objectives and professional aims outlined in 1, and which develops and elaborates on a central theme in a systematic way. The rationale statement should justify and give reasons for the inclusion of particular courses or groups of courses in the proposed course of study. All general regulations expressed in the catalog and IS 700, Thesis, must be included. There is no option on the thesis requirement.
3. Topical outlines endorsed by the instructor. These must be included for all individual studies, special topics, seminars, field studies, internships, or other courses that are not described as to content in the university catalog.
4. A written statement that the proposed course will be available to the student within the resource allocation of the university.
5. Finally, the material outlined in 1, 2, 3 and 4 needs to be endorsed and sponsored through a signed statement from a three-member faculty sponsoring committee. This statement should signify that they have met as a group, reviewed all the material developed by the student, that they agree to sponsor and supervise the proposed program, that the proposed program is appropriate to the granting of a master's degree, and that the student is adequately prepared to pursue the proposed program. The admission committee seeks evidence that the faculty committee fully understands and is committed to guiding the student through the proposed program. Thus, the individual members of the supervisory committee must, by way of written statement, indicate their endorsement of the proposed program.

Upon receipt of all second stage materials, they will be reviewed by the admissions committee for a final recommendation on admission.

Program. The student shall complete at least 45 credits as outlined in an approved Course of Study filed in the graduate admissions and records office.

Required Course:**Credits**

IS 700, Thesis.....6

Final Examination. A written and/or oral final examination is required on work offered for the degree. This examination will include a defense of the thesis and may include a review of studies completed. If the student performs satisfactorily on the examination, the student's graduate committee will write a summary statement of the student's accomplishments and competencies for inclusion in the student's permanent file.

Individual Studies Graduate Courses

IS 590. Cooperative Education (1-6). An individualized contracted field experience with business, industry, government, or social service agencies. The contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval is required. Grade will be S or U.

IS 596. Individual Study (1-6). Prerequisite, permission of the dean of graduate studies.

IS 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

INDUSTRIAL AND ENGINEERING TECHNOLOGY

Chair:

**Robert M. Envick
Hebeler 108**

**Graduate Faculty
Professors:**

D. Ken Calhoun, Woods, Design
Ronald M. Frye, Assistant Dean, School of Professional Studies
Ron Hales, Traffic Safety Education
Robert H. Wiekling, Power, Professional

Graduate Courses

IET 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

IET 537. Utilization of Community Industrial Resources (3). Identification of industrial community. Structures and function of advisory committees. Assessment of industrial familiarization opportunities. Philosophical bases of industrial arts and vocational education.

College of Letters, Arts and Sciences

IET 538. Readings in Industrial Education (3). Prerequisite, student must be a graduate. A study of the economic, social, political and philosophical factors that have motivated and influenced the development of industrial education. Leaders, agencies and movements shall also be investigated.

IET 561. Administration of Occupational Education (3). The study of occupational needs, survey federal laws, state plans, finance, advisory committees, organization of programs and staffing. Not open to students with credit in OCED 551. BSED/HOEE/IET 561 are the same course. Student may receive credit for only one.

IET 592. Field Studies (1-10). Prerequisite, faculty advisor and department approval. No more than 10 credits may be taken towards the master's degree.

IET 596. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

IET 598. Special Topics (1-6).

IET 599. Seminar (1-5). May be repeated.

LIBRARY

Graduate Faculty

Professors:

William D. Schmidt, Coordinator, Media Production Services
Charles W. Vlcek, Coordinator of Media Circulation

Associate Professor:

*William S. Craig, Director, Instructional Media Center

*Associate Graduate Faculty

MATHEMATICS

Chair:

Stephen G. Hinthorne
Bouillon 115

Graduate Faculty

Professors:

David R. Anderson, Differential Equations, Foundations
Dale R. Comstock, Algebra
Wm. Frederick Cutlip, Algebra, Automata Theory
*William S. Eberly, Functional Analysis
Barney L. Erickson, Mathematics Education
Kenneth O. Gamon, Analysis, Differential Equations
Bernard L. Martin, Mathematics Education, Statistics
William B. Owen, Probability and Mathematical Statistics

Assistant Professors:

Alla Ditta Choudary, Algebraic Topology
James D. Harper, Harmonic Analysis
Stephen G. Hinthorne, Combinatorics, Mathematics Education, Geometry

Scott M. Lewis, Math Education, History of Mathematics
Cen-Tsong Lin, Probability and Mathematical Statistics

*Associate Graduate Faculty

In addition to general regulations for admission to master's programs, regular admission to graduate programs in mathematics requires that a student shall have earned a baccalaureate degree with a major in mathematics or equivalent from an accredited college or university. A student with a baccalaureate degree with a major other than mathematics may be admitted to the graduate program upon the recommendation and permission of the chair of the department of mathematics. Any deficiencies for regular admission must be removed during the first year of graduate study.

Students expecting to be admitted to the master of science program must take both the general test and the mathematics subject test of the Graduate Record Examination.

**Master of Science
Mathematics**

Program Coordinator:

Kenneth O. Gamon
Bouillon 114G

The program may be tailored to meet the goals of the individual student, within very broad general specifications. In recent years, many students have emphasized statistics and applied analysis courses, thereafter attaining employment in industrial and university settings. Such employment opportunities continue to look promising. The M.S. program is also good preparation for teaching (e.g. at the community college level) and for further graduate study. Two options are offered, one requiring a thesis and the other no thesis but more advanced course work at the graduate level including an individual study of a special topic.

Program. The student shall complete one of the following 45 credit options, the outline for which shall be on an approved Course of Study filed in the graduate admissions and records office.

Thesis Option:	Credits
MATH 599, Seminar	3
At least two 500 level three quarter sequences by advisement.....	18
MATH 700, Thesis	6
At least 18 additional credits at the 400 level or above by advisement	18
Total 45	
Non-Thesis Option:	
MATH 599, Seminar	3
At least three 500 level three quarter sequences by advisement.....	27
MATH 596, Individual Study	3
At least 12 additional credits at the 400 level or above by advisement	12
Total 45	

Under the non-thesis option the individual study will be on a special topic which must be approved by the student's committee.

Final Examination. The student must pass a final oral examination on work offered for the degree. This examination may include a review of work in the general field of the student's thesis or special topic. It will include a defense of the thesis when appropriate, and otherwise will include a presentation of the work and the special topics.

Master of Arts for Teachers Mathematics

Program Coordinator:
Barney L. Erickson
Bouillon 114B

The master of arts for teachers, mathematics, program has been structured mainly for junior and senior high school mathematics teachers. It also may prepare a student for community college teaching and for advanced study in mathematics education. Sequencing of the required course work is minimal and makes it possible in most cases to complete all the requirements for the degree in three consecutive summer sessions.

Program. The student shall complete at least 45 credits as outlined in an approved Course of Study filed with graduate admissions and records.

Required Courses:	Credits
MATH 522, Modern Programs in Mathematics.....	3
MATH 524.1, Math Methods for Jr. High School.....	3
MATH 524.2, Math Methods for High School.....	3
MATH 550, Transformational Geometry.....	3
MATH 562, Modern Algebra for Teachers.....	5
MATH 572, Elementary Real Analysis.....	5
Electives by advisement from courses in the area of specialization.....	14 or 8
Educational Foundations and Research Courses (See Page 233).....	9
MATH 700, Thesis or Non-Thesis Option Project.....	3-6
or Comprehensive Examination.....	0
Total	45

Project, Thesis or Examination. The choice among a written report, field study or other project, a formal research problem in mathematics or mathematics education which results in a thesis, or a comprehensive examination will be made based upon the student's goals, in close consultation with the student's graduate committee.

Graduate Courses

MATH 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

MATH 510. Games of Chance (3). Requiring only the fundamental ideas of basic probability, this course applies and investigates the popular casino games of chance, gambling systems and strategies, the "law of averages," cheating, and the "Gambler's Ruin." Offered summers only.

MATH 511.1, 511.2, 511.3. General Linear Hypothesis (3,3,3) FWSp. Prerequisites, MATH 411.3, and MATH 265 or permission. Multivariate normal distribution. Distribution of quadratic forms. General linear model of full rank. Theory of analysis-of-variance and regression models.

MATH 515. Probability and Statistics for Elementary School Teachers (2). Concepts and methods of probability and statistics as used in the elementary classroom. Offered summers only.

MATH 522. Modern Programs in Mathematics (3). Prerequisite, one year of teaching experience in mathematics or permission. Contemporary programs in secondary school mathematics. Offered summers only.

MATH 524.1. Math Methods for Jr. High School (3). Prerequisite, one year of teaching experience in mathematics. Problems and methods associated with the teaching of mathematics in the junior high or middle school. Offered summers only.

Math 524.2. Math Methods of High School (3). Prerequisite, one year of teaching experience in mathematics. Problems and methods associated with the teaching of mathematics in high school. Offered summers only.

MATH 530. Mathematical Recreations (3). An examination of selected examples of puzzles, paradoxes, brain teasers, and parlor games and a brief investigation of the mathematical principles on which they are based. Primarily for the experienced junior and senior high school mathematics teacher seeking motivational materials. Offered summers only.

MATH 535. Adventures Among the Numbers (3). Prerequisite, MATH 430 or permission. Tricks, puzzles, games and patterns involving the ordinary whole numbers of arithmetic; suitable for stimulating interest in the basic properties of numbers and the operations of arithmetic. Intended primarily for teachers in the higher elementary grades as well as secondary school teachers. Offered summers only.

MATH 550. Transformational Geometry (3). Prerequisite, MATH 455.1 or permission. A study of the group of transformations of the plane: reflections, rotations, translations, glide reflections. As time permits the properties of dilations and affinities also will be discussed. Offered summers only.

MATH 551.1, 551.2, 551.3. Topology (3,3,3) FWSp respectively. Prerequisite, MATH 461.3 or equivalent.

MATH 552. Experiences in Geometry for Elementary Teachers (3). An informal introduction to, or a reacquaintance with, those geometric concepts traditionally introduced in grades K-6. Content oriented, classes are centered around problem-solving activities. Prerequisite: one year of successful teaching at the elementary level. Offered summers only.

MATH 553. Intuitive Geometry for Teachers of Grades 4-8 (3). Prerequisite one year of teaching experience.

MATH 560. Mathematical Experiences for Elementary Teachers (3). Open-ended laboratory activities that emphasize both the construction and uses of motivational aids in problem solving, grades K-6. Prerequisite: At least one year of successful teaching at the elementary level. Offered summers only.

MATH 561.1, 561.2, 561.3. Modern Algebra (3,3,3) FWSp respectively. Prerequisites, MATH 461.3 or equivalent and permission.

MATH 562. Modern Algebra for Teachers (5). Prerequisites, MATH 360 or equivalent and one year of teaching experience. Re-examination of the fundamental algebraic structures: groups, rings, integral domains and fields, with examples and applications. Offered summers only. Previously MATH 460. Student may not receive credit for both.

MATH 566. Matrices and Their Applications (3). Prerequisite, MATH 163.1 or equivalent. Matrix algebra including finite Markov chains with applications to business, psychology, genetics, and learning models. Sociometric applications to conflict and dominance. Offered summers only.

MATH 570. Calculus for Secondary Teachers (5). Prerequisite, MATH 172.2 or equivalent and one year of teaching experience. A re-examination of the processes of differentiation and integration emphasizing their application to the natural, behavioral, social and managerial sciences. Offered summers only. Previously MATH 370. Student may not receive credit for both.

MATH 571.1, 571.2, 571.3. Theory of Analytic Functions (3,3,3) FWSp respectively. Prerequisite, MATH 471.3.

MATH 572. Elementary Real Analysis (5). Prerequisite MATH 172.2 or equivalent and one year of teaching experience. A post introductory calculus course which examines the fundamental concepts of sets, sequences, limits, series, functions, continuity and differentiability. Offered summers only. Previously MATH 470. Student may not receive credit for both.

MATH 576.1, 576.2, 576.3. Theory of Real Variables (3,3,3) FWSp respectively. Prerequisites, MATH 471.3 or equivalent and permission.

MATH 591. Workshop (1-6). No more than two workshops for a combined maximum of 8 credits can be applied towards a master's program.

MATH 595. Graduate Research (1-10). Prerequisite, permission of advisor. Grade will be S or U. May be repeated for credit. A maximum of 5 credits may count toward degree requirements.

MATH 596. Individual Study (1-6). Prerequisite, permission of instructor.

MATH 598. Special Topics (1-6).

MATH 599. Seminar (1-5). Prerequisite, permission of instructor. May be repeated for credit.

MATH 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

MUSIC

Chair:

Russ A. Schultz
Hertz Hall 101

Graduate Faculty

Professors:

Bonalyn B. Bricker-Smith, Piano, Theory
Larry D. Gookin, Bands, Trombone, Tuba, Music Education, Conducting
Peter Gries, Piano, Theory, Counterpoint, Analysis
J. Richard Jensen, French Horn, Theory, Chamber Music
John F. Moawad, Percussion, Stage Band, Vocal Jazz, Jazz History
Russ A. Schultz, Orchestra, Trombone, Conducting
Raymond L. Wheeler, Clarinet, Saxophone, Oboe, Bassoon, Theory, Chamber Music

Associate Professors:

Linda Marra, Voice, Opera
Sidney L. Nesselroad, Voice, Opera, History
*Hal Ott, Flute, Recorder, History, Literature
Eric Roth, Orchestra, Conducting, Theory, History, Literature

Assistant Professors:

Geoffrey P. Boers, Choir, Voice, Music Education, Conducting
Patricia A. Bourne, Music Education
John F. Pickett, Piano, Music Literature and Theory
Andrew J. Spencer, Percussion, Concert Band

*Associate Graduate Faculty

In addition to general regulations for admission to the master's program, admission to the master of music program will require: (1) a bachelor's degree from an accredited or approved music school or college with a major in music; (2) Placement examinations in the fields of performance (applied music), history and theory. If necessary, the student will be required to enroll in a review theory course without graduate credit. Certain history courses may be recommended by the advisor.

Master of Music

The master of music curriculum is designed to provide opportunity for depth in an area of specialization to increase professional competence in teaching and performance, and to prepare for continued self-directed study or advanced graduate study.

Admission. In addition to general regulations for admission to the master's program, the following requirements apply to the master of music program:

1. Candidates must have a bachelor's degree from an accredited college with a major in music or its equivalent.
2. Candidates must a) pass qualifying examinations in music history and in theory, and b) complete a performance audition in which those not concentrating in performance demonstrate ability to perform at a level equivalent to the departmental standard for MUS 364. Deficiencies in any of the above will require review courses which may not be applied toward the degree requirement.
3. Acceptance into specific major fields will require an evaluation of a candidate's ability conducted by a committee of three faculty members, two of whom will be from the particular major field. Normally one of these two will serve as the candidate's graduate advisor, and the committee as a whole will serve as the candidate's graduate committee. Candidates should complete evaluation for specific major fields by the end of the first quarter in residence.

Program. All candidates shall complete at least 45 credits as outlined in an approved Course of Study filed with graduate admissions and records. The major fields are a) history and literature; b) theory; c) composition; d) conducting; e) performance; f) performance-pedagogy; g) music education. At least one-third of the total credit requirements should be in the major field, including 6 credits of thesis; one-third in other music courses, including 3 credits of ensemble and 3 credits of MUS 521 (methods of musical research); and one-third may be elective courses in supportive areas from any discipline. At least 25 credits applied toward the degree must be at the 500 level or above. Students are expected to plan their program with a graduate advisor and committee.

General Requirements

Credits

Courses in major field, including MUS 700, Thesis or Public Recital Study (6 credits).....	15-21
Other studies in music: including MUS 521, 3 credits in ensemble courses, and appropriate courses in theory and history-literature as listed under Specific Requirements for Major Fields.....	15-18
Elective courses in supportive areas.....	6-15

Total 45

Specific Requirements for Major Fields

A. History and Literature

1. Admission to this program will be based upon a) a demonstration of reading knowledge of French or German; b) evaluation of an undergraduate paper; and c) superior performance in the history qualifying examination.
2. Courses in the major field; select from MUS 530, 531, 551, 558, 571, 573, 575, 576, 599.
3. Other studies in music should include a minimum of 3 credits in theory.
4. Students will submit a research thesis (MUS 700, 6 credits).

B. Theory

1. Admission to this program will be based upon evaluation of an undergraduate paper and superior performance in the theory qualifying examination.
2. Courses in the major field: select from MUS 440, 520, 526, 545, 589, 599.
3. Other studies in music should include a minimum of 3 credits in history and literature.
4. Students will submit a research thesis (MUS 700, 6 credits).

C. Composition

1. Admission to this program will be based upon an evaluation of appropriate compositions submitted by the student.
2. Courses in the major field: select from MUS 444, 522, 523, 545, 584, 599.
3. Other studies in music should include a minimum of 3 credits in history and literature and 3 credits in theory.
4. The thesis (MUS 700, 6 credits) will be an original composition appropriate as a final project.

D. Conducting

1. Admission to this program will require faculty evaluation of a conducting audition.
2. This program will require a one-year residency prior to graduation. Candidates will work under the direct supervision of one of the three conductors of the major performance ensembles (orchestra, wind ensemble, choir) during each quarter in residence. They will be encouraged to work in all three areas whenever possible.
3. Courses in the major field: select from MUS 440, 441, 540, 541, 585, 599.
4. Other studies in music should include a minimum of 3 credits in history and literature and 3 credits in theory.
5. As a thesis (MUS 700, 6 credits) the student will conduct a public performance and submit a paper.

E. Performance

1. Admission to this program will be based upon an evaluation of an audition equivalent in scope to at least one-half of a baccalaureate recital.
2. Courses in the major field: a minimum of 10 credits of individual instruction, MUS 564, in addition to the 6 credits of thesis study. Vocal performance majors must also have MUS 536 plus one year each of college level French and German. Other selections: MUS 551, 561, 592.
3. Other studies in music should include a minimum of 3 credits in history and literature and 3 credits in theory.
4. As a thesis the student will present a public recital (MUS 700, 6 credits).

F. Performance-Pedagogy

1. Admission to this program will be based upon an evaluation of an audition equivalent in scope to at least one-half a baccalaureate recital, and evaluation of a paper written for an undergraduate class.
2. Courses in the major field: a minimum of 6 credits of individual instruction, MUS 564, in addition to the 6 credits of thesis study; 3 credits in MUS 425. Additional requirements for vocal majors as in the performance major.

College of Letters, Arts and Sciences

3. Other studies in music should include a minimum of 3 credits in history and literature and 3 credits in theory.
4. As a thesis the student will present a) a demonstration project or a research paper and b) one-half of a public recital (MUS 700, 6 credits).

G. Music Education

1. Admission to this program is normally contingent upon completion of at least one year of successful public school teaching, and upon evaluation of an undergraduate paper.
2. Courses in the major field should include those that enable students to understand and evaluate research in music education: select from MUS 424, 425, 520, 560, 582, 583, 599.
3. Other studies in music should include a minimum of 3 credits in history and literature and 3 credits in theory.
4. Students will a) submit a research thesis (MUS 700, 6 credits); or b) under guidance of the graduate advisor and committee, elect to substitute 6 credits in the major field for the 6 thesis credits. A research thesis is recommended for those anticipating doctoral studies.

Final Examination

All students must pass a comprehensive final examination, oral or written and oral, based on the course work and the thesis.

Graduate Courses

MUS 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

MUS 510. Vocal Jazz Choir (1). By permission of instructor. May be repeated for credit. For graduate students. See MUS 210 for description.

MUS 514. Brass Choir (1). By permission of instructor. May be repeated for credit. For graduate students. See MUS 214 for description.

MUS 515. Chamber Orchestra (1). By permission of instructor. May be repeated for credit. For graduate students. See MUS 215 for description.

MUS 517. Chamber Music Ensemble (1). By permission of instructor. May be repeated for credit. One hour coaching plus two hours rehearsal per week plus all scheduled rehearsals and performances.

- A. Piano
- B. Voice
- C. String
- D. Woodwinds
- E. Brass
- G. Percussion
- H. Guitar
- I. Recorder
- K. Mixed

MUS 520. Methods of Teaching Theory (3). Prerequisite, per-

mission of instructor.

MUS 521. Methods of Musical Research (3).

MUS 522. Advanced Orchestration (3). Prerequisite, MUS 422.3 or permission of instructor. May be repeated for credit. Study of various scores and treatises. Individual projects.

MUS 523. Advanced Composition (3). Prerequisite, MUS 423.3 or permission of instructor. May be repeated for credit. Selected topics in composition.

MUS 526. Keyboard Harmony and Improvisation (3). Keyboard experience; formal and free harmonization of melodies, pianistic style and four-part vocal style.

MUS 527. The General Music Program (3). Prerequisites, MUS 321, 424, ED 442 or permission of instructor. A review of teaching general music in the public schools.

MUS 529. Percussion Ensemble (1). By permission of instructor. May be repeated for credit. For graduate students. See MUS 229 for description.

MUS 530. Keyboard Music Through 1750 (3). Prerequisite, permission of instructor.

MUS 531. Keyboard Music Since 1750 (3). Prerequisite, permission of instructor.

MUS 532. Stage Band (1). By permission of instructor. May be repeated for credit. For graduate students. See MUS 232 for description.

MUS 534. Central Swingers (1). By permission of instructor. May be repeated for credit. For graduate students. See MUS 234 for description.

MUS 535. Madrigal Singers (1). By permission of instructor. May be repeated for credit. For graduate students. See MUS 235 for description.

MUS 536. Diction in Singing Foreign Languages (3). Prerequisite, permission of instructor. Italian, French, and German.

MUS 540. Choral Interpretation and Techniques (3). For choral directors of all levels in the public schools and churches. New materials, voice production, intonation, interpretation, conducting techniques, diction.

MUS 541. Advanced Conducting (3). Prerequisite, MUS 342 or equivalent. Emphasis upon the conducting of advanced literature in the major performance media. May be repeated for credit.

MUS 547. Electronic Music Composition (3). Prerequisite, MUS 347. Studies in electronic music with emphasis on compositional technique.

MUS 550. Literature of Bach (3). Prerequisites, MUS 246, 282, 381. Analysis and performance.

MUS 551. Accompaniment and Song (2). Prerequisite, permission of instructor. Performance class open to accompanists and singers.

MUS 554 C, D, E, G. Advanced Techniques Class (1). For advanced study on secondary instruments. Prerequisite, one section of MUS 254 C, D, E, G or equivalent.

- C. Strings
- D. Woodwinds
- E. Brass
- G. Percussion

MUS 558. Survey of Solo Vocal Literature (3). Prerequisite, permission of instructor. All periods, performance or listening. Background, stylistic traits and performance concepts of the Art Song.

MUS 560. Psychology and Guidance in Music Education (3). Open to superintendents, principals, supervisors, music teachers and others who deal with music in the public school program.

MUS 561. Opera Workshop (2). Prerequisite, permission of instructor.

MUS 564. Performance (Individual Instruction) (1,2,or 4). By permission of instructor. May be repeated for credit. One half-hour lesson per week for 2 credits, one hour lesson per week for 4 credits; 1 credit if offered one term only during summer session. All students enrolled in performance will register for the weekly recital hour.

- A. Piano
- B. Voice
- C. String
- D. Woodwinds
- E. Brass
- F. Organ
- G. Percussion
- H. Guitar
- I. Recorder

MUS 566. Wind Ensemble (1). May be repeated for credit. Open to students with demonstrated proficiency on band instruments by audition or permission of the instructor. Five hours rehearsal per week plus all scheduled rehearsals and performances. For graduate students. One credit if offered one term only during summer session.

MUS 567. University Choir (1). May be repeated for credit. For graduate students. See MUS 267 for description. One credit if offered one term only during summer session.

MUS 568. Chamber Choir (2). May be repeated for credit. See MUS 268 for complete description.

MUS 570. History of Vocal Art (3). Prerequisite, permission of instructor.

MUS 571. History of Orchestra Music (3). Prerequisites, MUS 246, 282. Forms and styles from the 17th to 20th centuries.

MUS 573. History of Opera (3). Prerequisite, MUS 246, 282,

381.

MUS 575. History of Chamber Music (3). Prerequisites, MUS 246, 282. Forms and styles from the late 16th century to the present.

MUS 576. History of Choral Music (3). Prerequisites, MUS 246, 282. Forms and styles from medieval to modern.

MUS 577. Orchestra (1). May be repeated for credit. Open to all students proficient on orchestral instruments by permission of director. Five hours rehearsal per week plus all scheduled rehearsals and performances. Two credits normally offered during academic year and one credit if offered one term only during summer session. For graduate students.

MUS 582. Instrumental Administration Techniques (3). How to administer, organize and evaluate the instrumental music program. To include testing, recruitment, grading and evaluation, handling equipment-materials-supplies, budgets and purchases, scheduling and public relations. For students who have had at least one year of teaching experience.

MUS 583. Supervision of Public School Music (3). Prerequisite, B.A. degree with major in music education.

MUS 585. Band Arranging II (3). Prerequisite, MUS 484.

MUS 587. Marching and Concert Band (1). Fall quarter only. See MUS 287 for description. For graduate students. May be repeated for credit.

MUS 588. Symphonic Band (1). See MUS 288 for description. May be repeated for credit. For graduate students.

MUS 589. Harmonic Analysis (3). Prerequisites, MUS 246, 282. Survey of all harmonic forms, analysis of harmonic content.

MUS 592. Accompanying Practicum (1-3). May be repeated for credit. By assignment of instructor. Minimum 3 hours rehearsal weekly per credit plus performances. For graduate students.

MUS 596. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

MUS 598. Special Topics (1-6).

MUS 599. Seminar (1-5). May be repeated.

MUS 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

The following courses are on reserve and may be offered subject to program needs: Music 511 Women's Glee Club (1), Music 528 Men's Glee Club (1), Music 545 Modern Counterpoint (3), Music 584 Choral Composition and Arranging I (3), and Music 589 Pep Band (1).

ORGANIZATION DEVELOPMENT

Program Co-Directors:
Anthony J. Stahelski
 Associate Professor of Psychology
 Psychology Building 436

Stephen Schepman
 Assistant Professor of Psychology
 Psychology Building 426

Graduate Faculty

Edward S. Esbeck, Professor of Management, Management and Organization

James L. Eubanks, Professor of Psychology, Organization Development, Management Information Systems, Training Research and Development

Stephen B. Schepman, Assistant Professor of Psychology, Organization Development, Work Motivation, Personality Theories

Anthony J. Stahelski, Associate Professor of Psychology, Organization Development, Social Psychology, Small Group Interaction

The objective of the master of science, organization development (MSOD) program is to prepare students for improving productivity and quality of work life in a variety of public and private sector organizational settings. The MSOD program is based in the psychology department with interdisciplinary connections to business administration.

