DEPARTMENT AND COURSE INFORMATION

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 available on-line in Safari which can be accessed through the CWU home page at www.cwu.edu. A registration handbook is available at Registrar Services or your university center office. This book will assist you in navigating through Safari.

ACCOUNTING

Faculty Chair: Jay D. Forsyth

Shaw-Smyser 340

Professors

Jay D. Forsyth (SeaTac)
Norman J. Gierlasinski (SeaTac)
Gary W. Heesacker (Ellensburg)
Robert E. Holtfreter (Ellensburg)
Karen D. Martins (Ellensburg)
Allen C. Vautier (Lynnwood)

Associate Professor:

MaryAnne Atkinson (Lynnwood)
Ronald R. Tidd (Ellensburg)

Assistant Professors

Joseph Bradley (Ellensburg)
Michael Ruble (Lynnwood)

Lecturer

John Lasik (SeaTac)
Frederick McDonald (Ellensburg)

General Information

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 major 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 obtaining a degree and 225 total credits, or completing the MPA at Central Washington University, are qualified to sit for the Certified Public Accountant examination. State law requires individuals wishing to sit for the CPA examination to have completed (1) a minimum of 36 quarter credits of study in accounting, and (2) a minimum of 36 quarter credits in related business courses. Registration for the examination is made through the State Board of Accountancy, Olympia, Washington. After June 30, 2000, 225 quarter credits will also be required to sit for the CPA exam. 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 College of Business. Upper division (300-400 level) courses may be transferred toward meeting the major requirements only with the approval of the Department Chair and the College Dean or designee. Transfer students must earn at least 45 credits at CWU.

Service to Other Majors

Students majoring outside the College of Business who are required to take courses in this College 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-college majors wishing to enroll in courses.

Bachelor of Science

Accounting Major (1000)

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

Admission Requirements

Students must apply and be admitted to the major prior to beginning 300-400 level courses in the College of Business. 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 transcripts that reflect all prior college work. Admission shall be based on grades earned in the following courses.

Pre-admission Requirements Credits

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ACCT 251, Accounting I</td>
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<td>ACCT 252, Accounting II</td>
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<td>ACCT 495, ACCT 484**</td>
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<td>ACCT 485, ACCT 489, BUS 341</td>
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*May not be used as an elective if taken in place of MIS 386.
**ACCT 484, if taken, should be completed no later than fall of senior year.
Additio nal Graduation Requirements

In addition to the University grade-point average requirements that apply to all CWU major programs, the Department requires a cumulative grade-point average of at least 2.0 in upper-division accounting courses completed at CWU.

Students must complete a minimum of 90 quarter credits of non-business courses, which may include up to 13.5 quarter credits of economics and 9 quarter credits of business statistics. For the remaining non-business credits, courses include all others EXCEPT FOR those with prefixes of ACCT, BUS, ECON, FIN, HRM, MGT, MKT, MIS and OSC.

Transfer students must complete at least 43 CWU business credits to be eligible for the accounting degree.

Accounting Courses


ACCT 252. Accounting II (5). Prerequisite, ACCT 251. Accounting for investing and financing activities. Evaluating firm performance.

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 305. Cost Accounting (5). Prerequisite, ACCT 252. Economics of cost accounting; industrial analysis, production control through costs, types of cost systems, and burden application.

ACCT 346. Income Tax Accounting I (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 350. Intermediate Accounting I (5). Prerequisite, ACCT 252. Theory underlying the presentation of current and fixed assets, liabilities, and net worth.


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

ACCT 405. Advanced Cost Accounting (5). Prerequisite, ACCT 350. 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. Students 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. Students 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. Income Tax Accounting II (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. Accounting theory and practice for business combinations and consolidated financial statements, foreign currency transactions and translation, partnerships; also federal bankruptcy, trust and estates.

ACCT 455. Accounting Information Systems (5). Prerequisites: ACCT 252, and admission to accounting major or permission. Accounting information system development process and related information systems technologies. Includes the application, control, and audit of accounting information systems.

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 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 475. International Accounting (5). Prerequisite, ACCT 351. Explores the formulation and application of accounting principles in other industrialized countries. Particular emphasis directed toward the harmonization of accounting principles between the U.S. and other countries.

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 485. 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. Seminar format. Formerly ACCT 489.1. Student may not receive credit for both.

ACCT 489. Managerial Controllership (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 (1-12). 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 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 496. Individual Study (1-6). Prerequisite, permission of instructor.

ACCT 498. Special Topics (1-6).

ACCT 499. Seminar (1-5).

Undergraduate Courses/Programs on Reserve

The following courses are on reserve and may be offered subject to program needs:
The AFROTC curriculum offers four-year, considering a potential officer commissioning commissioned and enter active duty in one of several exciting career fields. The Air Force is Although freshman and sophomore classes are candidates in under-represented groups such as African Americans, Hispanics, Native Americans, and women.

AEROSPACE STUDIES (AFROTC)

Faculty
Chair: William M. Major, Lt. Colonel, USAF
Peterson Hall 203

Assistant Professors
Kirk P. Bunch, Major, USAF
Rob G. Gleshorn, Captain, USAF

General Departmental Information
The United States Air Force Reserve Officer Training Corps (AFROTC), represented at CWU by Detachment 895 and the 895th Cadet Wing, prepares students to be commissioned as second lieutenants in the U.S. Air Force. Although freshman and sophomore classes are open to all CWU students, the following information is provided primarily for students considering a potential officer commissioning program. Students from any academic major degree program are eligible. Upon award of the baccalaureate degree and successfully completing all other qualifications to become a commissioned officer, graduates are commissioned and enter active duty in one of several exciting career fields. The Air Force is also actively seeking qualified officer candidates in under-represented groups such as African Americans, Hispanics, Native Americans, and women.

AFROTC courses are accredited, and may be taken as an academic minor or as free electives. The AFROTC curriculum offers four-year, three-year, and two-year programs. The freshman and sophomore courses comprise the General Military Course (GMC) portion of the curriculum. The GMC is introductory and developmental in nature, and is designed to motivate and prepare cadets for entry into the advanced portion of the curriculum. GMC students meet once a week for a one-hour academic class, attend a weekly two-hour leadership laboratory and participate in the AFROTC Physical Fitness Program.

The junior and senior courses comprise the Professional Officer Course (POC), which is designed to prepare cadets to assume responsibilities as commissioned officers in the U.S. Air Force. POC classes meet three hours a week, and again there is an accompanying weekly two-hour leadership laboratory. POC cadets also participate in the AFROTC Physical Fitness Program. It is mandatory that the full two-year POC be completed, even though degree requirements may be met earlier. Graduate studies or a second Bachelor's degree may be allowed to meet this two-year POC requirement.

Another program requirement before entering the POC is participation in summer field training at an Air Force base. Students who have completed the first two years (GMC) of the four-year program, or those with the required amount of prior enlisted service, attend a four-week training camp. Students who did not complete the entire GMC sequence and want to enter the POC (two-year program) attend a six-week summer training camp if qualified.

Enrollment. Enrollment in the freshman and sophomore classes (AFRO 100 and 200 series) creates no obligation to the Air Force. Although enrollment in the fall quarter of the freshman year is necessary to complete the full GMC sequence, enrollment during any of the freshman or sophomore quarters is accepted and will provide an introduction to the program and to the opportunities afforded an Air Force officer. Students are eligible to enroll in the POC beginning the junior year only after successfully passing the Air Force Officer Qualifying Test (AFOQT), a medical examination, the physical fitness test and summer field training.

Scholarship and Financial Assistance. Air Force ROTC competitive merit scholarships are available and awarded to both non-technical and technical majors. An AFROTC scholarship will normally cover tuition, fees, and books. Those who have never been a full-time college student may apply for a 4-year AFROTC scholarship.

College freshmen and sophomores may apply for a 3-year and 2-year scholarship, respectively. All junior and senior cadets in good standing receive a monthly stipend, separate from any scholarships. Stop by Peterson Hall, Room 203, or call 963-2314 for the latest scholarship information.

Aerospace Studies Minor (1160)

Required Courses Credits
AFRO 301, Air Force Leadership Studies . . . . . 3
AFRO 302, Air Force Leadership Studies . . . . . 3
AFRO 303, Air Force Leadership Studies . . . . 3
AFRO 401, National Security Affairs and Preparation for Active Duty . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ..
General Departmental Information

Anthropology presents an integrated perspective on the cultural and biological nature of humans. Anthropologists study present and past human diversity through classroom, laboratory, and field studies in cultural and biological anthropology, including archaeology, linguistics, ethnology, and applied anthropology.

Classes at the introductory (100-level) include a general survey of the field and major subfields. Intermediate (300-level) classes focus on selected subfields; upper-division standing or relevant lower division anthropology courses are desirable. Advanced (400-level) classes generally assume completion of at least three of the core requirement classes, plus 15 credits in Anthropology. However, prerequisite requirements may be waived with permission of the instructor, or for variable credit classes (490, 491, 496, 498).

Students interested in major and minor programs should contact the department office as soon as possible for further information, application forms, and assignment of an advisor. Anthropology majors are expected to meet with their advisors at least once a quarter.

Special Programs

Reflecting the broad nature of anthropological study, the Department directly sponsors or is affiliated with a wide range of on- and off-campus options to broaden classroom experiences. Further information about the following programs is available through the Anthropology Department office:
- Museum Studies Program, offering coursework, field experiences and projects with local and regional museums
- Central Washington Archaeological Survey (CWAS), a service, research and public information facility with special emphasis in the Northwest
- Primate Behavior and Ecology Bachelor of Science, an interdisciplinary program providing undergraduate training in method and theory of primatology as basis for research, laboratory and field experience
- Resource Management M.S. program, offering an integrated program in natural and cultural resource management, including anthropology classes in cultural resource management and historic preservation
- Macintosh and PC computer labs housed in Farrell Hall
- Center for Spatial Information, providing a range of Geographic Information System (GIS) tools for analysis of social and natural science data
- Summer workshops and field schools, recently including archaeology in Mount Rainier National Park, primate studies in Bali (Indonesia), archaeology and ethnology in Barbados, workshops in Forensic Anthropology
- Study Abroad opportunities coordinated through the CWU Office of International Study and Programs
- Departmental Honors Program encourages individualized research and study in a sub-area of Anthropology. It is open to junior and senior students with Anthropology major GPA of 3.00 or better
- Anthropology Student Association, an active student group which sponsors academic and social events related to the discipline.

Anthropology Core Requirements Credits
ANTH 110, Introduction to Biological Anthropology ............................. 5
ANTH 110LAB, Biological Anthropology Laboratory .................................. 5
ANTH 120, Introduction to Archaeology ................................................... 5
ANTH 130, Introduction to Cultural Anthropology ...................................... 5
ANTH 180, Introduction to Linguistics ....................................................... 5
ANTH 301, Principles and Assessment ..................................................... 2

Anthropology Core Total .......................... 23

Bachelor of Science

Anthropology Major (1300)

This major is strongly recommended for students seeking graduate work in anthropology or preparing for careers in closely related fields. Electives are chosen in consultation with the advisor to lead into specialization in areas such as: ethnology, linguistics, archaeology, environmental studies or biological anthropology. Students in this major must have course schedules approved quarterly by their departmental advisors.

Required Courses Credits
Anthropology Core Requirements .......................... 23
Select a minimum of one 3- or 4-credit course in each of the following areas: ....................................... 24
Biological Anthropology (311, 312, 313, 314, 315)
Archaeology (321, 322, 323, 324, 325, 326, 327)
Ethnology (333, 334, 336, 350), 354, 355, 356, 357, 358, 359
Ethnography (341, 342, 343, 344, 345, 346, 347)
Linguistics (380, 381, 382*)
*Students planning on graduate school are strongly advised to elect 382.
Select one of the following
Methods courses ............................................. 3-4
ANTH 421, Archaeological Theory (4)
ANTH 442, Comparative Ethnology (4)
ANTH 444, Ethnographic Field Methods (4)
ANTH 483, Sociolinguistics (4)
ANTH 485, Methods and Theory in Biological Anthropology (1-8) or ANTH 488, Advanced Research in Cultural Anthropology (1-8)
ANTH 451, History and Theory of Anthropology .......................... 4
Electives in Anthropology and related fields. 8-10
(Deans approval of ANTH 499 Seminar must include a course in statistics.)

Total 75

Bachelor of Arts Programs

Anthropology Major (1300)
This liberal arts and sciences major provides background to prepare students for any vocation, in that a measure of achievement in all careers is success in human relationships. The major is also consistent with employment in a variety of business, government, and social service areas.

Required Courses Credits
Anthropology Core Requirements. 23
Select 300 level courses from at least three subfields: 15
Archaeology, Cultural Anthropology, Linguistics, Biological Anthropology
Anthropology Theory and Method (400 level). 16
Must include an approved ANTH 499 Seminar Department-approved electives. 7

Total 61

Museum Studies Specialization (1305)
The Museum Studies specialization 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 anthropology, art, biology, business administration, communication, geography, geology, history, etc. The specialization must be supervised and approved by the Department Chair.

Required Courses Credits
Anthropology Core Requirements. 23
ANTH 360, Introduction to Museum Studies. 4
ANTH 361, Museum Exhibit Design. 4
ANTH 362, Museum Curation and Management. 4
ANTH 390, Cooperative Education. 10
ANTH 499, Seminar. 2
Department-approved electives 14
(Must include at least 4 credits in Theory-Method at the 400 level)

Total 61

Anthropology 45 Credit Major (1295)
This 45 credit major 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.

Required Courses Credits
Introductory (100 level). 15-20
Intermediate (300 level). 15-20
Theory and Method (400 level). 10

Total 45

Anthropology Minor (1300)

Required Courses Credits
Select three from the following: 15-16
ANTH 110, Introduction to Biological Anthropology (5) AND
ANTH 110LAB, Biological Anthropology Laboratory (1)
ANTH 120, Introduction to Archaeology (5)
ANTH 130, Introduction to Cultural Anthropology (5)
ANTH 180, Introduction to Linguistics (5)
Department-approved electives. 10
(Students in Teacher Education must include ANTH 324 or 347, and ANTH 355 or 381 within the 10 credits of electives. ANTH 381 suggested for those enrolled in Teaching English as a Second Language.)

Total 25-26

Museum Studies Minor (5440)
The Museum Studies Minor prepares students for entry-level museum-related employment and/or for graduate work in museum studies. To be eligible for admission to this program, students should be enrolled in a related major (e.g., Anthropology, Art, Biology, Geology, Geography, History, Leisure Services, Science Education, etc.). Approval by the Anthropology Department Chair is also required.

Required Courses Credits
One of the following: 5
ANTH 107, General Anthropology (5) OR
ANTH 130, Introduction to Cultural Anthropology (5) OR
ANTH 120, Introduction to Archaeology (5) OR
ANTH 110, Introduction to Biological Anthropology (5)
ANTH 360, Introduction to Museum Studies. 4
ANTH 361, Museum Exhibit Design. 4
ANTH 362, Museum Curation and Management. 4
ANTH 490, Cooperative Education. 6
Department-approved electives. 7

Total 30

Anthropology Courses


ANTH 110. Introduction to Biological Anthropology (5). A survey of the history, philosophy and theory of biological anthropology including biological relationships to other primate forms, the fossil record, and evolutionary adaptations. ANTH 110LAB should be taken concurrently.

ANTH 110LAB. Biological Anthropology Laboratory (1). Pre or co-requisite: ANTH 110. 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 110LAB required for Anthropology majors and minors; optional for students completing breadth requirements of General Education.Formerly ANTH 110.1. Students may not receive credit for both.

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. ANTH 180 and ENG 180 are equivalent courses. Students may not receive credit for both.

ANTH 215. Concepts in GIS (3). Basic principles and uses of Geographic Information Systems (GIS). Practice with the use of GIS in solving land management and evaluation problems. Two hours lecture and 4 hours lab per week. ANTH 215 and GEOG 215 are equivalent courses. Students may not receive credit for both.

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

ANTH 298. Special Topics (1-6).

ANTH 301. Anthropology: Principles and Assessment (2). Principles and assessment course for majors: current topics and careers, research, funding; development of assessment portfolios and individual program plans. Required for all B.A., B.S. Anthropology majors at admission.

ANTH 310. Research/Laboratory in Biological Anthropology (1-2). Prerequisite, previous college work in biological anthropology or other natural sciences and permission of instructor. Laboratory research analysis of biological anthropology materials. May be taken concurrently with and as a supplement...
to other 300-level courses in biological anthropology. The course may be repeated up to a cumulative maximum of 8 credits. No more than 10 credits of ANTH 310 and 485 allowed to fulfill B.A. or B.S. requirements.

ANTH 311. Advanced Biological Anthropology: Principles of Human Evolution (4). Prerequisites, ANTH 110 and 110LAB or permission of the instructor. Analysis and interpretation of major principles of modern biological anthropology from an evolutionary perspective: genetics, population genetics, ecology, comparative anatomy and human paleontology.


ANTH 313. Primate Social Behavior (4). Prerequisite, ANTH 107 or 110 or 130 or BIOL 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 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 6 credits. Minimum of 4 hours laboratory per week. No more than 10 credits of ANTH 320 and 486 allowed to fulfill B.A. or B.S. requirements.

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. ANTH 322 and HIST 322 are equivalent courses. Students may not receive credit for both.

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


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 (4). The reciprocal relationships between the biophysical and cultural components in mating, nurturing and sexual access. Cross-cultural patterns in marriage. ANTH 333 and FCS 333 are equivalent courses. 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 341. Native American Cultures of the Pacific Northwest (4). Setting and cultural adaptation of the aboriginal peoples of the Northwest Coast and Plateau.

ANTH 342. Hispanic Cultures of the Western U.S. (4). This course provides an overview of Hispanic cultures in the American Southwest, California and the Pacific Northwest. Culture change and maintenance through language, religion and an economic resource base are highlighted.


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 and the Caribbean (4). Survey of anthropological research on cultures of Latin America and the Caribbean in historical and contemporary contexts.

ANTH 347. Native American Cultures of North America (4). Setting and cultural adaptation of aboriginal American Indian cultures, and their relation to contemporary issues for Native American 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 349. Contemporary Native American Cultures (4). Overview of contemporary Native North American cultures including tribal sovereignty and resource management, religion, art, health status and healing practices, cultural continuity and adaptation.

ANTH 350. Culture, Contact and Ethnicity (4). Theory and methods for analysis of culture contact situations.

ANTH 351. Visual Anthropology (4). Prerequisites, ANTH 130 or ART 225 or COM 321 or 330 or by permission of the instructor. Provides methodological, theoretical and practical background to produce and evaluate imagery in films and video; guidelines and practice of image presentation/manipulation in anthropological and social contexts. ANTH 351 and COM 351 are equivalent courses. Students may not receive credit for both.