The program is designed for people who are employed. Most students come from management positions in many types of public and private sector organizations across Washington and the Northwest. Required courses are scheduled across 24 three-day weekends spread over two academic years. Students arrange additional time on campus as required. Students using faculty time, supplies, and/or equipment for research must be registered for OD 595 or OD 700.

By the end of the second quarter of the MSOD program, each student is required to complete a Course of Study form and elect either a thesis or project option. The project option will include three separate projects that are completed concurrently with the student's course work: an organizational analysis, an organizational research proposal, and an executive summary for the completed organizational consulting project. Each of these projects will be evaluated by the student's three person committee in accordance with their suitability for submission to a client. In addition, students electing the project option will be required to pass an oral comprehensive examination at the conclusion of their studies based on a defense of their projects and questions prepared and submitted by their committee one month in advance of the examination. Students selecting the thesis option will be subject to the regulations for thesis preparation described under the General Master's Degree Regulations section of this catalog and available from the office of graduate admissions and records.

The organizational development center, located in the Psychology Building, functions to coordinate the master of science in organization development (MSOD) program, provide con-

sulting services to private and public sector organizations, and conduct special seminars, workshops, and learning laboratories for Northwest groups and organizations.

Admission Requirements

In addition to the university's general regulations for admission to master's programs, admission to the MSOD program will be recommended upon the evaluation of the applicants prior scholastic record, GRE scores, recommendations from previous instructors or employer, and a statement of professional objectives. An interview is part of the admission process. Since this program is heavily oriented toward the application of theory to practical affairs, a statement of endorsement is required from a sponsoring organization indicating that the organization accepts responsibility to support the student's learning applications in that organization. Prior to admission a student must have completed an introductory course in statistics.

Master of Science

Prerequisite. Introductory statistics (must be approved by program director.)

Required Courses

Credits

OD 566, Organization Research and Assessment	5
ED/PSY 488, Group Dynamics and the Individual.....	3
PSY 510, Social Psychology of Small Group Behavior	3
PSY 540, Industrial/Organizational Psychology	4
OD 515, Organization and Environment.....	5
OD 551, Organizational Behavior Analysis	4
OD 560, Models of Planned Change	4
OD 562, Consulting in Organizations	4
OD 580, Current Issues in Organization Development	3
OD 590, Supervised Field Experience in Organization Development	6-12
OD 593.A, Practicum in Individual Client Interviewing	3
OD 593.B, Practicum in Organizational Analysis	3
OD 593.C, Practicum in Organizational Research	3
OD 700, Thesis or Project Study	6

Total 56-62

Graduate Courses

OD 515. Organization and Environment (5). Prerequisite, permission of instructor. Modern theories of organization in the context of organization/environment interaction and adaptation.

OD 551. Organizational Behavior Analysis (4). Applications of the principles and methods of behavior analysis to the work environment.

OD 560. Models of Planned Change (4). Examination of classical and contemporary change theories as they relate to the phases of planned change in representative organizations; development of individual models of organizational improvement.

School of Professional Studies

OD 562. Consulting in Organizations (4). Attainment of competence in the role of an external consultant to an organization.

OD/SOC 566. Organization Research and Assessment (5). Prerequisite, introductory statistics or permission. Principles of scientific research, methodology and their application to the analysis of organizations. Same as SOC 566. Student may not receive credit for both.

OD 580. Current Issues in Organization Development (3).

OD 590. Supervised Field Experience in Organization Development (3). Application of theories and concepts of OD to actual organizations. May be repeated for credit. Grade will be S or U.

OD 593.A. Practicum in Individual Client Interviewing (3). Development of effective interpersonal helping skills applicable to the role of an OD practitioner. Grade will be S or U.

OD 593.B. Practicum in Organizational Analysis (3). Intensive practice in surveying organizational needs, selecting appropriate measures of effectiveness, and developing interventions based on data obtained from the analysis. Grade will be S or U.

OD 593.C. Practicum in Organizational Research (3). Prerequisite, OD/SOC 566. Grade will be S or U.

OD 595. Graduate Research (1-10). Design and conduct an approved organization research project. Normally, the research will be non-thesis related. However, students using faculty time, supplies and/or equipment for thesis work beyond the maximum allotted six credits of OD 700 must be enrolled for at least three credits of OD 595. A maximum of 10 credits of OD 595 may be included on the student's master's degree course of study.

OD 596. Individual Study (1-6). Prerequisite, permission of instructor. Contracted learning under the supervision of faculty.

OD 598. Special Topics (1-6). Student and faculty initiated courses. Topics are published in the quarterly class schedule.

OD 684. Internship in Organization Development (3-9). Prerequisite, permission of MSOD program director. Application of theories and concepts of OD to actual organizations. Grade will be S or U. May be repeated for credit.

OD 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

PHILOSOPHY

Chair:

Chester Z. Keller

Language & Literature 337

Graduate Faculty

Professors:

Jay E. Bachrach, Aesthetics, Philosophy of Science, Ancient and Medieval Philosophy

Peter M. Burkholder, Ethics, Epistemology, Modern Philosophy

W. Robert Goedecke, Philosophy of Law, Philosophical Anthropology, Ancient Philosophy

Webster F. Hood, Existentialism, Applied Logic, Philosophy of Technology

Chester Z. Keller, Philosophy of Ecology, Philosophy of Religion, Philosophy of Education, Mysticism

Graduate Courses:

PHIL 503. Philosophy of Education (3). Various philosophic positions which lead to an understanding of the educational enterprise. Same as ED 503. Student may not receive credit for both ED/PHIL 467 and ED/PHIL 503.

PHIL 598. Special Topics (1-6).

PHYSICAL EDUCATION,
HEALTH EDUCATION AND
LEISURE SERVICES

Chair:

John G. Gregor

PE 107

Graduate Faculty

Professors:

Ken Briggs, Health Education, Chemical Dependency, Teaching Methodology

Gary Frederick, Physical Education, Sport Administration, Sport Psychology, Coaching

John Gregor, Physical Education, Exercise Science, Adapted Physical Education

Erlice Killorn, Physical Education, Psychology/Sociology of Sport, Gerontology, Teaching Methodology

James Nylander, Physical Education, History/Sociology/Philosophy of Sport

John Pearson, Physical Education, Sport Administration, Sport Psychology, Teaching Methodology

Jean Putnam, Physical Education, Leisure Studies, Teaching Methodology, History/Philosophy/Sociology/Psychology of Sport

Sharon Schwindt, Community Health Education, Women's Health, Philosophy/Psychology of Health

William Vance, Leisure Studies, Legal Issues, Child Growth and Development, Playgrounds, Gerontology

Associate Professors:

- Jan Boyungs, Physical Education, Exercise Science
- *Robert Gregson, Physical Education, Coaching
- Stephen Jefferies, Physical Education, Psychology/Sociology of Sport, Teaching Methodology
- *Dorothy Purser, Physical Education, Paramedics, Exercise Science
- *Gary Smith, Physical Education, Athletic Training

Assistant Professors:

- Patricia A. Maguire, Leisure Studies, Tourism and Commercial Recreation
- Vincent M. Nethery, Physical Education, Exercise Physiology

*Associate Graduate Faculty

Master of Science

Physical Education, Health, and Leisure Studies

Program Director:

Jean Putnam
PE 117

The master of science degree in physical education, health, and leisure studies prepares the student to serve as teacher, administrator and/or manager in the broad areas of physical education, health, and leisure. In addition to general requirements for admission to the master's program, admission to the graduate program in physical education, health and leisure studies requires:

1. A related undergraduate major or the equivalent knowledge and experience.
2. Satisfactory test scores on the Graduate Record Examination.
3. Strong letters of recommendation for graduate work.
4. A well written and clearly focused goal statement.

Program. The student shall complete at least forty-five (45) credits as outlined in an approved course of study filed with graduate admissions and records. The course of study is structured in consultation with the graduate program director of the department and the student's graduate faculty committee. The course of study will include a required core of fifteen (15) credits plus appropriate courses in the student's area of concentration and related courses in other disciplines.

Credits

Required Core Courses	15
PEHL 510, Issues in Physical Education, Health, and Leisure	3
PEHL 557, Research Methods	3
PEHL 558, Research Design and Critique	3
PEHL 700, Thesis, Project, Examination	6

Area of concentration (Physical Education, Health, or Leisure Studies).....	15-25
Courses in related disciplines	5-18

Total Credits Required 45

The student's course of study shall include:

1. No more than two workshop courses with a maximum of six credits.
2. No more than three individual studies with a maximum of nine credits.
3. No more than one internship with a maximum of six credits.
4. A minimum of three credits in basic statistics.

Graduate Physical Education Courses

PE 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

PE 521. Advanced Football Coaching (3).

PE 523. Advanced Basketball Coaching (3).

PE 524. Advanced Track Coaching (3).

PE 525. Advanced Baseball Coaching (3).

PE 530. Gender in Sport (3). Role of women and men in sport and analysis of gender discrimination with models for change.

PE 540. Socio-Psychological Dimensions of Sport (3). The social and psychological factors which affect behavior and performance in sport.

PE 541. Sport and Culture (3). The interrelationship of sport with other aspects of the culture.

PE 542. Greek and Roman Concepts of Sport (3). Major influences and characteristics of sport and systematic exercise in early civilizations including the Mycenaean, Minoan, Greek, Etruscan and Roman.

PE 548. Advanced Athletic Training (3). Prerequisite, PE 348 or permission of instructor. Identification and analysis of problems. Designed for practicing coaches.

PE 551. Advanced Physiology of Exercise I (3). Prerequisite, PE 450. Application of physiological principles to the regulation of cellular and organic processes during exercise. Regulation, control and adaptation of metabolic pathways. Characteristics used to describe muscle fiber types.

PE 552. Advanced Physiology of Exercise II (3). Prerequisite, PE 551. Responses and adaptations of cardiovascular and pulmonary systems to acute and chronic exercise. Neural and humoral mechanisms of control during exercise.

PE 553. Laboratory Techniques in Stress Physiology (3). Prerequisites, PE 551 and PE 552 or permission of instructor. Techniques for the assessment of human physiological characteristics during rest and exercise stress. Two hours lecture and two hours lab per week.

School of Professional Studies

PE 554. Perceived Exertion and Exercise (3). Prerequisites, PE 551, PE 552 or permission of instructor. Physiological and psychological bases for perceived exertion during exercise. Influence of training on perceived exertion.

PE 555. Environmental Stress and Human Performance (3). Prerequisites, PE 551, PE 552 or permission of instructor. Influence of a variety of environmental factors on human performance. Adaptations to environmental stressors through constant exposure.

PE 556. Ergogenic Aids and Human Performance (3). Prerequisites, PE 551, PE 552 or permission of instructor. Use of physical, physiological, pharmacological and psychological aids to improve human performance.

PE 559. Applied Kinesiology (3). Prerequisite, PE 356. Advanced kinesiological analysis of exercise programs, sport skills and skills for daily living.

PE 560. Systematic Analysis of Teaching Physical Education (3).

PE 590. Cooperative Education (1-6). An individualized contracted field experience with business, industry, government, or social service agencies. The contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval is required. Grade will be S or U.

PE 591. Workshop (1-6).

PE 596. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

PE 598. Special Topics (1-6).

PE 599. Seminar (1-5). May be repeated for credit under different titles.

Graduate Physical Education, Health and Leisure Studies Courses

PEHL 510. Issues in Physical Education, Health and Leisure Studies (3).

PEHL 557. Research Methods (3). Prerequisite, satisfactory completion of a basic statistics course. Introduction to the process of planning and understanding research.

PEHL 558. Research Design and Critique (3). Prerequisite, PEHL 557. Selection and definition of a specific research problem, review of literature for proposed research, design techniques, and critical analysis of research proposals.

PEHL 570. Liability/Risk Management in Health, Physical Education, Recreation and Athletics (3).

PEHL 571. Grant Writing in Health, Leisure and Sport Programs (3). Overview of the grant writing process including sources, process, application, and administration. Same as LES 482. May not receive credit for both.

PEHL 575. Principles of Administration in Health, Leisure, and Sport Programs (3).

PEHL 598. Special Topics (1-5).

PEHL 599. Seminar (1-5). May be repeated for credit.

PEHL 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit. Same as HPER 700.

Graduate Health Education Courses

HED 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

HED 590. Cooperative Education (1-6). An individualized contracted field experience with business, industry, government, or social service agencies. The contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval is required. Grade will be S or U.

HED 591. Workshop (1-6).

HED 596. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

HED 598. Special Topics (1-6).

HED 599. Seminar (1-5). May be repeated for credit under different titles.

Graduate Leisure Services Courses

LES 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

LES 501. Planning and Implementation of Outdoor Education Programs (3). Designed for teachers and school officials. Outdoor education values, organizational skills, program conduct, leadership recruitment and training.

LES 590. Cooperative Education (1-6). An individualized contracted field experience with business, industry, government, or social service agencies. The contractual arrangement involves a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval is required. Grade will be S or U.

LES 591. Workshop (1-6).

LES 596. Individual Study (1-6). May be repeated.

LES 598. Special Topics (1-6). May be repeated under different titles.

LES 599. Seminar (1-5). May be repeated for credit under different titles.

POLITICAL SCIENCE

Chair:

Michael A. Launius
Psychology Building 414

Graduate Faculty

Professors:

James R. Brown, Jr., Political Theory, Middle East Politics, Soviet Politics, Strategic Arms and Negotiations, U.S. Foreign Policy
Robert V. Edington, International Politics, Political Development
Robert C. Jacobs, Public Law and Government, American Politics, Constitutional Law, American Presidency

Associate Professor:

Rex Wirth, Public Administration, International Politics, State and Local Politics, Western Europe

Assistant Professor:

Michael A. Launius, Comparative Politics, Asian Politics, International Political Economy, Pacific Rim Studies

PSYCHOLOGY

Chair: Philip Tolin

Psychology 422

Graduate Faculty

Professors:

Richard V. Alumbaugh, General Experimental, Aggression, and Psychometrics
Terry L. DeVietti, Physiological Psychology, Experimental
James L. Eubanks, Organization Development, Management Information Systems, Training Research and Development
Roger S. Fouts, General Experimental, Language Acquisition, Primate Behavior, Comparative Psychology
James G. Green, Counseling
Donald E. Guy, Child Development, Human Learning
Margaret E. Lloyd, Behavior Analysis, Clinical Psychology
Owen Pratz, Counseling, Personality, Social Psychology, Human Development
Donald R. Shupe, Experimental Design, Statistics, Developmental Psychology and Gerontology
John L. Silva, Child Development, Clinical, Counseling, Testing
Elizabeth M. Street, Educational Psychology, Learning Theory, Exceptional Children
Warren R. Street, Social Psychology, General Experimental, Computer Methods
Philip Tolin, Perception, Human Factors, General Experimental

Max Zwanziger, Clinical Psychology, Personality

Associate Professors:

*W. Owen Dugmore, Counseling
Darwin J. Goodey, School Psychology, Clinical, Mental Health, Counseling, Exceptional Children, Indian and Minority Education
Susan D. Lonborg, Counseling, Psychotherapy Research, Psychology of Women, Substance Abuse, Sports Psychology
Larry M. Sparks, States of Consciousness, Self Theory, Systems of Psychology, General Experimental
Anthony J. Stahelski, Organization Development, Social Psychology, Small Group Interaction

Assistant Professors:

Eugene R. Johnson, School Psychology, Psychological and Educational Evaluation, Exceptional Children
Stephen B. Schepman, Organization Development, Work Motivation, Personality Theories
Stephanie Stein, Counseling, Psychological Assessment of Children, Lifespan Development, Abnormal Psychology

*Associate Graduate Faculty

In addition to general regulations for master's programs, admission to psychology graduate programs will be recommended upon evaluation of the student's prior scholastic record, GRE scores, recommendations by instructor and/or employer, and statement of professional objectives. If prerequisite background courses or their equivalents have not already been completed, they must be taken as soon as possible in the student's program. Courses will not be accepted as meeting program prerequisites if taken on a credit/no-credit basis.

Successful completion of PSY 593.A, Introductory Practicum in Counseling, is mandatory for retention in the counseling psychology, school counseling, and school psychology programs. Grades assigned to PSY 593.A are S and U. The student is expected to enroll in PSY 560, Theories of Counseling, and PSY 593.A the first quarter after completion of all prerequisites for those courses.

During the second quarter of graduate study, each student must have completed a planned Course of Study prepared with the aid of an advisor and subject to departmental approval. The student must complete at least 30 credits after full admission. Not more than six (6) credits from 300 level courses may apply toward the master's degree. Students who wish to use faculty time or departmental materials and equipment for thesis work must register for at least two (2) credits of PSY 595 or PSY 700 during the quarter they require assistance and resources. Students must be registered for two (2) credits of PSY 595 or PSY 700 during the quarter in which the final thesis defense is held.

Master of Science

Program Coordinator:

Philip Tolin
Psychology 422

These options are designed to provide instruction for students planning one or more of the following: 1) doctoral study in psychology; 2) college level teaching of psychology; 3) research and evaluation positions in industry, government, etc.; 4) coun-

selling positions in public service agencies; 5) work in other fields of applied psychology requiring at least a master's degree.

Option: Experimental Psychology

Prerequisites: PSY 301, 362, 363, 444, 461.

Required Courses:	Credits
PSY 478, Physiological Psychology	3
PSY 478.1, Techniques in Physiological Psychology	2
PSY 540, Industrial/Organizational Psychology	4
PSY 551, Behavior Analysis	4
PSY 555, Design and Analysis for Applied Research	4
PSY 557, Advanced Univariate Analysis	4
PSY 558, Applied Multivariate Statistics	4
PSY 576, Comparative Psychology	4
PSY 579, Human Factors	4
PSY 580, Current Issues in Psychology	3
PSY 700, Thesis	6
Electives: By advisement	18
Total	60

Option: Counseling Psychology

Prerequisite Courses: PSY 301, 362, 363, 444, 453, and 461 (or approved equivalent). Prerequisite courses may be taken concurrently with certain program courses.

The student shall complete an approved Course of Study filed with graduate admissions and records which will normally consist of the courses below.

Required Courses:	Credits
PSY 551, Behavior Analysis	4
PSY 552, Human Growth and Development, Advanced	3
PSY 555, Design and Analysis for Applied Research	4
**PSY 560, Theories of Counseling	4
PSY 561, Group Counseling	3
PSY 568, Counseling Strategies	3
PSY 571, Counseling for Relationships and Families	3
PSY 573, Career Development	3
PSY 580, Current Issues in Psychology	3
PSY 584, Behavior Disorders and Psychopathology	4
**PSY 593.A, Introductory Practicum in Counseling	3
PSY 593.B, Practicum in Counseling—Assessment and Planning	3
PSY 593.C, Practicum in Counseling with Emphasis on Adults	3
PSY 593.D, Practicum in Counseling with Emphasis on Children and Families	3
PSY 593.E, Group Counseling Practicum	3
PSY 599.1, Professional Problems	3
*PSY 684.1, Counseling Internship	15
PSY 700, Thesis	6
Electives: By advisement	3
Total	76

*Students who take the M.S. degree and also seek school counseling certification must complete the internship requirement (PSY 684.1) and, in addition, must take 15 hours of PSY 684.2 in

a school setting. Students who take the master of science (M.S.) degree and also seek school psychology certification must complete an internship in counseling (PSY 684.1) and in school psychology (PSY 683). Other courses required for certification in school counseling or school psychology will be determined through individual assessment.

**PSY 560 and 593.A are taken concurrently. Successful completion of both is required for final admission to the counseling psychology program.

Master of Education and/or Certification in School Counseling, and School Psychology

Program Coordinator:
Philip Tolin
Psychology 422

The intent of these programs is to place highly qualified counselors and psychologists in public school settings.

Option: School Counseling

The state board of education's standards for certification of school counselors require that the candidate complete an approved master's degree program in counseling which has been developed in consort with school and professional organizations. (Note: Candidates who have already received a master's degree in another field are not required to earn a second master's, but must complete the counselor preparation program.)

Central Washington University is affiliated with an Educational Staff Associate (ESA) Program Unit for the preparation of school counselors. The program is competency based and emphasizes supervised practicum and field experiences. Upon completion of the program the individual will be qualified for the initial level certificate as a school counselor in the state of Washington.

Applicants for master's degree study and/or counselor certification must follow the application and admissions procedures outlined earlier in this bulletin.

Candidates follow the two-year program leading to the master of education degree in school counseling. It is possible to obtain certification without becoming a candidate for the M.Ed. degree. The latter is recommended for those persons who have earned or are earning master's or doctoral degrees in such allied disciplines as education, special education, counseling, speech pathology and sociology. For those candidates seeking the degree in school counseling, the courses listed are required. For those who desire to meet certification requirements in school counseling with or without a counseling degree, two additional courses are required: PSY 559, Advanced Educational Psychology and PSY 571, Counseling for Relationships and Families. The certification program also requires satisfactory completion of a comprehensive examination.

Prerequisites: PSY 301, 362, 363, 444, 453
(or approved equivalents).

Prerequisite courses may be taken concurrently with certain program courses.

Required Courses:	Credits
Educational Foundations and Research Courses (see page 233) (PSY 552, Human Growth and Development, Advanced, is advised).....	9
PSY 551, Behavior Analysis.....	4
*PSY 560, Theories of Counseling.....	4
PSY 561, Group Counseling.....	3
PSY 573, Career Development.....	3
PSY 584, Behavior Disorders and Psychopathology.....	4
PSY 599.1, Professional Problems.....	3
*PSY 593.A, Introductory Practicum in Counseling.....	3
PSY 593.B, Practicum in Counseling—Assessment and Planning.....	3
PSY 593.C, Practicum in Counseling with Emphasis on Adults.....	3
PSY 593.D, Practicum in Counseling with Emphasis on Children and Families.....	3
PSY 593.E, Group Counseling Practicum.....	3
PSY 684.2, School Counseling Internship.....	15
PSY 700, Thesis.....	6
Electives: By advisement (in order to acquire specialized competencies in secondary counseling, elementary counseling or vocational counseling).....	4-8
Total	70-74

*PSY 560 and 593.A are taken concurrently. Successful completion of both is required for final admission to the school counseling program.

Option: School Psychology

The school psychology preparation program consists of two interrelated components: (1) master’s degree and (2) remaining certification requirements. The state board of education’s standards for certification of school psychologists require that the candidate complete an approved master’s degree program in psychology that has been developed in consort with school and professional organizations. (Note: Candidates who have already received a master’s degree in another related field are not required to earn a second master’s, but must complete all requirements for both components of the program except the thesis.) Successful completion of both portions of the preparation program at Central Washington University leads to eligibility for initial certification as an educational staff associate-school psychologist and national certification through the National Association of School Psychologists.

Prerequisites: PSY 301, 362, 363, 444, 453, 457 (or approved equivalents). Prerequisite courses may be taken concurrently with certain program courses.

Master’s Degree Requirements:

The master of education degree in school psychology is granted to the candidate upon completion of a minimum of 47 quarter hours of coursework including thesis. The following courses (or approved equivalents) are required:

Required Courses:	Credits
Educational Foundations and Research courses (see page 233) (PSY 552, Human Growth and Development, Advanced,	

is advised).....	9
PSY 501, The School Psychologist.....	3
PSY 551, Behavior Analysis.....	4
PSY 556, Advanced Evaluative Techniques.....	5
*PSY 560, Theories of Counseling.....	4
PSY 564, Intellectual Assessment.....	5
PSY 566, Psychological Assessment.....	5
*PSY 593.A, Introductory Practicum in Counseling.....	3
PSY 593.B, Practicum in Counseling—Assessment.....	3
PSY 700, Thesis.....	6

M.Ed. Component Total 47

*PSY 560 and 593.A are taken concurrently. Successful completion of both is required for final admission to the school psychology program.

Remaining Requirements for School Psychology Certification:

In addition to completing the master’s degree requirements, the candidate must complete all remaining certification requirements before being recommended to the state board of education for certification as a school psychologist. These courses may be taken concurrently with the master’s degree requirements. The following courses (or approved equivalents) are required:

Required Courses:	Credits
PSY 447, Psychology of Adolescence.....	3
SPED 523, Curriculum for the Mildly/Moderately Handicapped.....	3
ED/PSY 525, Psychology of Reading.....	3
SPED 533, Education of Disadvantaged Students.....	3
PSY 559, Advanced Educational Psychology.....	4
PSY 561, Group Counseling.....	3
PSY 573, Career Development.....	3
PSY 584, Behavior Disorders and Psychopathology.....	4
PSY 592.1, Practicum in School Psychology.....	3
PSY 592.2, Practicum in School Psychology.....	3
PSY 683, School Psychology Internship (one public school year, minimum 1,200 clock hours).....	15
Comprehensive Examination for Certification.....	0

Total Additional Credits for Certification 47

Total Credits for M.Ed. and Certification 94

Graduate Courses

PSY 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

PSY 501. The School Psychologist (3). Prerequisite, admission to the school psychology program or permission of instructor. An introduction to the activities of school psychologists and the conditions under which they function.

PSY 510. Social Psychology of Small Group Behavior (3). Theories, concepts and research in individual behavior in groups and group development.

PSY 525. Psychology of Reading (3). Prerequisites, a reading methods course, a basic psychology of learning course, or permission of the instructor. Principles of learning and readiness, perception, psychological, and physiological aspects of reading. Same as ED 525. Student may not receive credit for both.

PSY 531. Assessment, Observation and Evaluation of Young Children (3). Prerequisites, PSY 314 and 362 or equivalent. Recording and analyzing data on the child's physical, mental, social and emotional status. Interpreting the data in terms of the child's needs in a classroom or other child care setting.

PSY 533. Principles and Practices of Adlerian Psychology (4). The application of Adlerian principles of counseling with individual, groups, and family situations.

PSY 540. Industrial/Organizational Psychology (4). Application of psychological principles to understanding human performance and satisfaction in organizations.

PSY 551. Behavior Analysis (4). Prerequisite, PSY 301. Techniques in applying behavioral principles to human performance.

PSY 552. Human Growth and Development, Advanced (3). Prerequisite, PSY 313, 314, or permission of instructor. Developmental theories, multicultural differences, exceptionality, related research, and implications for education and guidance.

PSY 555. Design and Analysis for Applied Research (4). Prerequisite, PSY 363 or equivalent. Design and analysis of experimental and quasi-experimental research, with an emphasis on applied settings.

PSY 556. Advanced Evaluative Techniques (5). Prerequisite, PSY 444 or permission of instructor. Evaluation procedures and assessment devices for use with exceptional children.

PSY 557. Advanced Univariate Analysis (4). Prerequisite, PSY 555. Advanced techniques of data analysis, emphasizing the analysis of variance, individual comparisons, trend tests, and the interpretation of interactions.

PSY 558. Applied Multivariate Statistics (4). Prerequisite, PSY 557. Multiple regression, factor analysis, and MANOVA.

PSY 559. Advanced Educational Psychology (4). Prerequisite, PSY 315 or permission of instructor. Investigation of principles of learning and behavior as it relates to educational situations, including major theories of learning and development and assessment/evaluation procedures.

PSY 560. Theories of Counseling (4). Prerequisites, PSY 453 and admission to graduate programs leading to the M.S. counseling or M.Ed. school counseling or school psychology. To be taken concurrently with PSY 593.A. Survey of major theoretical approaches to counseling.

PSY 561. Group Counseling (3). Prerequisite, PSY 560. Theoretical approaches to group counseling, and introductory laboratory/demonstration experience.

PSY 562. Theories of Learning (5). Prerequisite, PSY 551 or permission of instructor.

PSY 564. Intellectual Assessment (5). Prerequisite, PSY 444 or permission of instructor. Attainment of competencies in the use of intellectual assessment instruments, early childhood through adult. Variables affecting test performance, interpretation and report writing are emphasized.

PSY 566. Psychological Assessment: Projective and Nonprojective Tests of Personality (5). Prerequisite, PSY 444 or permission of instructor. Attainment of competence in the use of non-projective and projective personality instruments, childhood through adult.

PSY 568. Counseling Strategies (3). Prerequisite, PSY 560 and PSY 593.A. Basic counseling treatment strategies for common client problems.

PSY 569. Use of Standardized Test Results (3). Prerequisite, PSY 315 or 444 or equivalent. This course is designed to assist counselors, teachers and educational administrators/supervisors to make optimal use of the results from standardized tests. The interpretation of achievement test scores and the reporting of such results to the general public, school boards, parents and students will be emphasized.

PSY 570. Theories of Counseling in Organizations (4). Prerequisite, admission to MSOD Program. Basic counseling theories applied to organizational settings.

PSY 571. Counseling for Relationships and Families (3). Prerequisites, PSY 560 or permission of instructor. Major theoretical approaches to counseling with couples and families.

PSY 573. Career Development (3). Prerequisite PSY 444 or permission of the instructor. Overview of major theories of career development and occupational choice, emphasizing individual, ethnic and cultural differences.

PSY 576. Comparative Psychology (4). Prerequisite, permission of instructor. Invertebrates and vertebrates; laboratory and field observation.

PSY 578. Models of Human Performance (4). Prerequisites, PSY 301 and 363. Theories and models of signal detection, decision making, perception, attention, memory, workload, and reaction time. Emphasis is on bridging the gap between theoretical research in experimental psychology and the design of human-machine systems.

PSY 579. Human Factors (4). Psychological principles in the design of equipment and environments.

PSY 580. Current Issues in Psychology (3). May be repeated.

PSY 582. Stress: Theory and Management (4). Prerequisite, 10 credits of upper division credit in psychology or permission of instructor. The physical and psychological explanations of human stress; demonstration and application of stress management techniques.

PSY 584. Behavior Disorders and Psychopathology (4). Prerequisite, PSY 449 or permission of instructor. Major systems of classification for normal and abnormal child/adult behavior.

PSY 591. Workshop (1-6).

PSY 592.1. Practicum in School Psychology (3). Prerequisite, admission to the school psychology program. Attainment of competence in the use of observational techniques, anecdotal reports, rating scales, behavioral analyses, and developmental interviews. Grade will be S or U.

PSY 592.2 Practicum in School Psychology (3). Prerequisite, PSY 592.1. Experience in complete case workups within state and federal requirements. Includes assessments, interpretation of results, treatment plans and educational programs. Emphasis on developing consultation skills. May be repeated for credit. Grade will be S or U.

PSY 593.A. Introductory Practicum in Counseling (3). Prerequisite, Psy 301 or equivalent, and permission of department chair. To be taken concurrently with PSY 560. Interviews, role-playing, observation, and analysis of interview behavior. Grade will be S or U. May be repeated. A maximum of 3 credits may be included on the course of study on the master's degree.

PSY 593.B. Practicum in Counseling—Assessment and Planning (3). Prerequisites, PSY 551 (may be taken concurrently), PSY 560, 593.A and permission of department chair. Assess client problems and plan counseling strategies. Grade will be S or U.

PSY 593.C. Practicum in Counseling with Emphasis on Adults (3). Prerequisites, PSY 568 (may be taken concurrently), PSY 593.B and permission of department chair. Grade will be S or U.

PSY 593.D. Practicum in Counseling with Emphasis on Children and Families (3). Prerequisites, PSY 593.C, PSY 571 (both may be taken concurrently) and permission of the department chair. Counseling with children and adolescents and their families. Grade will be S or U.

PSY 593.E. Group Counseling Practicum (3). Prerequisites, PSY 561, PSY 593.B and permission of department chair. Supervised counseling of child or adult groups. Grade will be S or U.

PSY 594.1, 594.2, 594.3. Supervised Field Experience in School Psychology (3,3,3). Prerequisite, graduate status in school psychology.

PSY 595. Graduate Research (1-10). For students working on library research, thesis proposal, and collection of data prior to writing a thesis. Students using faculty time, supplies and/or equipment for thesis work must be registered for PSY 595 or PSY 700. May be repeated for credit. Maximum of 10 credits may be included on course of study for the master's degree.

PSY 596. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated.

PSY 597. Supervised Field Experience in Counseling (3). Prerequisite, advanced status in counseling options or advanced degree in counseling or equivalent. Grade will be S or U. May be repeated.

PSY 598. Special Topics (1-5).

PSY 599. Seminar (1-5). May be repeated.

PSY 599.1. Professional Problems (3). Prerequisite, PSY 593.A. Ethics and legal issues, special minority population issues, and community resources.

PSY 683. School Psychology Internship (3-15). Prerequisite, permission of department chair. A full-time placement in school district (K-12). Grade will be S or U.

PSY 684.1. Counseling Internship (3-15). Prerequisite, PSY 593.D, PSY 593.E, PSY 584 and permission of department chair. Full-time internship placement in a mental health agency or psychiatric hospital. Grade will be S or U.

PSY 684.2. School Counseling Internship (3-15). Prerequisite, PSY 593.D and PSY 593.E and permission of department chair. Placement in the public schools (K-12). Grade will be S or U.

PSY 685. Internship in Research and Evaluation (3-15). Prerequisite, advanced status in the M.S. experimental program. Supervised off-campus experience in approved cooperating agency. Placement is contingent on the availability of supervision and facilities and cannot, therefore, be guaranteed. Grade will be S or U. May not be used to satisfy the minimum 45 credits for the approved course of study.

PSY 692. Institute in Psychology (1-15). Prerequisite, master's degree in psychology or permission of department chair. Not applicable to the master's degree. Grade will be S or U.

PSY 693. Supervision in School Psychology Practicum (1-6). Prerequisite, PSY 592.2 or equivalent and department chair approval. May be repeated. Training in the supervision of preparatory and initial level school psychology trainees.

PSY 694. Supervision in Counseling Practicum (1-6). Prerequisites, PSY 593.B or equivalent and department chair approval. May be repeated. Training in the supervision of beginning and paraprofessional counselors.

PSY 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

The following courses are on reserve and may be offered subject to program needs: PSY 572, Gestalt Methods in Counseling (3); PSY 563, Theories of Perception (4).

RESOURCE MANAGEMENT

Program Coordinators:

Natural Resources:

Kenneth A. Hammond, Chair, Department of Geography and Land Studies
Lind 119

Cultural Resources:

Catherine J. Sands, Chair, Department of Anthropology
Farrell 309

Graduate Faculty

Professors:

James M. Alexander, Anthropology, Cultural Resource Management, Forensics
Donald J. Cocheba, Economics, Resource/Wildlife Economics
Anne S. Denman, Anthropology, Community Studies, Peasant Societies
L. Clint Duncan, Chemistry, Acid Rain, Alpine Water Resources
Earl T. Glauert, History, Historic Preservation, Archive Management
Kenneth A. Hammond, Geography, Resource Conservation, Resource Planning and Policy, Water Resources
George Macinko, Geography, Resources and Man, Environmental Philosophy
Richard S. Mack, Economics, Resource and Regional Economics
John Q. Ressler, Geography, Resources and Culture, Third World Resource Problems, Geographic Information Systems (GIS)
William C. Smith, Anthropology, Cultural Resource Management, Archaeology, Geographic Information Systems (GIS)
Curt A. Wiberg, Biology, Wild Land/Forest Ecology

Associate Professor:

Catherine J. Sands, General Anthropology, Nonverbal Communication, Non-Western Art, Northwest Coast Ethnology, Medical Anthropology, Aging, Forensic Anthropology

Assistant Professor:

Morris Uebelacker, Geography, Resources and Land Utilization Patterns, Cultural Resource Management

Master of Science Resource Management

Program. The program is interdisciplinary, emphasizing understanding of problems encountered in the management of both natural and cultural resources. It includes a basic core of 12 credits in resource management courses, 15 credits in management, communication and administration, and a specialty track in either natural resource areas (management of land, mineral, water, and energy resources) or cultural resources management (ethnographic and archaeological sites and materials, historic properties, and archives). Students must complete at least 60 credits as outlined in an approved course of study filed with graduate admissions and records. The course of study is selected by advisement before the end of the stu-

dent's first quarter in residence.

Program Admission Requirements. In addition to general regulations for admission to master's programs, applicants for admission must have the following qualifications:

- a. A solid background in a discipline closely related to the resource they expect to manage. Normally, a bachelor's degree is required in a technical field such as one of the biological or physical sciences, engineering, geology or earth sciences, oceanography, archaeology or ethnology, history or architecture. In some cases work experience may be accepted in lieu of a technical major. Before admission, program faculty will evaluate the academic coursework and experience of all applicants for admission, and will recommend remedial coursework if, in their judgment, there are deficiencies in pre-baccalaureate work which need to be overcome before entrance into the program.
- b. A high proficiency in written and spoken English as well as potential for post-graduate study and research. Evidence of proficiency and potential may include: GRE scores, samples of previous writing, letters of recommendation, an interview.
- c. A good background in basic statistics (the equivalent of two quarters of undergraduate statistics), knowledge of microeconomic principles, and some knowledge of computer systems (the equivalent of a one-quarter undergraduate course).

Admission to the program and continuation in it may be conditional on the applicant's satisfactory completion of remedial courses. Such courses will not count toward the program credit requirement but in some cases they may be taken after admission to the program.

Required Courses

Credits

Core Courses

REM 501, Systems of Resource Management.....	3
REM 502, Policy and Law in Resource Management.....	3
REM 522, Resource Analysis.....	3
REM 562, Issues and Conflicts in Resource Management.....	3

Total 12

Management, Communications and Administration Courses

(to be selected by advisement, but normally including work in geographic information systems)

minimum.....	15
Seminars/Electives (to be selected by advisement).....	15

Natural Resource Management (minimum 15)

OR
Cultural Resource Management (minimum 15)

REM 590, Internship/Field Experience.....	6-12
REM 700, Thesis.....	6

Total 60

Graduate Committee. The student will have at least a three-member graduate committee, to be selected in consultation with the program coordinator and the dean of graduate studies.

SCIENCE EDUCATION

Program Coordinator:
Donald G. Dietrich
Dean 127A

Graduate Faculty Professors:

Ronald J. Boles, Biology and Science Education
 Robert H. Brown, Vertebrate Anatomy and Science Education
 Donald G. Dietrich, Chemistry and Science Education

Master of Education Science Education

Prerequisites. Completion of courses specified in the undergraduate broad area science major, or a biology major, or a chemistry major.

Program. The student shall complete at least 45 credits as outlined in an approved Course of Study filed with graduate admissions and records. The Course of Study is selected by advisement of the student's graduate committee and from not more than two of the following areas: chemistry, physics, biology, and geology.

Required Courses:	Credits
Educational Foundations and Research Courses (see page 233).....	9
ED 700, Thesis.....	6
Courses selected by advisement.....	30
Total	45

Graduate Courses:

SCED 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

Examination. After completion of the core courses, and before the internship/field experience, students will be expected to take a written comprehensive examination; enrollment in further coursework will depend on passing the examination in a satisfactory manner.

In addition, each candidate must pass a final oral examination on all phases of his or her program including the thesis and related coursework.

Graduate Courses

REM 501. Systems of Resource Management (3). The nature of resources; traditional systems of resource management; problems associated with resource "ownership"; principles and practice of management related to local, regional and global resources.

REM 502. Policy and Law in Resource Management (3). The scope and formation of U.S. resource policy, history of resource-related policies and legislation, current legislation and policies, future directions in resource policy.

REM 522. Resource Analysis (3). Problems of resource allocation; techniques of resource determination, cost-benefit analysis, principles of systems analysis, politics of resource analysis, understanding the "planner" and the "developer." Prior experience required in the use of electronic data processing equipment and in basic statistics.

REM 562. Issues and Conflicts in Resource Management (3). Population and resources, ownership and access, conflict resolution and other issues.

REM 590. Internship/Field Experience (1-12). Prerequisite, approval of program coordinator. Supervised off-campus practical experience in accordance with a written agreement between student, faculty and cooperating agency. Grade will be S or U.

REM 597. Graduate Research (1-10). May be repeated for credit.

REM 598. Special Topics (1-5).

REM 599. Seminar (1-3).

REM 700. Master's Thesis, Project Study and/or Examination (1-6). Prerequisite, permission of chair of student's graduate faculty supervisory committee. Designed to credit and record supervised study for the master's thesis, non-thesis project, studio project, public recital, and/or examination. Grade will be either S or U. May be repeated for credit.

SOCIAL SCIENCE

Program Coordinator:
Lawrence L. Lowther
Language and Literature 100

Graduate Faculty Professor:
Lawrence L. Lowther, Colonial America, American Revolution

Master of Education Social Science

Program. The student shall complete at least 45 credits as outlined in an approved Course of Study filed with graduate admissions and records. At least 30 credits in social science are required and will include credits for the thesis and electives in social sciences. At least 15 credits must be in a field other than the undergraduate major. For students with a broad social science undergraduate major, at least 20 credits must be taken in one field.

Required Courses:	Credits
Education Foundations & Research Courses (see page 233).....	9
ED 700, Thesis (or option).....	6
Social Science Courses by advisement.....	30
Total	45

Graduate Courses

SOSC 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

SOSC 520. Elementary Social Science Curriculum (4). Prerequisite, B.A. degree and teaching experience. Philosophy, content, instructional processes, and grade level placement of topics in elementary school social science.

SOSC 521. Secondary Social Science Curriculum (3). Prerequisite, B.A. degree and teaching experience. The critical analysis of content, materials, and instructional processes.

SOSC 598. Special Topics (1-6).

SOSC 599. Seminar (1-5). May be repeated.

SOCIOLOGY

Chair: David E. Kaufman
Farrell 409

Graduate Faculty Professors:
Laura L. Appleton, Sex Roles, Social Movements and Theory
Donald L. Garrity, Criminology
David E. Kaufman, Sociology of Education, Community and Urban Life
Charles L. McGehee, Theory, Social Psychology, Crime and Delinquency

Associate Professors:
John R. Dugan, Statistics, Methodology, Social Psychology
Russell W. Hansen, Social Stratification and Sociology of Law

Graduate Courses

SOC 500. Professional Development (1-5). Development topics and issues for inservice and continuing education of professionals. Not applicable to degrees nor institutional requirements for endorsements or teaching certificates offered through the university.

SOC 525. Society and Education (3). Social and cultural trends that shape education and its future. Student may not receive credit for both SOC 425 and SOC 525.

SOC 566. Organization Research and Assessment (5). Prerequisite, introductory statistics or permission. Principles of scientific research, methodology and their application to the analysis of organizations. Same as OD 566. Student may not receive credit for both.

SOC 596. Individual Study (1-6). Prerequisite, permission of instructor.

SOC 598. Special Topics (1-6).

SOC 599. Seminar (1-5). May be repeated.

UNIVERSITY PERSONNEL

Trustees

Susan E. Gould, B.S.
(September 30, 1994), Edmonds

Ron Dotzauer, B.A.
(September 30, 1991), Seattle

S. Sterling Munro, B.A.
(September 30, 1991), Wenatchee

David A. Pitts, D.J.
(September 30, 1993), Ellensburg

Frank R. Sanchez, M.B.A.
(September 30, 1994), Seattle

Graham Tollefson, B.A.
(September 30, 1995), Yakima

R. Y. Woodhouse, Ph.D.
(September 30, 1991), Seattle

Administration Executive Offices

Donald L. Garrity
President

Lawrence H. Lium
Vice President for University Relations and Development

Jerry L. Jones
Special Assistant to the President

Richard G. Thompson, Jr.
Director of Governmental, Corporate and Community Relations

Teresa C. Kulik
Senior Assistant Attorney General

Nancy E. Howard
Director of Affirmative Action

Gail K. Jones
Director of Alumni Affairs

Barbara Radke
Director of News Services

Gregory S. Kummer
Director of Publications

Academic Administration

Robert V. Edington
Provost and Vice President for Academic Affairs

Doanld M. Schliesman
Vice Provost and Dean of Undergraduate Studies

Gregory Trujillo
Associate Provost for Institutional Research and Assessment

Duane M. Skeen
Administrative Assistant to the Provost and Vice President for Academic Affairs

Vernon L. LaBay
Assistant to the Provost and Vice President for Academic Affairs

Gerald L. Cleveland
Dean of the School of Business and Economics

Joan F. Mosebar
Assistant Dean, School of Business and Economics

Donald W. Cummings
Dean of the College of Letters, Arts and Sciences

Anne S. Denman
Associate Dean of the College of Letters, Arts and Sciences

Ronald M. Frye
Acting Dean of the School of Professional Studies

(To Be Named)
Associate Dean of Professional Studies and Director of Certification and Fifth Year Advisement

Gerald J. Stacy
Dean of Graduate Studies and Research and Associate Provost for Faculty Professional Development

Kathleen D. Easter
Associate Dean of Graduate Studies and Research

(To Be Named)

Dean of Library Services

Carol E. Barnes

Dean of Extended University Programs

James E. Pappas

Dean of Admissions and Records

S. Kelly Ainsworth

Director of International Programs

Jean Rodgers

Director of Continuing Education

Franklin D. Carlson

Director of Summer Session

Thomas J. Broberg

Director of Cooperative Education Center

Cheryl McKernan

Director of Academic Skills Center and Reading Specialist

Carolyn L. Wells

Registrar

James L. Maraviglia

Director of Admissions

Gloria J. Spatafore

Veteran's Program Advisor

(To Be Named)

Director of Academic Advising

Student Services**Donald E. Guy**

Vice President for Student Affairs

(To Be Named)

Associate Vice President for Student Affairs

Richard L. Meier

Assistant Vice President for Student Affairs

B. Dean Owens

Director of Career Planning and Placement

Donna J. Croft

Director of Financial Aid

Murray Larsen

Director of Residence Living

John E. Drinkwater

Director of Student Activities

E. Rosie Zwanziger

Director of Special Services

Karen Moawad

Director of the Samuelson Union Building

Linda Ruffer

Director of The Women's Resource Center

Jack Baker

Coordinator, Substance Abuse Program

Business Administration**Courtney S. Jones**

Vice President for Business and Financial Affairs

Joseph M. Antonich

Controller

Richard E. Corona

Business Manager

Wendell D. Hill

Director of Auxiliary Services

(To Be Named)

Director of Business Services and Contracts

James A. Haskett

Director of Information Resources

William N. Ross

Director of Facilities Planning and Construction

John M. Holman

Director of Facilities Management

Ona K. Youmans

Director of Personnel Services

EMERITUS FACULTY 1991-93

Helen (Patton) Allen (1965): Emeritus Professor of Librarianship, 1975; A.B., Earlham College, Indiana; M.A.L.S., George Peabody College.

Mabel T. Anderson (1918): Emeritus Professor of Education, 1963; B.A., Washington State University; M.A., Teacher College, Columbia University.

Emanuel Frank Bach (1951): Emeritus Professor of Art, 1979; B.A., M.A., Colorado State College.

Luther Galloway Baker, Jr. (1964): Emeritus Professor of Family Studies, 1987; A.B., Whitworth College; S.T.B., Boston University School of Theology; Ph.D., Oregon State University.

Wilhelm Bakke (1948): Emeritus Professor of Technology and Industrial Education, 1973; B.A., University of Puget Sound; M.S., Oregon State University.

Adrian Lee Beamer (1957): Emeritus Professor of Physical Education, 1983; B.A. (Ed.), M.Ed., Eastern Washington University.

Eric Reed Beardsley (1959): Emeritus Professor of Physical Education, 1986; B.A., (Ed.), Central Washington University; M.S., Springfield College.

Robert Bowen Bennett (1967): Emeritus Professor of Physics, 1989; B.A., Willamette University; M.A., Ph.D., University of Oregon.

Walter Louis Berg (1955): Emeritus Professor of History, 1982; B.A., University of Puget Sound; M.A., Ph.D., University of Washington.

Alan Ray Bergstrom (1959): Emeritus Professor of Education, 1983; B.A. (Ed.), Northern Idaho College of Education; M.Ed., Central Washington University; Ed.D., Washington State University.

Herbert Allison Bird (1947): Emeritus Professor of Music, 1978; Mus.B., Oberline Conservatory of Music; M.A., Teachers College, Columbia University; Mus. A.D., Boston University.

Theodore Benjamin Bowen (1965): Emeritus Professor of Chemistry, 1972; B.S., Whitman College; M.A., Washington State University.

James Eugene Brooks (1961): Emeritus President, 1978; B.A., Central Washington University; M.A., Ph.D., University of Washington.

Donald Gordon Brown (1963): Emeritus Professor of Education, 1982; B.A., M.Ed., University of Washington.

Gerald Francis Brunner (1963): Emeritus Professor of Industrial and Engineering Technology, 1990; B.A., M.A., San Jose State College.

David Burt (1969): Emeritus Professor of English, 1984; A.B., Middlebury College; M.A., Montana State University.

Anthony Canedo (1962): Emeritus Professor of English, 1989; B.A., Ph.D., University of Washington.

David George Canzler (1966): Emeritus Professor of English, 1990; B.A., Linfield College; M.A., Ph.D., University of Oregon.

Eva Lillian Clark Canzler (1969): Emeritus Professor of Education and Ethnic Studies, 1988; B.A., M.Ed., Central Washington University; Ed.D., University of Idaho.

Robert Keith Carlton (1964): Emeritus Professor of Education, 1987; B.A., M.Ed., Eastern Washington University; Ed.D., University of Idaho.

Albin Bert Christianson (1947): Emeritus Professor of Music, 1978; B.S. (Ed.), University of North Dakota; M.S. (Mus. Ed.), University of Idaho.

Frank McDonald Collins (1966): Emeritus Professor of English, 1976; B.A., Oklahoma City University; M.A., University of Oklahoma; Ph.D., University of Wisconsin.

Colin Davis Condit (1965): Emeritus Professor of Psychology, 1983; B.A., University of Washington; M.A., Columbia University; Ph.D., Washington State University.

John Wesley Crum (1949): Emeritus Professor of Education, 1978; B.S., Seattle Pacific University; M.S., Ph.D., University of Washington.

Clifford Conrad Cunha (1970): Emeritus Professor of Music, 1979; B.A., San Jose State College; M.A. (Ed.), Stanford University.

Robert Yost Dean (1968): Emeritus Professor of Mathematics, 1986; B.A., Willamette University, M.S., Ph.D., California Institute of Technology.

John Wright DeMerchant (1963): Emeritus Professor of Music, 1978; B.A., M.A., University of Washington.

Lucile Doersch (1968): Emeritus Professor of Music, 1972; B.A., M.Ed., Central Washington University.

Ann Fortson Donovan (1977): Emeritus Professor of Librarianship (1990); B.A. in Ed., University of Florida; M.L.S., Florida State University; M.A., Central Washington University.

Pearl D. M. Douce' (1964): Emeritus Professor of Clothing and Textiles, 1990; B.S., Agriculture and Technical College, N.C.; M.S., Oregon State University; Ph.D., Utah State University.

Stanley Arthur Dudley (1957): Emeritus Professor of Industrial and Engineering Technology, 1984; B.A., M.Ed., Central Washington University.

Philip Conrad Dumas (1965): Emeritus Professor of Biology, 1989; B.S., M.A., Ph.D., Oregon State University.

Betty Jo Dupin (1966): Emeritus Professor of Music, 1984; B.A. (Ed.), Eastern Washington University; M.M., Northwestern University.

Ilda Marie Easterline (1967): Emeritus Professor of French (1991); B.A., M.A., University of Utah; Ph.D., Brigham Young University.

Dee Richard Eberhart (1965): Emeritus Professor of Geography, 1986; B.A., University of Washington; M.A., Northwestern University.

Henry John Eickhoff (1950): Emeritus Professor of Music, 1989; B.A., B.D., Concordia Seminary; M.M., Ph.D., Northwestern University.

Franklin Dale Elmore (1965): Emeritus Professor of Education, 1979; B.S., Northwest Missouri State College; M.S., Drake University; Ed.D., Nebraska University.

Betty Ewart Amess Evans (1967): Emeritus Professor of Drama (1991); B.Ed., M.Ed., The University of Alberta; Ph.D., University of Oregon.

George H. Fadenrecht (1964): Emeritus Professor of Librarianship, 1982; A.B., Tabor College; M.A., University of Kansas; M.A.L.S., University of Michigan.

Joan Dorothy Fennelly (1956): Emeritus Professor of Education, 1989; B.A., Western Washington University; M.S., University of Oregon.

Guy Lee Fisher (1967): Emeritus Professor of Aerospace Studies, 1986; (B.A. (Ed.)), Western Washington University; M.A., Boston College; Ph.D., Washington State University

Lloyd Miller Gabriel (1966): Emeritus Professor of Education, 1987; B.A., Washington State University; M.Ed., Oregon State University; Ed.D., Washington State University.

Donald Glenn Goetschius (1957): Emeritus Professor of Education, 1980; B.A., Morningside College; M.A., University of Iowa; Ed.D., University of Wyoming.

Odette Golden (1959): Emeritus Professor of French, 1982; B.A. Barnard College; M.A., Columbia University; Ph.D., University of Michigan.

Virginia G. Goldsmith (1957): Emeritus Professor of Education, 1973; B.S., University of Minnesota; M.A., Ed.D., University of Washington.

John Albert Green (1968): Emeritus Professor of Education, 1987; B.A., Colorado State College; M.Ed., Ed.D., University of Colorado.

Ralph Donald Gustafson (1957): Emeritus Professor of Education, 1979; B.A., Willamette University; M.Ed., Ed.D., University of Washington.

Edward James Harrington (1970): Emeritus Professor of Biology, 1989; B.S., M.Ed., Tufts University; Ph.D., Cornell University.