ANTH 357. Medical Anthropology: Cross-Cultural Perspectives on Health and Healing (4). Emphasizes cultural and biological factors influencing health maintenance in human populations and cross-cultural perspectives on illness, healing and the provision of health care.

ANTH 358. Culture and Politics in a Global Economy (4). Comparative perspectives on cultural process of change within the global economic system.

ANTH 359. Survey of Music in Cross-Cultural Perspectives (3). An introduction to ethnomusicology: the cultural context of music with emphasis on Africa, Asia, North and South America, and Oceania. ANTH 359 and MUS 359 are equivalent courses. Students may not receive credit for both.


ANTH 361. Museum Exhibit Design (4). Principles of design applied to visual presentation of material culture, ideas and concepts through educational exhibits.

ANTH 362. Museum Curation and Management (4). Application of techniques of environmental security, restoration and preservation in the management of museum collections.

ANTH 380 and COM 380 are equivalent courses. Students may not receive credit for both.

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 386. Language in Culture (4).
Prerequisite, ANTH 381. An overview of primate evolution from the earliest forms to modern representatives. Fossils, paleoenvironments, adaptive radiations and evolutionary trends among the primates.

ANTH 412. Long Term Primate Studies (4).
Prerequisite, ANTH 313. A survey of major long term field research projects including apes, monkeys and lemurs; comparisons across sites and results of long term observation of non-human primates.

ANTH 414. Forensic Anthropology: Cold Case Analysis (6).
Prerequisites, ANTH 110, ANTH 315, ANTH 310 and permission of the instructor. The course explores the recovery and examination of skeletal remains through practical experience in the recovery of buried remains. Students will plan, manage, and conduct a forensic skeletal analysis of a cold case. Findings will be presented.

Prerequisites, ANTH 110, ANTH 315, ANTH 310 and permission of the instructor. An in depth and critical analysis of journal articles pertaining to forensic anthropology, osteology, and archeology. An examination of archaeological techniques that can be adapted to forensic and medico-legal investigations.

ANTH 416. Pongid Behavior (4).
Prerequisite, ANTH 313. An overview of Pongid (chimpanzee, gorilla and orangutan) physiology, social and developmental behaviors in natural and laboratory conditions.

ANTH 417. Advanced GIS (4).
Prerequisite, GEOG 404, ANTH 404, or GEOL 404 or permission of instructor. Advanced GIS principles, techniques, analysis, and application. Lecture and practical hands-on experience. Applied experience using GIS software. ANTH 417, GEOG 417 and GEOG 417 are equivalent courses. Students may not receive credit for more than one.

ANTH 418. Primate Evolution (4).
Prerequisites, ANTH 110, ANTH 313. An overview of primate evolution from the earliest forms to modern representatives. Fossils, paleoenvironments, adaptive radiations and evolutionary trends among the primates.

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

Prerequisites, ANTH 120 and either ANTH 110LAB or BIOL 112, or permission. Mammalian osteology and methods in the analysis of animal bones from archaeological sites.

Investigation into interdependent environmental and human cultural systems. Traditional agroecologies and subsistence strategies; contemporary problems of resource management, social equity, political ecology, and sustainable development. ANTH 440 and GEOG 440 are equivalent courses. 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 (4).
Methods used in ethnographic field work.

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 459. Senior Colloquium (3). A capstone seminar for the Anthropology B.A. The seminar reinforces interdisciplinary preparation and knowledge in one field of anthropology (linguistics, ethnology, archaeology, or biological anthropology).

ANTH 480. Survey of Linguistics (4).
Linguistic concepts and the relation between linguistics and other fields of study. Open to seniors and graduate students only. ANTH 480 and ENG 480 are equivalent courses. Students may not receive credit for both.

ANTH 483. Sociolinguistics (4).
Prerequisite, ANTH/ENG 180 or 480, ANTH 381, or FNLA 481 or departmental approval. Concepts and methods of sociolinguistic analysis in first and second languages. Will examine differences among cultures in the relationship between language usage and inequality. ANTH 483 and FNLA 483 are equivalent courses. Students may not receive credit for both.

ANTH 485. Method and Theory in Biological Anthropology (1-8).
Prerequisite, Introductory plus 5 upper-division credits in biological anthropology or corresponding coursework in the biological sciences. Methods and techniques, research problems, data collection, analysis, interpretation. Laboratory orientation. May be repeated up to 8 credits. Formerly ANTH 495.1.

ANTH 486. 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 486 allowed to fulfill B.A. or B.S. requirements. Formerly ANTH 495.2.

ANTH 487. 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. Formerly ANTH 495.3.

ANTH 488. Advanced Research in Cultural Anthropology (1-8).
Prerequisite, ANTH 130 or equivalent, plus 5 upper-division credits in cultural anthropology. May be repeated for credit up to a total of 8 credits. Formerly ANTH 495.4.

ANTH 490. Cooperative Education (1-12).
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.

ANTH 491. Workshop (1-6).

ANTH 492. Anthropological Teaching Experience (1-2).
Prerequisite, 15 credits in anthropology; permission of instructor and Department Chair. May be repeated; a maximum of 6 credits to count toward major. Grade will be S or U. Formerly ANTH 494.

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 repeated for full credit.

ANTH 494. Applied GIS Project (2-6).
Prerequisite, ANTH/GEOG 215 and permission of instructor. GIS projects in Anthropology, Biology, Geography, Geology, Resource Management. May be
Students can complete any of our degree programs in four years provided they work closely with an advisor beginning their freshman year and take courses in the recommended sequence.

Bachelor of Fine Arts in Art

Graphic Design Specialization (1558)

A comprehensive studio art degree for students desiring to pursue careers in the field of graphic design and visual communications. The program emphasizes critical thinking through the exploration of digital and print media. After completion of the Art core and pre-Graphic Design prerequisites students are required to complete the Graphic Design Concentration requirements, including a contracted field experience. Transfer students are encouraged to complete as many of the transferable Art requirements as possible prior to enrolling at CWU.

An Apple Macintosh computer and appropriate software is recommended prior to beginning the Major Core requirements.

Art Core Requirements . . . . . . . . . . . . . Credits
ART 150, Drawing I . . . . . . . . . . . . . . . . . . . . . . . . . 4
ART 170, Basic Design I . . . . . . . . . . . . . . . . . . . . . . . 4
ART 171, Basic Design II . . . . . . . . . . . . . . . . . . . . . . . 4
ART 250, Drawing II . . . . . . . . . . . . . . . . . . . . . . . . . 4
ART 235, Ancient to Medieval Art . . . . . . . . . . . . . . . . 4
ART 236, Renaissance through Mid 19th-Century Art . . . . . 4
ART 237, Impressionism through Postmodern Art . . . . . . . 4

Pre-Graphic Design Requirements . . . . . . . Credits
ART 225, Photography I . . . . . . . . . . . . . . . . . . . . . . 4
ART 274, Typography . . . . . . . . . . . . . . . . . . . . . . . 4
ART 351, Illustration I . . . . . . . . . . . . . . . . . . . . . . . 4
ART 374, History of Graphic Design . . . . . . . . . . . . . . 4
ART 384, Computer Art I . . . . . . . . . . . . . . . . . . . . . 4
Select two courses from: . . . . . . . . . . . . . . . . . . . . . 8
ART 260, Painting I (4)
ART 360A, Painting II (4)
ART 262, Watercolor I (4)
ART 362A, Watercolor II (4)
Select one course from: . . . . . . . . . . . . . . . . . . . . . . . 4
ART 325A, Photography II (4)
ART 325B, Photography II–Alternative Processes (4)
ART 325C, Photography II–Digital Imaging (4)

Graphic Design Requirements . . . . . . . Credits
ART 370, Layout and Design I . . . . . . . . . . . . . . . . . . . 5
ART 371, Layout and Design II . . . . . . . . . . . . . . . . . . . 5
ART 372, Design and Production I . . . . . . . . . . . . . . . . . 5
ART 414, Recent Art . . . . . . . . . . . . . . . . . . . . . . . . . 4
ART 451, Illustration II . . . . . . . . . . . . . . . . . . . . . . . 4
ART 470, Advertising Graphic Design . . . . . . . . . . . . . . 4

ART 471, Corporate Graphic Design . . . . . . . . . . . . . . . . 4
ART 472, Design and Production II . . . . . . . . . . . . . . . . 4
ART 490, Cooperative Education (Internship) . . . . . . . . . 10
ART 495, Studio Project . . . . . . . . . . . . . . . . . . . . . . . 1

Total 106

Studio Art Specialization

A comprehensive studio art degree for students desiring to pursue studio art-related careers or seeking artistic enrichment, with disciplinary studies in:
- Ceramics (1560)
- Computer Art (1562)
- Drawing (1564)
- Jewelry/Metalsmithing (1566)
- Painting (1568)
- Photography (1570)
- Sculpture (1572)
- Wood Design (1574)

In addition to core and other required courses, students are required to complete a 24 credit “area of concentration” requirement in a single discipline. Transfer students are encouraged to complete as many of the transferable Art requirements as possible prior to enrolling at CWU.

Art Core Requirements . . . . . . . . . . . . . Credits
ART 150, Drawing I . . . . . . . . . . . . . . . . . . . . . . . . . 4
ART 170, Basic Design I . . . . . . . . . . . . . . . . . . . . . . . 4
ART 171, Basic Design II . . . . . . . . . . . . . . . . . . . . . . . 4
ART 250, Drawing II . . . . . . . . . . . . . . . . . . . . . . . . . 4
ART 235, Ancient to Medieval Art . . . . . . . . . . . . . . . . 4
ART 236, Renaissance through Mid 19th-Century Art . . . . . 4
ART 237, Impressionism Through Postmodern Art . . . . . . . 4

Required Courses . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Credits
ART 225, Photography I . . . . . . . . . . . . . . . . . . . . . . 4
Select one course from: . . . . . . . . . . . . . . . . . . . . . . . 4
ART 260, Painting I (4)
ART 262, Watercolor I (4)
ART 280, Sculpture I . . . . . . . . . . . . . . . . . . . . . . . . . . 4
ART 241, Wood Design I . . . . . . . . . . . . . . . . . . . . . . . 4
ART 246, Jewelry/Metals I . . . . . . . . . . . . . . . . . . . . . . 4
ART 265, Ceramics I . . . . . . . . . . . . . . . . . . . . . . . . . . 4
ART 384, Computer Art I . . . . . . . . . . . . . . . . . . . . . . 4
ART 389, Contemporary Concepts in Art . . . . . . . . . . . . 4
ART 414, Recent Art . . . . . . . . . . . . . . . . . . . . . . . . . . 4
Select one course from: . . . . . . . . . . . . . . . . . . . . . . . 4
ART 357, African and Oceanic Art (4)
ART 456, History of Eastern Art (4)
Select one course from: . . . . . . . . . . . . . . . . . . . . . . . 4
ART 360A, Painting II (4)
ART 360B, Painting II (4)
ART 362A, Watercolor II (4)
ART 325A, Photography II (4)
ART 325B, Photography II–Alternative Processes (4)
ART 325C, Photography II–Digital Imaging (4)
ART 350, Drawing III (4)
ART 484, Computer Art II (4)
ART 380A, Sculpture II (4)
ART 341, Wood Design II (4)
ART 346, Jewelry/Metals II (4)
ART 365A, Ceramics II (4)
ART 365B, Ceramics II-Wheel Throwing (4)
ART 495, Studio Project (must be taken in one of the last two quarters prior to graduation) (4)

Total 61

**Art Studio Minor (1505)**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 150, Drawing I</td>
<td>4</td>
</tr>
<tr>
<td>ART 170, Basic Design I</td>
<td>4</td>
</tr>
<tr>
<td>Select one course:</td>
<td>4</td>
</tr>
<tr>
<td>ART 235, Ancient and Medieval Art</td>
<td>4</td>
</tr>
<tr>
<td>ART 236, Renaissance Through Mid-19th Century Art</td>
<td>4</td>
</tr>
<tr>
<td>ART 237, Impressionism Through Postmodernism</td>
<td>4</td>
</tr>
<tr>
<td>ART 495, Studio Project (must be taken in one of the last two quarters prior to graduation)</td>
<td>4</td>
</tr>
</tbody>
</table>

Total 73
ART 224. Photography for Non-Majors (4). A basic course covering black and white photography and photographic concepts for non-art majors. Six hours studio per week.

ART 225. Photography I (4). A basic course covering equipment, processes of black and white photography, concepts, and practical darkroom methods. Six hours studio per week.

ART 226. Traditional Chinese Painting (4). An introduction to the practice of the different styles of traditional Chinese painting. Will include the study of the traditional composition, aesthetic and theory.


ART 227. Typography (4). Prerequisite, ART 170. History and application of typography as a tool for visual communication. Two hours lecture and two hours studio per week.

ART 241. Wood Design I (4). A basic course stressing a higher degree of individual expression and experimentation with various waterbased media. Six hours studio per week. Formerly ART 362B.

ART 246. Jewelry/Metals I (4). Prerequisites, ART 262 and permission of instructor. Advanced instruction in conceptual and technical aspects of contemporary jewelry and metalwork. Emphasis on personal exploration of advanced techniques. Six hours studio per week. Formerly ART 447. May be repeated one time for credit.

ART 250. Drawing II (4). Prerequisite, ART 150. A continuation of ART 150 with increased emphasis on drawing as a major means of visual expression. Includes drawing from the figure. Six hours studio per week. Formerly ART 317.

ART 250. Drawing II (4). Prerequisite, ART 150. A continuation of ART 150 stressing a higher degree of individual expression and experimentation with various waterbased media. Six hours studio per week. Formerly ART 362B.

ART 260. Painting I (4). Prerequisite, ART 150, 170, or permission of instructor. An introduction to the techniques of painting for expressive purposes. Six hours studio per week.

ART 262. Watercolor I (4). Prerequisite, ART 150. An introduction to the techniques of transparent watercolor and the visual problems of painting. Six hours studio per week.

ART 265. Ceramics I (4). A foundation course utilizing wheel-throwing and hand-building processes and glazing to form containers and sculpture in clay. Six hours studio per week.


ART 325. History of Photography (4). A survey of contemporary photographers, their ideas, and the influences of their work upon culture. Covers mid-twentieth century to the present. Completion of ART 225 is strongly recommended but not required.


ART 325B. Photography II–Alternative Processes (4). Prerequisite, ART 225. An intensive introduction to hand-applied emulsions such as cyanotype, albumen, and gum printing.

ART 325C. Photography II–Digital Imaging (4). Prerequisite, ART 225 and permission of instructor. An introduction to digital still photography and various output options including large format inkjet, photo output, and digital negatives for traditional and non-silver printing.

ART 330. Art in the Elementary School (4). Content and methodology for teaching art in the elementary school. (Enrollment is subject to full admission to the Teacher Education Program.)


ART 346. Jewelry/Metals II (4). Prerequisite, ART 246 and permission of instructor. Advanced instruction in conceptual and technical aspects of contemporary jewelry and metalwork. Emphasis on personal exploration of advanced techniques. Six hours studio per week. Formerly ART 447. May be repeated one time for credit.

ART 350. Drawing III (4). Prerequisites, ART 250, ART 260 or ART 262. Introduction to a variety of media and techniques associated with illustration. Six hours studio per week. Formerly ART 251.

ART 351. Illustration I (4). Prerequisite, ART 250, ART 260 or ART 262. Introduction to a variety of media and techniques associated with illustration. Six hours studio per week. Formerly ART 251.

ART 357. African and Oceanic Art (4). A survey of the tribal arts of Africa and Oceania as represented by the cultures of Polynesia, Micronesia, Melanesia, and Australia from prehistoric times to the present. ART 357 and ART 557 are equivalent courses. Students may not receive credit for both.

ART 362A. Watercolor II (4). 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. Formerly ART 362.

ART 362B. Watercolor III (4). Prerequisite, ART 362A. A continuation of the technical and formal study of waterbased media with an emphasis on representational and narrative strategies. Formerly ART 362B.

ART 362C. Watercolor IV (4). Prerequisite, ART 362B. A continuation of the study outlined in ART 362B with emphasis upon developing individual direction. Six hours studio per week. Formerly ART 363.
ART 364. Traditional Chinese Painting II (3). A continuation of traditional Chinese painting with emphasis on fine line and spontaneous style painting using both traditional and contemporary techniques.

ART 365A. Ceramics II-Advanced Handbuilding (4). Prerequisite, ART 265. This course alternates quarterly with ART 365B. Advanced instruction in ceramic sculptural concepts and techniques including idea development, historical/contemporary influences, investigation of clay bodies and personal expression through sculptural form.

ART 365B. Ceramics II-Wheel Throwing (4). Prerequisite, ART 265. This course alternates quarterly with ART 365A. An exploration of the potter's wheel as a tool for personal expression through vessel forms. Emphasis on utilitarian ceramics, vessel design and historical/contemporary influences.

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

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

ART 372. Design and Production I (5). Prerequisites, ART 371, permission of instructor. Emphasis on advertising art and production techniques. Two hours lecture and four hours studio per week.

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

ART 380A. Sculpture II (4). Prerequisite, ART 280. Emphasis on conceptual development through fabrication in wood, surface embellishment, basic construction and related forming techniques in a variety of materials. Six hours studio per week.

ART 380B. Sculpture III (4). Prerequisite, ART 380A. A concentrated study in any of the sculpture media, giving increased attention to concepts and aesthetic quality. Six hours studio per week. Formerly ART 380.

ART 381. Mixed-Media Art (3). Prerequisites, ART 260, ART 280. The integration of two and three-dimensional media into mixed-media art forms. May be repeated for credit.

ART 384. Computer Art I (4). Prerequisite, ART 260 or 262 and permission of instructor. Use of computer systems as tools for creative expression. Six hours studio per week.

ART 389. Contemporary Concepts in Art (4). Exploration of the contextual, formal, and philosophic meanings of current art movements and theories as regards their relevance and place in contemporary art practice.


ART 414. Recent Art (4). Prerequisite, ART 237. The visual arts of the last 25 years, including the traditional forms of painting, sculpture and architecture, and newer forms including video, computer, and performance art. Formerly ART 314. Students may not receive credit for both.


ART 425. Photography III (4). Prerequisites, ART 325 and permission of instructor. A continuation of study outlined in ART 225 with emphasis upon developing individual direction. Six hours studio per week. May be repeated for credit.