Ruth Dahlgren Hartman (1965): Emeritus Professor of Librarianship, 1985; B.S., Minot State College, N.D.; A.M.L.S., University of Michigan.

Joseph Stanley Haruda (1951): Emeritus Professor of Music, 1981; B.A., M.A., Teachers College, Columbia University; Ph.D., State University of Iowa.

Wayne Snyder Hertz (1938): Emeritus Professor of Music, 1974; B.S. (Mus. Ed.), University of Illinois; M. Mus., Northwestern University; Ed.D., New York University.

Betty Jean Hileman (1967): Emeritus Professor of Physical Education, 1986; B.A., Ohio Wesleyan University; M.S., University of Wisconsin; Ph.D., University of Southern California.

Alexander Hamilton Howard, Jr. (1950): Emeritus Professor of Education, 1984; B.A. (Ed.), Central Washington University; A.M., Ph.D., University of Chicago.

Everett Anthony Irish (1956): Emeritus Professor of Physical Education, 1982; B.A., M.A., State University of Iowa; D.Ed., University of Oregon.

Robert Neil Irving, Jr. (1965): Emeritus Professor of Physical Education, 1987; B.A., University of Idaho; M.S., Indiana University; Ed.D., University of Oregon.

Eldon Ernest Jacobsen (1950): Emeritus Professor of Psychology, 1985; B.S., M.S., Utah State University; Ph.D., University of Washington.

Doris Elizabeth Jakubek (1959): Emeritus Professor of Education, 1988; B.Ed., State University of New York, Teachers College; M.A., State University of Iowa.

Otto Franklin Jakubek (1959): Emeritus Professor of Geography, 1988; B.A., M.A., Long Beach State College.

Wilbur Vance Johnson (1965) Emeritus Professor of Physics (1990); B.S., University of Washington; Ph.D., Oregon State University.

Jane Troth Jones (1972): Emeritus Professor of Music, 1985; B.A. (Ed.), M.Ed., Central Washington University.

Joseph Stanley Junell (1965): Emeritus Professor of Education, 1980; B.A., M.Ed., Ph.D., University of Washington.

Martin Richard Kaatz (1952): Emeritus Professor of Geography, 1982; A.B., A.M., Ph.D., University of Michigan.

Maria-Maya Kadlec (1968): Emeritus Professor of Clothing and Textiles, 1976; B.A., California State College; M.A., Los Angeles State College.

Edith Florence Kiser (1951): Emeritus Professor of Education, 1969; B.A. (Ed.), M.Ed., Central Washington University.

James Edward Klahn (1969): Emeritus Professor of Psychology, 1985; B.A., University of Iowa; B.Ed., M.S., Ed.D., Washington State University.

Barbara Elsie Kohler (1947): Emeritus Professor of Education, Hebel Elementary School, 1971; B.A. (Ed.), Central Washington University; M.A., Teachers College, Columbia University.

Louis Adolph Kollmeyer (1958): Emeritus Professor of Art, 1982; B.S. Southwest Missouri State College; M.A., State University of Iowa; Ed.D., University of Oregon.

Eugene John Kosy (1949): Emeritus Professor of Business Education and Administrative Management, 1984; B.E., Wisconsin State University at Whitewater; M.A., University of Minnesota; Ph.D., University of Wisconsin.

Patricia Joan Lacey (1970): Emeritus Professor of Physical Education, 1986; B.A. (Ed.), M.Ed., Central Washington University.

William Francis Lacey (1972): Emeritus Professor of Education, 1986; B.A. (Ed.), Central Washington University; M.Ed., Ed.D., University of Oregon.

Arthur Folk Ladd (1951): Emeritus Professor of Physics, 1976; B.S., M.S., University of Idaho.

Louise Mason Lampman (1967): Emeritus Professor of Librarianship, 1977; A.B., Willamette University; M.S.L.S., University of Oregon.

Larry Lee Lawrence (1963): Emeritus Professor of English, 1988; B.A., Montana State University; M.A., Ph.D., Stanford University.

William Clair Lillard (1968): Emeritus Professor of Economics 1987; B.A., Sacramento State College; M.A., Ph.D., University of Texas.

Edmund LeRoy Lind (1936) Emeritus Professor of Chemistry, 1964; B.A., Wabash College; Ph.D., University of Chicago.

Frederick Monie Lister (1968): Emeritus Professor of Mathematics, 1988; B.S., Tufts College; M.A., University of Michigan; Ph.D., University of Utah.

Janet Marie Lowe (1949): Emeritus Professor of Biology, 1987; B.S., University of Washington; S.M., University of Chicago.

Hall McIntyre Macklin (1970): Emeritus Professor of Music, 1975; B. Mus., University of Illinois; M.M., University of Idaho.

Mary Ellen Matson (1971): Emeritus Teaching Associate, 1982; B.A., University of Washington; M.S., Washington State University.

Marshall Willis Mayberry (1948): Emeritus Professor of Botany, 1971; B.A., Washburn University; M.A., Ph.D., University of Kansas.

Robert Stanford Miller (1966): Emeritus Professor of Counseling, 1984; B.S. (Ed.), Kansas State Teachers College; M.Ed., Ed.D., University of Kansas.

Wilma Lee Moore (1964): Emeritus Professor of Health Education, 1980; B.A. (Ed.), Western Illinois University, M.S., Colorado State College; Ed.D., University of Idaho.

Sidnie Davies Mundy (1946): Emeritus Professor of English, 1970; B.A., Ripon College; M.A., University of Washington.

Donald Joseph Murphy (1953): Emeritus Professor of Education, 1988; B.A., Wisconsin State University; M.A., Ph.D., State University of Iowa.

Theodor Friedrich Naumann (1959): Emeritus Professor of Psychology, 1988; M.E., State College of Engineering, Essen, Germany; B.A., Pacific Bible College, Portland, Oregon; M.A., Oregon State University; Ph.D., University of Oregon.

Frank Brown Nelson (1966): Emeritus Professor of Psychology, 1988; B.A., Brigham Young University; M.S., Ph.D., University of Utah.

Wilfrid Williams Newschwander (1939): Emeritus Professor of Chemistry, 1977; B.A., Whitman College; Ph.D., University of Washington.

Leo Dean Nicholson (1964): Emeritus Professor of Physical Education, 1990; B.A., M.Ed., Central Washington University.

Melvin Leon Norris (1965): Emeritus Professor of Education 1990; B.S., M.Ed., Midwestern University; Ed.D., North Texas State University.

Elwyn Hope Odell (1941): Emeritus Professor of Political Science, 1982; A.B., Albion College; Ph.D., University of Southern California.

Lois Darling Owen (1971): Emeritus Professor of Family Studies, 1987; A.B., Olivet College, M.S., Ph.D., Oregon State University.

Robert Major Panerio (1963): Emeritus Professor of Music, 1991; B.A., M.Ed., Central Washington University.

Tom Jones Parry (1966): Emeritus Professor of Physical Education, 1986; B.S., M.A., Washington State University.

Charles Duane Patton (1973): Emeritus Professor of Industrial and Engineering Technology, 1987; B.S., Colorado State University; M.Ed., Montana State University; Ed.D., University of Illinois at Champaign-Urbana.

Maurice Leon Pettit (1950): Emeritus Professor of Education and Psychology, 1978; B.A. (Ed.), Central Washington University; M.A., Ph.D., University of Washington.

Albert Harold Poffenroth (1965): Emeritus Professor of Physical Education, 1980; B.A. (Ed.), Eastern Washington University; M.S., Washington State University.

Orval Edward Putoff, Jr. (1967): Emeritus Professor of Psychology, 1982; B.A., Chico State College; M.S., University of Oregon; Ph.D., Claremont Graduate School.

Reino Walter Randall (1938): Emeritus Professor of Art, 1976; B.A. (Ed.), Central Washington University; M.A., Teachers College, Columbia University.

Linwood Earl Reynolds (1947): Emeritus Professor of Physical Education, 1974; B.A., University of Montana; M.A., Stanford University.

Joseph Ellis Rich (1966): Emeritus Professor of Psychology, 1986; B.S., University of Idaho; M.S., Ed.D., University of Oregon.

Keith Rinehart (1953): Emeritus Professor of English, 1982; B.A., M.A., University of Oregon; Ph.D., University of Wisconsin.

Howard Bruce Robinson (1957): Emeritus Professor of Psychology, 1982; B.A., Miami University; M.A., Ohio State University.

Helen Elizabeth Rogers (1970): Emeritus Professor of Education, 1986; B.A., University of Idaho; M.A., University of Chicago; Ed.D., Indiana University.

George Russell Ross (1949): Emeritus Professor of Music, 1982; B.M., Morningside College; M.M., Northwestern University; D.M.Ed., Chicago Musical College.

Howard B. Scott (1967): Emeritus Professor of Psychology, 1983; B.A., M.Ed., Western Washington University, Ed.D., University of Washington.

Frank Q. Sessions (1967): Emeritus Professor of Sociology, 1989; B.S., Idaho State College; M.S., University of Idaho; Ph.D., University of Utah.

Dorothy Harrison Sheldon (1969): Emeritus Professor of Education, 1988; B.A., M.Ed., College of Idaho; Ed.D., University of Utah.

John Stanley Shrader (1957): Emeritus Professor of Science Education, 1984; B.S., M.A., Ed.D., University of Washington.

Robert Eugene Silver (1966): Emeritus Professor of Education, 1981; B.A., Walla Walla College; M.A., Ed.D., University of Washington.

Milo LeRoy Smith (1956): Emeritus Professor of Drama, 1990; B.A. (Ed.), Northern Idaho College of Education; M.A., Ph.D., University of Oregon.

Alma C. Spithill (1970): Emeritus Professor of Psychology, 1985; B.A., Seattle University; M.M., Wichita State University; Ed.D., Washington State University.

George Stillman (1972): Emeritus Professor of Art, 1987; B.F.A., M.F.A., Arizona State University; Certificate, San Francisco Fine Art Institute.

Thomas Dean Stinson (1954): Emeritus Professor of Education and Psychology, 1978; B.S., M.Ed., Colorado State University; Ed.D., Colorado State College.

Harry Sidney Sutherland (1968): Emeritus Professor of Education, 1983; B.S., M.Ed., Lewis and Clark College; Ed.D., University of Portland.

Azella Taylor (1964): Emeritus Professor of Education, 1983; B.A., M.Ed., Ed.D., University of Washington.

Bruce Earle Teets (1968): Emeritus Professor of English, 1981; A.B., Fairmont State College; A.M., West Virginia University; Ph.D., Duke University.

Louise Agnes Tobin (1959): Emeritus Professor of Home Economics, 1980; B.S., University of Washington; M.S., Oregon State University.

Ned Toomey (1967): Emeritus Professor of English, 1987; B.B.A., American University of Beirut; B.J., University of Missouri; M.A., West Texas State University; Ph.D., University of Iowa.

Orville Wilson Wensley (1961): Emeritus Professor of Speech Pathology, 1982; B.S., M.A., Western Michigan University.

Donald Howard White (1981): Emeritus Professor of Music, 1990; B.S., Temple University; M.M., Ph.D., University of Rochester, Eastman School of Music.

Mildred White (1951): Emeritus Professor of Education, 1958; B.A. (Ed.), M.Ed., Central Washington University.

Burton John Williams (1969): Emeritus Professor of History, 1987; B.A., M.A., Southern Illinois University; Ph.D., University of Kansas.

Donald Everett Wise (1966): Emeritus Professor of Counseling, 1990; B.A., Nebraska State Teachers College at Kearney; M.Ed., University of Wyoming.

Robert Yee (1960): Emeritus Professor of Political Science, 1982; B.A., M.A., Ph.D., University of Washington.

Madge Arlene Young (1968): Emeritus Professor of Education, 1982; B.S., University of Nebraska; M.A., San Jose State College; Ed.D., University of the Pacific.

Karl Edwin Zink (1968): Emeritus Professor of English, 1982; A.B., M.A., University of Florida; Ph.D., University of Washington.

DISTINGUISHED PROFESSOR AWARDS

In 1977 Central Washington University initiated a program to honor professors who excel in teaching, research/artistic accomplishment and public service. The honorees names are placed on a continuing plaque and they receive a monetary bonus during the award year. The honorees to date are:

1977

Chester Ziegler Keller, Professor of Philosophy, Ph.D., University of Southern California, Distinguished Teaching

1978

Curt Agart Wiberg, Professor of Biology, M.S., University of Oregon, Distinguished Teaching

1979

William Frederick Cutlip, Professor of Mathematics, Ph.D., Michigan State University, Distinguished Teaching

Martin Richard Kaatz, Professor of Geography, Ph.D., University of Michigan, Distinguished Public Service

George Macinko, Professor of Geography, Ph.D., University of Michigan, Distinguished Research

1980

Kenneth A. Hammond, Professor of Geography, Ph.D., University of Michigan, Distinguished Teaching

Dee Richard Eberhart, Professor of Geography, M.A., Northwestern University, Distinguished Public Service
Stamford Dennis Smith, Professor of Biology, Ph.D., University of Idaho, Distinguished Research

1981

Marco Giuseppe Bicchieri, Professor of Anthropology, Ph.D., University of Minnesota, Distinguished Teaching

Robert Donald Bentley, Professor of Geology, Ph.D., Columbia University, Distinguished Research

1982

Patrick R. O'Shaughnessy, Professor of Accounting, M.B.A., Washington State University, Distinguished Teaching

Barbara Marie Brummett, Associate Professor of Music, M.M., Wichita State University; Distinguished Public Service

Robert Major Panerio, Professor of Music, M.Ed., Central Washington University, Distinguished Research

1983

Leo Dean Nicholson, Professor of Physical Education, M.Ed., Central Washington University, Distinguished Teaching

Dorothy May Purser, Associate Professor of Physical Education, M.Ed., University of Idaho, Distinguished Public Service

Terry Leigh DeVietti, Professor of Psychology, Ph.D., University of Utah, Distinguished Research

1984

Donald Wayne Cummings, Professor of English, Ph.D., University of Washington, Distinguished Teaching

John Fredrick Moawad, Associate Professor of Music, M.Ed., Central Washington University, Distinguished Public Service

Leonard Clinton Duncan, Professor of Chemistry, Ph.D., University of Washington, Distinguished Research

1985

Ronald Jean Boles, Professor of Science Education and Biology, Ph.D., University of Wisconsin, Distinguished Teaching

Allen Courtney Vautier, Associate Professor of Accounting, J.D., University of Washington, Distinguished Public Service

Robert Edward Pacha, Professor of Biology, Ph.D., University of Washington, Distinguished Research

1986

William Burrage Owen, Professor of Mathematics, Ph.D., Colorado State University, Distinguished Teaching

Kenneth Alan Briggs, Professor of Health Education, Ed.D., University of Northern Colorado, Distinguished Public Service

1987

Anthony Canedo, Professor of English, Ph.D., University of Washington, Distinguished Teaching

Cynthia Susan Kriebel, Professor of Art, M.F.A., Stanford University, Distinguished Artistic Accomplishment

Wolfgang W. Franz, Professor of Economics, Ph.D., Washington State University, Distinguished Public Service

1988

Richard S. Mack, Professor of Economics, Ph.D., Colorado State University, Distinguished Research

1989

Laura L. Appleton, Professor of Sociology, Ph.D., University of California at Santa Barbara, Distinguished Teaching

Roger S. Fouts, Professor of Psychology, Ph.D., University of Nevada-Reno, Distinguished Research

James E. Brooks, Professor of Geography and Land Studies, Ph.D., University of Washington, Distinguished Public Service

1990

Peter M. Burkholder, Professor of Philosophy, Ph.D., Tulane University, Distinguished Teaching

Edward P. Klucking, Professor of Biology, Ph.D., University of California at Berkeley, Distinguished Research

FACULTY 1991-93

Karen Diane Adamson (1979): Associate Professor of Accounting; B.A., Central Washington University; M.B.A., University of Puget Sound.

Janis John Agars (1964): Professor of Art; B.A., University of Washington; M.F.A., Washington State University.

Osman Alawiye (1989): Assistant Professor of Education; B.A., Dakota Wesleyan University; M.A., University of South Dakota; Ph.D., New Mexico State University.

Yvonne Diane Alder (1985): Instructor of Business Education; B.A., Washington State University.

James McKenzie Alexander III (1965): Professor of Anthropology; A.B., University of New Mexico; M.S., Clemson University; Ph.D., University of Washington.

Malcolm Douglas Alexander (1965): Associate Professor of Librarianship; B.A., University of Idaho; M.Lib., University of Washington; M.Ed., Central Washington University.

John Alexander Alsoszatai-Petheo (1983): Assistant Professor of Anthropology; B.A., California State University; M.A., Eastern New Mexico University.

Richard Vernon Alumbaugh (1969): Professor of Psychology; B.A., M.S., Fort Hays Kansas State College; Ph.D., Texas Technological College.

David Richard Anderson (1969): Professor of Mathematics; B.A., Bradley University; Ph.D., Duke University.

William Anthony Anderson, Captain (1990): Assistant Professor of Military Science; B.A., Austin Peay State University.

Joel Max Andress (1966): Professor of Geography and Director, Asian Studies; A.B., University of Pacific; M.S., Ph.D., University of California at Berkeley.

Jimmie Ray Applegate (1970): Professor of Education; B.S., Oregon State University; B.S., M.S., Eastern Oregon College; Ph.D., Washington University, St. Louis.

Laura Lee Appleton (1970): Professor of Sociology; B.A., University of California at Riverside; M.A., Ph.D., University of California at Santa Barbara.

Walter Harvey Arlt (1968): Assistant Professor of Physical Education and Track and Field Coach; B.S., Washington State University; M.Ed., Central Washington University.

Glen LaRoy Bach (1988): Lecturer in Graphic Design; B.F.A., University of Idaho.

Jay Emil Bachrach (1967): Professor of Philosophy and Director, Religious Studies Program; A.B., Indiana University; Ph.D., Columbia University.

Philip Matthew Backlund (1979): Professor of Communication; B.A., M.A., Humboldt State University; Ph.D., University of Denver.

Bruce David Bagamery (1988): Associate Professor of Business Administration; B.A., M.A., University of Toledo; Ph.D., Northwestern University at Evanston. (Lynnwood)

Daniel Frank Baldwin (1989): Assistant Professor of Music; B.M., Furmin University; M.M., D.M.A., University of Texas at Austin.

William Wardell Barker (1966): Professor of Biology and Chair, Department of Biological Sciences; B.S., Baldwin-Wallace College; M.S., University of Michigan; Ph.D., University of Washington.

David Daryl Basler (1960): Professor of Education; B.A., State College of Iowa; M.A., Ph.D., State University of Iowa.

James Philip Beaghan (1983): Associate Professor of Business Administration; B.S., Southern Illinois University; M.B.A., DePaul University-Chicago; D.B.A., U.S. International University. (South Seattle)

Galer Winthrop Beed (1973): Professor of Industrial and Engineering Technology; B.S., Oregon State University; M.A. San Jose State College; Ed.D., University of Arkansas.

William L. Benson (1968): Associate Professor of Sociology; B.A., Ph.D., Washington State University.

Robert Donald Bentley (1969): Professor of Geology; B.S., Oregon State University; Ph.D., Columbia University.

Robert Milton Benton (1967): Professor of English; B.A., Trinity University; M.A., Ph.D., University of Colorado. (Lynnwood)

Ethan Alan Bergman (1986): Assistant Professor of Food Science and Nutrition; B.S., Eastern Oregon State College; M.S., University of Oregon; M.S., Western Oregon State College; Ph.D., Washington State University.

Catherine Lynn Bertelson (1984): Assistant Professor of Business Education and Administrative Management; B.S., M.A., Ph.D., University of Minnesota.

Marco Giuseppe Bicchieri (1969): Professor of Anthropology; B.A., M.A., Ph.D., University of Minnesota.

Elbert E. Bilyeu (1970): Professor of Spanish; B.S., Southwest Missouri State College; Ph.D., University of Colorado.

Donald Earl Black (1971): Professor of Education; A.B., University of Northern Iowa; M.A., Colorado State College; Ed.D., University of Northern Colorado.

Karen Jane Blair (1987): Assistant Professor of History; B.A., Mount Holyoke College; M.A., Ph.D., State University of New York.

Thomas Leroy Blanton (1967): Associate Professor of English; B.A., M.A., Washington State University.

Geoffrey Paul Boers (1989): Assistant Professor of Music; B.A., Pacific Lutheran University; M.S.T., Portland State University; D.M.A., University of Arizona.

Ronald Jean Boles (1968): Professor of Science Education and Biology; B.S., Kansas State University; A.M., Stanford University; Ph.D., University of Wisconsin.

Joseph William Bonebrake (1991): Associate Professor of Industrial and Engineering Technology; B.S.C.E., M.S.C.E., Purdue University.

Patricia Anne Bourne (1985): Assistant Professor of Music; B.M. Ed., Murray State University; M. Mus.Ed., University of Oklahoma.

Andrea Christine Bowman (1989): Assistant Professor of Education and Director of Field Experience; B.A., San Jose State University; M.A.E., Northern Arizona University; Ed.D., Arizona State University.

Janice Charlene Boyungs (1965): Associate Professor of Physical Education; B.S., Western Illinois University; M.Ed., Central Washington University.

James Franklin Brennan (1967): Professor of History; B.S., Georgetown University; M.A., Ph.D., University of California at Berkeley.

Bonalyn Bricker-Smith (1973): Professor of Music; B.A., University of Rochester; M.A., Columbia University; D.M.A., University of Cincinnati.

Kenneth Alan Briggs (1977): Professor of Health Education; B.A., University of Northern Colorado; M.A.T., University of Massachusetts; Ed.D., University of Northern Colorado.

Neil William Brogen, Capt. U.S. Army (1988): Assistant Professor of Military Science; B.A., Wayne State College; M.A., Central Michigan University.

George William Brooker, Jr. (1990): Professor of Business Administration; B.A., M.B.A., Ph.D., Northwestern University.

James Eugene Brooks (1961): Professor of Geography; B.A., Central Washington University; M.A., Ph.D., University of Washington.

James Russell Brown, Jr. (1980): Associate Professor of Political Science; B.A., University of North Carolina; M.A., University of Nebraska; Ph.D., University of Kansas.

Robert Harrison Brown (1967): Professor of Zoology; B.S. (Ed.), M.S., Ph.D., University of Arizona.

Larry Paul Bundy (1982): Professor of Business Administration; B.S., B.A., Central Washington University; M.B.A., Ph.D., University of Utah. (Tri-Cities)

Peter Manning Burkholder (1965): Professor of Philosophy; B.A., Harvard University; Ph.D., Tulane University.

Frederick Ross Byrd (1969): Professor of Business Education and Administrative Management and Chair, Department of Business Education and Administrative Management; B.A., Eastern Washington University; M.A., Whitworth College; Ed.D., Washington State University.

David Kenneth Calhoun (1973): Professor of Industrial and Engineering Technology; B.S., M.Ed., Oregon State University; Ed.D., Arizona State University.

Patricia Anne Callaghan (1984): Assistant Professor of English; B.A., M.A., University of Washington; M.A., Ph.D., University of Oregon.

Minerva Lopez Caples (1986): Associate Professor of Education; B.A., M.A., University of Texas, Ed.D., Texas A&I University.

Robert John Carbaugh (1985): Professor of Economics; B.B.Ad., Gonzaga University; M.S., Ph.D., Colorado State University.

Franklin Duane Carlson (1967): Professor of Education; B.A., M.A., State College of Iowa; Ed.D., Washington State University.

Eva-Marie Carne (1968): Professor of German; B.A., University of Bristol; M.A., Ph.D., University of Colorado.

David Warner Carns (1986): Assistant Professor of Industrial and Engineering Technology; B.S., M.S., Oregon State University.

John Edward Carr (1972): Professor of Biological Sciences; B.S.A., M.A., University of Missouri; Ph.D., Oregon State University.

Ernest Chan-Nui (1967): Associate Professor of Education and Supervisor of Student Teaching; B.Ed., University of Hawaii; M.A., Ed.D., Columbia University.

Raza Alla Ditta Choudary (1986): Assistant Professor of Mathematics; B.Sc., Government College Civilline, Pakistan; M.Sc., Punjab University, Pakistan; Ph.D., University of Bucharest, Romania.

Frank Louis Cioffi (1987): Assistant Professor of English; B.A., Northwestern University, M.A., Ph.D., Indiana University.

Glen W. Clark (1964): Professor of Biology; B.S., Ricks College; M.S., Utah State University; Ph.D., University of California at Davis.

John Frank Clark (1988): Assistant Professor of English; B.A., University of Sussex; M.A., American University of Beirut; Ph.D., University of Wisconsin at Madison.

Lori Beth Clark (1982): Coach; B.S., Bemidji State University; M.A., Western Michigan University.

Gerald Lloyd Cleveland (1987): Professor of Accounting and Dean of the School of Business and Economics; B.A., University of South Dakota; M.B.A., University of Minnesota; Ph.D., University of Washington.

Donald John Cocheba (1970): Professor of Economics and Chair, Department of Economics; B.S., Southern Illinois University; M.S., Louisiana State University; Ph.D., Washington State University.

Gilbert Eugene Coleman (1989): Head Basketball Coach; B.A., Central Washington University.

Dale Robert Comstock (1964): Professor of Mathematics and Dean of Graduate Studies and Research; B.A., Central Washington University; M.S., Ph.D., Oregon State University.

Kenneth Robert Cory (1971): Associate Professor of Art; B.F.A., California College of Arts and Crafts; M.F.A., Washington State University.

William Sattler Craig (1968): Associate Professor of Instructional Media; B.A. (Ed.), M.Ed., Central Washington University.

Bobby Jean Cummings (1990): Professor of English; B.A., San Francisco State University; M.A., Wayne State University; Ph.D., University of Michigan.

Donald Wayne Cummings (1960): Professor of English; B.A., M.A., Ph.D., University of Washington.

William Frederick Cutlip (1968): Professor of Mathematics and Chair, Mathematics Department; B.S., Eastern Illinois University; M.A., University of Illinois; Ph.D., Michigan State University.

David Michael Darda (1987): Assistant Professor of Biological Sciences; B.S., University of Illinois; Ph.D., University of California, Berkeley.

Anne Smith Denman (1969): Professor of Anthropology; B.A., Mount Holyoke College; Ph.D., University of California at Berkeley.

Clayton Charlton Denman (1964): Professor of Anthropology; B.A., M.A., University of Washington; Ph.D., University of California at Berkeley.

Byron Leonard DeShaw (1967): Professor of Education; B.A., M.A., Washington State University; Ed.D., University of Idaho.

Terry Leigh DeVietti (1968): Professor of Psychology; B.A., M.S., Ph.D., University of Utah.

Donald Gene Dietrich (1970): Professor of Science Education and Chemistry and Director of Science Education Program; B.S., North Dakota State University; M.T.S., University of North Dakota; Ph.D., University of Wisconsin.