ART 441. Wood Design III (4). Prerequisite, ART 341. Advanced design and fabrication of furniture forms. Emphasis on research and development of furniture forms utilizing advanced and/or innovative fabrication and finishing processes. Six hours studio per week. May be repeated for credit.

ART 446. Jewelry/Metals III (4). Permission of instructor and two quarters of ART 346. Advanced exploration of personal expression in metals, with emphasis on self-direction and on conceptual and technical mastery. May be repeated for credit.

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. Drawing IV (4). Prerequisite, ART 350 and permission of instructor. Advanced study and experimentation with technical, formal and conceptual problems in drawing. Includes drawing from the figure. Six studio hours per week. May be repeated for credit by undergraduates only.

ART 451. Illustration II (4). 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 453 and ART 553 are equivalent courses. Students may not receive credit for both.

ART 456. History of Eastern Art (4). Prerequisite, permission of the instructor. A survey of the architecture, sculpture, painting, and the crafts of India, Indonesia, China, and Japan. ART 456 and ART 556 are equivalent courses. Students may not receive credit for both.

ART 460. Painting V (4). Prerequisites, ART 360C, ART 450, permission of instructor. Advanced study and experimentation in technical, formal and conceptual approaches to painting, with an emphasis on developing individual expression. Six hours studio per week. May be repeated for credit.

ART 465. Ceramics III (4). Prerequisites, permission of instructor and ART 365A or B. A continued exploration of ceramic media and processes. Emphasis on developing professional practices and personal vocabulary through the ceramic medium.

ART 470. Advertising Graphic Design (4). Prerequisite, permission of instructor. Concept and design of advertising problems. Presentation and communication skills; introduction to analysis and implementation of marketing strategies. May be repeated for credit. One hour lecture and four hours studio per week.

ART 471. Corporate Graphic Design (4). Prerequisites, ART 470, permission of instructor. Principles of corporate concept and design: advanced presentation and communication skills; analysis and implementation of marketing strategies in the corporate setting. One hour lecture and four hours studio per week. May be repeated for credit.

ART 472. Design and Production II (4). Prerequisite, ART 471. Continues the development of professional attitudes; promotes creative problem solving techniques; defines the role of designer or art director and relationships to typographer and printer. One hour lecture and four hours studio per week. May be repeated for credit.

ART 480. Sculpture IV (4). Prerequisite, ART 380B. Research and experimentation with new materials in sculpture. Six hours studio per week. May be repeated for credit.

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. Computer Art II (4). Prerequisite, ART 384 and permission of instructor. Exploration of the creative potential of several software programs and imaging procedures used in the creation of electronic art. Two hours lecture and two hours studio per week. May be repeated for credit.

ART 489. Art and Gender Theory (4). Examines constructions of masculinity and femininity within the canon of western art. Also explores how contemporary artists and historians are subverting these constructions.

ART 490. Cooperative Education (1-12). 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 is determined upon scheduling.

ART 495. Studio Project (1). Preparation of a professional portfolio and presentation of a body of work suitable for exhibition. Satisfies end of major assessment requirement. Must be taken during one of the last two quarters prior to graduation. Grade will be S or U.

ART 496. Individual Study (1-2). Prerequisite, permission of instructor. May be repeated.

A. Computer Art
B. Ceramics
C. Drawing
D. Art Education (1-4)
E. Graphic Design
F. Art History
G. Jewelry and Metalsmithing
H. Painting
I. Photography
J. Sculpture
K. Wood Design

ART 498. Special Topics (1-6).
ART 499. Seminar (1-5). May be repeated.

Undergraduate Courses/Programs on Reserve

The following programs and courses are on reserve and may be offered subject to program needs: Fine Woodworking; ART 277, Lettering; ART 287 Intaglio Printmaking; ART 354, Art of China (4); ART 385, Serigraphy; ART 455, Art of Japan (4); ART 485 Advanced Serigraphy; ART 486, Advanced Collagraphy; ART 496. Individual Study (1-2) R: Printmaking.

### ASIA/PACIFIC STUDIES

**Program Director:** Jeffrey W. Dippmann
**Philosophy**

**Program Faculty**

- John Alwin, Geography
- James Cook, History
- Jeffrey Dippmann, Philosophy & Religion
- Michael Launius, Political Science
- Chenyang Li, Philosophy & Religion
- Liuxi Meng, Chinese Language
- Joshua Nelson, Japanese Language
- Penglin Wang, Anthropology
- Hong Xiao, Sociology
- Bang-Soon Yoon, Political Science & Women Studies

### General Program Information

Asia/Pacific Studies is an interdisciplinary program focusing on a region currently undergoing a dramatic economic, political and social transformation. The program is intended to provide students with a grasp of the region's diversity while also emphasizing the interactive nature of an overarching community of nations. Careers in international business, government service, and education all can be augmented by preparations in Asia/Pacific Studies. The program may also serve as an excellent preparation for graduate study in various academic and professional fields.

### Bachelor of Arts

**Asia/Pacific Studies Major**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>ART 102, Introduction to Asian Studies.</td>
<td>3</td>
<td></td>
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<tr>
<td>HIST 383, East Asian Civilization (5) OR HIST 380, Modern East Asia.</td>
<td>5</td>
<td></td>
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<tr>
<td>GEOG 475, Geography of Asia.</td>
<td>5</td>
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<tr>
<td>POSC 366, Government and Politics of East Asia.</td>
<td>5</td>
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<td><strong>Asia/Pacific Core Total</strong></td>
<td><strong>48</strong></td>
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<td>Electives</td>
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<td>15</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>63</strong></td>
<td></td>
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### Asian Studies Minor

**Required Courses**

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<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
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<tr>
<td>ART 102, Introduction to Asian Studies.</td>
<td>3</td>
<td></td>
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<tr>
<td>HIST 383, East Asian Civilization</td>
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<td><strong>Subtotal</strong></td>
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Select one of the following emphases:

**Japanese Studies (1554)**

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>JAPN 151, 152, 153 (or higher)</td>
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<td><strong>Total</strong></td>
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<tr>
<td>ART 455, Art of Japan (4)</td>
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<td>HIST 484, Modern Japan (3-5)</td>
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<td>POSC 367, Politics of Japan (5)*</td>
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<td>AST 301, Chinese Literature in Translation (4)</td>
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<td><strong>Total</strong></td>
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**Chinese Studies (1553)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>CHIN 151, 152, 153 (or higher)</td>
<td>15</td>
<td></td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td></td>
</tr>
</tbody>
</table>

Select from the following: 10

**Chinese, Japanese, or another language with Director's approval (e.g. Korean, Russian).**
ASIA/PACIFIC STUDIES — BIOLOGICAL SCIENCES

Select from the following: .......................... 10-14
ANTH 344, Cultures of Asia (4)
GEOG 475, Geography of Asia (5) OR
HIST 380, Modern East Asia (5)
POSC 366, Government and Politics of East
Asia (5)*
POSC 373, International Politics of the
Pacific Rim (5)*
POSC 369, Korean Politics (5)*
RELS 351, Religions of Asia (5)

Total 33-37

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

Other courses may be included with advisor’s
approval. At least two departments must be
represented among selected courses.

Asia/Pacific Studies Courses

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

AST 301. Chinese Literature in Translation
(4). Prerequisite, grade of C- or better in
English 101. A survey of Chinese literature in
translation. AST 301 and CHIN 301 are
equivalent courses. Students may not receive
credit for both courses.

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

AST 347. Japanese Literature in Translation
(4). Prerequisite, C- or higher in English 101
or its equivalent. A survey of Japanese litera-
ture in translation. AST 347 and JAPN 301 are
equivalent courses. Students may not receive
credit for both courses.

AST 396. Individual Study (1-6).
AST 398. Special Topics (1-6).

BIOLOGICAL SCIENCES

Faculty
Chair: David M. Darda
Science Building 338

Professors
Glen W. Clark, Invertebrate Zoology and
Parasitology (Emeritus)
David M. Darda, Evolutionary Vertebrate
Morphology, Herpetology
Paul W. James, Ecology and Fisheries Biology
Sheldon R. Johnson, Director Allied Health
Sciences; Zoophysiology, Mammalogy
Robert E. Pacha, Microbiology (Emeritus)

Stanford D. Smith, Entomology (Emeritus),
David L. Soltz, Ecology and Evolutionary
Biology

Associate Professors
Daniel D. Beck, Physiological Ecology and
Herpetology
Kristina A. Ernest, Terrestrial and Community
Ecology
Holly C. Pinkart, Microbiology, Microbial
Ecology
Mary E. Poulson, Plant Physiology
Linda A. Raubeson, Plant Systematics
Lixing Sun, Behavioral Ecology and Evolution

Assistant Professors
Patrick J. Bryan, Invertebrate Zoology,
Developmental Biology
Tom R. Cottrell, Plant Ecology
Philip W. Mattocks, Ornithology and
Physiology
Ian J. Quitadamo, Science Education,
Biototechnology
Steven D. Verhey, Cell and Molecular Biology
R. Steven Wagner, Genetics
Candace R. Winstead, Microbiology and
Immunology

General Departmental Information

The Department of Biological Sciences
provides the biological component of the
liberal arts education at Central Washington
University. We promote student under-
standing of biological concepts relevant to the
individual and society, and foster an
appreciation of scientific inquiry. Evolution is
the unifying theme of our curriculum. Our
students obtain a broad education, covering a
wide variety of biological disciplines. We focus
on the student; classes are small, facilitating
hands-on experience, interactions with faculty,
and opportunities for both undergraduate and
graduate research. We offer a full complement
of competitive pre-professional programs,
strong programs in regional field biology, and
a quality program for secondary biology
educators.

Admission to Departmental Programs

In order to be admitted to a Biology major or
minor, all students must:
1. Register with the Department and be
advised by departmental faculty.
2. Complete CHEM 181 and 182 with labs (or
equivalent) or be currently enrolled in the
latter. (Exception may be made for Biology
Teaching, see advisor.)
3. Complete BIOL 110, 111, 112 or
equivalents.
4. Qualify for MATH 170.

In order to graduate, each student must have
file, in the Biology Department and in
Registrar Services, an official Course of Study.
The Course of Study will be prepared by the
student in conjunction with his or her advisor.
It must be approved by the student, advisor,
and the Department Chair and should be
completed during the quarter in which the
student is admitted to the major.

Bachelor of Arts

Biology Major (1600)

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 flexibility in career choices.
The Bachelor of Arts degree 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.

CHEM 181 has a prerequisite of high school
chemistry and qualification for MATH 153.
PHYS 111 has a prerequisite of high school
algebra and trigonometry. PHYS 181 has a
prerequisite or corequisite of MATH 172, 173
and 272.

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

A maximum of 15 credits in BIOL 490 and
BIOL 496 may be included in the major.

Required Courses

BIOL 110, Basic Biology .............................. 5
BIOL 111, Plant Biology .............................. 5
BIOL 112, Animal Biology ........................... 5
BIOL 220, Introductory Cellular Biology .... 5
BIOL 321, Genetics ................................... 5
BIOL 499S, Honors Seminar OR
BIOL 497, Senior Thesis ............................ 1-5
CHEM 181, 181LAB, 182, 182LAB, 183, 183LAB
General Chemistry and Laboratory. ............. 15
CHEM 361, 361LAB, 362, Organic Chemistry
and Laboratory .......................................... 8

Select from the following sequences: ...... 15
PHYS 111, 111LAB, 112, 112LAB, 113,
113LAB, Introductory Physics (15)
PHYS 181, 181LAB, 182, 182LAB, 183,
183LAB General Physics (15)

Select from the following: ....................... 5-10
BIOL 441, Plant Physiology (5)
BIOL 455, Zoophysiology (5)
BIOL 355 & 356, Human Anatomy &
Physiology (10)

Total 74-83
Bachelor of Science Biology Major (1600)

The Bachelor of Science major offers undergraduate students a degree program with depth of training in the biological sciences and supporting fields. This program prepares students for immediate entrance into careers in biological sciences or for graduate work (for preparation for teaching high school biology, see Biology Teaching Major). Students may choose a general B.S. degree (no specialization), or a specialization in one of three areas: Cell and Molecular Biology, Ecology, or Organismal Biology (these will be indicated on the student’s transcripts). Students consult with the appropriate Biology advisor for approval of their B.S. program and electives, which must be submitted for approval to the Department of Biological Sciences at least one academic year preceding graduation. All students in the B.S. Biology major must complete all B.S. core requirements, plus additional specific requirements if they choose a specialization. A maximum of 15 credits in BIOL 490 and BIOL 496 may be included in the major. CHEM 181 has a prerequisite of high school chemistry and qualification for MATH 153.

Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110, Basic Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 111, Plant Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 112, Animal Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 220, Introductory Cellular Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 321, Genetics</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 360, General Ecology (5) OR</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 420, Environmental Microbiology (5)</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 441, Plant Physiology (5) OR</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 455, Zoology (5)</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 470, Mechanisms of Evolution</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 499S, Senior Seminar OR</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 181, 181LAB, 182, 182LAB, 183, 183LAB</td>
<td>15</td>
</tr>
<tr>
<td>CHEM 351, 351LAB, 362, Organic Chemistry and laboratory</td>
<td>8</td>
</tr>
<tr>
<td>MATH 311, Statistical Concepts (5) OR</td>
<td>5</td>
</tr>
<tr>
<td>PSY 362, Introductory Statistics (4)</td>
<td>4-5</td>
</tr>
</tbody>
</table>

Core Total 66-67

Organismal diversity requirement: All students in the Biology B.S. program must take at least one advanced (300- or 400-level) animal course, one advanced plant course, and one advanced course covering other organisms (fungi, protists, bacteria, viruses). These courses may be contained within the Core or taken as electives. See department for list of approved courses in each category.

B.S. Biology-General Biology (no specialization) (1610)

This general degree offers students the flexibility to choose a broad range of courses within biology or to tailor course requirements to specific interests. Electives must be approved by a Biology advisor.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.S. Core Requirements</td>
<td>66-67</td>
</tr>
<tr>
<td>General Biology Electives</td>
<td>33-34</td>
</tr>
</tbody>
</table>

Total 100

Bachelor of Science Biology Cell and Molecular Biology Specialization (1611)

Cell and Molecular Biology is the study of what cells are, how they are put together, what makes them work, what makes them differ from each other, how they associate and interact, and what goes wrong in disease states. The study of cell and molecular biology facilitates understanding of a wide variety of disciplines including genetics, developmental biology, microbiology, immunology and physiology. The emphasis in Cell and Molecular Biology (CMB) is designed for students with interests in the cellular and molecular basics of life and the application of molecular techniques to medical, technological and environmental issues. The goal of the CMB specialization is to prepare graduates to be competitive in applications for entry into graduate degree programs, professional programs, or technical/industrial jobs. A full year of physics (PHYS 111/112/113 + labs or PHYS 111/112/113 + labs) is recommended for students interested in cell and molecular biology.

Students interested in microbiology are eligible to become registered microbiologists (National Registry of Microbiologists, American Academy of Microbiology) upon completing the following requirements:
1. A minimum of a baccalaureate degree in Biological Science with 30 quarter credits in microbiology courses.
2. Acceptable experience equivalent to one year of full-time work in a microbiology laboratory related to the specialty area in which certification is sought. Experience must be gained within the immediate past three years. Certification as a conditional registrant is offered to individuals who possess the academic qualifications for registered microbiologist, but who lack the required year of full-time laboratory experience.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology Core.</td>
<td>66-67</td>
</tr>
<tr>
<td>BIOL 323, Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 425, Molecular Biotechnology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 431 and CHEM 431LAB, Biochemistry</td>
<td>5</td>
</tr>
<tr>
<td>Cell and Molecular Biology Electives.</td>
<td>18-19</td>
</tr>
</tbody>
</table>

Total 100

Bachelor of Science Biology Ecology Specialization (1608)

Ecology is the study of how organisms interact with their physical and biological environment. The Ecology specialization is designed for students interested in basic and applied ecology, including fisheries, wildlife management, forestry, ecological restoration, and conservation biology. Students following this specialization will gain experience in natural history, field research, and experimental design. Potential careers may be found in federal, state and tribal agencies, or private environmental consulting firms. The Ecology faculty strongly suggest that every student augment the single required taxonomy course with an elective second taxonomy course. Students interested in graduate study in ecology should work closely with their advisor to tailor this specialization to their particular field of interest.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology Core.</td>
<td>66-67</td>
</tr>
<tr>
<td>BIOL 461, Community Ecology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 462, Wildlife and Fisheries Ecology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 463, Limnology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 464, Terrestrial Plant Ecology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 466, Conservation Biology</td>
<td>5</td>
</tr>
</tbody>
</table>

Select one of the following taxonomy courses: 4-5

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 341, Plant Taxonomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 350, Invertebrate Zoology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 351, Entomology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 443, Mycology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 444, Algyology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 445, Mushrooms and Puffballs</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 450, Ichthyology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 451, Herpetology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 452, Ornithology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 453, Mammalogy</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 493, Field, Techniques</td>
<td>5</td>
</tr>
<tr>
<td>MATH 170, Intuitive Calculus</td>
<td>5</td>
</tr>
<tr>
<td>Ecology Electives</td>
<td>13-15</td>
</tr>
</tbody>
</table>

Total 100

Bachelor of Science Biology Organismal Biology Specialization (1612)

The Organismal Biology Specialization allows a student to explore the structure (morphology), function (physiology), development, behavior, and taxonomic diversity of animals, plants, fungi, and/or microbes. A student looking for a traditional Zoology or Botany program will be well served by this specialization. The Organismal specialization is a good choice for students preparing for graduate study in organismal biology or planning for a career in the health professions, forensics, or state or federal
agency work, and it can complement other programs such as teaching, biological anthropology, and psychology.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 343, Plant Anatomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 353, Comparative Vertebrate Anatomy</td>
<td>6</td>
</tr>
<tr>
<td>BIOL 354, Embryology/Developmental Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 442, Comparative Morphology of Vascular Plants</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 454, Histology</td>
<td>5</td>
</tr>
</tbody>
</table>

Select one of the following taxonomy courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 341, Plant Taxonomy</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 350, Invertebrate Zoology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 351, Entomology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 444, Algalogy</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 445, Mushrooms and Puffballs</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 451, Herpetology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 452, Ornithology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 453, Mammalogy</td>
<td>5</td>
</tr>
<tr>
<td>Organismal Biology Electives</td>
<td>17-20</td>
</tr>
</tbody>
</table>

Total 100

Bachelor of Science Biology

Teaching Major (1602)

This major satisfies the criteria for an endorsement in Biology. This major qualifies students to teach biology at the high school level and the middle or junior high school levels. Students should seriously consider working toward endorsement in a second area such as chemistry, earth science, general science, physics, or mathematics. Students taking this major are required to complete the Professional Education Program requirements offered through the Curriculum and Supervision Department. Students completing this program after August 31, 2005 will be required to pass the WEST-E (PRAXIS II) exam for biology to receive a Biology endorsement.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110, Basic Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 111, Plant Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 112, Animal Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 200, Plants in the Modern World</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 201, Human Physiology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 360, General Ecology</td>
<td>5</td>
</tr>
<tr>
<td>SCED 322, Science Education in the Elementary Schools</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 23

Botany Minor (1700)

Not available to biology majors

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110, Basic Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 112, Animal Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 220, Introductory Cellular Biology</td>
<td>5</td>
</tr>
<tr>
<td>Electives in BIOL</td>
<td>8</td>
</tr>
</tbody>
</table>

Total 23

Zoology Minor (8700)

Not available to biology majors

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110, Basic Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 112, Animal Biology</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 220, Introductory Cellular Biology</td>
<td>5</td>
</tr>
<tr>
<td>Electives in BIOL</td>
<td>8</td>
</tr>
</tbody>
</table>

Total 23

Allied Health Sciences Course

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.

Biological Sciences Courses

BIOL 101, Fundamentals of Biology (5). Biology in the modern world. Four hours lecture and one two-hour laboratory per week. May not be counted toward a major or minor in the Department of Biological Sciences. Formerly BISC 104. Students may not receive credit for both.

BIOL 110, Basic Biology (5). An introduction to the concepts and processes which are common to most life forms. All biology majors and minors must take this course before enrolling in other courses in the major or minor. Four hours lecture and two hours laboratory per week. Formerly BISC 110. Students may not receive credit for both.

BIOL 111, Plant Biology (5). Prerequisite, BIOL 110. Four hours lecture and one two-hour laboratory per week. Formerly BISC 111. Students may not receive credit for both.

BIOL 112, Animal Biology (5). Prerequisite, BIOL 110. Four hours lecture and two hours laboratory per week. Formerly BISC 112. Students may not receive credit for both.
BIOL 200. 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.) May not be counted toward a major or minor in the Department of Biological Sciences. Formerly BOT 211. Students may not receive credit for both.

BIOL 201. Human Physiology (5). Organ systems of humans. Not open to students with credit in BIOL 455; may not be counted toward a major or minor in the Department of Biological Sciences. Formerly ZOOL 270. Students may not receive credit for both.

BIOL 220. Introductory Cellular Biology (5). Prerequisites, BIOL 110, and either CHEM 113 or CHEM 183. Concepts, processes and structures involved in understanding life at the cellular level. Four hours lecture and two hours of laboratory per week. Formerly BISC 223, 313. Student may not receive credit for more than one.

BIOL 298. Special Topics (1-6). Formerly BISC 298.

BIOL 300. Introduction to Evolution (5). The evidence, theories, and mechanisms of the evolution of life, including man. May not be counted toward a major in the Department of Biological Sciences. Formerly BISC 302. Students may not receive credit for both.

BIOL 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. Formerly BISC 305. Students may not receive credit for both.

BIOL 304. Human Inheritance (5). The study of human inheritance and related areas of biology. May not be counted toward a major in the Department of Biological Sciences. Formerly BISC 304. Students may not receive credit for both.

BIOL 320. Cellular Biology (5). Prerequisites, BIOL 220 and CHEM 361/361LAB. Advanced analysis of cellular processes. Five hours lecture per week. Formerly BISC 333. Students may not receive credit for both.

BIOL 321. Genetics (5). Prerequisite, BIOL 220. A lecture and laboratory course in the basic principles of heredity of plants and animals. Four hours lecture and two hours laboratory per week. Formerly BISC 365. Students may not receive credit for both.

BIOL 322. Introductory Microbiology (5). Prerequisite, BIOL 220. An introduction to the biology of the microorganisms with applications to medicine, food science, industry, and agriculture. This course is not intended for students who plan to take additional classes in microbiology. Four lectures and one two hour laboratory a week. Formerly BISC 369. Students may not receive credit for both.

BIOL 323. Microbiology (5). Prerequisites, BIOL 220 and either CHEM 113/113LAB or CHEM 182/182LAB. Principles of microbiological practice, including isolation, cultivation, morphological and physiological methods of analysis, and variability. Two hours lecture and six hours laboratory per week. Formerly BISC 370. Students may not receive credit for both.

BIOL 341. Plant Taxonomy (5). Prerequisite, BIOL 111 or BIOL 200 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. Formerly BOT 333. Students may not receive credit for both.

BIOL 343. Plant Anatomy (5). Prerequisite, BIOL 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. Formerly BOT 358. Students may not receive credit for both.

BIOL 344. Dendrology (4). Prerequisite, BIOL 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. Formerly BOT 365. Students may not receive credit for both.

BIOL 350. Invertebrate Zoology (5). Prerequisite, BIOL 112 or permission of instructor. Morphology, phylogeny, physiology, and embryology of the invertebrate phyla, exclusive of parasitic forms. Four hours lecture and two hours laboratory per week. Formerly ZOOL 361. Students may not receive credit for both.

BIOL 351. General Entomology (5). Insect biology, taxonomy, structure and relationships to man. Two hours lecture and six hours laboratory or field work per week. Formerly ZOOL 362. Students may not receive credit for both.

BIOL 352. Parasitology (5). Prerequisite, BIOL 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. Formerly ZOOL 380. Students may not receive credit for both.

BIOL 353. Comparative Vertebrate Anatomy (6). Prerequisite, BIOL 112. Evolutionary, functional, and developmental aspects of vertebrate morphology. Three hours lecture and six hours laboratory per week. Formerly ZOOL 351. Students may not receive credit for both.

BIOL 354. General Vertebrate Embryology (5). Prerequisite, BIOL 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. Formerly ZOOL 348. Students may not receive credit for both.

BIOL 355. Human Anatomy and Physiology (5). Prerequisite, permission of the instructor. The first quarter of a two-quarter study of the structure and function of the human body. Students should not take BIOL 355 unless they intend to take BIOL 356. Three hours lecture and six hours laboratory per week. Formerly ZOOL 341. Students may not get credit for both.

BIOL 356. Human Anatomy and Physiology (5). Prerequisite, BIOL 355 and permission of instructor. The second quarter of the two quarter study of the structure and function of the human body. Three hours lecture and four hours laboratory per week. Formerly ZOOL 342. Students may not get credit for both.

BIOL 360. General Ecology (5). Prerequisites, BIOL 110, 111 and 112 and MATH 153. Interrelationships of organisms with their environment. Three hours lecture and four hours laboratory/field work per week. A weekend field trip may be required. Formerly BISC 375. Students may not receive credit for both.

BIOL 377. Regional Natural History (2). Prerequisite, permission of instructor. Classroom study of the natural history of a selected region as preparation for one-to-two week field trip. Emphasis will be on developing background skills to undertake a field exploration over the quarter (winter, spring, summer) break. Subtitles will identify the selected ecological region (e.g. Baja California Natural History). May be repeated for credit under a different subtitle (region). BIOL 377 and GEOL 377 are equivalent courses. Formerly BISC/BIOI 377.1. Students may not receive credit for more than one.

BIOL 377LAB. Regional Natural History (3). Prerequisite, BIOL 377 and permission of instructor. Special fees required. One-to-two week field trip to explore biological and physical patterns and processes in selected regions of North America. Emphasis will be on recording field observations, keeping a field journal, field study techniques, and performing investigations chosen and developed by student participants. Subtitles will identify the region studies. May be repeated for credit under a different subtitle. BIOL 377LAB and GEOL 377LAB are equivalent courses. Formerly BISC/BIOI 377.2.

BIOL 398. Special Topics (1-6).

BIOL 420. Environmental Microbiology (5). Prerequisites, BIOL 323 and CHEM 362. Ecology of microorganisms in marine, freshwater and soil environments. Three hours lecture and four hours laboratory per week. Formerly BISC 411. Students may not receive credit for both.
BIOL 421. General Virology (5). Prerequisites, BIOL 323 and CHEM 362. BIOL 321 strongly recommended. Introduction to the animal viruses, plant, and viral viruses and their hosts. Five hours lecture per week. Formerly BISC 413. Students may not receive credit for both.

BIOL 422. Immunology (5). Prerequisites, BIOL 323 and CHEM 361. Nature of the immune response, disease preventing and producing mechanisms and laboratory applications. Five hours lecture per week. Formerly BISC 414. Students may not receive credit for both.

BIOL 423. Techniques in Immunology and Virology (5). Prerequisite or corequisites, BIOL 420 or 422. A practical course in diagnostic and experimental immunology and virology. Three hours lecture and four hours laboratory per week. Formerly BISC 415. Students may not receive credit for both.

BIOL 425A. Molecular Biotechnology (5). Prerequisite, BIOL 220, BIOL 322 or BIOL 323 recommended. The practice and theory of techniques used in molecular biology. Two hours lecture and six hours laboratory per week. Formerly BISC 423. Students may not receive credit for both.

BIOL 426. Medical Microbiology (3). Prerequisite, BIOL 323 or permission of instructor. An introduction to medical microbiology emphasizing the biology of pathogenic bacteria, their relation to infectious diseases and the isolation and identification of specific disease agents. Three lectures per week. Formerly BISC 445. Students may not receive credit for both.

BIOL 426A LAB. Medical Microbiology Laboratory. Prerequisite, BIOL 423 or BIOL 425A. Prerequisite or corequisite, BIOL 426. Formerly BISC 445A and BIOL 426A. Students may not receive credit for more than one.

BIOL 427. Biotechnology for Teachers (5). Prerequisites, BIOL 110, 111, 112, 220; also strongly recommended, BIOL 321. This course will help pre-service teachers develop the skills necessary to construct and perform biological experiments using contemporary biotechnology in the context of educational theory and application.

BIOL 440. Plant Pathology (5). Prerequisite, BIOL 111. Nature of plant diseases and the bacterial and fungal organisms which cause them. Two hours lecture and six hours laboratory per week. Formerly BOT 460. Students may not receive credit for both.

BIOL 441. Plant Physiology (5). Prerequisites, BIOL 111, BIOL 220, BIOL 320, CHEM 362, 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. Formerly BOT 461. Students may not receive credit for both.

BIOL 442. 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. Formerly BOT 462. Students may not receive credit for both.

BIOL 443. Mycology (5). Prerequisite, BIOL 111 and BIOL 220. 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. Formerly BOT 463. Students may not receive credit for both.

BIOL 444. Algalogy (5). Prerequisites, BIOL 111 and BIOL 220. Taxonomy and ecology of fresh-water and marine algae. Three hours lecture and four hours laboratory per week. Formerly BOT 464. Students may not receive credit for both.

BIOL 445. Mushrooms, Puffballs, and Related Forms (5). Prerequisite, BIOL 111 or permission of instructor. Stresses taxonomy, morphology, and ecology of mushrooms and related forms with emphasis on Northwest flora. Offered fall quarter only. Formerly BOT 465. Students may not receive credit for both.

BIOL 450. Ichthyology (4). Prerequisite, BIOL 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. Formerly BOT 466. Students may not receive credit for both.

BIOL 451. Herpetology (4). Prerequisite, BIOL 112. An introduction to biology, taxonomy and distribution of modern amphibians and reptiles with special reference to the Pacific Northwest. Two hours lecture and four hours laboratory or field studies per week. Formerly ZOOL 411. Students may not receive credit for both.

BIOL 452. Ornithology (4). Prerequisite, BIOL 112. Study of birds with special emphasis on anatomic and behavioral adaptations. Three hours lecture and two hours laboratory or field study per week. Formerly ZOOL 410. Students may not receive credit for both.

BIOL 453. Mammalogy (5). Prerequisite, BIOL 112. Evolution, taxonomy and ecology of mammals with laboratory emphasis on Pacific Northwest mammals. Three hours lecture and four hours laboratory per week. Formerly ZOOL 409. Students may not receive credit for both.

BIOL 454. Histology (5). Prerequisites, BIOL 112, BIOL 220 and either BIOL 353, BIOL 356 or BIOL 455. Systematic study, description and identification of microscopic structures of animal tissues. Three hours lecture and four hours laboratory per week. Formerly ZOOL 471. Students may not receive credit for both.

BIOL 455. Zoophysiology (5). Prerequisites, BIOL 112, BIOL 220 or BIOL 320, CHEM 362, or permission. Vertebrate physiology; laboratory experience in physiological techniques. Three hours lecture and four hours laboratory per week. Formerly ZOOL 472. Students may not receive credit for both.

BIOL 456. Biology of Aging (3). Prerequisite, BIOL 201 or BIOL 355, 356 or BIOL 455. Description and analysis of aging phenomena in humans and animal models. Three lectures per week. Formerly BISC 460. Students may not receive credit for both.

BIOL 461. Community Ecology (3). Prerequisite or corequisite, BIOL 360. Principles of the structure and function of ecological communities. Three hours lecture/discussion per week. Formerly BISC 475. Students may not receive credit for both.

BIOL 461A LAB. Community Ecology Laboratory (2). Corequisite, BIOL 461. Laboratory and field study of the structure and function of ecological communities. Four hours of laboratory/field work per week. Weekend field trips may be required. Formerly BISC 475A and BIOL 461A. Students may not receive credit for more than one.

BIOL 462. Wildlife and Fisheries Ecology (5). Prerequisite, BIOL 360. Ecological principles of wildlife and fish populations and communities as they relate to management theory and practice in the Pacific Northwest. Three hours lecture/discussion and four hours laboratory/field work per week. Weekend field trips may be required. Formerly BISC 476. Students may not receive credit for both.

BIOL 463. Limnology (5). Prerequisites, CHEM 182 and BIOL 360 or permission of instructor. Chemical, physical and biological characteristics of inland waters. Three hours lecture and four hours laboratory per week. Formerly BISC 480. Students may not receive credit for both.

BIOL 464. Terrestrial Plant Ecology (5). Prerequisites, BIOL 111 and BIOL 360 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. Formerly BOT 441. Students may not receive credit for both.

BIOL 465. Biology of Animal Behavior (4). Prerequisite BIOL 112 or permission of instructor. Three lectures and two hours of laboratory a week. Formerly ZOOL 465. Students may not receive credit for both. BIOL 465. Biology of Animal Behavior (4). Prerequisite BIOL 112 or permission of instructor. Three lectures and two hours of laboratory a week. Formerly ZOOL 465. Students may not receive credit for both.

BIOL 466. Conservation Biology (5). Prerequisite BIOL 360 or permission of instructor. An introduction to the theory and practice of conservation biology, with emphasis on case studies. Two hours lecture, one hour discussion, and 4 hours lab or field study per week.
Undergraduate Courses/Programs on Reserve

The following courses/programs are on reserve and may be offered subject to program needs: Allied Health Sciences Program; BIOL 424. Laboratory Immunology (1); BIOL 460. Introduction to Soils (5); BIOL 468. Biogeography (5).

BUSINESS ADMINISTRATION

http://www.cwu.edu/~cob/bsad/
Shaw-Smyser 329

Office of the Chair
Stephen B. Scheperman, Ellensburg
Don R. Nixon, SeaTac
F. Lynn Richmond, Lynnwood

Professors
Bruce D. Bagamery, FIN (Lynnwood)
James P. Beaghan, MKT (SeaTac)
Wayne A. Fairburn, FIN (Ellensburg)
Gerald P. Gunn, BUS (Ellensburg)
Stanley Jacobs, FIN (SeaTac)
Eldon C. Johnson, FIN (Lynnwood)
James L. Nimmricht, HRM (Ellensburg)
Don R. Nixon, M&O (SeaTac)
Stephen B. Scheperman, BUS (Ellensburg)
Hugh M. Spall, Law (Ellensburg)

Associate Professors
Peter J. Boyle, MKT (Lynnwood)
Michael Chang, MIS (Ellensburg)
C. Christopher Lee, MIS (SeaTac)
Gary M. Richardson, FIN (Ellensburg)
F. Lynn Richmond, M&O (Ellensburg)
Richard T. Trimble, OSC (Lynnwood)

Assistant Professors
Ozden Bayazit, OSC, MIS (Ellensburg)
James N. Bradley, M&O (Ellensburg)
Gregory Cant, M&O (Ellensburg)
Megan Cleaver Sellick, MKT (Ellensburg)
Graeme Coetzer, HRM (Lynnwood)
Ronald Elkins, OSC (Ellensburg)
Dennis G. Flynn, MKT and OSC (SeaTac)
Wanda H. Fujimoto, MKT (Ellensburg)
Nancy Graber-Pigeon, Law, HRM (Ellensburg)
Ruth Lapsis, M&O (Ellensburg)
John Montoya, HRM (Lynnwood, SeaTac)
Rex Moody, MKT (Ellensburg)
William H. Turnquist, MIS (Ellensburg)

Business Administration Program Educational Outcomes

The department has identified overall educational outcomes related to knowledge, values, and skills for all BSBA graduates. Following are the outcomes for the Bachelor of Science in Business Administration (BSBA) programs:

1. Knowledge-Based Educational Outcomes. Upon completion of the BSBA program, students should:
   • have a working knowledge in a set of analytical business tools related to: math, statistics, accounting, economics, and behavioral science.
   • apply business core concepts, principles and analytical skills across functional lines.
   • understand global, national, and regional business systems and environments.

2. Values-Based Educational Outcomes. Upon completion of the BSBA program, students should:
   • comprehend issues in ethical decision making and social responsibility.
   • understand diversity issues in the workplace and society.

3. Skills-Based Educational Outcomes. Upon completion of the BSBA program, students should:
   • function effectively when in teams both as a leader and as a member.
   • demonstrate effective oral and written business communication skills.
   • use business computer application software and support decisions on problems in areas of specialization.
   • access, develop, and use information to analyze business problems and propose feasible solutions.

BSBA Program Overview

The department offers coursework leading to the Bachelor of Science in Business Administration (BSBA) degree. In addition to the University general education requirements, the BSBA major is comprised of three principal components: 1) pre-admission courses that provide foundation knowledge and skills needed for further study in business, 2) business core courses that build on the pre-admission group and focus on decision making in the main functional areas of business, and 3) specialization courses that allow for advanced study in one of the functional areas.

Specializations are available in seven areas: finance, general business, human resource management, management and organization, marketing management, operations and supply chain management and management information systems. All courses or specializations may not be available at all sites.

Transfer Credits and Prior Learning Assessment

Equivalent lower division (100-200 level) courses may be transferred toward meeting the pre-admission requirements. Upper division (300-400 level) courses may also be transferred toward meeting the business core and specialization requirements, but only with the approval of the Department Chair and the College Dean or designee.