Makiko Doi (1974): Associate Professor of Library Science; B.A., University of the Pacific; M.L.S., University of Washington.

Richard Tetsuo Doi (1965): Professor of Art; B.S. (Ed.), Northern Illinois University; M.A., University of California at Berkeley; Ed.D., Columbia University.

Barry John Donahue (1984): Associate Professor of Computer Science, and Director, The Douglas Honors College; B.M.Ed., M.Ed., Ed.D., Montana State University.

Linda Dianne Douglas (1988): Assistant Professor of Education; B.A., M.Ed., University of Washington; Ed.D., Seattle University.

John Richard Dugan (1970): Associate Professor of Sociology; B.S., University of Illinois; M.A., Ph.D., Washington State University.

William Owen Dugmore (1968): Associate Professor of Counseling; B.A., M.A., Ph.D., University of Utah.

Michael Leroy Dunbar (1987): Head Football Coach; B.S., University of Washington; M.A.Ed., Pacific Lutheran University.

Leonard Clinton Duncan (1965): Professor of Chemistry; A.B., Wabash College; M.A., Wesleyan University, Conn.; Ph.D., University of Washington.

William Vance Dunning (1964): Professor of Art; B.F.A., M.F.A., University of Southern California; M.F.A., University of Illinois.

William Sherwin Eberly (1967): Professor of Mathematics; B.S., Seattle Pacific University; M.S., University of Washington; Ph.D., Washington State University.

Robert Van Edington (1988): Professor of Political Science, Provost and Vice President for Academic Affairs; B.A., San Francisco State College; M.A., Ph.D., University of Washington.

Walter Charles Emken (1969): Professor of Chemistry; B.S., Fresno State College; Ph.D., Oregon State University.

Robert Merlyn Envick (1973): Associate Professor of Industrial and Engineering Technology and Chair, Department of Industrial and Engineering Technology; B.A., M.A., Kearney State College; Ed.D., University of Northern Colorado.

Barney Leo Erickson (1969): Professor of Mathematics; B.S., Utah State University; M.S., Syracuse University; M.S., Ed.D., Utah State University.

Edward Soe Esbeck (1978): Professor of Business Administration; B.S., Drake University; M.A., State University of Iowa; Ph.D., Case Western Reserve University. (Lynnwood)

James Langdon Eubanks (1983): Associate Professor of Psychology; A.B., Humboldt State University; Ph.D., Arizona State University.

Wayne Alan Fairburn (1972): Professor of Business Administration; B.A., M.S., Eastern Washington University; Ph.D., Michigan State University.

Steven Eugene Farkas (1965): Associate Professor of Geology; B.S., M.A., University of Wisconsin; Ph.D., University of New Mexico.

Parker C. Fawson (1989): Assistant Professor of Education; B.A., Weber State College; M.Ed., Ed.D., Brigham Young University.

Quentin Walter Fitzgerald (1971): Associate Professor of Art; B.A., Central Washington University; M.A., University of Denver; D.Ed., Pennsylvania State University.

Jay Douglas Forsyth (1969): Professor of Accounting; A.S., Kansas State College at Fort Hays; M.S., Oklahoma State University; C.P.A. (South Seattle)

John Philip Foster (1965): Associate Professor of Communication; B.S., M.S., Indiana University.

Roger Sheridan Fouts (1980): Professor of Psychology; B.A., California State College, Long Beach; Ph.D., University of Nevada-Reno.

Wolfgang Wilhelm Franz (1969): Professor of Economics; B.A., Central Washington University; Ph.D., Washington State University.

Gary Carlin Frederick (1967): Professor of Physical Education and Director of Athletics; Women's Basketball Coach; B.A. (Ed.), M.Ed., Central Washington University; Ed.D., University of Idaho.

Ronald Martin Frye (1966): Professor of Industrial and Engineering Technology, Assistant Dean of Professional Studies and Director of Teacher Certification; B.A., Central Washington University; M.S., Kansas State College of Pittsburgh; Ed.D., University of Missouri.

Wanda Hiroko Fujimoto (1975): Assistant Professor of Business Administration; B.A., M.B.A., Washington State University.

Robert Douglas Gaines (1961): Professor of Chemistry; B.S., M.S., Ph.D., Montana State College.

Gary Melvin Galbraith (1971): Professor of Art; B.F.A., M.F.A., California College of Arts and Crafts; M.A., Central Washington University.

Kenneth Oakland Gamon (1965): Professor of Mathematics; B.S., Eastern Washington University; M.S., Ph.D., Oregon State University.

Roger Lee Garrett (1968): Associate Professor of Communication; B.A., M.A., University of Montana; Ph.D., Stanford University.

Philip Brodie Garrison (1967): Associate Professor of English; B.A., M.A., University of Missouri.

Donald Lee Garrity (1978): President; Professor of Sociology; B.A., Colorado State College; M.A., Ph.D., University of Washington.

David Lawrence Gee (1980): Associate Professor of Foods and Nutrition and Chair, Department of Home Economics; B.S., M.S., Ph.D., University of California at Davis.

Earl Theodore Glauert (1968): Professor of History; A.B., Earlham College; Ph.D., University of Pennsylvania.

Walter Robert Geodecke (1970): Professor of Philosophy; A.B., A.M., Ph.D., University of Chicago.

Norman Joseph Gierlasinski (1985): Associate Professor of Accounting; B.S., University of Illinois; M.B.A., DePaul University; D.B.Admin., Nova University. (South Seattle)

Edward Golden (1977): Assistant Professor of Business Administration; B.S., Northwestern University; M.B.A., Ed.D., Seattle University (Lynnwood).

Darwin Joseph Goodey (1964): Associate Professor of Psychology; B.S., M.S., Utah State University; Ph.D., University of Oregon.

Karen Larson Gookin (1986): Instructor of English; B.A., University of Montana; M.A., Central Washington University.

Larry Dee Gookin (1981): Associate Professor of Music; B.M., University of Montana; M.M., University of Oregon.

Calvin George Greatsinger (1969): Professor of Education; B.A., Jamestown College, N.D.; M.Ed., University of North Dakota; Ed.D., University of Northern Colorado.

James Gregory Green (1968): Professor of Psychology; B.A., Eastern Michigan University; M.A., University of Michigan; Ed.D., Washington State University.

John Gary Gregor (1970): Professor of Physical Education and Chair, Department of Physical Education, Health Education, Leisure Services; B.A. (Ed.), Western Washington University; M.Ed., Central Washington University; Ed.D., University of Oregon.

Robert John Gregson (1966): Associate Professor of Physical Education and Swim Coach; B.S., M.Ed., Linfield College.

Peter Gries (1974): Associate Professor of Music; B.A., Queens College; M.M., University of Puget Sound; D.M.A., University of Oregon.

George Charles Grossman (1966): Professor of Education; B.A. (Ed.), Eastern Washington University; M.Ed., Ed.D., University of Washington.

Charles Lee Guatney (1976): Associate Professor of Business Education and Administrative Management; B.S., Kansas State College; M.A., Rider College.

Allen Kenneth Gulezian (1973): Professor of Business Administration; B.A., Villanova University; M.B.A., Ph.D., University of Oregon.

Gerald Patrick Gunn (1973): Professor of Economics; B.A., M.A., Simon Fraser University; Ph.D., Colorado State University.

Donald Eugene Guy (1969): Professor of Psychology and Vice President of Student Services; B.S., University of Utah; M.A., Ph.D., University of Colorado.

Helmi Shafik Habib (1964): Professor of Chemistry and Director of Academic Advising; B.S., Walla Walla College; M.S., University of Idaho; Ph.D., Washington State University.

James Lee Hale (1990): Assistant Professor of English; B.A., Ramapo College of New Jersey; M.A., Rutgers University.

Ronald William Hales (1969): Professor of Driver and Safety Education; B.S., Brigham Young University; M.A., Illinois State University; Ph.D., Michigan State University.

Mark Warren Halperin (1966): Professor of English; B.A., Bard College; M.F.A., State University of Iowa.

Kenneth Allen Hammond (1967): Professor of Geography and Chair, Department of Geography and Land Studies; B.A., Eastern Washington University; M.S., Oregon State University; Ph.D., University of Michigan.

Russell Warren Hansen (1969): Associate Professor of Sociology and Law & Justice; B.A., University of Nevada; M.A., Ph.D., Washington State University.

James Dale Harper (1988): Assistant Professor of Mathematics; B.A., Humboldt State University; M.A., Ph.D., University of Oregon.

Kenneth Kaye Harsha (1966): Professor of Business Education and Administrative Management; B.S. (Ed.), M.S., Kansas State Teachers College; Ed.D., University of Wyoming.

Richard Wayne Hasbrouck (1964): Professor of Chemistry; B.S., College of Great Falls; M.A., Wesleyan University; Ph.D., University of Wyoming.

Alan Frederick Hauff (1989): Assistant Professor of Business Administration and Ellensburg Business Incubator Facility Manager; B.A., University of Washington; M.B.A., Washington University, St. Louis.

Arlin James Hawkins (1970): Professor of Drama; B.A., M.A., Sacramento State College.

Charles Haine Hawkins (1964): Professor of Sociology; B.A., Reed College; M.A., Ph.D., University of Chicago; M.P.H., University of California at Berkeley.

Beverly Ann Heckart (1967): Professor of History; B.A., Hood College; M.A., Ph.D., Washington University.

David Ward Hedrick (1987): Assistant Professor of Economics; B.A., University of California at Davis; M.S., Ph.D., University of Oregon.

Gary William Heesacker (1972): Professor of Accounting; B.S., Oregon State University; M.B.A., University of Washington; C.P.A.

Raeburne Seeley Heimbeck (1967): Professor of Philosophy and Religious Studies; B.A., Stanford University; B.D., Fuller Theological Seminary; Ph.D., Stanford University.

John Maurice Herum (1962): Professor of English; B.A., Carroll College; M.A., Fordham University.

Richard Murl Hilliard (1987): Assistant Professor of Mathematics; B.A. (Ed), B.A., M.S., Central Washington University.

James Roscoe Hinthorne (1980): Professor of Geology and Chair, Department of Geology; B.A., University of California at Santa Barbara; M.S., University of Massachusetts; Ph.D., University of California at Santa Barbara.

Stephen Gilbert Hinthorne (1988): Assistant Professor of Mathematics; B.A., University of California at Santa Barbara; M.A., University of Massachusetts.

Gerard Paul Hogan (1988): Instructor of Librarianship; B.A., University of Pittsburgh; M. Libr., University of Washington.

Webster Franklin Hood (1966): Professor of Philosophy; B.A., M.A., Ph.D., Pennsylvania State University.

David Ramon Hosford (1969): Professor of Biology; B.A., Portland State University; Ph.D., University of Washington.

Nancy Lee Brannen Hultquist (1988): Assistant Professor of Geography; A.B., Georgia State University; M.A., University of Cincinnati.

Dominique Rita Isner-Ball (1991): Assistant Professor of Foreign Language; Licence es Lettres (Equivalent of B.A.), University of Nice, France; M.A., University of California; Ph.D., University of California.

Robert Cooper Jacobs (1970): Professor of Political Science; B.A., City College of New York; A.M., Ph.D., Columbia University.

Stanley Jacobs (1983): Associate Professor of Business Administration; B.S. in Electrical Engineering; M.B.A., University of Pittsburgh; D.B.A., Kent State University. (South Seattle)

Paul William James (1990): Assistant Professor of Biological Sciences; B.S., University of Kansas; M.S., S.W. Missouri State University; Ph.D., Oklahoma State University.

Jennifer Lee Jaques (1967): Assistant Professor of Librarianship; B.A., Central Washington University; M. Libr., University of Washington.

Stephen Charles Jefferies (1986): Assistant Professor of Physical Education; B.Ed., University of Exeter, Devon, England; M.S., Ph.D., University of Oregon.

John Richard Jensen (1966): Professor of Music; B.A., University of Washington; M.A., University of California at Los Angeles.

Deloris Mae Johns (1964): Assistant Professor of Physical Education; B.S., M.S., Montana State University.

Carl Boyd Johnson (1982): Associate Professor of Business Administration; B.S., M.E., University of North Dakota; M.B.A., Santa Clara University.

Eldon Curtis Johnson (1977): Professor of Business Administration; B.S., M.S., Colorado State University; D. Bus. Administration, University of Colorado. (Lynnwood)

Eugene Richard Johnson (1984): Assistant Professor of Psychology; B.A., Rockford College; M.S., Western Illinois University; Ed.D., University of South Dakota.

Sheldon Robert Johnson (1966): Professor of Zoology; B.A., Occidental College; M.A., University of California at Los Angeles; Ph.D., Oregon State University.

Jerry Lynn Jones (1968): Professor of Chemistry and Special Assistant to the President; B.A., M.S., Oklahoma State University; Ph.D., University of Arkansas.

Robert Edgar Jones (1968): Professor of Librarianship; B.A., Western State College, Colorado; M.A.L.S., University of Denver; M.Ed., Central Washington University.

Nancy E. Jurenka (1989): Assistant Professor of Education; B.A., Wilson College; M.S., Western Connecticut State; Ed.D., Indiana University.

Walter Reginald Kaminski (1987): Assistant Professor of Industrial and Engineering Technology; B.S.M.E., University of Detroit; M.S.M.E., University of Michigan; Ph.D., University of Florida.

David Elliott Kaufman (1971): Professor of Sociology; A.B., A.M., Northwestern University; Ph.D., University of California at Los Angeles.

Chester Ziegler Keller (1960): Professor of Philosophy and Chair, Department of Philosophy; A.B., Bridgewater College; M.A., Ph.D., University of Southern California.

Thomas James Kerr (1970): Professor of Political Science; B.A., University of Washington; A.M., George Washington University; Ph.D., Syracuse University.

George Dale Kesling (1984): Professor of Business Administration; B.S., M.B.A., University of Washington; Ph.D., University of Oregon.

Erlice Joy Killorn (1963): Associate Professor of Physical Education; B.S., Montana State College; M.S., University of Nevada; Ph.D., University of Arizona.

Steven Dale Kimball (1989): Instructor, Foreign Language and History; B.A., University of Washington; M.A., Washington State University.

Corwin Prior King (1976): Professor of Communication; B.A., Washington State University; M.A., Ph.D., Pennsylvania State University.

Donald Richard King (1968): Associate Professor of English; B.A., M.A., University of Colorado; Ph.D., University of New Mexico.

Judith Anette Kleck (1985): Instructor of English; B.A., M.A., Central Washington University.

Vernon Wayne Klemm (1979): Professor of Business Education and Administrative Management; B.B.A., Evangel College at Springfield; M.Ed., University of Missouri; Ed.D., Utah State University.

Edward Paul Klucking (1960): Professor of Biology and Geology; B.A., Macalester College; M.A., Ph.D., University of California at Berkeley.

Linda Marie Klug (1970): Professor of Anthropology; B.A., University of California at Santa Barbara; M.A., San Francisco State College; Ph.D., University of Pittsburgh.

Kelton Wallace Knight (1983): Associate Professor of French; B.A., Weber State College; M.A., Ph.D., University of Utah.

Zoltan Kramer (1963): Professor of History; B.A., M.A., Creighton University; Ph.D., University of Nebraska.

Michael John Kraus (1988): Assistant Professor of Industrial and Engineering Technology; B.S., Willamette University; M.S., New England College.

Cynthia Susan Kriebel (1973): Professor of Art; B.A., Middlebury College; B.F.A., San Francisco Art Institute; M.F.A., Stanford University.

Madalon C. Lalley (1990): Associate Professor of Education; B.A., Central Washington University; M.A., Arizona State University; Ed.D., University of Oklahoma.

Robert Ferdinand Lapen (1973): Professor of Biology; B.S., Wagner College; M.S., University of Idaho; Ph.D., Washington State University.

John Joseph Lasik (1985): Assistant Professor of Business Administration; B.S. Pennsylvania State; M.B.A., Mississippi State University.

Michael Alan Launius (1988): Assistant Professor of Political Science; B.A., M.A., Northeastern Illinois University.

Dale LeFevre (1975): Professor of Education and Chair, Department of Education; B.S., Southern Utah State College; M.Ed., Ed.D., Utah State University.

Richard Elwood Leinaweaver (1965): Professor of Drama and Chair, Department of Drama; B.A., M.A., University of Colorado; Ph.D., Michigan State University.

Paul Edwin LeRoy (1961): Professor of History; B.A., University of Connecticut; M.A., Ph.D., Ohio State University.

Margaret Nancy Lester (1970): Professor of Spanish; B.A., Middlebury College; M.A., Ph.D., University of Colorado.

Margaret Ann Lewis (1989): Assistant Professor of Accounting; B.A., Central Washington University; M.B.A., Gonzaga University.

Scott Meredith Lewis (1988): Assistant Professor of Mathematics; B.A., M.A., University of Northern Colorado; Ph.D., Oregon State University.

Jose Licano-Palma (1990): Assistant Professor of Education; B.S., Arizona State College; M.A., Northern Arizona University; Ph.D., University of Arizona.

Cen-Tsong Lin (1986): Assistant Professor of Mathematics; B.S., National Chiao-Tung University; M.S., Ph.D., Texas Technology University, Lubbock.

Margaret Estelle Lloyd (1985): Associate Professor of Psychology; B.S., Black Hills State College; M.S., Ph.D., Washington State University.

Susan Diane Lonborg (1986): Assistant Professor of Psychology; B.A., Whitworth College; M.A., Ph.D., Ohio State University.

Lawrence Leland Lowther (1965): Professor of History; B.A., M.A., Ph.D., University of Washington.

David Gerald Lygre (1970): Professor of Chemistry; B.A., Concordia College; Ph.D., University of North Dakota.

Gary Gray Lynde, Major (1990): Professor and Chair of Military Science; B.S., North Dakota State University; M.A., University of Northern Colorado.

Joseph Paul Maassen, 1st Lieutenant (1989): Assistant Professor of Military Science; B.A., Seattle University.

George Macinko (1967): Professor of Geography and Director of Environmental Studies Program; B.A., University of Idaho; M.A., Ph.D., University of Michigan.

Richard Stanley Mack (1972): Professor of Economics; B.A., Dartmouth; Ph.D., Colorado State University.

Virginia Beverly Mack (1986): Instructor of English; B.A., University of North Carolina; M.Ed., Colorado State University; M.A., Central Washington University.

Susan Mary Madley (1990): Assistant Professor of Education; B.S., M.A., Nonington College, London University; Ph.D., University of Michigan.

Glenn Alvin Madsen (1971): Professor of Education; B.S., Northern Montana College; M.A., San Francisco State College; Ed.D., University of Oregon.

Patricia Ann Maguire (1989): Assistant Professor of Leisure Services; B.S., College of St. Elizabeth Convent Station; MPRTM, Ph.D., Clemson University.

Badiul Alam Majumdar (1984): Professor of Business Administration; B.Com., M.Com., University of Dacca, Bangladesh; M.B.E., Claremont Graduate School; Ph.D., Case Western Reserve. (Tri-Cities)

Linda Marra (1984): Associate Professor of Music; B.A., Queens College; M.Mus., University of Michigan; D.M.A., University of Colorado.

Bernard Loyal Martin (1959): Professor of Mathematics and Computer Science; B.A., M.Ed., Central Washington University; M.S., Ph.D., Oregon State University.

Carlos Enrique Martin (1969): Professor of Spanish; A.B., Pontifical University, Spain; M.A., Loyola University; Ph.D., Northwestern University.

Teresa Lynn Martin (1986): Assistant Professor of Education; B.A., Western Washington University; M.A., Ph.D., University of Oregon.

Dennis Larry Martinen (1970): Associate Professor of Education and Supervisor of Student Teaching; B.Ed., M.Ed., Central Washington University; Ed.D., Montana State University.

Victor Ferenc Marx (1965): Associate Professor of Librarianship; College of Horticulture and Viticulture, Budapest; B.S.A., M.S.A., University of British Columbia; M. Libr., University of Washington.

Charles Logan McGehee (1969): Professor of Sociology; B.A., Baylor University; M.A., University of Oregon; Ph.D., University of Nevada.

Wells A. McInelly (1966): Associate Professor of Counseling and Director, Counseling and Student Development Programs; B.A., Utah State University; M.A., Ph.D., University of Wyoming.

Cheryl Ann McKernan (1976): Academic Skills Center/Adult Remedial Reading Specialist; B.A., Washington State University; M.Ed., Western Washington University.

Patrick Logan McLaughlin (1983): Associate Professor of Librarianship; B.A., M.A., University of Montana; M.L.S., University of Oregon; Ph.D., Oklahoma State University.

Jack Leslie McPherson (1987): Associate Professor of Education; B.A., M.Ed., University of Washington; M.S., Portland State University; Ph.D., Washington State University.

Deborah Lee Medlar (1986): Assistant Professor of Accounting; B.A., Catholic University of America, Washington, D.C.; J.D., University of Washington; LL.M.-Tax, New York University, N.Y.

Kenneth Winston Merrell (1988): Assistant Professor of Psychology; B.S., Oregon State University; M.S., Ph.D., University of Oregon.

John Fred Michel (1990): Assistant Professor of Music; B.M., University of Michigan; M.M., New England Conservatory.

Mary Meghan Miller (1991): Associate Professor of Geology; B.S., Yale University; Ph.D., Stanford University.

Mary Frances Minor (1982): Instructor of Business Education; B.A., Central Washington University.

Robert Curtis Mitchell (1966): Professor of Physics; B.S., New Mexico State University; M.S., University of Washington; Ph.D., New Mexico University.

John Frederick Moawad (1970): Professor of Music; B.A. (Ed.), M.Ed., Central Washington University.

John Oliver Moore (1980): Professor of Accounting; B.B.A., Texas Tech University; M.B.A., Sam Houston State University; Ph.D., University of Houston; CPA. (Lynnwood)

Stella Moreno-Kimball (1988): Assistant Professor of Spanish; B.A., University of Los Andes; M.A., University of Washington.

Joan Frances Mosebar (1987): Assistant Professor of Business Administration, and Assistant Dean of the School of Business and Economics; B.A., Stanford University; M.B.A., University of Washington.

Leslie Clyde Mueller (1979): Associate Professor of Business Administration; B.S., University of Kansas; M.B.A., University of California at Los Angeles; D.B.A., University of Southern California.

Robert Lloyd Myers (1971): Associate Professor of Education and Supervisor of Student Teachers; B.A. (Ed.), Western Washington University; M.Ed., Central Washington University; D.Ed., University of Oregon.

Lloyd Gilbert Neal (1984): Assistant Professor of Communication; B.S.J. Northwestern University; M.A., University of Arizona.

Sidney Lee Nesselroad (1978): Associate Professor of Music; B.Mus., West Virginia University; M.Mus., D.M.A., University of Illinois.

Vincent Michael Nethery (1989): Assistant Professor of Physical Education; B.S., M.S., Ph.D., University of Oregon.

James Louis Nimmicht (1988): Associate Professor of Business Administration; B.A., University of Washington; M.S., Eastern Washington University.

Don Rayford Nixon (1986): Associate Professor of Business Administration; B.Bus.Admin., M.B.A., Ph.D., Georgia State University. (South Seattle)

Connie Jo Nott (1989): Associate Professor of Business Administration; B.S., M.B.A., Central Missouri State University; Ph.D., Colorado School of Mines.

James Grant Nylander (1957): Professor of Physical Education; B.S., Bradley University; M.A., Ed.D., University of Northern Colorado.

Steven Douglas Olson (1989): Assistant Professor of English; B.A., Moorehead State College; M.A., University of Texas; Ph.D., University of Illinois.

Virgil Jerome Olson (1960): Professor of Sociology; B.A., M.A., Southern Methodist University; Ph.D., Washington State University.

Dolores Jean Osborn (1965): Professor of Business Education and Administrative Management; B.S., Eastern Illinois University; M.A., Ed.D., University of Northern Colorado.

Patrick Reed O'Shaughnessy (1964): Professor of Accounting; B.A., M.B.A., Washington State University; C.P.A.

Hal Jeffrey Ott (1984): Assistant Professor of Music; B.M.E., Bradley University; M.M., University of Illinois; D.M., Florida State University.

Dale Earl Otto (1971): Professor of Early Childhood Education; B.S., Idaho State University; M.A., Ph.D., University of California at Los Angeles.

William Burrage Owen (1969): Professor of Mathematics; B.S., M.S., Ph.D., Colorado State University.

Patrick Allen Owens (1977): Assistant Professor of Librarianship; B.A., M.A., University of Idaho; M.L.S., University of Oregon.

Robert Edward Pacha (1969): Professor of Biology and Director, Medical Technology Program; B.A., M.S., Ph.D., University of Washington.

Christos John K. Papadopoulos (1966): Professor of Art; B.F.A., Michigan State University; M.F.A., Cranbrook Academy of Art.

Gary Irvine Parson (1975): Assistant Professor of Business Administration; B.A., University of Minnesota; M.A., University of Wisconsin.

John Maurice Pearson (1964): Professor of Physical Education; B.S., University of Idaho; M.A. (Ed.), Idaho State University; Ed.D., University of Oregon.

Robert Harold Perkins (1989): Assistant Professor of Business Education and Administrative Management; B.A., Washington State University; M.B.A., Eastern Washington University; Ed.D., University of Georgia.

John Francis Pickett (1987): Assistant Professor of Music; B.M., M.M., The Julliard School; Ph.D. Indiana University.

James Joseph Ponzetti (1988): Assistant Professor of Home Economics and Gerontology; B.S., University of San Francisco; M.S., Ph.D., Oregon State University.

Conrad Harold Potter (1967): Professor of Education; B.Ed., Plymouth State College; M.A., Montana State University; Ed.D., Stanford University. (Normandy Park)

Mary Jean Potter (1981): Associate Professor of Education; B.A., M.Ed., Central Washington University; Ed.D., Washington State University. (Normandy Park)

Joseph Edward Powell (1990): Assistant Professor of English; B.A., University of Washington; M.A., Central Washington University; M.F.A., University of Arizona.

Willa Dene Powell (1975): Associate Professor of Home Economics Education; B.S., University of Arkansas; M.Ed., Central Washington University; Ph.D., Oklahoma State University.

John Samuel Prater (1989): Colonel, U.S. Air Force, Professor of Aerospace Studies, AFROTC; B.S., Texas A & M University, M.Ed., Troy State University.

Owen Rupert Pratz (1970): Professor of Psychology; B.A., Ph.D., University of Texas.

Debra Prigge (1985): Assistant Professor of Education; B.A. (Ed.); M.Ed., Central Washington University.

Dorothy May Purser (1957): Associate Professor of Physical Education; B.S., Ricks College; M.Ed., University of Idaho.