For individuals seeking academic credit for prior work experiences, a prior learning assessment program is available. Students...
opting for this program must demonstrate competency in the course material by successfully completing a challenge exam. The following pre-admission and business core courses are eligible: BUS 241; BUS 221, OSC 323, MIS 386; MKT 360; FIN 370; MGT 380. The result of the challenge is recorded as “S” or “U” on the transcript and is not used in computing grade point average. See your business administration advisor or program director at your site for additional information.

Service to Other Majors

Students majoring outside of the College of Business who are required to take courses in this College 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-college majors wishing to enroll in upper division courses.

BSBA Program Admission Requirements

Students must apply and be accepted into the major prior to beginning 300- or 400-level business coursework. At the time of application, the 35 credits of pre-admission coursework should be substantially completed. Application forms are available in the department offices. The completed form must be accompanied by transcripts that reflect all prior college work. Admission shall be based on grades earned in the following courses:

<table>
<thead>
<tr>
<th>Pre-admission Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 251, Accounting I</td>
<td>5</td>
</tr>
<tr>
<td>ACCT 252, Accounting II</td>
<td>5</td>
</tr>
<tr>
<td>BUS 241, Legal Environment of Business</td>
<td>5</td>
</tr>
<tr>
<td>BUS 221, Introductory Business Statistics</td>
<td>5</td>
</tr>
<tr>
<td>(Prerequisite, IT 101 and MATH 130)</td>
<td></td>
</tr>
<tr>
<td>ECON 201, Principles of Economics, Micro</td>
<td>5</td>
</tr>
<tr>
<td>ECON 202, Principles of Economics, Macro</td>
<td>5</td>
</tr>
<tr>
<td>MATH 153, Pre-Calculus Mathematics I OR MATH 170, Intuitive Calculus OR MATH 172, Calculus</td>
<td>5</td>
</tr>
</tbody>
</table>

Pre-admission Total 35

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 completed ENG 101/102. These criteria 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 in a pre-major status who have not met all of the above requirements may enroll in a business core or specialization course only with permission of the College Dean or designee.

### BSBA Major (1750)

**Business Core Requirements**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN 370, Introductory Financial Management</td>
<td>5</td>
</tr>
<tr>
<td>MGT 380, Organizational Management</td>
<td>5</td>
</tr>
<tr>
<td>MGT 360, Principles of Marketing</td>
<td>5</td>
</tr>
<tr>
<td>MIS 386, Management Info. Systems</td>
<td>5</td>
</tr>
<tr>
<td>MGT 489, Strategic Management</td>
<td>5</td>
</tr>
</tbody>
</table>

**Business Core Total** 30

**Communication Requirement**

Select from the following: 4-5

- ADMG 385, Business Communication and Report Writing
- COM 345, Business and Professional Speaking
- ENG 310, Technical Writing

**Specialization Requirements:** 25

Select one of the following seven areas:

- Finance
- General Business
- Human Resource Management
- Management and Organization
- Management Information Systems
- Marketing Management
- Operations and Supply Chain Management

**Total** 94-95

### Additional BSBA Graduation Requirements

The following special rules apply to students seeking the BSBA major:

- Students must earn a minimum cumulative GPA of 2.25 in the 94-95 credit in-the-major coursework to be eligible for a degree. In addition, the Department requires a minimum GPA of 2.25 in the 59-60 credit upper-division component of the in-the-major total.
- Students must complete a minimum of 90 quarter credits of non-business courses, which may include up to 13.5 quarter credits of economics and 9 quarter credits of business statistics (BUS 221, 321). For the purpose of this requirement, “non-business” courses include all EXCEPT those with the prefix ACCT, BUS, ECON, FIN, HRM, MGT, MIS, MKT, or OSC.
- Transfer students must complete at least 40 CWU business credits to be eligible for the business administration degree.
- The BSBA program requires a single specialization of at least 25 credits. Occasionally a student requests a second specialization. To be eligible for a second specialization, a minimum of 20 unique credits must be completed. Unique in this sense means the credits have not been used as part of any other BSBA specialization.

### BSBA with Finance Specialization (1751)

**Advisors:** Bagamery, Fairburn, Jacobs, E. Johnson, Lasik, G. Richardson

Finance builds on the business core and focuses on decision making in three interrelated areas: managerial finance, investments, and financial markets and institutions. The business core and finance specialization courses provide academic preparation for a wide variety of entry-level positions in managerial finance and the financial services industry.

**Required Courses**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 330, Money and Banking</td>
<td>5</td>
</tr>
<tr>
<td>FIN 470, Intermediate Financial Management</td>
<td>5</td>
</tr>
<tr>
<td>FIN 475, Investments</td>
<td>5</td>
</tr>
<tr>
<td>FIN 471, Case Problems in Managerial Finance</td>
<td>5</td>
</tr>
<tr>
<td>FIN 476, Advanced Investments</td>
<td>5</td>
</tr>
<tr>
<td>FIN 477, International Finance</td>
<td>5</td>
</tr>
<tr>
<td>FIN 478, Management of Financial Institutions</td>
<td>5</td>
</tr>
<tr>
<td>BUS 490, Cooperative Education</td>
<td>1-6</td>
</tr>
</tbody>
</table>

One other course approved in advance by a finance advisor (5)

**Finance Specialization Total** 25

### BSBA with General Business Specialization (1758)

**Advisors:** Bagamery, Beaghan, Boyle, Coezer, Fairburn, Fujimoto, Graber-Pigeon, Gunn, Jacobs, Johnson, Lasuk, Lapley, Lee, Nimmicht, Nixon, Richmond, Spall, Turnquist and Schepman

This specialization is intended for the student who wishes to tailor a “unique” set of specialization courses to his or her needs or for the student who desires a broad-based “generalist” track within the Business Administration major. A minimum of 25 upper division elective credits is required and at least 20 credits must be Business (BUS), Finance (FIN), Human Resource Management (HRM), Management (MGT), Marketing (MKT), or Operations and Supply Chain Management (OSC) courses. The student is limited to ten credits from any one area and the specialization must include at least ten credits of 400-level courses.

The following courses are pre-approved for inclusion in this specialization:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 490, Cooperative Education</td>
<td>1-6</td>
</tr>
<tr>
<td>BUS 496, Individual Study</td>
<td>1-6</td>
</tr>
<tr>
<td>FIN 371, Personal Financial Planning</td>
<td>5</td>
</tr>
</tbody>
</table>
FIN 470, Intermediate Financial Management 5
FIN 475, Investments .......................... 5
HRM 485, Management of Human Resources 5
HRM 445, Organizational Staffing .......................... 5
MGT 384, Intro to International Business .......................... 5
MGT 481, Organizational Behavior .......................... 5
MGT 484, International Management .......................... 5
MKT 367, Consumer Behavior .......................... 5
MKT 467, International Marketing .......................... 5
MKT 469, Market Research .......................... 5
MKT 472, Advanced Operations .......................... 5
OSC 324, Quality and Continuous Improvement .......................... 5
OSC 435, Advanced Operations Management .......................... 5
OSC 464, Supply Chain Management .......................... 5

Other courses may be approved by an advisor.

General Business Specialization Total 25

BSBA with Human Resource Management Specialization (1761)
Advisors: Coetzer, Graber-Pigeon, Lapsley, Montoya, Nimnicht, Nixon, and Richmond

Students pursuing the HR specialization will deal with fundamental organizational processes that must be developed and managed for continuous improvement by both HR specialists and by all managers in general. Thus, the study of HR takes on a dual emphasis. First, by pursuing an HR specialization, students will be thoroughly trained to focus decision-making as it pertains to the acquisition, utilization, development and retention of employees. Alternatively, the study of HR is also applicable as a strong supplement to other specializations or majors.

Required Courses Credits
HRM 381, Management of Human Resources 5
HRM 485, Problems in Human Resource Management .......................... 5
HRM 445, Organizational Staffing 5
HRM 479, Industrial Relations/Collective Bargaining 5
HRM 488, Compensation Policy and Administration 5
BUS 490, Cooperative Education (1-6) 5
ECON 355, Economics of Labor 5
MGT 481, Organizational Behavior 5
OSC 435, Advanced Operations Management 5

Human Resource Management Total 25

BSBA with Management Information Systems Specialization (1740)
Advisors: Bayazit, Chang Lee

The Management and Organization specialization reflects the diverse activities required to productively utilize the organization’s resources. The overall focus of this specialization will be on how to effectively coordinate people, technology, and structure in order to reach organizational objectives. Studies include both the theory and practice of management as preparation for leadership in public and private organizations.

Required Courses Credits
MGT 481, Organizational Behavior .......................... 5
MGT 484, International Management .......................... 5
Select from the following: .......................... 15
MGT 383, Contemporary Management Practices 5
MGT 384, Introduction to International Business 5
MGT 385, Organizational Theory 5
MGT 389, Business and Society 5
MGT 482, Applied Management & Organizational Behavior 5
MGT 483, Organizational Change 5
MGT 487, Small Business Management 5
BUS 490, Cooperative Education (1-6) 5
HRM 381, Management of Human Resources 5
OSC 435, Advanced Operations Management 5
ECON 452, Managerial Economics 5

Management and Organization Total 25

BSBA with Management Information Systems Specialization (1740)
Advisors: Bayazit, Chang Lee

Management Information Systems (MIS) plays an important role in business by bridging the gap between business decision makers and technical staff. The MIS curriculum prepares students for a variety of entry-level positions in the following areas: systems analysis, database administration, web development, network administration, management consulting, and project management. Students will apply information systems techniques to produce the information that organizations increasingly require, to analyze and design information systems for business decision-making, and to develop and operate data and communication processing systems in organizations. Students will be able to explain the crucial role of computing, information systems and technology in integrating various entities throughout the business process as well as the supply chain. Students will be able to demonstrate necessary computing and analytical skills in order to solve problems in business.

Required Courses Credits
MIS 367, Systems Analysis & Design in Business .......................... 5
MIS 420, Database Systems in Business .......................... 5
MIS 450, Systems Implementation in Business .......................... 5
Select from the following: .......................... 10
MIS 400, MIS Laboratory Assistant (2-6) 5
MIS 430, Business Data Communications (5) 5
MIS 440, E-Business and Information Systems (5) 5
BUS 490, Cooperative Education (1-6) 5

MIS Specialization Total 25

BSBA with Marketing Management Specialization (1756)
Advisors: Beaghan, Boyle, Cleaver Sellick, Flynn, Fujimoto, Moody

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.

Required Courses Credits
MKT 367, Consumer Behavior .......................... 5
MKT 449, Marketing Research .......................... 5
MKT 470, Marketing Problems and Policy .......................... 5
Select a minimum of 10 credits from the following: .......................... 10
MKT 361, Channels of Distribution Management 5
MKT 462, Marketing Promotion Management 5
MKT 463, Sales Force Management 5
MKT 465, Direct Marketing 5
MKT 466, Industrial Marketing 5
MKT 467, International Marketing 5
MKT 475, New Product Development 5
BUS 490, Cooperative Education (1-6) 5
ME 467, Retail Management 4
ECON 310, International Economics 5

Marketing Management Total 25

BSBA with Operations and Supply Chain Management Specialization (OSC) (1745)
Advisors: Bayazit, Elkins, Flynn, Lee, Nixon, Trimble, and Turnquist

Operations and Supply Chain Management (OSC) builds on the business core and prepares students for careers as analysts, decision makers, and managers in any and all segments of the organization’s supply,
production, and distribution chain. Students who complete this program will have a fundamental understanding of the systematic, integrated nature of the creation and delivery of goods and services, and the manner in which the supply, production and distribution chain includes or involves other internal and external entities. Students will be able to solve problems and make decisions in this environment by using concepts from accounting, economics and other business administration areas, computing and analytical skills, and appropriate quantitative and qualitative models.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSC 435, Advanced Operations  Management</td>
<td>5</td>
</tr>
<tr>
<td>OSC 464, Supply Chain Management</td>
<td>5</td>
</tr>
<tr>
<td>OSC 475, Global Supply Chain Management</td>
<td>5</td>
</tr>
<tr>
<td>OSC 480, Problems and Policy in Operations and SCM.</td>
<td>5</td>
</tr>
<tr>
<td>Minimum of 5 credits from the following:</td>
<td>5</td>
</tr>
<tr>
<td>OSC 324, Quality and Continuous Improvement</td>
<td>5</td>
</tr>
<tr>
<td>ACCT 305, Cost Accounting</td>
<td>5</td>
</tr>
<tr>
<td>BUS 490, Cooperative Education (1-6)</td>
<td>5</td>
</tr>
<tr>
<td>ECON 452, Managerial Economics (5) OR One other course approved in advance by OSC advisor (5)</td>
<td></td>
</tr>
</tbody>
</table>

Operations and SCM Total 25

Business Administration Minor (1750)

Advisors: Cant, Fairburn, Fujimoto, Gunn, Lapsley, Lasik, Nimnicht, Nixon, Richmond, Schepman, and Turnquist

The Business Administration minor provides students the opportunity to select business administration and supporting accounting and economics courses to meet individual educational needs. Students are admitted into the program when the completed minor application form is approved by a Business Administration minor advisor. Forms are available in the department offices. Students must earn a cumulative grade point average of 2.25 in courses allowed in fulfilling the Business Administration minor requirements.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 201, Principles of Economics Micro</td>
<td>5</td>
</tr>
<tr>
<td>ACCT 301, Financial Accounting Analysis</td>
<td>5</td>
</tr>
<tr>
<td>Select a minimum of 20 credits from the following:</td>
<td>20</td>
</tr>
<tr>
<td>Courses with a prefix of BUS, FIN, HRM, MGT, MIS, or OSC. At least 15 of the 20 credits must be upper division</td>
<td></td>
</tr>
</tbody>
</table>

Business Administration Minor Total 30

Suitable elective courses for the Business Administration minor may come from any of the functional areas of Business Administration. Appropriate course selections must be made and pre-approved by one of the Business Administration minor advisors. Advisors make every effort to help tailor the minor to best serve the needs of the individual student.

Supply Chain Management Certificate Program

Advisors: Elkins, Flynn, Nixon, Richmond, Trimble, and Turnquist

The certificate program provides the opportunity for the student to gain knowledge and skills in the full spectrum of supply chain activities--supplier relationships, purchasing management, operations and inventory management, logistics and transportation, quality management, and information technology. Typical job titles include: Purchasing/Supply Manager, Procurement Manager, Materials Manager, Contracts Manager, Purchasing Agent, Senior Buyer, and Buyer/Planner.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIS 386, Management Information Systems</td>
<td>5</td>
</tr>
<tr>
<td>OSC 435, Advanced Operations Management</td>
<td>5</td>
</tr>
<tr>
<td>OSC 464, Supply Chain Management Management</td>
<td>5</td>
</tr>
<tr>
<td>OSC 475, Global Supply Chain Management Management</td>
<td>5</td>
</tr>
<tr>
<td>Select a minimum of 5 credits from:</td>
<td>5</td>
</tr>
<tr>
<td>BUS 490, Cooperative Education (1-6)</td>
<td></td>
</tr>
<tr>
<td>BUS 490, Cooperative Education (5-6)</td>
<td></td>
</tr>
<tr>
<td>ENG 310, Technical Writing (4)</td>
<td></td>
</tr>
<tr>
<td>MGT 384, Intro to International Business (5)</td>
<td></td>
</tr>
<tr>
<td>BUS 321, Intermediate Business Statistics (5)</td>
<td></td>
</tr>
<tr>
<td>OSC 324, Quality and Continuous Improvement</td>
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</tbody>
</table>

Certificate Program Total 25

This program is open to matriculating students who meet the course prerequisites. The courses in the certificate program may be used as part of the B.S. Business Administration program. A cumulative GPA of 3.0 must be earned in the program to be eligible for the certificate.

Business Courses

BUS 221. Introductory Business Statistics (5).
Prerequisites, IT 101 and MATH 130 or equivalents. Introduction to inferential business statistics. Using probability distributions and information from samples for business decisions. Formerly MS 221 and OMIS 221. Students may not receive credit for more than one.

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. Formerly FIN 241. Students may not receive credit for both.

BUS 298. Special Topics (1-6).

Prerequisite, BUS 221. Sampling techniques, the design of experiments, analysis of variance, linear regression and correlation, and time series analysis. Formerly MS 321 and OMIS 321. Students may not receive credit for more than one.

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. Formerly FIN 341. Students may not receive credit for both.

BUS 374. Personal Investments (5).
Prerequisite, IT 101 or ability to use computer spreadsheets. Introduction to investment goals, strategies and securities, including certificatess of deposit, money market instruments, stocks, bonds, and mutual funds. Additional topics introduced are risk analysis, taxes, and portfolio basics. Does not count for credit in the Finance specialization.

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

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. Formerly MGT 400. Students may not receive credit for both.

BUS 452. Real Estate Finance and Investment (3).
Prerequisites, permission. Appraising techniques, investment decisions and sources and methods of financing real property. Formerly FIN 472 and BUS 472. Students may not receive credit for more than one.

BUS 490. Cooperative Education (1-12).
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 495. Directed Research (1-5).
Prerequisite, permission of instructor. May be repeated. Grade will be S or U.
BUS 496. Individual Study (1-6). Prerequisite, permission of instructor.
BUS 498. Special Topics (1-6).
BUS 499. Seminar (1-5).

Undergraduate Courses/Programs on Reserve

The following courses and programs are on reserve and may be offered subject to program needs: BUS 344. Real Estate Law (3); BUS 352. Principles of Real Estate (5); BUS 357. Risk and Insurance (5); BUS 515. Organization and Environment (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 valuation, capital budgeting, cost of capital, financial forecasting, financial statement analysis, and working capital management. Formerly BUS 370. Students may not receive credit for both.

FIN 371. Personal Financial Planning (5). Prerequisite, FIN 370 or permission. Introduction to full range of financial planning decisions, including: budgeting, investing, tax planning, risk management, employee benefits, retirement, and estate planning.

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. Formerly BUS 470. Students 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. Formerly BUS 471. Students 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. Formerly BUS 475. Students 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. Formerly BUS 476. Students 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. Formerly BUS 477. Students 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. Formerly BUS 478. Students may not receive credit for both.

Human Resource Management Courses
HRM 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. Formerly IR 381, BUS 381, and MGT 381. Students may not receive credit for more than one.

HRM 442. Training and Development (5). Prerequisite, HRM 381. Application of training and development concepts and techniques used in assessing training requirements, planning and budgeting training programs, developing and facilitating training, and evaluating results.

HRM 445. Organizational Staffing (5). Prerequisite, HRM 381. Applied and conceptual analysis of employee recruitment, selection, placement, retention, and career development.

HRM 479. Industrial Relations/Collective Bargaining (5). Prerequisite, HRM 381 or permission. Statutory and case law governing labor relations. Contracts and negotiations. Impasse procedures. Arbitration cases and grievance procedures. Contemporary issues and cases. Formerly IR 479, BUS 479, and MGT 479. Students may not receive credit for more than one.

HRM 486. Problems in Human Resource Management (5). Prerequisite, HRM 381 plus two HRM electives, or permission of instructor. Analysis and research on selected topics involving contemporary issues in personnel management. This is the capstone course for the HRM specialization. Formerly IR 486, BUS 486, and MGT 486. Students may not receive credit for more than one.

HRM 488. Compensation Policy and Administration (5). Prerequisite, HRM 381. Employee compensation policy and administration is studied on a broad perspective encompassing direct financial payments, employer benefits, and nonfinancial rewards. Formerly IR 488, BUS 488, and MGT 488. Students may not receive credit for more than one.

Management Courses
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. Formerly BUS 380. Students may not receive credit for both.

MGT 383. Contemporary Management Practices (5). Prerequisite, MGT 380 or permission of instructor. Exposure to and experience with contemporary management techniques and practices. Conceptual foundations are examined through case work, applied field activities and team projects. Formerly MGT 389.1 and BUS 383. Students 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. Formerly BUS 384. Students 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. Formerly BUS 385. Students may not receive credit for both.

MGT 388. Women in Management (5). An examination of the ways in which American sex roles, together with cultural practices and organizational structures, affect women’s attainment of and performance in managerial roles within business, educational, and professional organizations. Formerly SOC 388, MGT 388, and BUS 388. MGT 388 and SOC 388 are equivalent courses. Students 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. Formerly BUS 389. Students may not receive credit for both.

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. Formerly BUS 481. Students 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. Formerly BUS 482. Students 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. Formerly BUS 483. Students may not receive credit for both.

MGT 484. International Management (5). The capstone course for the Management and Organization Specialization. A comparative study of management in selected countries as well as an analysis of key managerial problems encountered in the multinational corporation.

MGT 487. Small Business Management (5). Prerequisite, completion of all core requirements for business administration or accounting except MGT 489. Investigation of small business management and policy issues. Student-consulting teams develop solutions to small business problems in marketing, finance, production, and management. Formerly MGT 471 and BUS 487. Students may not receive credit for more than one.

MGT 489. Strategic Management (5). Prerequisite, completion of all other core requirements for business administration or accounting. Basic policy decisions involved in managing the total enterprise. Formerly BUS 489. Students may not receive credit for both.

Management Information System

MIS 386. Management Information Systems (5). Prerequisite, IT 101 or equivalent, and admission to the major or permission of instructor. Use of computer-based information systems in all functional areas of business. Computer and information technology, resources, management, and end-user decision making, and system development. Formerly MS 386, OMIS 386 and BUS 386. Students may not receive credit for more than one.

MIS 387. Systems Analysis, Design, and Implementation (5). Prerequisite, MIS 386 or permission of instructor. Methods and techniques for the design, development and implementation of computer-based information systems for management and end-users. Emphasizes the integrated nature of modern systems. Formerly MS 387, OMIS 387 and BUS 387. Students may not receive credit for more than one.

MIS 400. MIS Laboratory Assistant (2). Prerequisite, MIS 386, software installation, technical support, and software training for students & Faculty in a computer lab. MIS teaching and/or research assistant. May be repeated to a maximum total of 6 credits.

MIS 420. Database Systems in Business (5). Prerequisite, MIS 387 or permission of instructor. Database management systems theories. Logical data modeling and physical database design and implementation for business process improvement and effective business decision-making. Structured query language. Formerly OMIS 420. Students may not receive credit for more than one.

MIS 430. Business Data Communications (5). Prerequisite, MIS 386 or permission of instructor. Optimizing data communication systems for effective business decision-making. Planning, design, and management of networks and operating systems for enterprise-wide computing.


MIS 450. Systems Implementation in Business (5). Prerequisites, MIS 420 and CS 111 or permission of instructor. A capstone course in MIS emphasizing systems implementation and maintenance. Emerging technologies in creating enterprise computer applications for business decision-making.

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. Formerly BUS 360. Students 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. Formerly BUS 361. Students may not receive credit for both.

MKT 367. Consumer Behavior (5). Prerequisite, MKT 360 or permission. An introduction to the 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. Formerly BUS 367. Students may not receive credit for both.

MKT 398. Special Topics (1-6).

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. Formerly BUS 461. Students 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, managing, personal selling, and sales promotion; analysis for the promotion mix; and public interest in marketing communication. Formerly BUS 462. Students 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. Formerly BUS 463. Students 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. Formerly BUS 465. Students 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. Formerly BUS 466. Students 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. Formerly BUS 467. Students may not receive credit for both.

MKT 469. Market Research (5). Prerequisites, BUS 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.) Formerly BUS 469. Students may not receive credit for both.

MKT 470. Marketing Problems and Policy (5). Prerequisites, MKT 367, MKT 469 plus two marketing electives and senior standing; by permission only. The capstone course for the marketing specialty. Uses case analysis and other techniques to develop marketing decision skills and policy determination abilities. Formerly MKT 468 and BUS 468. Students may not receive credit for more than one.

MKT 475. New Product Development (5). Prerequisite, MKT 360. Recommended, MKT 469. State-of-the-art management techniques to identify markets, develop new products and ideas, measure customer benefits, and design profitable new products.
Operations and Supply Management Courses
OSC 323. Operations Management (5). Prerequisite, BUS 221, and admission to the major, or permission of instructor. For Business Administration majors, BUS 321 is strongly recommended. Introduction to the production/operations management function. Quantitative and qualitative methods and models to support decision making in production, operations, logistics, and other functional areas. Formerly MS 323 and BUS 323. Students may not receive credit for more than one.

OSC 324. Quality and Continuous Improvement (5). Prerequisite, OSC 323 or permission of instructor. Development and deployment of quality management and continuous improvement practices. Qualitative, analytical, and statistical methods which integrate managerial, technical, behavioral, and economic perspectives. Formerly MS 324, OMIS 324 and BUS 324. Students may not receive credit for more than one.

OSC 435. Advanced Operations Management (5). Prerequisites, OSC 323 and MS 386 or permission of instructor. Advanced methods and models for planning, management and decision making in the supply, operations and logistics chain. Emphasizes the integration and coordination of resources for productivity improvement. Formerly MGT 435, OMIS 435, and BUS 435. Students may not receive credit for more than one.

OSC 450. Logistics Management (5). Prerequisite, BUS 221, Introductory Business Statistics. Analysis for competitive corporate strategies, adapting to change, demand management and performance measurements. Demand forecasting, collaborative planning, inventory forecasting and replenishment.

OSC 464. Supply Chain Management (5). Prerequisite, OSC 323 or permission of instructor. An introduction to the elements of purchasing activities in industrial, commercial, and governmental markets. Analytical, legal, and ethical implications of purchasing decision making. Formerly MKT 464, BUS 464 and OMIS 464. Students may not receive credit for more than one.

OSC 475. Global Supply Chain Management (5). Prerequisite, OSC 464 or permission of instructor. Global negotiating and purchasing including locating, selecting and managing foreign suppliers, negotiating the purchase of foreign and domestic goods or services and arranging for their shipment. Formerly OMIS 475. Students may not receive credit for more than one.

OSC 480. Problems and Policies in OSC (5). Prerequisites OSC 464 and OSC 435 or permission of instructor. The capstone course for the OSC specialization. Students will complete a comprehensive project, which applies skills learned in other OSC classes to solve business problems and develop appropriate policies. Formerly OMIS 480. Students may not receive credit for more than one.

Undergraduate Courses/Programs on Reserve
The following courses and programs are on reserve and may be offered subject to program needs. Programs: Industrial Relations Specialization, Real Estate Specialization, Industrial Relations Minor.

CHEMISTRY

Faculty
Chair: Carin Thomas
SCI 302 G

Professors
David G. Lygre, Biochemistry
JoAnn P. DeLuca, Organic, Mechanistic

Associate Professors
Martha J. Kurtz, Chemistry Education
Carin Thomas, Biochemistry

Assistant Professors
Anthony Diaz, Inorganic, Solid State
Levente Fabry-Asztalos, Organic
Anne Johansen, Environmental, Analytical
Eric Bullock, Physical

General Departmental Information
Chemistry is the study of matter, its properties, and the changes it undergoes. The Department offers three majors. In each major, courses in the first two years emphasize fundamental topics in chemistry, mathematics, and physics. Students then choose advanced courses in chemistry and related areas to complete the requirements in their major.

These majors provide opportunities for practical experience in chemistry. For example, students are encouraged to take CHEM 490, Cooperative Education, in which they work in a private or public laboratory facility off campus. Students also are encouraged to do research on campus with a faculty member, and to participate in the Department’s seminar program.

A minor in Chemistry is offered to supplement career related fields.

Note: In order to graduate, all chemistry majors are required to achieve at least a 2.00 cumulative GPA and a 2.25 GPA in courses required for the major.

Bachelor of Arts
Chemistry Major (1850)
The Bachelor of Arts major is designed to provide breadth, with an emphasis on Chemistry, that provides maximum flexibility in career choices. For example, students with this major may pursue careers in the health sciences, industry, environmental sciences, and other related areas.

Students are recommended to take MATH 272 and 273 before taking CHEM 381.

Required Courses Credits
CHEM 181, 181LAB, 182, 182LAB, 183, 183LAB, General Chemistry . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
CHEM 350, Inorganic Chemistry .................. 3
CHEM 361, 361LAB, 362, Organic Chemistry 8
CHEM 381, Physical Chemistry ................... 5
CHEM 431, 431LAB, Biochemistry ............... 5
CHEM 488, Colloquium .......................... 1
CHEM 492, Laboratory Experience in Teaching Chemistry ..................... 2
SCED 324, Science Education in the Secondary Schools ......................... 4
CHEM 495, Senior Research OR SCED 495, Research, OR
CHEM 496, Individual Study ....................... 1
PHYS 111, 111LAB, 112, 112LAB, 113, 113LAB
  Introductory Physics OR
  PHYS 181, 181LAB, 182, 182LAB, 183,
  183LAB, General Physics ...................... 15
MATH 172, 173, Calculus .......................... 10

Bachelor Of Science
Chemistry Major (1850)
The Bachelor of Science major is designed for
students who plan a career in chemistry or related fields. The program prepares students for
further study in graduate programs, or to enter the workplace directly.

Students are recommended to take MATH 272 and 273 before taking CHEM 381.

Required Courses  Credits
CHEM 181, 181LAB, 182, 182LAB, 183,
  183LAB, General Chemistry ..................... 15
CHEM 251, 251LAB, Quantitative Analysis . 5
CHEM 350, Inorganic Chemistry ................ 3
CHEM 361, 361LAB, 362, 363, 363LAB, Organic
  Chemistry ...................................... 13
CHEM 381, 382, 382LAB, 383, 383LAB,
  Physical Chemistry ............................ 15
CHEM 388, Colloquium ........................... 1
CHEM 431, 431LAB, Biochemistry ............ 8
CHEM 488, Colloquium ........................... 1
Select one of the following: 3-5
CHEM 350, Inorganic Chemistry (3)
CHEM 383, 383LAB Physical Chemistry (5)
CHEM 452, 452LAB, Instrumental Analysis
  (5)
BIOL 220, Introductory Cellular Biology OR
  BIOL 220, Cellular Biology .................... 5
BIOL 321, Genetics .............................. 5
BIOL 323, Microbiology ......................... 5
PHYS 111, 111LAB, 112, 112LAB, 113, 113LAB,
  Introductory Physics OR
  PHYS 181, 181LAB, 182, 182LAB, 183,
  183LAB, General Physics ...................... 15
MATH 172, 173, Calculus .......................... 10

Total 74

Chemistry Minor (1850)

Required Courses  Credits
CHEM 181, 181LAB, 182, 182LAB, 183,
  183LAB, General Chemistry ..................... 15
Department-approved upper division
  electives in Chemistry ........................... 16

Total 96-98

Chemistry: Teaching Minor (1851)

This minor is restricted to students working on a teaching major in biology, earth science or physics. Students taking this minor will receive an endorsement in chemistry only upon passing the WEST-E (PRAXIS II) exam for chemistry. SCED 324 requires admission to the Teacher Education Program.

Required Courses  Credits
CHEM 181, 181LAB, 182, 182LAB, 183,
  183LAB, General Chemistry ..................... 15
CHEM 251, 251LAB, Quantitative Analysis OR
  CHEM 345, Environmental Chemistry .. 5
CHEM 361, 361LAB, 362, Organic
  Chemistry ...................................... 8
CHEM 492, Laboratory Experience in Teaching Chemistry ..................... 2
SCED 324, Science Education in the Secondary Schools ......................... 4

Total 31

Biochemistry Specialization (1852)

This specialization is designed for students who plan a career in biochemistry or a related health science area such as medicine or dentistry. Majors may pursue further graduate studies, a career in biotechnology or a related industry.

Students are recommended to take MATH 272 and 273 before taking CHEM 381.

Required Courses  Credits
CHEM 181, 181LAB, 182, 182LAB, 183,
  183LAB, General Chemistry ..................... 15
CHEM 251, 251LAB, Quantitative Analysis . 5
CHEM 485, Colloquium ............................ 5
PHYS 111, 111LAB, 112, 112LAB, 113, 113LAB
  Introductory Physics OR
  PHYS 181, 181LAB, 182, 182LAB, 183,
  183LAB, General Physics ...................... 15
MATH 172, 173, Calculus .......................... 10
Department-approved electives .................. 12

Total 100

Chemistry Courses

CHEM 101. Contemporary Chemistry (5).
Chemical principles and their application
  to contemporary problems of human beings and
  their environment. Four lectures and
  one laboratory session weekly.

CHEM 105. Processes in Physical Science
  Chemistry (5). An introductory course
  stressing the development of chemical
  concepts through class discussions, labs, and
  investigative activities. Recommended for
  students planning to teach in the elementary
  school (K-6).

CHEM 111. Introduction to Chemistry (4).
Principles of chemistry for health science
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 111LAB. Chemistry Laboratory (1). Pre
  or co-requisite, CHEM 111. One laboratory
  session weekly. Formerly CHEM 111.1.

CHEM 112. Introduction to Organic
  Chemistry (4). Prerequisite, CHEM 111. A
survey of organic chemical principles and
  reactions.

CHEM 112LAB. Chemistry Laboratory (1).
Prerequisite, CHEM 111LAB prerequisite or
  corequisite, CHEM 112. One laboratory
  session weekly. Formerly CHEM 112.1.

CHEM 113. Introduction to Biochemistry
  (4). Prerequisite, CHEM 112. A survey of
biochemical principles.

CHEM 113LAB. Chemistry Laboratory (1).
Prerequisite, CHEM 112LAB, prerequisite or
  corequisite, CHEM 113. One laboratory
  session weekly. Formerly CHEM 113.1.

CHEM 181. General Chemistry (4).
Prerequisites, strongly recommend high
  school chemistry and qualification for
  MATH 153 or math placement exam.

CHEM 181LAB. General Chemistry
  Laboratory (1). Prerequisite, CHEM 181.
  One laboratory session weekly. Formerly
  CHEM 181.1.

CHEM 182. General Chemistry (4).
Prerequisite, CHEM 181.

CHEM 182LAB. General Chemistry
  Laboratory (1). Prerequisite, CHEM 181LAB,
  pre or corequisite, CHEM 182. One
  laboratory session weekly. Formerly
  CHEM 182.1.

CHEM 183. General Chemistry (4).
Prerequisite, CHEM 182. Four lectures
  weekly.

CHEM 183LAB. General Chemistry
  Laboratory (1). Prerequisite, CHEM 182LAB,
  pre or corequisite, CHEM 183. One
  laboratory session weekly. Formerly
  CHEM 183.1.

CHEM 251. Quantitative Analysis (3).
Prerequisite, CHEM 183, CHEM 183LAB
  pre or co-requisite, CHEM 251LAB.

CHEM 251LAB. Quantitative Analysis
  Laboratory (2). Pre or corequisite, CHEM
  251. Two laboratory sessions weekly.
  Formerly CHEM 251.1.

CHEM 295. Research (1-6). By permission
  only.

CHEM 296. Individual Study (1-6). By
  permission only.

CHEM 298. Special Topics (1-6).

CHEM 345. Environmental Chemistry (5).
Prerequisite, CHEM 183. 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). Prereq-
  uisites, CHEM 183 and PHYS 113 or PHYS
  183.
CHEM 361. Organic Chemistry (3). Pre- or corequisite, CHEM 183 and 183LAB.
CHEM 361LAB. Organic Chemistry Laboratory (2). Pre or corequisite, CHEM 361. Two laboratory sessions weekly. Formerly CHEM 361.1.
CHEM 362. Organic Chemistry (3). Prerequisite, CHEM 361.
CHEM 363. Organic Chemistry (3). Prerequisites, CHEM 362 and CHEM 361LAB.
CHEM 363LAB. Qualitative Organic Chemistry Laboratory (2). Prerequisite or corequisite, CHEM 363. Two laboratory sessions weekly. Formerly CHEM 363.1.
CHEM 381. Physical Chemistry (Thermodynamics) (5). Prerequisites, CHEM 183 and 183LAB, PHYS 113/113LAB or PHYS 183/183LAB and MATH 173. PHYS 183, 183LAB and MATH 273 recommended.
CHEM 382 Physical Chemistry (3). Prerequisite, CHEM 381.
CHEM 382LAB. Physical Chemistry Laboratory (2). Prerequisite or corequisite, CHEM 382. Six hours of laboratory weekly. Formerly CHEM 382.1.
CHEM 383. Physical Chemistry (3). Prerequisite, CHEM 381.
CHEM 383LAB. Physical Chemistry Laboratory (2). Prerequisite or corequisite, CHEM 383. Six hours of laboratory weekly. Formerly CHEM 383.1.
CHEM 388. Colloquium (1). Prerequisite, 25 credits of chemistry. Analysis and presentation of the chemistry literature on a specific topic.
CHEM 395. Research (1-6). By permission only.
CHEM 431. Biochemistry (3). Prerequisite, CHEM 362. Formerly CHEM 371. Students may not receive credit for both.
CHEM 431LAB. Biochemistry Laboratory (2). Prerequisites, CHEM 361LAB, pre or corequisite CHEM 431. Two laboratory sessions weekly. Formerly CHEM 371.1 and CHEM 431.1.
CHEM 432. Biochemistry (3). Prerequisite, CHEM 431. Formerly CHEM 372. Students may not receive credit for both.
CHEM 452. Instrumental Analysis (3). Prerequisites, CHEM 251, 251LAB.
CHEM 452LAB. Instrumental Analysis Laboratory (2). Pre or corequisite, CHEM 452. Two laboratory sessions weekly. Formerly CHEM 452.1.
CHEM 454. Spectroscopy (3). Prerequisites, CHEM 363, 363LAB and 383 or permission. One lecture and two laboratory sessions weekly.
CHEM 473. Transition Metal Chemistry (4). Prerequisites, CHEM 350 and CHEM 382. A survey of the structure, spectroscopy, synthesis and characterization of transition metal compounds. Three lectures and one lab weekly.
CHEM 488. Colloquium (1). Prerequisite, CHEM 388. Analysis and presentation of the chemistry literature on a specific topic. May be repeated.
CHEM 490. Cooperative Education (1-12). 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, 10-15 credit hours in college chemistry and permission of the instructor. May be repeated for credit with permission of the Department Chair. Grade will be S or U.
CHEM 495. Senior Research (1-6). By permission only.
CHEM 496. Individual Study (1-6). By permission only.
CHEM 498. Special Topics (1-6).
CHEM 499. Seminar (1-5). Students do literature research of a chemical topic and make a presentation to the Department. May be repeated once for credit.