Betty Jean Putnam (1967): Professor of Physical Education; B.S. (Ed.), Illinois State Normal University; M.S., Smith College; Ph.D., University of Southern California.

Daniel Bailey Ramsdell (1969): Professor of History and Chair, Department of History; B.A., M.A., Ph.D., University of Wisconsin.

Carrie Beth Rehkopf (1990): Assistant Professor of Music; B.M., M.M., University of Michigan.

John Quanton Ressler (1969): Professor of Geography; B.S., University of California at Riverside; M.A., University of Arizona; Ph.D., University of Oregon.

Roger Raymond Reynolds (1968): Assistant Professor of Communication; B.S., Oregon State University; M.A., University of Hawaii.

Kent David Richards (1966): Professor of History; B.A., Knox College; M.S., Ph.D., University of Wisconsin.

Keith Wayne Richardson (1980): Assistant Professor of Accounting; B.A., University of Puget Sound; M.B.A., Pacific Lutheran University.

Louis Don Ringe (1968): Professor of Geology; B.S., M.S., University of Idaho; Ph.D., Washington State University.

Jan Marie Rizzuti (1990): Assistant Professor of Mathematics; B.A., Thiel College; M.Ed., University of Pittsburgh.

Connie Maxine Roberts (1976): Associate Professor of Business Education and Administrative Management; B.B.A., Evangel College; M.Ed., Central Washington University, Ed.D., Utah State University.

Neil Alden Roberts (1970): Associate Professor of Education; B.A., University of California at Santa Barbara; M.A., California State College at Los Angeles; Ed.D., Colorado State College.

Dieter Romboy (1972): Associate Professor of German; B.A., Ph.D., University of Utah.

Rosemary Elspeth Ross (1987): Associate Professor of Librarianship; A.B., Gonzaga University; M.L., University of Washington.

Eric Steven Roth (1979): Associate Professor of Music; B.S., M.M., D.M.A., College Conservatory of Music of the University of Cincinnati.

Sharon Lynn Rosell (1989): Assistant Professor of Physics; B.A., Loretto Heights College; M.S., Indiana University; M.S., University of Washington.

Charles Martin Rubin (1991): Assistant Professor of Geology; B.S., M.S., University of Montana; Ph.D., California Institute of Technology.

Samuel Philip Rust, Jr. (1969): Professor of Education; B.A., B.A. (Ed.), Western Washington University; M.Ed., Central Washington University; Ed.D., University of Oregon.

James Michael Sahlstrand (1963): Professor of Art; B.A., M.F.A., University of Minnesota.

Margaret Ahrens Sahlstrand (1965): Professor of Art; B.A., Linderwood College; M.F.A., State University of Iowa.

Dale Verlyn Samuelson (1973): Instructor of Flight Technology; B.A. Ed., Central Washington University.

Catherine MacMillan Sands (1968): Associate Professor; B.A., University of Washington; M.A., Washington State University.

Peter Jason Saunders (1988): Associate Professor of Economics; B.S., London School of Economics; M.A., Wayne State University; M.A., Ph.D., University of Colorado.

Carolyn Campbell Schactler (1976): Associate Professor of Clothing and Textiles; B.A., M.A., Central Washington University.

Stephen Brian Schepman (1990): Assistant Professor of Psychology; B.A., Adams State College; M.B.A., University of Washington; Ph.D., Purdue University.

Donald Myron Schliesman (1957): Professor of Education and Vice Provost and Dean of Undergraduate Studies; A.B., Northern State Teachers College, S.D.; A.M., Ed.D., Colorado State College.

William Dean Schmidt (1963): Professor of Instructional Media; B.S., University of Nebraska; M.A., San Diego State College; Ph.D., Ohio State University.

Frank August Schneider (1979): Professor of Librarianship and Dean, Library Services; B.A., University of Dubuque; B.S.L.S., University of Minnesota; M.A. Ed., Ed.D., Arizona State University.

Joe Herbert Schomer (1971): Associate Professor of Education; B.A., Washington State University; M.Ed., Central Washington University; Ed.D., University of Idaho.

Candace Elaine Schulhauser (1990): Assistant Professor of Education; B.A., M.Ed., Ph.D., Washington State University.

Russ Allan Schultz (1990): Professor and Chair of Music; B.M., Eastman School of Music; M.M., Memphis State University; D.M.A., University of North Texas.

Warren Roy Schultz, Capt. U.S. Army (1988): Assistant Professor of Military Science; B.S., West Point.

Ronald Fred Schwartz (1988): Assistant Professor of Military Science; B.S., West Point.

Sharon Elaine Schwindt (1981): Professor of Health Education; B.S., University of Washington; M.P.H., Ph.D., University of Michigan.

Lana Jo Taylor Sharpe (1967): Assistant Professor of Physical Education; B.S., University of Utah; M.A., Central Washington University.

Glenn Harold Shelton (1987): Instructor of Industrial and Engineering Technology; USAF Pilot Training.

Misaki Shimada (1988): Assistant Professor of Foreign Languages; B.A., Wichita State University; M.A., University of Kansas.

David Norman Shorr (1980): Associate Professor of Education; B.A., California State College, San Bernadino; Ph.D., University of Washington.

Donald Roy Shupe (1968): Professor of Psychology; B.S., M.A., Ph.D., University of Utah.

Philip Signorelli (1990): Assistant Professor of Drama; B.A., M.A., California State University, Los Angeles; M.F.A., University of California, Los Angeles.

John Louis Silva (1962): Professor of Psychology; B.A., M.A., San Jose State College; Ph.D., Washington State University.

Arne Erik Sippola (1984): Associate Professor of Early Childhood Education; B.Ed., Central Washington University; M.Ed., Ph.D., University of Washington.

Gary Lee Smith (1968): Associate Professor of Physical Education and Athletic Trainer; B.S., Northern Michigan University; M.S., Indiana University.

Patrick John Smith (1987): Associate Professor of Business Administration; B.A., M.B.A., University of British Columbia; Ph.D., University of California.

Raymond Albert Smith, Jr. (1965): Professor of Humanities and Director, Humanities Program; B.A., Washington State University; M.A., Ph.D., Stanford University.

Stamford Dennis Smith (1968): Professor of Biology; B.A., San Jose State College; M.S., Ph.D., University of Idaho.

Stephen Drew Smith (1988): Assistant Professor of Economics; B.A., Metropolitan State College; A.M., Ph.D., Washington University at St. Louis. (Lynnwood)

William Charles Smith (1968): Professor of Anthropology and Director, Geographical Information System Laboratory; A.B., Ph.D., University of California at Berkeley.

Hugh Matthew Spall (1989): Associate Professor of Business Administration; B.A., University of Montana; M.A., Ph.D., Michigan State University; J.D., University of Miami.

Larry Michael Sparks (1967): Associate Professor of Psychology; B.S., Ph.D., University of Washington.

Andrew Jackson Spencer (1988): Assistant Professor of Music; B.M., M.M., Northwestern University; D.M.A., Eastman School of Music.

Willard Charles Sperry (1966): Professor of Physics; B.S., Stanford University; M.S., Ph.D., University of California at Davis.

Constance Helen Weber Speth (1964): Professor of Art; B.A., M.Ed., Central Washington University; M.F.A., University of Idaho.

Gerald Joseph Stacy (1990): Professor of English; B.A., St. Procopius College; M.A., Purdue University; Ph.D., Bowling Green State University.

Anthony John Stahelski (1990): Associate Professor of Psychology; B.A., M.A., Ph.D., University of California, Los Angeles.

Carl Wayne Steidley (1984): Professor of Computer Science; B.A., M.S., California State University; Ph.D., University of Oregon.

Stephanie Stein (1989): Assistant Professor of Psychology; B.A., University of California, Santa Cruz; M.A., University of California, Santa Barbara; Ph.D., University of Oregon.

Elizabeth Moore Street (1979): Professor of Psychology; B.S., M.A., Ed.D., West Virginia University.

Warren Robert Street (1967): Professor of Psychology; B.A., Occidental College; M.A., Ph.D., Claremont Graduate School.

Christine Ann Sutphin (1988): Assistant Professor of English; B.A., Eastern Oregon College; M.L.S., Ph.D., University of Oregon.

William Darwin Swain (1984): Assistant Professor of English; B.A., University of Washington; M.A., Central Washington University.

Gregory Lane Tate, Captain, U.S. Air Force (1987); Assistant Professor of Aerospace Studies; B.S., Air Force Academy; M.Div., Fuller Seminar.

Alan Blaine Taylor (1985): Assistant Professor of Communication; B.A., Washington State University; M.C., University of Washington.

Thomas Harvey Thelen (1970): Professor of Biology; B.S., St. Johns University; Ph.D., University of Minnesota.

Richard Gloster Thompson (1984): Director of Governmental and Corporate Relations; B.S., U.S. Air Force Academy; M.A., Webster College.

Philip Tolin (1967): Professor of Psychology; B.S., University of Massachusetts; M.A., Ph.D., University of Iowa.

Rosco Nelson Tolman (1970): Professor of Spanish and Chair, Department of Foreign Languages; B.S., Utah State University; M.A., University of Iowa; Ph.D., University of Utah.

George Galloway Town (1972): Professor of Computer Science; B.S., M.S., University of Wisconsin.

Gregory Trujillo (1969): Associate Professor of Counseling, Associate Provost for Institutional Research and Assessment; B.A. (Ed.), M.A., Ph.D., University of New Mexico.

William Harold Turnquist (1989): Assistant Professor of Business Administration; B.S., M.S., Montana State University.

Morris Leo Uebelacker (1988): Assistant Professor of Geography; B.S., Central Washington University; M.A., University of New Mexico; Ph.D., University of Oregon.

Dan Alex Unruh (1965): Professor of Education; B.S., Oregon College of Education; M.Ed., University of Oregon; Ed.D., Columbia University.

John Grantham Utzinger (1963): Associate Professor of Philosophy; B.A., Occidental College; M.A., Ph.D., University of Washington.

William Chester Vance (1981): Associate Professor of Leisure Services; B.A., M.S., California State University at Long Beach; Ed.D., University of Oregon.

Allen Courtney Vautier (1975): Professor of Accounting; B.A., J.D., University of Washington. (Lynnwood)

John Louis Vifian (1961): Associate Professor of English and Chair, Department of English; B.A., Whitworth College; M.A., Washington State University; Ph.D., University of Colorado.

Charles Wesley Vlcek (1961): Professor of Instructional Media; B.S., M.S., University of Wisconsin-Stout; Ed.D., Michigan State University.

Richard Leo Waddle (1967): Professor of Librarianship; B.A., Marietta College; M.A., M.Lib., University of Washington; Ph.D., Washington State University.

Larry Anderson Wald (1980): Associate Professor of Education; B.S., M.S., Western Illinois University; Ed.D., Indiana University. (Seattle)

Randall Reed Wallace (1986): Assistant Professor of Education; B.S., M.S., Ph.D., University of Oregon.

Marcia Lee Weiss, Capt., U.S. Air Force (1989): Assistant Professor of Aerospace Studies; B.A., University of Hawaii; M.S., Central Missouri State University.

Raymond Louis Wheeler (1964): Professor of Music; B.M., University of Wyoming; M.M., Eastman School of Music.

Curt Agart Wiberg (1956): Professor of Biology; B.S., University of Wisconsin; M.S., University of Oregon.

Robert Henry Wiekling (1981): Professor of Industrial and Engineering Technology; B.A., M.A., San Jose State University; Ph.D., Washington State University.

Calvin Gus Willberg (1969): Associate Professor of Geography; B.S., M.S., Ohio State University; Ph.D., University of Washington.

Henry S. Williams (1990): Assistant Professor of Education; B.A., St. Paul's College, Liberia; M.Ed., Ed.D., East Tennessee State University.

Leonard Roy Williams (1987): Instructor of Communication; B.A., San Francisco State College; M.A., University of California, Davis.

Blaine Ricks Wilson (1975): Professor of Business Education and Administrative Management; B.S., Brigham Young University; M.S., Utah State University; Ed.D., University of Minnesota.

Donna Gail Wilson (1988): Assistant Professor of Education; B.A., M.A., Central Washington University.

Kenneth Michael Wilson (1986): Instructor of Physical Education and Head Baseball Coach; B.S., M.E., Linfield College.

Rex Sylvester Wirth (1983): Associate Professor of Political Science; B.A., Weber State College; M.A., Ph.D., University of Tennessee.

Norman Henry Wolford (1983): Associate Professor of Industrial and Engineering Technology; B.A., M.S., North Carolina State.

Thomas Yen-Ran Yeh (1965): Associate Professor of Librarianship; B.A., Soochow University; M.A., M.A.L.S., University of Minnesota.

Timothy Wallace Young (1980): Associate Professor of Education; A.B., University of Michigan; M.A., Antioch; Ph.D., Indiana University.

Rebecca Lee Yoxtheimer (1985): Instructor of English; B.A., M.A., Ohio University; M.A., Washington State University.

Tim Lee Yoxtheimer (1981): Associate Professor of Industrial and Engineering Technology; B.A., M.S., Ohio University.

Marcia Beth Zack (1990): Assistant Professor of Education; B.A., University of Massachusetts; M.Ed., Boston State College; M.A., Ph.D., Stanford University.

Mark C. Zetterberg (1988): Assistant Professor of Drama; B.A., B.M., M.A., University of Colorado; M.F.A., Ohio State University.

Max Darrell Zwanziger (1967): Professor of Psychology and Director, Law and Justice Program; B.A., State College of Iowa; M.A., University of Denver; Ph.D., University of Utah.

APPENDIXES

APPENDIX A

WAC 106-72-005 AFFIRMATIVE ACTION POLICY STATEMENT. It is the policy of Central Washington University to:

- (1) Recruit, hire, train, and promote persons in all job titles, without regard to race, color, religion, creed, age, national origin, disabled or Vietnam era veteran status, the presence of any physical, mental, or sensory handicap, marital status, sexual orientation, or sex except where a bona fide occupational qualification exists.
- (2) Insure that all personnel actions such as compensation, benefits, transfers, terminations, layoffs, return from lay-off, reductions in force (RIF), University sponsored training, education, tuition assistance, and social and recreation programs, will be administered without regard to race, color, religion, sex, age, national origin, creed, marital status, or the presence of any physical, mental or sensory handicap.

WAC 106-72-025 NONDISCRIMINATION IN DELIVERY OF SERVICES. Central Washington University will provide equal access to all programs for all students on the basis of merit without regard to race, color, religion, sex, age, national origin, or the presence of any sensory, physical, or mental handicap.

No person will be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity sponsored by the University.

Gender Equity

Washington state law prohibits discrimination on the basis of gender in institutions of higher education. Provisions of this law can be found in RCW 28B.110. Rules and guidelines have been developed to eliminate possible gender discrimination to students, including sexual harassment. These rules address academic programs, student employment, counseling and guidance services, financial aid, recreational activities including club sports, and intercollegiate athletics.

With respect to higher education student employment, all institutions shall be required to: a) make no differentiation in pay scales on the basis of gender; b) assign duties without regard to gender except where there is a bona fide occupational qualification as approved by the Washington Human Rights Commission; c) provide the same opportunities for advancement to males and females; and d) make no difference in the conditions of employment on the basis of gender in areas including, but not limited to, hiring practices, leaves of absence, and hours of employment.

Admission to academic programs shall be made without regard to gender. Counseling and guidance services for students shall be made available to all students without regard to gender. All academic and counseling personnel shall be required to stress access to all career and vocational opportunities to students without regard to gender. All academic programs shall be available to students without regard to gender. Recreational activities shall be offered to meet the interests of students, with no disparities based on gender. Financial aid shall be equitably awarded by type of aid, with no disparities based on gender.

With respect to intercollegiate athletics, institutions that provide the following shall do so with no disparities based on gender: a) benefits and services (e.g., equipment and supplies; medical services; services and insurance; transportation and per diem allowances; opportunities to receive coaching and instruction; scholarships and other forms of financial aid; opportunities for competition; publicity and awards, and scheduling of games and practice times); b) opportunities to participate in intercollegiate athletics; c) male and female coaches and administrators. (Institutions shall attempt to provide some coaches and administrators of each gender to act as role models for male and female athletes.)

Each institution shall develop and distribute policies and procedures for handling complaints of sexual harassment.

The executive director of the Higher Education Coordinating Board, in consultation with the Council of Presidents, shall monitor the compliance by institutions of higher education with this chapter. A violation of this chapter shall constitute an unfair practice under chapter 49.60 RCW, including the right to file a complaint with the Human Rights Commission and to bring a civil action, shall apply. This chapter shall supplement, and shall not supersede, existing law and procedures relating to unlawful discrimination based on gender. Institutions of higher education shall distribute copies of the provisions of this chapter to all students. If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected.

The person responsible for coordinating and monitoring compliance with the provisions of this chapter is the Director of Affirmative Action, Bouillon Hall 228, Central Washington University, (509) 963-2205. Students with gender discrimination complaints are encouraged to utilize the grievance procedures noted below.

Policy Statement on Sexual Harassment

It is the policy of Central Washington University to maintain a work and study environment which is free from sexual harassment. Sexual harassment is a practice which violates state and federal law and will not be tolerated by this institution. An individual found in violation of this policy will be subject to informal or formal disciplinary action up to and including termination/dissmissal.

For the purposes of this policy, sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when:

- a) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or career advancement;
- b) submission to or rejection of such conduct by an individual is used as a basis for employment decisions or academic decisions affecting such individual; or
- c) such conduct has the purpose or effect of unreasonably interfering with an individual's work or creating an intimidating, hostile or offensive work or academic environment.

This definition is in keeping with the Equal Employment Opportunity Commission's regulations on sexual harassment.

All members of the University community are encouraged to work toward maintaining an educational and work environment free from sexual harassment.

- 1) The Director of Affirmative Action will provide training programs to educate the University community on the subject of sexual harassment and the University's obligation to prevent its occurrence. In addition, the director will ensure that the sexual harassment policy is appropriately displayed on campus and included in the University's Affirmative Action Program.
- 2) Persons who believe they are experiencing sexual harassment are encouraged to act promptly to begin resolution of the issue. The Affirmative Action Director and the Vice President for Student Affairs will provide informal consultation and assistance upon request and in a confidential manner.
- 3) Supervisors, administrators and department chairs who receive informal sexual harassment complaints will act on them in a timely fashion in an attempt to resolve the situation informally. The Affirmative Action Office will provide guidance on informal resolution upon request.

Affirmative Action Grievance Procedures For Students

Grievance procedures are available to students and prospective students who are members of protected groups and who believe they have experienced discrimination in either the educational programs or services provided by the University. Members of protected groups include those who might be discriminated against based on their race, color, religion, national origin, sex, age, marital status, or the presence of any sensory, physical or mental handicap.

Students who believe they have experienced discrimination at Central Washington University are encouraged to visit the Affirmative Action Office as soon as possible after the alleged incident(s). The Affirmative Action Director will discuss options available for resolution of the complaint, including informal and formal grievance procedures available through the University and external complaint procedures available through state and federal agencies. All discussions with the Affirmative Action

Office concerning complaints will be treated confidentially under the provisions of the University's Affirmative Action Grievance Procedure.

Copies of the Affirmative Action Grievance Procedure as well as copies of the University's Affirmative Action Policy are available in the Affirmative Action Office. The office is open during regular business hours and is located in Bouillon Hall 228 (963-2205).

APPENDIX B

Central Washington University Student Rights and Responsibilities Policy

Section One

Statement of Rights and Responsibilities

I. Preamble

Central Washington University is a community that exists for the generation, acquisition, diffusion, and preservation of knowledge, the growth of all its members, and the general well-being of society. Free inquiry and free expression are indispensable to the attainment of these goals. All members of the University community are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth in an atmosphere of academic freedom. Freedom to teach and freedom to learn are inseparable facets of academic freedom. The freedom to learn depends upon appropriate opportunities and conditions in the classroom as well as elsewhere on campus. The responsibility to secure and to respect general conditions conducive to the freedom to learn is shared by all members of the University community. The University has developed policies and procedures which provide and safeguard this freedom, within the framework of general standards, and with the broadest possible participation of the members of the University community. This document articulates the general policies that provide for the academic freedom of students in this University community and forms the basis on which more specific policies such as the Student Judicial Code, rules on student records, etc., have been formulated and adopted.

II. Access to Central Washington University

A. Admissions, Retention and Graduation

Central Washington University supports equal educational opportunity for all regardless of sex, race, national origin, age, marital status, handicap, or religion. Persons seeking admission to the University have the right to be admitted if they meet the admission standards established for the University by the Board of Trustees of Central Washington University. Admission to the University does not automatically admit students to those programs which have special standards for admission and for evaluation of transfer credits, and which may restrict admissions on the basis of available resources. To be eligible for continued enrollment in the University and for graduation from the University, students are responsible for meeting the University's published requirements for retention and graduation.

B. University Facilities and Services

All regular students have the right to make full use of the facilities and services of the University which are generally available to students. There are, however, some limitations on the availability and use of University resources. Students are expected to use University facilities and ser-

vices responsibly and with consideration for other members of the University community. Offices responsible for providing facilities and services will, upon request, furnish guidelines for their use.

III. Student, Faculty, Staff Relationship

The relationship between students and faculty/staff is one which is based upon mutual respect. Students see faculty and staff in a variety of roles: teachers, counselors, librarians, administrators, advisors, employers, supervisors, colleagues. In those rare instances where a student may wish to pursue a grievance having to do with grades or actions taken by a faculty member or a staff member of an office or department which adversely affected the student's academic progress, the University provides a procedure by which the grievance may be pursued. The rules for the process are contained in the Rules Governing the Operations of the Board of Academic Appeals, copies of which are available in the office of the Vice President for Student Affairs.

A. In the Classroom

1. Student Rights

A student who enrolls in a course has the following rights:

- a. to know from the instructor the goals and content of the course;
- b. to know from the beginning the instructor's expectations and grading methods;
- c. to be evaluated on the materials of the course and not on extraneous matters; and
- d. to consult with the instructor outside the classroom on matters related to the course.

2. Student Responsibilities

A student who enrolls in a course has responsibility to observe the standards of academic performance defined by the instructor and the standards of conduct established by the instructor so as to assure the freedom of the instructor to teach and the freedom of the other students to learn.

B. Outside the Classroom

Students have a right to the services provided by faculty and staff, including such services as academic advising, counseling over a broad range of problem areas, dissemination of information, and clarification of University policies and procedures, including those involving grievances. Because of the size and complexity of the University, students have the primary responsibility for initiating requests for such services, although faculty and staff are expected to be sensitive to students' needs and to offer assistance if students appear to need it.

IV. Student Records

A. Student Records Rules

The University has adopted rules which govern the form and variety of student records collected and maintained by the University, the nature of information collected, and the way in which student information is recorded, maintained and eventually disposed of, consistent with federal and state regulations. Copies of the rules (in accordance with Public Law 93-380 The Family Educational Rights and Privacy Act of 1974, i.e., The Buckley Amendment) are available in the office of the Vice President for Student Affairs. Students have a right to expect that information about themselves of a private, personal or confidential nature which they share with faculty and staff will be disclosed only according to student record rules. Faculty

and staff may provide judgments of a student's ability and character to others in appropriate circumstances, normally with the knowledge and consent of the student concerned, and in accordance with the University's rules on student records.

B. Students' Rights

The rules on student records also define the following rights of students with respect to their records and the procedures to be followed to guarantee those rights:

1. the right to inspect and review information contained in their educational records;
2. the right to challenge the contents of their educational records;
3. the right to submit an explanatory statement for inclusion in the educational record if the outcome of the challenge is unsatisfactory;
4. the right to prevent disclosure, with certain exceptions, of personally identifiable information;
5. the right to secure a copy of the University rules, which includes the location of all educational records; and
6. the right to file complaints with the appropriate federal and state agency(ies) concerning alleged failures by the University to comply with applicable laws, rules and their implementing regulations.

C. Students' Responsibilities

Students are responsible for furnishing, completely and accurately, such pertinent information as required by the University so that it may perform its proper function as an educational institution. If students' circumstances change, e.g., name, address, financial situation, etc., they are responsible for seeing that proper University officials are informed of such changed circumstances.

V. Student Affairs

Student affairs encompasses a broad area including the freedoms to form associations, to inquire and express opinions, and to participate in institutional government.

A. Association

Students have the right to form organizations and to join associations to promote their common interests. In doing so, they have the responsibility to follow University policies and procedures, copies of which are available in the office of the Director of Student Activities.

B. Inquiry and Expression

Students and student organizations have the right to examine and discuss all questions of interest to them, to express opinions publicly and privately, to support causes and to invite and hear any person of their own choosing. Such activities shall not disrupt the regular and essential operation of the University. Students and student organizations are responsible for following the policies and procedures related to these activities, copies of which are available in the office of the Director of Student Activities.

C. Student Participation in Institutional Government

Students have the right to express their views by lawful procedures on issues of institutional policy and on matters of general interest to the student body and to participate in the formulation and application of institutional policy affecting academic and student affairs. Student government, the Associated Students of Central Washington University, is the primary vehicle for student participation in institutional government, and its role is explicitly stated in its constitution and by-laws, copies of which are available in the office of the Director of Student Activi-

ties. Other opportunities for involvement in academic and student affairs areas may be found in the various departmental or administrative offices. Having become involved in institutional governance, students are responsible for fulfilling the obligations they have undertaken.

VI. Student Conduct

Students are members of both the University community and the larger community outside the University. As members of the University community, students are guaranteed those rights described in this document. As members of the larger community, students are afforded those rights guaranteed by the state and federal constitutions, the authority of which extends across both communities.

At the same time, both communities have established standards of conduct designed to protect their essential purposes. The University community has defined in its Student Judicial Code that conduct in which its members may not engage without penalty. The larger community has defined such behavior in its laws.

Outlined below are the standards in disciplinary proceedings established by the University with respect to student conduct which violates the norms of either the University or the larger community.

A. The University Community

The Student Judicial Code enumerates proscribed behavior and describes procedures followed in cases where students are alleged to have engaged in such conduct. These procedures guarantee procedural due process to the accused students and are fully described in the Student Judicial Code, copies of which are available in the office of the Vice President for Student Affairs.

B. The Larger Community

If a student's behavior results in charges that both the law of the larger community and the proscriptions of the University's Student Judicial Code have been violated, the University does not waive the right to initiate proceedings in accordance with provisions of the Student Judicial Code.

Section Two

Student Judicial Code (Refer to WAC 106-120 for complete Code. Revisions and current policy available in the office of the Vice President for Student Affairs.)

I. General Policy

A. Definitions

1. "University" shall mean Central Washington University.
2. "Vice President" shall mean the Vice President for Student Affairs of the University or the Vice President's designee.
3. "Student" shall mean a person enrolled at the University either full or part-time, pursuing undergraduate, graduate, or extension studies, or a person accepted for admission or readmission to the University.
4. "University community" shall include the employees and students of Central Washington University and all property and equipment of the University.