COMMUNICATION

Faculty
Chair: Corwin P. King
Bouillon 232

Professors:
Philip M. Backlund, Communication Studies
Corwin P. King, Communication Studies,
Public Relations
Jerilyn S. McIntyre, Mass Communication Studies

Associate Professors:
Lois J. Breedlove, Journalism
Beatrice Coleman, Public Relations
Robert C. Fordan, Journalism
Michael R. Ogden, Journalism

Assistant Professors:
Cynthia Mitchell, Journalism

General Departmental Information

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 other ancient cultures, and with modern roots grounded in the latest developments in science and technology. It provides academic preparation for employment in the media, business and industry, government, education, and social and community service, as well as for advanced work in communication or such fields as law and ministry.

Majors are offered in Communication Studies, Public Relations, and Journalism. The Journalism major acquaints students with the structures, functions, and work methods of the media in preparation for careers in print, broadcast, and on-line media utilizing oral, visual and written communication. The Public Relations major combines the study of oral, visual, and written communication to prepare students for careers in the professional practice of public relations and advertising with corporations, agencies, and non-profit organizations. The Communication Studies major gives students the knowledge and skills necessary for effective communication in interpersonal, small group, and public situations, and is designed to prepare a student for graduate school as well as 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 be advised by the departmental faculty.
2. Students must be enrolled in or have completed COM 201, 207, 208, and 289 before obtaining entrance to the majors. All potential majors must have a grade point average of at least 2.4 overall from CWU and have a passing score on the required grammar, spelling and punctuation test.
3. Students wishing to apply for entrance to any of the departmental majors must submit a major application form, a current CAPS report or an evaluation by a Communication faculty member, a letter of application, and test scores from the departmental admissions test in accordance with departmental policies.
4. Students must earn a minimum grade of C- in every course allowed toward fulfilling any major and/or minor requirements.
5. The Communication Department reserves the right to modify these requirements as the needs of the Department change and would supersede policies previously published in this catalog.

Department Policies

1. Some required upper-division Communication courses in Public Relations,
Journalism, and Communication are limited to students who have been accepted as majors or minors in those programs. Permission to register for these courses must be obtained from the department office. Check catalog listings for specifics about each course.

2. Internship credits: All majors are required to take 5 credits of COM 490, Cooperative Field Experience. Communication Studies majors may elect to take COM 485, Thesis, instead of COM 490. Students shall receive COM 490 credit only if they have major status at the time they enroll for Cooperative Field Experience credit. Students not having major status shall receive COM 290 credit.

3. All Communication Department majors are required to complete a minor from outside the department of at least 20 credits. The minor must be approved by the student’s advisor as being compatible with the student’s long-term academic and career goals. Advertising is considered an internal-department minor and does not fulfill this requirement.

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, a GPA of 3.4 in courses taken in communication and completion of an honors project. Please contact the Department Chair for further information.

Bachelor of Arts

These courses set the foundation of learning for all disciplines in the communication professions. Students will learn the concepts, skills and professional ethics needed to be communication professionals in our society. All Communication majors must complete the following core classes:

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 201, Introduction to Mass Media</td>
<td>4</td>
</tr>
<tr>
<td>COM 207, Survey of Oral Communication</td>
<td>4</td>
</tr>
<tr>
<td>COM 208, Writing Across the Media</td>
<td>4</td>
</tr>
<tr>
<td>COM 289, Communication Orientation</td>
<td>1</td>
</tr>
<tr>
<td>COM 300, Communication Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>COM 321, Visual Communication</td>
<td>4</td>
</tr>
<tr>
<td>COM 333, Communication Ethics</td>
<td>3</td>
</tr>
<tr>
<td>COM 489, Portfolio Assessment</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Core Classes** 24

Communication Studies (2010)

The Communication Studies major combines traditional liberal arts courses with professional courses in oral, written, and visual communication. It is intended for students who select broad-based training in communication, suitable for graduate study, professional study, or a variety of careers in business and industry.

<table>
<thead>
<tr>
<th>Communication Core Courses</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>COM 251, Group Discussion</td>
<td>4</td>
</tr>
<tr>
<td>COM 252, Argumentation and Debate</td>
<td>4</td>
</tr>
<tr>
<td>COM 253, Interpersonal Communication</td>
<td>4</td>
</tr>
<tr>
<td>COM 301, Communication Concepts and Processes</td>
<td>4</td>
</tr>
<tr>
<td>COM 369, Mass Media and Society</td>
<td>3</td>
</tr>
<tr>
<td>COM 382, Media History</td>
<td>3</td>
</tr>
<tr>
<td>COM 380, Media Aesthetics</td>
<td>3</td>
</tr>
<tr>
<td>COM 460, Communication Law</td>
<td>4</td>
</tr>
<tr>
<td>COM 340, Research Methods of Communication</td>
<td>4</td>
</tr>
<tr>
<td>COM 345, Business and Professional Speaking</td>
<td>4</td>
</tr>
<tr>
<td>COM 350, Persuasion</td>
<td>4</td>
</tr>
<tr>
<td>COM 365, Organizational Communication</td>
<td>4</td>
</tr>
<tr>
<td>COM 375, Interviewing</td>
<td>4</td>
</tr>
<tr>
<td>COM 380, Nonverbal Communication</td>
<td>4</td>
</tr>
<tr>
<td>COM 430, Listening</td>
<td>4</td>
</tr>
<tr>
<td>COM 445, Speech Criticism</td>
<td>4</td>
</tr>
<tr>
<td>COM 450, Speech Composition</td>
<td>4</td>
</tr>
<tr>
<td>COM 451, Assessment of Communication Behavior</td>
<td>4</td>
</tr>
<tr>
<td>COM 485, Senior Seminar (Thesis) OR COM 490, Cooperative Education</td>
<td>5</td>
</tr>
</tbody>
</table>

**Total (including core classes)** 72-73

Public Relations Major (6625)

Organizations, whether they are industrial, governmental, educational, or corporate, require individuals who communicate with various internal and external publics. 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 research, be responsible for monitoring public attitudes and concerns, and be capable of creating various types of publicity and promotional materials. Public relations practitioners design internal communication programs for employees, management and other key stakeholder publics.

<table>
<thead>
<tr>
<th>Communication Core Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>COM 270, Introduction to Public Relations</td>
<td>4</td>
</tr>
<tr>
<td>COM 370, Writing for Public Relations</td>
<td>4</td>
</tr>
<tr>
<td>COM 349, Media Management</td>
<td>4</td>
</tr>
<tr>
<td>COM 440, Corporate Television</td>
<td>4</td>
</tr>
<tr>
<td>COM 460, Communication Law</td>
<td>4</td>
</tr>
<tr>
<td>COM 470, Applied Public Relations</td>
<td>5</td>
</tr>
<tr>
<td>COM 475, Public Relations and Advertising Management</td>
<td>4</td>
</tr>
<tr>
<td>COM 487, Public Relations Professional Seminar</td>
<td>3</td>
</tr>
<tr>
<td>ME 461, Advertising and Sales Promotion</td>
<td>5</td>
</tr>
<tr>
<td>COM 490, Cooperative Education</td>
<td>5</td>
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</tbody>
</table>

Select from the following:

| COM 306, Introduction to On-line Media | 4 |
| COM 310, Broadcast News Writing | 4 |
| COM 342, Newswatch Reporting (1) | 1 |
| COM 348, Publication Design | 3 |
| COM 468, Observer (1-2) | 2 |
| COM 478, Advanced Newspaper Editing | 3 |
| MKT 360, Principles of Marketing | 5 |
| MKT 462, Marketing Promotion Management | 5 |
| MKT 469, Market Research | 5 |

**Total (including core classes)** 72-73

Journalism Major (4350)

The Journalism major helps students become competent in the skills, concepts and perspective they need to be successful in the media. Students will learn to communicate information to a mass audience in a variety of media—print, broadcast, and on-line. Students also will develop an appreciation for the fundamental roles the media play in our social, political and economic system.

<table>
<thead>
<tr>
<th>Communication Core Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 308, Reporting</td>
<td>5</td>
</tr>
<tr>
<td>COM 349, Communication Law</td>
<td>4</td>
</tr>
<tr>
<td>COM 490, Cooperative Education</td>
<td>5</td>
</tr>
</tbody>
</table>

Select one of the following Specialties:

Print Journalism Specialization (4365)

| COM 342, Newswatch Reporting | 1 |
| COM 348, Publication Design | 3 |
| COM 466, Public Affairs Reporting | 4 |
| COM 468, Observer (4) OR COM 478, Advanced Newspaper Editing (3-6) | 7 |

Broadcast Journalism Specialization (4355)

| COM 310, Broadcast News Writing | 4 |
| COM 341, Television Field Production | 4 |
| COM 342, Newswatch Reporting (1) | 1 |
| COM 332, Newswatch Production (1) | 1 |
| COM 442, Newswatch Management and Production | 8 |
| COM 468, Observer | 1 |
### Communication Minor (2010)

Students in Teacher Education must meet with the Department Chair and the certification director to determine the course of study necessary for endorsement.

**Required Courses**

- COM 201, Introduction to Mass Media
- COM 207, Survey of Oral Communication
- COM 208, Writing Across the Media
- COM 300, Communication Research Methods
- COM 321, Visual Communication
- COM 333, Communication Ethics
- COM 490, Additional Communication Electives

**Total** 30

### Organizational Communication Minor (5675)

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 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.

**Required Courses**

- COM 251, Discussion OR
- COM 302, Intercultural Communication
- COM 345, Business and Professional Speaking
- COM 365, Organizational Communication
- COM 375, Interviewing Principles and Techniques
- COM 490, Cooperative Education

**Total** 25

### Communication Courses

- **COM 201. Introduction to Mass Media (4).** Media study from consumer point of view: media production, politics and history. Required for entrance to major exam.
- **COM 207. Survey of Oral Communication (4).** Introductory course to develop oral communication abilities for functioning effectively in small groups and before audiences.
- **COM 208. Writing Across the Media (4).** Pre-requisites, ENG 101, ENG 102, COM 201 (may be concurrent enrollment in COM 201). Integrated approach to media writing. Emphasizes print news writing, public relations writing, advertising copy writing, and broadcast newswriting.
- **COM 250. Public Speaking: Practice and Criticism (4).** Practice in selection, organization, and presentation of effective public speeches. Attention also given to theory and practice of speech criticism.
- **COM 251. Discussion (4).** Analysis and practice of communication principles affecting effectiveness of small group discussion. Includes theory and practice of leadership and problem solving in small groups.
- **COM 252. Argumentation and Debate (4).** Development of skills in oral advocacy.

### Electives

- Students must choose 8 credits from approved writing courses, 3 credits of media production, and 3 credits of media management. No more than 15 credits of Observer (COM 468/478) and Newswatch (COM 342/442) may be accumulated in all categories. Students may then select at least 3 additional credits, within or outside the department, to be approved by their advisors.

### Media Production Courses

- COM 306, Introduction to Online Media (4)
- COM 332, Newswatch Production (1)
- COM 341, Television Field Production (4)
- COM 348, Publication Design (3)
- COM 406, Online Media Skills (4)
- COM 407, Online Media Seminar (3)
- COM 468, Observer (1-2)
- COM 478, Advanced Newspaper Production (4)
- COM 486, Advanced Reporting Seminar (3)

### Management Courses

- COM 305, Advertising Copy (4)
- COM 349, Media Management (4)
- COM 442, Newswatch Management and Production (4)
- COM 475, Public Relations and Advertising Management (4)
- COM 478, Advanced Newspaper Editing (3-6)

### Other Electives

- COM 330, Media Aesthetics (3)
- COM 350, Persuasion (4)
- COM 369, Mass Media and Society (3)
- COM 375, Interviewing Principles and Techniques (4)
- COM 382, Media History (3)
- COM 422, Advanced Television Studio Production (4)
- COM 487, Public Relations Professional Seminar (3)

**Total (including core classes) 73**

### Total Credits

- **Management Courses:** 30
- **Electives:** 8

**Total** 38

### Total (including core classes) 73
tent 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).
Investigation of theory, research and practice of the role of communication in effective interpersonal relationships.

COM 270. Introduction to Public Relations (4).
Prerequisites, 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.

COM 289. Communication Orientation (1).
Prerequisite or corequisite, COM 201. Survey of departmental requirements and fields of study. Required for entrance to major. Former COM 488. Students may not receive credit for both.

COM 290. Cooperative Field Experience (1-6).
Internship designed to explore career opportunities in the major. Open to all students. Grade will be S/U.

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

COM 298. Special Topics (1-6).

COM 300. Communication Research Methods (3).
Prerequisites, major status or by permission of the instructor. Methods of gathering, measuring, analyzing qualitative and quantitative communication research.

COM 302. Intercultural Communication (4).
The objective of this course is to give the participants the skills and understanding necessary to improve communication with people of other nations and cultures.

COM 305. Advertising Copywriting and Placement (4).
Prerequisite, major status or by permission of the instructor. Preparation and placement of advertising in mass and selective media. Theory and techniques of advertising writing and media buying.

COM 306. Introduction to Online Media (4).
An introduction to the theories and concepts of the on-line media.

COM 308. Reporting (5).
Prerequisite, COM 208, major status or by permission of the instructor. Information gathering and research skills to produce well-developed news stories for print, broadcast and online media.

COM 309. Broadcast Advertising and Scriptwriting (4).
Prerequisites, COM 208, major status or by permission of the instructor. Principles and techniques in writing effective radio and television commercials, promotional copy, and video scripts. Preparation of program treatments, storyboards, and scripts for broadcast-writing intensive course.

Prerequisites, major status and COM 208, or by permission of the instructor. Writing and producing news copy for the electronic media. Newsgathering techniques, on the scene coverage, interviewing, and producing television newscasts. Formerly COM 289. Students may not receive credit for both.

COM 315. Studies in Communication (1).
Prerequisite, permission of the instructor. Specialized topics in communication. May be repeated for credit under different topics. Grade will be S or U.

Prerequisites, Major status, or permission of instructor. Understanding the communication of visual messages for an audience; production of visual images in print, video, and digital forms.

COM 322. Television Studio Production (4).
Prerequisite, COM 321. An introduction to the production elements of a television show, with an emphasis on the function and operation of studio lighting, audio, and cameras.

COM 330. Media Aesthetics (3).
Prerequisite, COM 321. An examination of the fundamental elements of electronic media, including light, space, motion, and sound.

COM 332. Newswatch Production (1).
Prerequisite, COM 322. Help produce regularly scheduled newscasts on KCWU-TV. Grade will be S/U. May be repeated to a limit of six credits. Formerly COM 342B.

COM 333. Communication Ethics (3).
Prerequisite, COM 201. The study of ethical issues in communication.

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.

COM 341. Television Field Production (4).
Prerequisite, major status, COM 321 and COM 309 or COM 310, or permission of instructor. Principles and techniques of information gathering and visual storytelling. Applications of video to journalism, advertising and public relations.

COM 342. Newswatch Reporting (1).
Prerequisite, COM 208 or permission of instructor. Gather, write, report and report news stories for regularly scheduled newscasts on KCWU-TV. Grade will be S or U. May be repeated to a limit of six credits. Formerly COM 342A.

Prerequisite, permission. Oral communication in career and professional settings with focus on public presentations, briefings and persuasion.

COM 347. Copy Editing (3).
Prerequisite, COM 208, major status or by permission of instructor. The editing process; edit copy for content and mechanics; write headlines and cutlines.

COM 348. Publication Design (3).
Prerequisites, by permission of instructor or major status. Publication design, the theories of graphics, headlines and text. Management of the design process.

COM 349. Media Management (4).
Prerequisites, major status or by permission of the instructor. Principles of management employed in the planning, organizing, staffing, and budgeting of newspapers, magazines, broadcast stations and cable television operations.

Role of persuasion in society, elements of human motivation, techniques and appeals of the persuader.

Prerequisites, ANTH 130 or ART 225 or COM 321 or 330 or by permission of the instructor. Provides methodological, theoretical and practical background to produce and evaluate imagery in films and video; guidelines and practice of image presentation/manipulation in anthropological and social contexts. COM 351 and ANTH 351 are equivalent courses. Students may not receive credit for both.

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 369. Mass Media and Society (3).
Relationship of the mass media to social institutions; including philosophy, responsibilities, regulations and criticism. COM 369 and SOC 369 are equivalent courses. Students may not receive credit for both.

COM 370. Writing for Public Relations (4).
Prerequisite, COM 270, major status or by permission of the instructor. Practical instruction in persuasive writing, news releases, broadcast material, speeches, institutional messages, newsletter articles, employer publications, backgrounders, features, and corporate profiles.

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.

Interpretation and analysis of four categories of nonverbal behavior: paralanguage, action language, object language, and uses of space and time. Formerly COM 280/ANTH 280. COM 380 and ANTH 380 are equivalent courses. Students may not receive credit for both.

COM 382. Media History (3).
Prerequisite, COM 201 or by permission of instructor. A
survey of the history of American media, emphasizing an understanding of the technological, social, and cultural trends affecting the print, broadcast and public relations industries.

COM 401. Communication Concepts and Processes (4). Prerequisite, major status or by permission of instructor. Examination of human communication on an individual, interpersonal, and public level. Exploration of the relationship between communication theory and the practice of communication in various professional settings.