B. Introduction and Purpose

The students of Central Washington University are responsible for complying with policies, standards, rules, and requirements for academic and social behavior formulated by the University for the maintenance of an

orderly and responsible functioning of the University community. At the same time, students have protection through orderly procedures against arbitrary or capricious actions or decisions by University authorities. Due process is recognized as essential to the proper enforcement of University rules. The purpose of this document is to provide a procedure and rules by which a student will be afforded due process in the matter of alleged violations of University standards, rules and requirements governing academic and social conduct of students.

The University recognizes a responsibility to resolve behavior problems before they escalate into serious problems requiring the application of these rules. Therefore, the Vice President shall generally review and/or investigate student behavioral problems which are referred by University community members or any subsidiary judicial agencies to the Campus Judicial Council, or which otherwise come to the attention of the Vice President through Campus Safety reports or other official University reports. The Vice President shall be as proactive as is possible concerning the resolution of student behavioral problems and use reasonable arbitration and conflict resolution methods in order to prevent such problems from further interfering with the University community or the student's own educational progress.

The Vice President shall provide for due process for students throughout the behavioral problem-solving intervention by following the proper steps related to the initiation, investigation, and disposition of complaints against a student which is outlined in Section III of this document.

Any student is subject to these rules, independent of any other status the individual may have with the University. Any action taken against a student under these rules shall be independent of other actions taken by virtue of another relationship with the University in addition to that of student.

C. Cooperation with Law Enforcement Agencies

Central Washington University distinguishes its responsibility for student conduct from the controls imposed by the larger community beyond the University, and of which the University is a part. The University does not have the responsibilities of a parent for the conduct of students, and is not responsible for conduct of students off campus. When students are charged with violations of laws of the nation or state, or ordinances of the county or city, the University will neither request nor agree to special consideration for students because of their status as students, but the University will cooperate with law enforcement agencies, courts, and any other agencies in programs for rehabilitation of students.

Central Washington University reserves the right to impose the provisions of this policy and apply further sanctions before or after law enforcement agencies, courts, and other agencies have imposed penalties or otherwise disposed of a case.

II. Proscribed Conduct

A student shall be subject to disciplinary action or sanction upon violation of any of the following conduct proscriptions:

- A. disruptive and disorderly conduct which interferes with the rights and opportunities of other students to pursue their academic studies;
- B. academic dishonesty in all its forms including, but without being limited to:
 1. cheating on tests;
 2. copying from another student's test paper;
 3. using materials during a test not authorized by the person giving the test;
 4. collaboration with any other person during a test without authority;
 5. knowingly obtaining, using, buying, selling, transporting, or soliciting in whole or in part the contents of an unadministered test or information about an unadministered test;
 6. bribing any other person to obtain an unadministered test or information about an unadministered test;
 7. substitution for another student or permitting any other person to substitute for oneself to take a test;
 8. "plagiarism" which shall mean the appropriation of any other person's work and the unacknowledged incorporation of that work in one's own work offered for credit;
 9. "collusion" which shall mean the unauthorized collaboration with any other person in preparing work offered for credit.
- C. filing a formal complaint with the Vice President for Student Affairs with the intention of falsely accusing another with having violated a provision of this Code;
- D. furnishing false information to any University official, especially during the investigation of alleged violations of this Code;
- E. furnishing false information to the Campus Judicial Council with the intent to deceive, the intimidation of witnesses, the destruction of evidence with the intent to deny its presentation to the Campus Judicial Council or the willful failure to appear before the Campus Judicial Council or the Vice President when properly notified to appear;
- F. intentionally setting off a fire alarm or reporting a fire or other emergency or tampering with fire or emergency equipment except when done with the reasonable belief in the existence of a need therefore;
- G. forgery, alteration, or misuse of University documents, records, or identification cards;
- H. sexual assault in any form, including acquaintance rape and other forced and/or nonconsensual sexual activity;
- I. actual or attempted physical/emotional abuse of any person or conduct which threatens or endangers the health and safety of any person or which intentionally or recklessly causes a reasonable apprehension of harm to any person;
- J. harassment of any sort or any malicious act which causes harm to any person's physical or mental well being;
- K. recklessly engaging in conduct which creates a substantial risk of physical harm to another person;
- L. creating noise in such a way as to interfere with university functions or using sound amplification equipment in a loud and raucous manner;
- M. theft or malicious destruction, damage or misuse of University property, private property of another member of the University community, whether occurring on or off campus; or theft or malicious destruction, damage or misuse on campus of property of a nonmember of the University community;
- N. unauthorized seizure or occupation or unauthorized presence in any University building or facility;
- O. intentional disruption or obstruction of teaching, research, administration, disciplinary proceedings, or other University activities or programs whether occurring on or off campus or of activities or programs authorized or permitted by the University pursuant to the provisions of this document;
- P. intentional participation in a demonstration which is in violation of rules and regulations governing demonstrations promulgated by the University pursuant to the provisions of this document;
- Q. unauthorized entry upon the property of the University or into a University facility or any portion thereof which has been reserved, restricted in use, or placed off limits; unauthorized presence in any University facility after closing hours; or unauthorized possession or use of a key to any University facility;
- R. possession or use on campus of any firearm, dangerous weapon or incendiary device or explosive unless such possession or use has been authorized by the University;
- S. possession, use, or distribution on campus of any controlled substance as defined by the laws of the United States or the state of Washington except as expressly permitted by law;
- T. violation of the University policy on alcoholic beverages which states:
 1. Persons twenty-one (21) years of age or older may possess and/or consume alcoholic beverages within the privacy of their residence hall rooms or apartments. Washington state law provides severe penalties for the possession or consumption of alcoholic beverages by persons under twenty-one (21) years of age and for persons who furnish alcoholic beverages to minors. All University students should be aware of these laws and the possible consequences of violations.
 2. The University does not condone the consumption of alcoholic beverages by minors at functions sponsored by Central Washington University organizations. Organizations are held responsible for the conduct of their members at functions sponsored by the organization and for failure to comply with Washington state law.
 3. The Campus Judicial Council may place on probation any organization or prohibit a specific campus social function when the consumption of alcoholic beverages has become a problem of concern to the University.
- U. conduct which violates the University policies on computer use;
- V. violation of clearly stated proscriptions in any published rule or regulation promulgated by any official campus committee or commission or council acting within the scope of its authority;
- W. violation on campus of any state or federal law or violation of any state or federal law off campus while participating in any University-sponsored activity.

III. Initiation, Investigation and Disposition of Complaints

A. Philosophy

When student behavioral problems occur, the University employs a team problem-solving approach. The Director of Housing, Director of Residence Living, and the Chief of Campus Police join the Assistant and Associate Vice Presidents for Student Affairs weekly to review Residence Living Incident Reports filed by Living Group Advisors and hall Managers, as well as Campus Police Reports which cover both on- and off-campus students. This problem-solving team then deals with student behavioral problems which constitute violations of this Code.

The problem-solving team works together to suggest intervention strategies which are considered to be most appropriate and effective for eliminating specific negative student behaviors.

B. Process

Incidents which come to the attention of the problem-solving team may be addressed in one of the following ways:

1. no action;
2. informal meetings with relevant University officials;
3. referral to the Residence Hall Arbitration Council for resolving certain disputes with the residence halls;
4. proceedings in the office of the Vice President for Student Affairs. Official proceedings in the Vice President's office are conducted when it becomes apparent to the problem-solving team that the initial and more informal forms of intervention with a student have been unsuccessful in positively modifying a student's behavior.

C. Investigation and Disposition of Complaints

The following rules will govern the processing of alleged violations of the proscribed conduct listed in the Student Judicial Code.

1. A complaint alleging misconduct against any student at the University may be filed by anyone at the office of the Vice President for Student Affairs. Students, faculty members, administrators and other employees of the University shall have concurrent authority to request the commencement of the disciplinary proceedings provided for in this chapter. A person filing a complaint shall be complainant of record.
2. Any student charged in a complaint shall receive oral or written notification from the Vice President. Such notice shall:
 - a. inform the student that a complaint has been filed alleging that the student violated specific provisions of the Student Judicial Code and the date of the violation(s);
 - b. set forth those provisions allegedly violated;
 - c. specify a time and date the student is required to meet with the Vice President or designee; and
 - d. inform the student that failure to appear at the appointed time at the Vice President's office may subject the student to suspension from the University.
3. When the Vice President meets with the student, the Vice President shall:
 - a. provide for the student a copy of the Student Judicial Code;
 - b. review the facts of the alleged violation with the student; and

- c. conduct an investigation into the alleged violation.

4. Upon completion of the review with the student and/or the investigation, the Vice President may:
 - a. drop the charges when they appear to be invalid or without substance or capricious;
 - b. issue a verbal warning;
 - c. apply any of the sanctions as outlined in Section IV if such sanction is warranted by the evidence;
 - d. refer the case to the Campus Judicial Council; or
 - e. invoke the summary suspension procedure as outlined in Section VII when deemed appropriate.
5. The Vice President shall inform the student that the Vice President's sanction may be appealed to the Campus Judicial Council, and that if an appeal is made, the Vice President shall take no action nor make any determination, except for summary suspension, in the matter other than to inform the student of the time, date, and location of the proceeding by the Campus Judicial Council.

IV. Disciplinary Sanctions

The following definitions of disciplinary terms have been established and may be the sanctions imposed by the Vice President for Student Affairs or by the Campus Judicial Council.

- A. **Warning.** Notice in writing that the student has violated University rules or regulations or has otherwise failed to meet the University's standard of conduct. Such warning will contain the statement that continuation or repetition of the specific conduct involved or other misconduct will normally result in one of the more serious disciplinary actions described below.
- B. **Disciplinary Probation.** Formal action specifying the conditions under which a student may continue to be a student at the University including limitation of specified activities, movement, or presence on the CWU campus. The conditions specified may be in effect for a period of time or for the duration of the student's attendance at the University.
- C. **Restitution.** An individual student may be required to make restitution for damage or loss to University or other property and for injury to persons. Failure to make restitution will result in suspension for an indefinite period of time as set forth in subsection (D) below provided that a student may be reinstated upon payment.
- D. **Suspension.** Dismissal from the University and from status as a student for a stated period. The notice suspending the student will state in writing the term of the suspension and any condition(s) that must be met before readmission is granted. The student so suspended must demonstrate that the conditions for readmission have been met. There is to be no refund of fees for the quarter in which the action is taken, but fees paid in advance for a subsequent quarter are to be refunded.
- E. **Deferred Suspension.** Notice of suspension from the University with the provision that the student may remain enrolled contingent on meeting a specified condition. Not meeting the contingency shall immediately invoke the suspension for the period of time and under the conditions originally imposed.
- F. **Expulsion.** The surrender of all rights and privileges of membership in the University community and exclusion from the campus without any possibility for return.

V. Campus Judicial Council

A. Purpose

The Campus Judicial Council shall be the principal campus-wide judicial body with jurisdiction over all students, whether graduate or undergraduate, and student organizations and authority to hear all charges of misconduct. It has authority to impose the sanctions described in Section IV. Other divisions of the University may elect to establish subsidiary judicial agencies over which the Campus Judicial Council will have appellate jurisdiction. Subsidiary judicial agencies or persons levying sanctions should devise sanctions which are in proportion to both the nature and extent of the misconduct, and which redress injury, damage, expense, inconvenience and/or grievance as far as possible. Appeal from subsidiary councils or agencies must be made within five working days from the time of publication of findings by said subsidiary judicial agency. Failure to file such an appeal will constitute and be construed as full acceptance by all parties of the findings.

B. Composition

The following rules govern the composition of the Campus Judicial Council:

1. The Council shall consist of three faculty members holding the rank of assistant professor or above, and eight students, at least one of whom should be a graduate student if a graduate student files for appointment to the Council.
 - a. The faculty members of the Council shall be designated in accordance with procedures established by the Faculty Senate.
 - b. The student members of the Council shall be selected in accordance with procedures established by the constitution of the Associated Students of Central Washington University. Eight student members shall be appointed, each student being appointed for a term of one calendar year. Terms of office for students begin with the first day of instruction of the academic year for which the student is appointed.
2. A Campus Judicial Council Chair shall be elected at the first meeting each academic year and shall continue in office until the person resigns or is recalled. The duties of the Chair are as follows:
 - a. to call regular and special meetings of the Council by notification to members at least twenty-four (24) hours in advance of the meeting time, except in bona fide emergency situations;
 - b. to preside over all regular and special meetings;
 - c. to act as presiding officer at all meetings of the proceeding board.
3. Two of the faculty members and three of the student members of the Council shall constitute a quorum.
4. The Vice President shall appoint a faculty member as a Judicial Council Advisor whose duties shall be to:
 - a. convene the Council; and
 - b. advise the Council during all meetings and hearings.

VI. Procedures for Proceeding Before the Campus Judicial Council

- A. When a case is referred to the Campus Judicial Council the Vice President shall forward to the Council:
 1. a statement describing the alleged misconduct;
 2. the name and address of the complainant;
 3. the name and address of the student charged; and
 4. all relevant facts and statements.
- B. The Council Chair shall call a special meeting of the Council and arrange for a proceeding in the following manner:
 1. the Council shall determine the time and place of the proceeding, which shall be at least ten (10) days after delivery of written notice to the student. In the interest of timeliness and efficiency, upon the request of either the student or the Vice President, this 10-day interval may be waived by the Vice President, with the student's permission. Time and place shall be set to make the least inconvenience for all interested parties. The Chair may change the time and place of the proceeding for sufficient cause;
 2. the Council shall draw lots for five student names, one of whom will serve as an alternate to be available until the proceeding board has been constituted;
 3. no case shall be heard unless the full membership of the proceeding board is present;
 4. all cases will be heard de novo, whether the case be an appeal from a subsidiary judicial body or is heard as an original complaint.
- C. The Council Chair shall send written notice by certified mail of the proceeding to the student's last known address. The notice shall contain:
 1. a statement of the date, time, place and nature of the proceeding;
 2. to the extent known, a list of witnesses who will appear; and
 3. a summary description of any documentary or other physical evidence that would be presented by the University.
- D. The student shall have all authority possessed by the University to obtain information he/she specifically describes in writing and tenders to the Council Chair no later than two days prior to the proceeding or to request the presence of witnesses, or the production of other evidence relevant to the proceeding. However, the University shall not be liable for information requested by the student or the presence of any witnesses when circumstances beyond the control of the University prevent the obtaining of such information or the attendance of such witnesses at the proceeding.
- E. Proceedings will ordinarily be held in closed session unless the proceeding board determines there is a compelling reason for the proceeding to be open, or the student requests an open proceeding. A closed proceeding shall include only members of the proceeding board, persons directly involved in the proceeding as parties and persons called as witnesses.
- F. The proceeding shall be audio tape recorded, and the tape shall be on file at the office of the Vice President for a period of three years.
- G. The University shall be represented by the Vice President who shall present the University's case against the student.

- H. The student may be accompanied by counsel, or another third party, who may offer advice. If the student utilizes an attorney as advisor, the student must give the Vice President two days notice of intent to do so. If the student elects to be advised by an attorney, the Vice President may elect to have the University advised by an Assistant Attorney General.
- I. The Council Chair shall insure that:
1. the proceeding is held in an orderly manner giving full care that the rights of all parties to a full, fair and impartial proceeding are maintained;
 2. the charges and supporting evidence or testimony shall be presented first, and that there is full opportunity for the accused student to challenge the testimony and/or evidence, and to cross examine appropriately;
 3. the student charged shall next present evidence or testimony to refute the charge, and that there is full opportunity for the accuser to challenge testimony and/or evidence, and to cross examine appropriately; and
 4. only those materials and matters presented at the proceeding will be considered as evidence. The proceeding officer shall exclude incompetent, irrelevant, immaterial, and unduly repetitious evidence.
- J. Any person disruptive of the proceeding or any other procedure described in this document may be excluded from the process by the Chair of the Campus Judicial Council or by the Vice President using such means as are necessary to insure an orderly process. Any student engaging in such interference shall be in contempt and may be summarily suspended from the University by the Campus Judicial Council or the Vice President immediately. The student shall be subject to a suspension or any lesser sanction as may be determined by the Campus Judicial Council or the Vice President at the time the interference takes place or within fifteen (15) working days thereafter.
- K. The student has a right to a fair and impartial proceeding but the student's failure to cooperate with or attend a proceeding procedure shall not preclude the committee from making its finding of facts, conclusions, and recommendations. Failure by the student to cooperate may be taken into consideration by the Campus Judicial Council and the Vice President in deciding the appropriate disciplinary action.
- L. Upon conclusion of the proceeding, the proceeding board in closed session shall consider all the evidence presented and decide by majority vote to exonerate the student or to impose one of the sanctions authorized by this document.
- M. The student shall be provided with a copy of the board's findings of fact and conclusions regarding whether the student did violate any rule or rules of the Student Judicial Code and the board's decision as to the appropriate sanction to be imposed.
- N. If a student charged with misconduct under this Code has been charged with a crime for the same act or closely related acts by federal, state, or local authorities, or if it appears that such criminal charge is under consideration, the Campus Judicial Council may postpone action on the complaint until there has been a disposition of the criminal charge or of the consideration of filing such charge. However, prior to action by other agencies, the Council may proceed to hear and decide the case if in the judgment of the Council, the nature of the alleged misconduct and the circumstances surrounding it pose a serious risk

to the health or well-being of the student or other members of the University. If there is a determination of guilt by the Council and if the subsequent criminal proceedings result in a judgment of acquittal, the student may petition the Campus Judicial Council for a rehearing.

VII. Summary Suspension Proceedings

The Vice President may summarily suspend any student from the University pending investigation, action or prosecution of charges of an alleged proscribed conduct violation or violations, if the Vice President has reason to believe that the student's physical or emotional safety and well-being, or the safety and well-being of other University community members, or the protection of property requires such suspension.

- A. If the Vice President finds it necessary to exercise the authority to summarily suspend a student the Vice President shall:
 1. give to the student an oral or written notice of intent to determine if summary suspension is an appropriate action;
 2. give an oral or written notice of the alleged misconduct and violation(s) to the student;
 3. give an oral or written explanation of the evidence in support of the charge(s) to the student;
 4. give an oral or written notice of the time and place of the summary suspension proceeding before the Vice President;
 5. determine a time for the summary suspension proceeding to be held within 36 hours; and
 6. give an oral or written explanation of the summary suspension which may be imposed on the student.
- B. At the place and time designated for the summary suspension proceeding the Vice President shall:
 1. consider the evidence relating specifically to the probability of danger to the student, to others on the campus, or to property;
 2. provide the student with an opportunity to show why continued presence on campus does not constitute a danger to the physical and emotional well-being of self or others, or a danger to property;
 3. give immediate oral notice of the Vice President's decision to the student to be followed by written notice; and
 4. if summary suspension is warranted, summarily suspend the student for no more than 15 working days with a Judicial Council proceeding of the allegations to have commenced by the end of the suspension period.
- C. If a student has been instructed by the Vice President to appear for summary suspension proceedings and then fails to appear at the time designated, the Vice President may suspend the student from the University, and shall give written notice of suspension to the student at the student's last address of record on file with the University.
- D. During the period of summary suspension, the suspended student shall not enter the campus of the University other than to meet with the Vice President. However, the Vice President may grant the student special permission for the express purpose of meeting with faculty, staff, or students in preparation for a proceeding before the Campus Judicial Council.

VIII. Readmission After Suspension

Any student suspended from the University under the provisions of the Student Judicial Code may be readmitted upon expiration of the time period specified in the document of original suspension.

If circumstances warrant reconsideration of the suspension prior to its time of expiration, the student may be readmitted following approval of a written petition submitted to the Vice President. Such petitions must state reasons which either provide new evidence concerning the situation which resulted in the suspension, or demonstrate that earlier readmission is in the best interest of the student and the University. Approval for such readmission must be given by the Vice President or by the Campus Judicial Council.

Students who have been suspended and whose suspension upon appeal is found to have been unwarranted shall be provided full opportunity to reestablish their academic and student standing to the extent possible within the abilities of the University, including an opportunity to retake examinations or otherwise complete course offerings missed by reason of such action.

APPENDIX C

Academic Appeals

(Complete policy available in the office of the Vice President for Student Affairs.)

Academic grievances are defined as the following:

1. a claim by the student that an assigned grade is the result of arbitrary or capricious application of otherwise valid standards of academic evaluation; or
2. a claim by the student that the standards for evaluation are arbitrary or capricious; or
3. a claim by the student that the instructor has taken an arbitrary or capricious action which adversely affects the student's academic progress; or
4. a claim by the student that a University department, program, or office has made a decision not in keeping with University policy or taken an arbitrary, capricious, or discriminatory action which adversely affects the student's academic progress.

A student wishing to pursue an academic grievance must take the following steps to try to resolve the grievance prior to the filing of an official academic appeal:

1. the student shall first attempt to resolve the matter with the instructor;
2. if resolution is not achieved between the student and instructor, the student shall ask the department chair to resolve the grievance;
3. if resolution is not achieved at the department chair level, the chair shall forward a written summary to the dean of the school or college in a further effort to achieve resolution;
4. if resolution is not achieved at this point, the student may petition for a hearing before the Board of Academic Appeals. (An appointment should be made to meet with the Associate or Assistant Vice President for Student Affairs to obtain the necessary forms and information relative to filing the petition.)

APPENDIX D

Drug and Alcohol Policy POLICIES AND PROCEDURES

The University's policy regarding the possession and consumption of alcohol and other drugs on campus has been developed in keeping with Washington state law (see RCW and WAC). Members of the University community may review the current RCW and WAC at the University Library. The University Policy assumes that individuals of the University community have read, understood, and agree to abide by Washington state laws.

- A. Some of the laws you may wish to be familiar with are:
- RCW 66.44.270 - Furnishing Liquor to Minors - Possession and Use**
 - RCW 66.24.481 - Public Places and Clubs**
 - RCW 66.04..010 - Public Places**
 - RCW 66.44.100 - Opening or Consuming Liquor in Public Place Penalty**
 - RCW 66.44.150 - Buying Liquor Illegally**
 - RCW 66.44.291 - Minors Purchasing or Attempting to Purchase Liquor**
 - WAC 296-24-073 - Safe Place Standards**

Article IV offenses and penalties, RCW 69.50.401 thru 69.50.412, describes various penalties or sanctions that may occur if one is illegally involved with controlled substances. If convicted, sanctions range from 90 days in jail and a \$1,000 fine, a misdemeanor, to a class B felony, ranging from 10 years in jail to a \$20,000 fine. The sanctions in Washington state vary sometimes depending on amount of substance and whether it is the first or second offense. Sanctions related to alcohol or other drug offences in Washington state range from community hours possibly including a fine up to a class B felony charge. Further information is available at the CWU Library.

WAC 106-120-027 Proscribed Conduct. A student shall be subject to disciplinary action or sanction upon violation of any of the following conduct proscriptions:

- (14) Possession, use, or distribution on campus of any controlled substance as defined by the laws of the United States or the state of Washington except as expressly permitted by law.
- (15) Violation of the University policy on alcoholic beverages which states:
 - (a) Persons twenty-one years of age or older may possess and/or consume alcoholic beverages within the privacy of their residence hall rooms or apartments. Washington State law provides severe penalties for the possession or consumption of alcoholic beverages by persons under twenty-one years of age and for persons who furnish alcoholic beverages to minors. All University students should be aware of these laws and the possible consequences of violations.
 - (b) The University does not condone the consumption of alcoholic beverages by minors at functions sponsored by Central Washington University organizations. Organizations are held responsible for the conduct of their members at functions sponsored by the organization and for failure to comply with the Washington state law.

- (c) The Campus Judicial Council may place on probation any organization or prohibit a specific campus social function when the consumption of alcoholic beverages has become a problem of concern to the University.
- (16) Violation of clearly stated proscriptions in any published rule or regulation promulgated by any official campus committee or commission or council acting within the scope of its authority.
- (17) Violation on campus of any state or federal law or violation of any state or federal law off campus while participating in any University-sponsored activity.

Serving Alcoholic Beverages on Campus:

Clubs and organizations are encouraged not to involve alcoholic beverages in any club function. If they choose to do so, they are urged to consider the effects and the responsibility they assume in making such decisions. If the members of the club or organization choose to involve themselves with alcoholic beverages, they must comply with the specified liquor guidelines.

All groups and organizations sponsoring social events held on the CWU campus and all recognized University groups holding events off campus which involve the serving and consumption of alcoholic beverages are obliged to comply with the following procedures and guidelines:

1. All events will be staffed by one or more certified Social Attendant(s) who have completed the required training course provided by the Washington State Liquor Control Board. The number of Social Attendants for a given event will be determined and subsequently hired through the University Substance Abuse Prevention Program.
2. If alcoholic beverages are to be served at a social event, the sponsoring University group is required to provide nonalcoholic beverages as well. The variety of alcoholic and nonalcoholic beverages available to be served shall be equal. In addition, the sponsoring group is encouraged to also provide food at the social event, in keeping with the intent of a banquet permit. Provision for serving such nonalcoholic beverages must be outlined on the University permit.
3. Personal identification will be checked to verify age and to prevent minors from consuming alcoholic beverages; identification will include a picture of the individual. Individuals whose age cannot be verified by identification provided to the Social Attendant will not be served beverages containing alcohol. Acceptance or rejection of identification is within the discretion of the Social Attendant.
4. If it is determined by the Social Attendant that an individual has consumed too much alcohol, she/he will no longer be served beverages containing alcohol.
5. If an individual becomes verbally and/or physically abusive, the Social Attendant will do any or all of the following: a. Inform the coordinator of the event of the problem behavior; b. Call the Student Union Building Night Manager; c. Call Campus Security.
6. After the event, a written report will be completed by the Social Attendant which will describe any problems, concerns, or suggestions that pertain to the event. The report will be kept on file and reviewed if and when the sponsoring organization subsequently requests University space for social functions involving alcohol consumption. Documentation of problems or violations at previous social events may result in the group not being allowed an alcohol use permit in the future. In addition, any areas of concern will be provided, in writing, to the sponsoring

organization after the event. A copy of this and any subsequent communication will be kept on file in the University Substance Abuse Prevention Program Office.

7. Sponsoring organizations should be aware of the consequences of failure to comply with the policy regarding the serving and consumption of alcoholic beverages. The individuals responsible for the event will be held accountable under all Washington State laws. Other possible consequences include, but are not limited to:
 - a. Sponsoring clubs and organizations may lose recognition as official University clubs and organizations.
 - b. Visiting groups may not be allowed to use University facilities in the future.
 - c. Other University groups may not be issued alcohol use permits in the future.

Advertisement

There will be no marketing or advertising of alcoholic beverages on the Central Washington University campus, except as allowed by state law. The University name will not be associated with the advertising of alcoholic beverages.

STUDENT ASSISTANCE AND INTERVENTION PROGRAMS

General Student Assistance

In order to promote the health and well-being of our student population, the University employs a Student Assistance Program (SAP) when dealing with student alcohol and other drug-abuse problems. Any student may take advantage of the SAP through self-referral or referral by other students, staff, or faculty.

The Student Assistance Program can assess the seriousness of a substance abuse problem, identify healthy alternatives for dealing with a problem, and make referrals to the appropriate services and/or treatment programs. The SAP also helps in the development of needed interventions with students, staff, and faculty. The SAP also coordinates case management/follow-up services for those in recovery and/or recently completing substance abuse treatment.

Behavioral Problems

When student behavioral problems associated with alcohol and other drug abuse occur, the University employs a team problem-solving approach. The Director of Housing, Director of Residence Living, and the Chief of Campus Police join the Assistant and Associate Vice Presidents for Student Affairs weekly to review Residence Living Incident Reports filed by Living Group Advisors (LGA's) and Managers, as well as Campus Police Reports which cover both on- and off-campus students. This problem-solving team then deals with student behavioral problems generally violative of the conduct proscriptions contained with the CWU Student Judicial Code (WAC 106-120). It has been found that alcohol and other drug abuse is involved in the majority of student behavioral problems. The problem-solving team works together to suggest intervention strategies which are considered to be the most appropriate and effective for eliminating specific negative student behaviors, especially those related to substance abuse. The team may suggest one of the following forms of intervention: (1) a meeting with members of the Residence Living student staff; (2) a meeting with one of the Residence Living or Housing Administrative staff; or (3) a meeting

with the Prevention Program Coordinator or other full-time, appropriate staff members.

Official hearings in the Vice President's Office are conducted when it becomes apparent to the problem-solving team that the initial and more informal forms of intervention with a student have been unsuccessful in positively modifying a student's behavior.

Sanctions

Official University action will be taken when violation of state law or University policy regarding alcohol and other illicit drugs occur. Repeated violations carry more significant consequences. The Vice President's Office may include in the sanction mandated contact with the Prevention Coordinator and/or direct referral for assessment through the Alcohol Drug Dependency Service (ADDS) in Kittitas County. If alcohol or other drug abuse is a related factor in the violation of other proscribed conduct the same mandate may be considered appropriate.

Following are the sanctions available as they appear in the CWU Student Judicial Code:

1. **Warning.** Notice in writing that the student has violated University rules or regulations or has otherwise failed to meet the University's standard of conduct. Such warning will contain the statement that continuation or repetition of the specific conduct involved or other misconduct will normally result in one of the more serious disciplinary actions described below.
2. **Disciplinary Probation.** Formal action specifying the conditions under which a student may continue to be a student at the University including limitation of specified activities, movement, or presence on the CWU campus. The conditions specified may be in effect for a period of time or for the duration of the student's attendance at the University.
3. **Restitution.** An individual may be required to make restitution for damage or loss to University or other property and for injury to persons. Failure to make restitution will result in suspension for an indefinite period of time as set forth in subsection (4) below provided that a student may be reinstated upon payment.
4. **Suspension.** Dismissal from the University and from status as a student for a stated period. The notice suspending the student will state in writing the term of the suspension and any condition(s) that must be met before readmission is granted. The student so suspended must demonstrate that the conditions for readmission have been met. There is to be no refund of fees for the quarter in which the action is taken, but fees paid in advance for a subsequent quarter are to be refunded.
5. **Deferred Suspension.** Notice of suspension from the University with the provision that the student may remain enrolled contingent on meeting a specified condition. Not meeting the contingency shall immediately invoke the suspension for the period of time and under the conditions originally imposed.
6. **Expulsion.** The surrender of all rights and privileges of membership in the University community and exclusion from the campus without any possibility for return.

The Vice President's Office may invoke a Summary Suspension of any student from the University pending investigation, action or prosecution of charges of an alleged violation of proscribed conduct when there is reason to believe that their physical or emotional safety and well-being or the safety and well-being of other University community members, or the protection of property requires such suspension.

When chronic alcohol or other drug use is involved, as is often the case when a student has been suspended or suspension is imminent, re-entry after a period of suspension or continuation in school on a deferred suspension may be contingent upon the student successfully completing an appropriate treatment program. The specific treatment would be recommended by the Coordinator of the CWU Substance Abuse Program and/or by members of the staff of ADDS. Generally, documentation from treatment counselors or program directors confirming successful completion of treatment and a positive prognosis for recovery are required for reinstatement or continuation in school.

POLICY IMPLEMENTATION AND APPLICATION

This policy applies to all members of the Central Washington University community at all events sponsored by the University and/or held in any University facility.

HEALTH HAZARDS AND REFERRAL SOURCES

In keeping with the Drug Free Schools and Counties Act, the University would like to provide you with the following information.

Alcohol Can be Hazardous to Your Health

- **Mouth and Esophagus** - Alcohol irritates the delicate lining of the throat and esophagus. That's why it causes a burning sensation as it goes down.
- **Liver** - Alcohol inflames and destroys the cells of the liver. This condition prevents bile from being properly filtered through the liver. Jaundice develops, turning the whites of the eyes and the skin yellow.
- **Brain** - The most dramatic and noticed effect alcohol has is on the brain. It produces lack of coordination, confusion, disorientation, stupor, anesthesia, coma, and finally death.

Marijuana and Other Illegal Drugs Can be Hazardous to Your Health

- **Eyes and Skin** - Marijuana smokers may have inflamed, watery eyes, and develop wrinkled skin due to irritants present in smoke. Cocaine users have increased sensitivity to light, blurred vision, see "floaters", have double vision or image distortion.
- **Heart** - Smoking one marijuana joint may cause increases in heart rate and blood pressure by as much as 50 percent. Cocaine increases heart rate, and causes arteries to constrict. Restricted blood flow to the heart may cause a heart attack.

- Brain and Central Nervous System (CNS) - Marijuana use causes the synaptic cleft to enlarge which may result in impairment of speech, comprehension, memory, and sleep. Cocaine stimulates the CNS, causing restlessness, tremors, and convulsions. Cocaine also alters normal electrical activity of the brain which can result in seizures or convulsions similar to epilepsy.

RESOURCES

On Campus

1. Drug Abuse Prevention Program Education and Referral (D.A.P.P.E.R.) 963-3213
2. Student Counseling Center 963-1391
3. Community Psychological Services 963-2501

Off Campus

1. Alcohol Drug Dependency Services (ADDS) 925-9821
2. Central Washington Comprehensive Mental Health 925-9861
3. Washington State Employee Advisory Program (206) 456-5000 SCAN 545-5000
4. Alcoholics Anonymous — ALANO Club 925-2494
5. Crisis Line 925-4168

National Hotlines

- 1-800-COCAINE
- 1-800-662-HELP — Directs callers to cocaine abuse treatment
- 1-800-241-9746 — National Drug Abuse Hotline

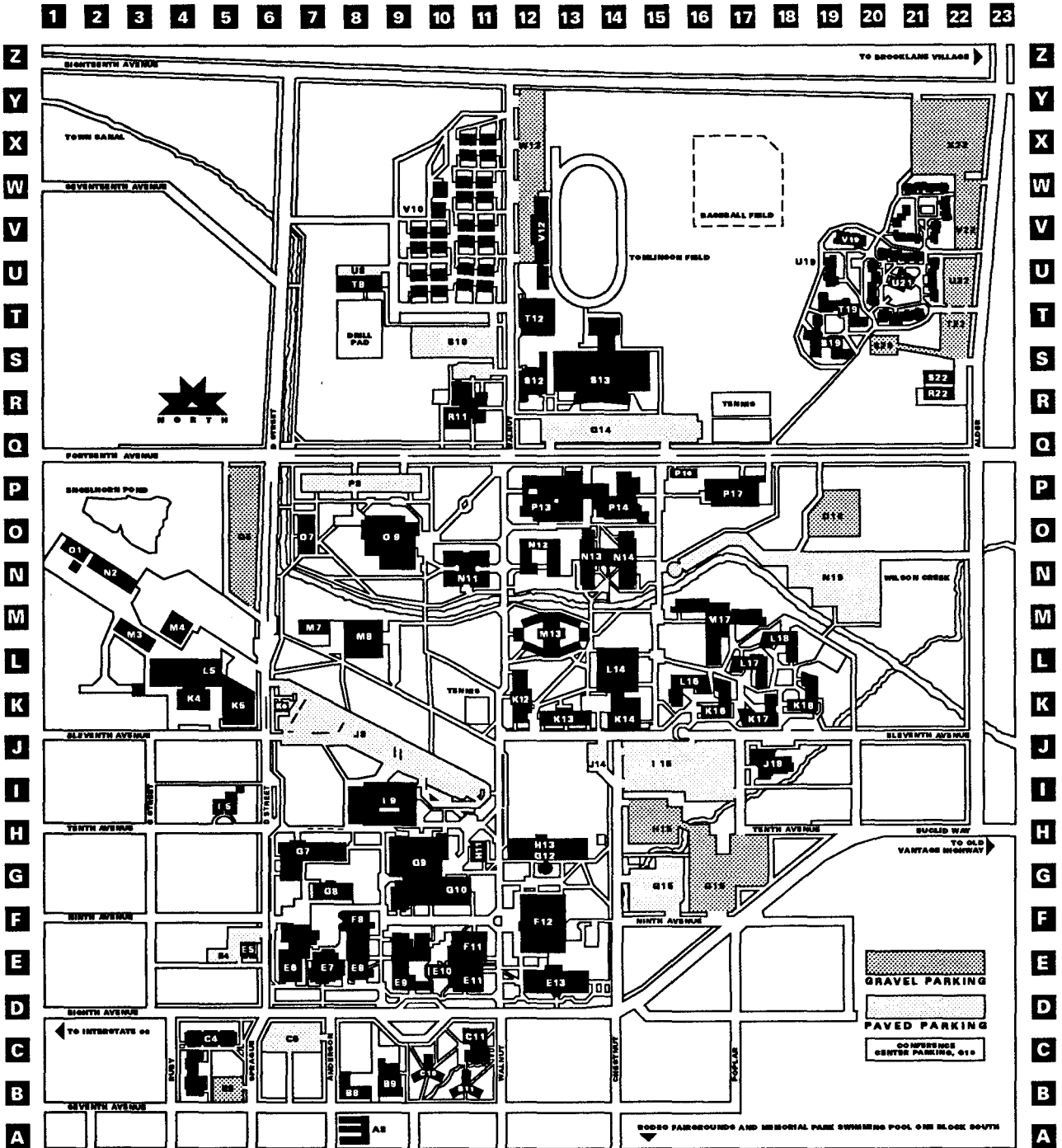
INDEX

AFROTC.....	51	Board of Academic Appeals.....	34
Abstract, Graduate.....	233	Board of Trustees.....	281
ACADEMIC APPEALS.....	34	Botany.....	65
Academic Advising.....	29	Breakage Fee.....	21
Academic Complaints.....	307	Business and Economics, School of.....	40
Academic Credits.....	29	Business Administration.....	70
Academic Probation.....	32	Business Administration, Graduate.....	242
Academic Forgiveness.....	33	Business Education & Administrative Management.....	77
Academic Skills Center.....	10	Business Education & Administrative Management, Graduate.....	242
Academic Standards.....	32	Calendar.....	6
Academic Suspension.....	32	Campus Map.....	315
Access Program.....	14	Campus Visit.....	26
Accident Insurance, Student's.....	21	Candidacy, Graduate.....	234
Accounting.....	49	Career Planning and Placement.....	14
Accreditation.....	10	Catalog Choice.....	30
Administrative Office Management.....	79	Central Washington Archaeological Survey.....	10
Administration.....	281	Central Washington University Library.....	11
Admission Decision.....	25	Certification and Fifth Year Office.....	225
Admission, Graduate.....	227	Certificates.....	47
Admission, Undergraduate.....	23	Certificate Programs.....	47, 226, 235
Admission to Teacher Education.....	41	Certificates in Teacher Education.....	43
Advanced Placement.....	27	Chemistry.....	83
Advisement.....	29	Chemistry, Graduate.....	244
Aerospace Studies.....	51	Class Attendance.....	33
Affirmative Action Program.....	10, 299	Classification of Students.....	29
Allied Health Sciences.....	65	Clothing and Textiles.....	150
Allied Health, Graduate.....	237	College of Letters, Arts and Sciences.....	39
Alternative Admission Procedures.....	25	College Level Examination Program (CLEP).....	28
Anthropology and Museum of Man.....	53	Communication.....	86
Anthropology, Graduate.....	237	Communication, Graduate.....	245
Appendixes.....	299-310	Community Health.....	193
Application to Major Requirement.....	34	Complaints.....	304
Application for Study, Graduate.....	227	Computer Science.....	91
Applied Economics.....	100	Computer Science, Graduate.....	245
Archival Services.....	10	Concurrent Degrees.....	36
Art.....	57	Concurrent Enrollment.....	30
Art, Graduate.....	237	Construction Management Technology.....	153
Assessment Activities.....	34	Consumer Studies.....	145
Asian Studies.....	63	Continuing Certificate.....	43
Associated Students of Central.....	15	Continuous Registration, Graduate.....	232
Athletic Participation.....	33	Cooperative Education Program.....	11
Audit Fee.....	21	Counseling, Graduate.....	245
Auditing Courses.....	30	Counseling Center.....	16
Bachelor's Degree Requirements.....	35	Course Challenge List.....	34
B.A. in Education Degree Requirements.....	42	Course of Study, Graduate.....	232
B.A. in Education Approved Concentrations.....	42	Course Withdrawal.....	30
B.A. in Education Recommendations.....	42	Courses, Numbering of.....	29
Basic and Breadth Requirements.....	37	Courses, Repetition of.....	32
Bilingual Intercultural Program.....	108	Credit, Acceptance of.....	27
Biological Sciences.....	63	Credit, by Advanced Placement.....	27
Biological Sciences, Graduate.....	240		

Credit by Examination	33	Fee Refunds	20
Credit, Definition of.....	28	Fee Schedule, Graduate	19
Credit, Evaluation.....	28	Fee Schedule, Undergraduate.....	19
Credit for Community College Courses.....	28	Fifth Year Program	225
Credit for Industrial Experience.....	34	Final Evaluation, Graduate	233
Credit for Military Service.....	28	Final Examination, Graduate	234
Credit/No Credit Limit	32	Financial Aid for Students.....	14
Credit/No Credit Option	32	Financial Obligation	21
Deadlines for Financial Aid.....	15	Fitness and Sports Management.....	186
Degree Fee.....	21	Flight Technology Program.....	123
Degrees Offered	45-47	Food and Nutrition.....	146
Degree Programs, Graduate.....	225	Foreign Graduate Students	227
Degree Programs, Undergraduate.....	45-47	Foreign Languages	128
Disabled Student Services	14	Foreign Languages, Graduate.....	257
Distinguished Professor Awards.....	286	Foreign Language Requirement	35
Divisions of Instruction.....	39	Foreign Students	25
Douglas Honors College.....	96	Former Students, Readmission	24
Drama	97	French	128
Drama, Graduate	245	Freshman Students	23
Driver Education.....	207	General Business	71
Drug and Alcohol Program.....	14, 307	General Economics	101
Early Childhood Education	109	General Education Program.....	37
Earth Sciences	138	General Master's Degree Regulations.....	231
Economics	100	Geographic Information Systems Laboratory	11
Economics, Graduate.....	246	Geography and Land Studies	132
Education	105	Geography and Land Studies, Graduate.....	258
Education, Graduate.....	246	Geology	137
Electronics Engineering Technology.....	155	Geology, Graduate.....	258
Elementary Education	108	German.....	128
Emeritus Faculty	283	Gerontology.....	140
Employment, Part-Time.....	16	Grade Appeal	32
Energy Studies.....	116	Grade Changes, Limitations.....	32
English.....	117	Grade Point Average.....	32
English As A Second Language.....	12	Grade Point Requirements	32
English, Graduate	255	Grade Reports.....	32
Entrance Examinations	23	Grading System.....	31
Environmental Studies.....	121	Graduate Admissions and Records.....	225
Ethnic Studies.....	122	Graduate Appeal Procedure	307
Evaluation Fee.....	21	Graduate Committee.....	232
Evaluation Credit.....	24	Graduate Council.....	232
Executive Offices.....	281	Graduate Council Faculty Members.....	232
Expenses	21	Graduate Degrees	225
Exploratory Studies	122	Graduate Level Credit.....	231
Extended Degree Programs.....	12	Graduate Office Hours.....	225
Extension, Graduate	232	Graduate Programs and Courses	237
Faculty	288	Graduate Record Examination.....	227
Faculty Research Committee Members, Graduate.....	232	Graduate Studies and Research Office	225
Family and Consumer Studies.....	145	Graduate Student Definition.....	225
Family Studies.....	145	Graduate Student Service Appointments	228
Fashion Merchandising.....	122	Graduate Studies.....	225
Fees and Tuition.....	19	Graduation Application.....	35
Fees, Miscellaneous	21	Graduation Requirements	35
		Graduation With Distinction.....	35
		Graphic Design Major	58

Health Education	192	Mass Communication	87
Health and Accident Insurance	21	Master's Credit Required	231
Health Services	16	Master's Degrees	225
High School Students, University Classes for	24	Master's, Second	234
History	141	Master's Thesis Binding Fee	21
History, Graduate	258	Mathematics	167
History of University	9	Mathematics, Graduate	263
Home Economics, Family and Consumer Studies	145	Mechanical Engineering Technology	156
Home Economics, Family and Consumer Studies, Graduate	259	Medical Technology	171
Honor Roll	32	Military Science	171
Honor Societies	13	Military Service, Credit for	28
Honors College	96	Minority Retention Program	15
Housing and Interiors	151	Miscellaneous Fee Schedule	21
Housing	16	Mission and Roles	9
Humanities	152	Music	174
Individual Studies	152	Music, Graduate	265
Individual Studies, Graduate	261	Non-Degree Study	24
Industrial Distribution Technology	154	Non-Matriculated Students	24
Industrial and Engineering Technology	152	Non-Resident Status	20
Industrial and Engineering Technology, Graduate	262	Observer, The	16
Industrial Education	157, 158	Off-Campus Programs Extended Degree	12
Industrial Electronics Technology	154	On-Leave Fee, Graduate	232
Industrial Experience, Credit for	28	Operations Management & Information Systems	72
Information Resources	11	Organization Development	269
Initial Certificate	43	Organization Development Center	13
Intention to Register	25	Orientation	29
International Baccalaureate	26	Overload	30
International Business	71	Paramedic, Major	187
International Programs	13, 163	Parking	21
International Students	25	Part-Time Student Fees	19
International Studies Fee	21	Philosophy	182
Journalism	87	Philosophy, Graduate	270
Land Studies Program	164	Physical Education	185
Language Arts, Elementary Teacher	118	Physical Education, Health Education & Leisure Services, Graduate	270
Latin American Studies	163	Physics	199
Law and Justice Program	164	Political Science	201
Leisure Services	195	Political Science, Graduate	273
Letters, Arts and Sciences, College of	39	Post-Baccalaureate Certification	228
Library	11, 263	Preprofessional Advising	29
Loan, Student Undergraduate	30	Preprofessional Programs	216
Load, Student, Graduate	232	Pre-Dental Hygiene	217
Loss Control Management	208	Pre-Dentistry	217
Management and Organization	71	Pre-Dietetics	217
Manufacturing Engineering Technology	155	Pre-Engineering	217
Map, Campus	315	Pre-Law	217
Marketing Education	78	Pre-Occupational Therapy	217
Marketing Education, Graduate	242	Pre-Optometry	217
Marketing Management	72	Pre-Payment	25
Marketing and Point System	31	Pre-Pharmacy	217
Married Student Housing	16	Pre-Physical Therapy	217
		Pre-Veterinary	217

Principal's Credentials	235, 247	Speech Communication	86
Probation, Academic	32	Student Accident Insurance	21
Professional, Required Courses for M.Ed.	233	Student Activities	15
Professional Studies, School of	41	Student Counseling Program	16
Programs and Courses	45	Student Employment	16
Programs of Graduate Study	225	Student Housing	16
Provisional Enrollment	24	Student-In-Training (Liability) Insurance	21
Psychology	203	Student (Off-Campus) Additional Information	12
Psychology, Graduate	273	Student Living	15
Publications, Student	16	Student Load	30
Public Relations	87	Student Records Policy	301
Quarter Hour Credit	29	Student Rights and Responsibilities	301
Questionnaire, Graduate	233	Student Services	14
Radio Station, KCAT	16	Summer Session	13
Readmission	24	Supply and Equipment Fees	21
Referral Sources	309	Suspension, Academic	32
Refunds	20	Teacher Preparation Program	41
Registration	29	Teacher Experience, Graduate	233
Religious Studies Program	182	Testing and Evaluation	13
Repetition of Courses	32	Theatre and Drama	97
Requirements for Graduation	35	Thesis	233
Residence Living, Office of	15	Thesis Binding Fee	21
Residence Requirement Master's	233	Thesis Options	233
Residence Study Requirement	35	Thesis Regulations	233
Resource Management	278	Time Limitations, Graduate	232
Retail Management	80	Transfer Credits	27
Safety Center, Central	10	Transfer Credits Major/Minor	28
Safety Education	207	Transfer Students	24
Samuelson Union Building	15	Trustees	281
Scholarships	15	Tuition and Fees	19
Scholastic Standards	32	Tuition Refund Schedule	20
School of Business and Economics	40	Undergraduate Curricula	45-47
School of Graduate Studies	40	Undergraduate Degrees	45-47
School Health Education	193	University Personnel	281
School of Professional Studies	41	Upper Division Requirements	35
Science Education	209	Veterans Affairs	13
Science Education, Graduate	279	Vocational-Technical Program	156
Second Bachelor's	36	William O. Douglas Honors College	96
Second Degree	36	Withdrawal from University	31
Second Master's	234	Withdrawal from Courses	30
Seniors in Graduate Courses	30	Withdrawal From the University Due to Military Exigency	31
Social Science	210	Women's Resource Center	17
Social Science, Graduate	280	Women Studies	216
Social Services Major	213	Workshops, Graduate	232
Sociology	211	Zoology	65
Sociology, Graduate	280		
Spanish	128		
Special Education	109		
Special Rules	38		



- | | | | | |
|-------------------------------|--------------------------------|-------------------------------|------------------------------|--------------------------------|
| ALFORD MONTGOMERY HALL, S19 | CENTRAL RECEIVING, L5 | HERTZ MUSIC HALL, I9 | MOORE HALL, N13 | SHAW/SMYSER HALL, E6 |
| ANDERSON APARTMENTS, N14 | COMPUTER CENTER, H11 | HITCHCOCK HALL, K16 | MUNSON RETREAT CENTER, C11 | SPARKS HALL, L17 |
| AUX. SERVICES MAINTENANCE, B9 | COURSON CONFERENCE CENTER, C10 | HOGUE TECHNOLOGY BLDG, P17 | MUZZALL HALL, B11 | SPECIAL SERVICES BUILDING, N12 |
| AUX. SERVICES WAREHOUSE, S22 | DAVIES HALL, K18 | HOLMES DINING HALL, L14 | NICHOLSON PAVILION, S13 | STADIUM, V12 |
| BARGE HALL, E7 | DEAN SCIENCE BUILDING, M8 | JONGEWARD PLANT SERVICES, K4 | NORTH HALL, K12 | STEPHENS-WHITNEY HALL, M13 |
| BARTO HALL, M17 | DEPOT DELI, V19 | KAMOLA HALL, E9 | PETERSON HALL, T8 | STUDENT VILLAGE APTS, U21 |
| BECK HALL, L16 | FARRELL HALL, O7 | KENNEDY HALL, U19 | PHYSICAL EDUCATION BLDG, S12 | SUE LOMBARD HALL, E11 |
| BLACK HALL, H13 | FOOD FACILITIES WAREHOUSE, K14 | LANGUAGE AND LITERATURE, N11 | PHYSICAL PLANT WAREHOUSE, K5 | SURPLUS PROPERTY, O1 |
| BOTANY GREENHOUSE, M7 | GETZ-SHORT APARTMENTS, C4 | LIBRARY, O9 | POWER TECHNOLOGY LAB, R22 | SWIMMING POOL, T12 |
| BOUILLON HALL, F12 | GREEN HALL, V19 | LIND HALL, E13 | PRESIDENT'S RESIDENCE, I5 | TELECOMMUNICATIONS, K8 |
| BROOKLANE VILLAGE, Z20 | GROUNDS SHOP, M3 | LOMBARD ROOM, E10 | PSYCHOLOGY BUILDING, R11 | TOWER THEATER, F8 |
| BROOKLANE VILLAGE MGR, Z20 | GROUNDS STORAGE, M3 | MAIL / DUPLICATING CENTER, B8 | QUIGLEY HALL, L16 | TUNSTALL-COMMONS, F11 |
| BUTTONS APARTMENTS, E5 | GRUPE CONFERENCE CENTER, G12 | McCONNELL AUDITORIUM, E8 | RANDALL HALL, P13 | UNIVERSITY POLICE, K4 |
| CAMPUS COURTS APARTMENTS, A8 | HEALTH CENTER, J18 | MEISNER HALL, K17 | RECREATION CENTER, P16 | UNIVERSITY STORE, G10 |
| CARMODY-MUNRO HALL, T19 | HEATING/COOLING PLANT, M4 | MICHAELSEN HALL, P14 | SAMUELSON UNION BUILDING, G9 | WAHLE APARTMENTS, V10 |
| CENTRAL STORES, L5 | HEBELER HALL, G7 | MITCHELL HALL, G8 | SARAH SPURGEON GALLERY, P13 | WILSON HALL, K13 |



Central Washington University
1991-93 UNDERGRADUATE,
GRADUATE CATALOG

The university catalog is prepared by the offices of the dean of undergraduate studies, the dean of graduate studies and research and university relations. Copies of the catalog may be obtained from the University Store, CWU, Ellensburg, Washington 98926.

This catalog and its contents shall not constitute a contract between Central Washington University and prospective or enrolled students.

The information contained in this catalog reflects the current policies and regulations of the university. However, the university reserves the right to make changes in its policies and regulations at any time. Accordingly, if policies or regulations of the university at any time conflict with information contained in the catalog, the policies and regulations will govern, unless expressly determined otherwise by the board of trustees.

Designed by
IMC Media Development

Central Washington University
Volume 10 • Number 2 • June 1991

Issued two times a year by
Central Washington University
Ellensburg, Washington 98926
(USPS 452-220)
Second Class Postage paid at
Ellensburg, Washington Post Office 98926
Postmaster: Send Address Changes to
Director, Admissions Office,
Ellensburg, Washington 98926