COM 402. Gender Communication (4). Analysis of gender role development in females and males with focus on effective relationship development between sexes. Analysis and development of communication skills useful in cross-sex friendships, working relationships, and romantic/family relationships.

COM 406. Online Media Skills (4). Prerequisites, COM 306, major status or by permission of the instructor. Advanced skills, theories, and management to create online media. May be repeated once for credit.

COM 422. Advanced Television Studio Production (4). Prerequisites, COM 322, COM 332, major status or permission of instructor. Advanced course in creative use of television studio equipment, lighting, sound, computer graphics and editing principles. Emphasis on magazine-style, music video, and dramatic formats.

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, major status or permission of instructor. Principles of effective listening. Exploration of personal listening practices and improving them both in and outside the classroom setting.

COM 440. Corporate Television (4). Prerequisite, COM 309, and COM 322 or COM 341, major status, or by permission of the instructor. A study of methods used in the conceptualization, design and production of non-broadcast video programs. Consideration of management needs and training requirements.

COM 441. Advanced Television Field Production (4). Prerequisite, COM 341, major status or permission of instructor. Advanced theory and practice of electronic field production. Examines technical and aesthetic requirements of single-camera video production and editing, and multi-camera remotes.

COM 442. Newswatch Management and Production (4). Prerequisite, major status, COM 308 and COM 310, COM 341, and COM 342, major status or permission of instructor. Gather, write, report and produce regularly scheduled newscasts on KCWU-TV. May be repeated to a limit of 12 credits.

COM 445. Speech Criticism (4). Prerequisite, major status, 20 credits of communication, or permission of instructor. Theory and methodology in the description, analysis and evaluation of rhetorical discourse.

COM 450. Speech Composition (4). Prerequisite, major status or by permission of instructor and 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 452, 453, 454. Applied Video Production (1,1,1). Prerequisites, COM 321, major status or by permission of the instructor. Assist in the operation and programming of KCWU-TV, Ellensburg. Grade will be S or U.

COM 460. Communication Law (4). Prerequisite, COM 201, COM 333, major status or by permission of the instructor. Understanding legal issues for the communication professions including libel, slander, privacy, copyright, and First Amendment.

COM 466. Reporting of Public Affairs (4). Prerequisites, COM 308, major status or by permission of the 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, school boards, and business and the environment.

COM 468. Observer (1-2). Prerequisites, COM 208 or permission of the instructor. Reporting and photo assignments on the campus newspaper. May be repeated to a limit of 6 credits.

COM 470. Applied Public Relations (5). Prerequisite, COM 306, COM 370, major status or by permission of the instructor. Creation of a public relations program for an organization, agency or institution. Two hours lecture and four hours laboratory or field work per week.

COM 475. Public Relations and Advertising Management (4). Prerequisite, COM 470, major status or by permission of the instructor. Application of theory and concepts to managing public relations and advertising accounts.

COM 478. Advanced Newspaper Editing (3-6). Prerequisite, COM 208, COM 347, COM 468 and permission. Administrative responsibilities for students serving as editors of the campus newspaper. Variable credit with a maximum of six credits. May be repeated.

COM 485. Senior Seminar (5). Prerequisites senior standing, major status. A research project leading to a thesis.

COM 486. Advanced Reporting Seminar (3). Prerequisites, COM 308, major status or by permission of the instructor. Issues and skills in specialized reporting and writing situations. Seminar topics will change from quarter to quarter. Class may be repeated for up to nine credits.

COM 487. Public Relations Professional Seminar (3). Prerequisite, COM 470 and Public Relations major status. Advanced Public Relations Seminar topics will change from quarter to quarter. Course may be repeated for credit.

COM 489. Portfolio Assessment (1). Prerequisite, major status, senior standing. End of program assessment activities. Preparation, presentation, and evaluation of a professional portfolio of work produced during the major.

A. Journalism
C. Public Relations
D. Communication Studies

COM 490. Cooperative Education (1-12). Prerequisite, Major status and approval of Department Chair. Individual contract arrangement involving student, faculty, and cooperating agency to gain practical experience in communication. Grade will be S/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).

Undergraduate Courses/Programs on Reserve

The following courses and programs are on reserve and may be offered subject to program needs: COM 101. Communication and Issues (5); COM 110. Oral Communication Skills (3).

COMPUTER SCIENCE

Faculty
Chair: James Schwing
Hebeler 219

Professor
Boris Kovalerchuk, Artificial Intelligence, Simulation and Optimization, Computer Architecture

Associate Professor
Razvan Andonie, Neural Networks, Parallel and Distributed Computing, Computational Intelligence, Data Mining
Grant Eastman, Systems Design and Analysis, Networking, Computer Architecture
Edward Gellenbeck, User Interface Design, Web Development, Software Engineering
General Departmental Information

The Department of Computer Science offers a degree program leading to the Bachelor of Science in Computer Science. The Department of Computer Science also jointly offers a program with the Industrial Engineering Technology (IET) Department in the College of Education and Professional Studies in Computer Engineering Technology. Information related to the Computer Engineering Technology program can be found in the IET section of the catalog.

The field of computer science can trace its beginnings and much of its foundation to both mathematics and engineering. Because of this, studies in computer science range from theory through experimental techniques to engineering methodology. The purpose of the computer science curriculum is to expose students to aspects of each of these disciplines and foster an appreciation and understanding of them. To accomplish this, students are exposed to the broad theoretical basis of computer science as well as a strong laboratory component. The laboratory experience is more than simple programming. Rather, it is through the laboratories that students are introduced to both the experimental and the design aspects of computer science.

Using this philosophy as a base, the Computer Science Department has designed a curricular model that seeks to increase relevance to the real world. In particular, the senior project, a capstone course series – CS 480 and 481 – adopts a theme that expands upon the experimental and design approach of typical computer science curricula. This capstone series addresses the creativity and productivity elements required for business and industry application today. Students become engaged in projects that investigate each stage of transforming a creative idea into a productivity enhancing system in a realistic context.

Standards for Admission

Admission to the Computer Science major or minor is selective. A cumulative grade point average of 2.50 is required in the Pre-Admission requirements listed below. Students should submit their application during the quarter in which they are completing the Pre-Admission requirements. Applications will be accepted through the last day of classes (i.e., the week before finals) of the Fall, Winter, and Spring quarters for admission the following quarter. A completed application must include the standard major application form and an advisor approved graduation plan.

Students must be accepted as a Computer Science major or minor prior to enrolling in computer science classes beyond CS 301 with the exception of CS 311. Students applying for admission to the major may register for courses for the following quarter but will be dropped if not admitted.

Students should request admission to the Computer Science Pre-Major prior to completion of the Pre-Admission requirements.

The Computer Science Department believes that advising is one of the keys to success in an undergraduate program. To that end, majors and minors are required to meet with a faculty advisor every term in order to register. Pre-majors are also encouraged to meet with their designated faculty advisor each term. Advisors and advising times are listed with the Computer Science office.

Pre-Admission Requirements

General University Requirements Credits
ENG 101, English Composition .......................... 4
ENG 102, English Composition .......................... 4

Major Requirements
CS 110, Programming Fundamentals I .............. 4
CS 111, Programming Fundamentals II ............. 4
CS 301, Data Structures ................................ 4
MATH 172, Calculus ..................................... 5

Pre-Admission Total 25

Bachelor of Science

Computer Science Major (2070)

In order to expose computer science majors to a broad theoretical base while emphasizing the laboratory experience, students will complete the CS Core courses. To add depth and flexibility to their academic programs, students will work out an focus area with a major advisor. A specific focus may be developed in many areas of computer science, examples include: artificial intelligence, computer systems, information systems, scientific computing, and software engineering. A table of possible sequences for focus area electives follow the core requirements.

CS Requirements Credits
Pre-Admission Major requirements .................. 17
CS 112, Foundations of Computer Science .... 4
CS 302, Advanced Data Structures ................. 4
CS 311, Computer Architecture I .................. 4
CS 312, Computer Architecture II ................ 4
CS 325, Technical Writing in Computer Science ................................................. 3
CS 361, Principles of Programming Languages I .................................................. 4
CS 362, Principles of Programming Languages II .................................................. 4
CS 392, Lab Experience in Teaching in Computer Science .................................... 1
CS 420, Database Management Systems ........ 4
CS 427, Algorithm Analysis .......................... 4
CS 446, User Interface Design ....................... 4
CS 470, Operating Systems .......................... 4
CS 480, Software Engineering ....................... 4
CS 481, Software Engineering Project ............ 4
CS 489, Senior Colloquium .......................... 1
CS 492, Lab Experience in Teaching in Computer Science .................................... 2
MATH 260, Sets and Logic ........................... 5
MATH 330, Discrete Mathematics .................... 5
Focus Area Electives ................................... 24

Total 106

Focus Area Electives List

Students may use additional courses as their focus area electives with the approval of their major advisor.
CS 350, Web Development Technology
CS 410, Formal Language Theory
CS 418, Microprocessor Systems
CS 435, Simulation
CS 440, Computer Graphics
CS 450, Computer Network and Data Communication
CS 455, Artificial Intelligence
CS 456, Data Mining
CS 458, Artificial Intelligence Project
CS 460, Optimization
CS 465, Compiler Design
CS 473, Parallel Computing
CS 490, Cooperative Education (Maximum of 4 credits)
CS 496, Individual Study
EET 221, Basic Electricity
EET 221.1, Basic Electricity Laboratory
EET 312, Basic Electronics
EET 371, Digital Circuits
EET 372, Advanced Digital Circuit
EET 375, Microprocessor Applications
MATH courses at or above the level of 173
ACCT 251, 252, Accounting I and II
ECON 201, Principles of Macro Economics
BUS 221, Business Statistics
MIS 386, Management Information Systems

Possible Focus Area Sequences

The table below summarizes typical focused sequences taken by students.
AI – Artificial Intelligence
Sys – Computer Systems
IS – Information Systems
Sci – Scientific Computing
SW – Software Design and Engineering
Computer Science Minor Programs

The Department of Computer Science has designed two minor programs to meet the varying needs of undergraduate students.

Computer Science Minor (2075)

This minor is designed for students who wish to investigate and basic core of the computer science discipline. This minor is appropriate for any student including those in teacher education seeking to enhance their technical computer science background.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 110, Programming Fundamentals I</td>
<td>4</td>
</tr>
<tr>
<td>CS 111, Programming Fundamentals II</td>
<td>4</td>
</tr>
<tr>
<td>CS 301, Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>CS 311, Computer Architecture I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 130, Finite Mathematics</td>
<td>5</td>
</tr>
<tr>
<td>MATH 154, Pre-calculus Mathematics II</td>
<td>5</td>
</tr>
<tr>
<td>MATH 260, Sets and Logic</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31</strong></td>
</tr>
</tbody>
</table>

Applied Computer Science Minor (1320)

This minor is designed for students who wish to integrate a computer science component into their curriculum. This minor is appropriate for any student who wishes to include an enhanced technical computer science background as part of their overall curriculum.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 110, Programming Fundamentals I</td>
<td>4</td>
</tr>
<tr>
<td>CS 111, Programming Fundamentals II</td>
<td>4</td>
</tr>
<tr>
<td>CS 301, Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>MATH 130, Finite Mathematics</td>
<td>5</td>
</tr>
<tr>
<td>MATH 154, Pre-calculus Mathematics II</td>
<td>5</td>
</tr>
<tr>
<td>MATH 260, Sets and Logic</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34-36</strong></td>
</tr>
</tbody>
</table>

Computer Science Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 101, Computer Basics (4)</td>
<td></td>
</tr>
<tr>
<td>MATH 273</td>
<td>X</td>
</tr>
<tr>
<td>MATH 311</td>
<td>X</td>
</tr>
<tr>
<td>MATH 376</td>
<td>X</td>
</tr>
<tr>
<td>MATH 412</td>
<td>X</td>
</tr>
<tr>
<td>ACCT 251</td>
<td>X</td>
</tr>
<tr>
<td>ACCT 252</td>
<td>X</td>
</tr>
<tr>
<td>ECON 201</td>
<td>X</td>
</tr>
<tr>
<td>BUS 221</td>
<td>X</td>
</tr>
<tr>
<td>MIS 386</td>
<td>X</td>
</tr>
<tr>
<td>CS 105, The Logical Basis of Computing (4)</td>
<td></td>
</tr>
<tr>
<td>Problem solving; algorithm development; complexity; computability; Representation of algorithms as computer programs; data; decision and control; inherent sources of error.</td>
<td></td>
</tr>
<tr>
<td>CS 110, Programming Fundamentals I (4)</td>
<td></td>
</tr>
<tr>
<td>Fundamental concepts of programming from an object-oriented perspective. Classes, objects and methods, algorithm development, problem-solving techniques, basic control structures, primitive types and arrays.</td>
<td></td>
</tr>
<tr>
<td>CS 111, Programming Fundamentals II (4)</td>
<td></td>
</tr>
<tr>
<td>Prerequisites, CS 110, MATH 153. Continuation of object-oriented programming concepts introduced in CS 110. Inheritance, exceptions, graphical user interfaces, recursion, and data structures.</td>
<td></td>
</tr>
<tr>
<td>CS 112, Foundations of Computer Science (4)</td>
<td></td>
</tr>
<tr>
<td>Overview of the computer science profession including basic computer organization, algorithm development and analysis, computer data representation, computer applications and social issues.</td>
<td></td>
</tr>
<tr>
<td>CS 157, Introduction to COBOL Programming (4)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite, CS 101 or equivalent. An introduction to the COBOL programming language. Business algorithms are developed and translated into common business oriented language programs.</td>
<td></td>
</tr>
<tr>
<td>CS 167, Visual Basic Programming (4)</td>
<td></td>
</tr>
<tr>
<td>An introduction to Visual Basic programming. Topics will include problem solving, algorithm development, syntax and semantics of Visual Basic, and program debugging. Not intended for CS majors.</td>
<td></td>
</tr>
<tr>
<td>CS 177, Introduction to FORTRAN Programming (4)</td>
<td></td>
</tr>
<tr>
<td>Prerequisites, MATH 153 or equivalent. Mathematical and logical algorithms are translated into FORTRAN programs.</td>
<td></td>
</tr>
<tr>
<td>CS 187, Introduction to C++ Programming (4)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite, MATH 130 or MATH 153 or equivalent. Mathematical and logical algorithms are translated into C++ programs.</td>
<td></td>
</tr>
<tr>
<td>CS 201, Technology and Society (3)</td>
<td></td>
</tr>
<tr>
<td>The computer impact, how computers work, applications in business, government, human affairs, control of computer systems. A general survey course.</td>
<td></td>
</tr>
<tr>
<td>CS 284, Computer Terminal Equipment Use at CWU (1)</td>
<td></td>
</tr>
<tr>
<td>Corequisite for courses in departments requiring use of the computer at CWU.</td>
<td></td>
</tr>
<tr>
<td>CS 290, Cooperative Education (1-5)</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>CS 298, Special Topics (1-6)</td>
<td></td>
</tr>
<tr>
<td>CS 301, Data Structures (4) Prerequisite, CS 111, MATH 154. Introduction to data structures, simple list processing, basic searching and sorting techniques, stacks, queues and trees.Formerly CS 265. Students may not receive credit for both.</td>
<td></td>
</tr>
<tr>
<td>CS 302, Advanced Data Structures and File Processing (4) Prerequisite, CS 301, and MATH 172. Sequential, random access and indexed file organizations; B-trees; external searching and sorting; I/O buffering. Formerly CS 340. Students may not receive credit for both.</td>
<td></td>
</tr>
<tr>
<td>CS 305, Programming Language Survey (3)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite, CS 301. One or more sections offered each quarter, each of which features a programming language of interest for historical, functional, or theoretical reasons. Languages offered will include: B, “C++”, C, “COBOL”, L, “ICON”, M, “SMALLTALK”, N, “JAVA”. Formerly CS 274. Students may not receive credit for both. May be repeated for credit under different topic.</td>
<td></td>
</tr>
<tr>
<td>CS 311, Computer Architecture I (4)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite, CS 112. Introduction to computer architecture, data representations, assembly language, addressing techniques.</td>
<td></td>
</tr>
<tr>
<td>CS 312, Computer Architecture II (4)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite, CS 301 and CS 311. Introduction to the structure of computers. Digital circuits, central processing units, memory, input/output processing, parallel architectures. Formerly CS 383. Students may not receive credit for both.</td>
<td></td>
</tr>
<tr>
<td>CS 325, Technical Writing in Computer Science (3) Prerequisites, ENG 102, and CS 301. Writing and editing technical material in computer science.</td>
<td></td>
</tr>
<tr>
<td>CS 333, Computer Science Topics for Educators (4)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite, CS 111. Use and analysis of various applications and utility software packages. Recommended for the prospective teacher.</td>
<td></td>
</tr>
<tr>
<td>CS 334, Computer Languages for Educators (4)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite, CS 111. Introduction to and comparison of computer languages appropriate for use by educators. Recommended for the prospective teacher.</td>
<td></td>
</tr>
<tr>
<td>CS 350, Web Development Technologies I (4)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite, CS 301. Client-side techniques for World Wide Web software development including XHTML, style sheets, scripting languages, and ethical issues related to the Web.</td>
<td></td>
</tr>
<tr>
<td>CS 351, Web Development Technologies II (4)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite, CS 350. Server-side technologies for World Wide Web software development including programming languages, database access, e-commerce, testing, and ethical issues related to the Web.</td>
<td></td>
</tr>
</tbody>
</table>

CS 361. Principles of Language Design I (4). Prerequisite, CS 302. Topics will include evolution of programming languages, syntax and semantics, bindings, scoping, data types, assignment, control, and subprograms.

CS 362. Principles of Language Design II (4). Prerequisites, CS 361 and MATH 260 (can be taken concurrently). Topics will include abstract data types, parallel processing, object-oriented programming, exception handling functional programming, and logic programming.

CS 367. Advanced Visual Basic Programming (4). Visual Basic programming and applications. Topics will include advanced data structures, error trapping and debugging, advanced VB and ActiveX controls, macros and databases. Not intended for CS majors.

CS 392. Lab Experience in Teaching Computer Science (1). Prerequisite, CS 301 and permission of department. Supervised experience in developing procedures and techniques in teaching computer science. Grade will be S or U.

CS 401. Computer Architecture for Educators (3). Prerequisite, Computer Literacy. Computer Architecture for Educators is designed to acquaint the educator with the hardware aspects of technology, particularly hardware related to activities using technology to enhance learning.

CS 410. Formal Language Theory (4). Prerequisite, CS 325 and MATH 230. Language classes: regular, context-free, recursive; language acceptors; finite automata, push-down automata, Turing machines. Four hours lecture per week.

CS 418. Microprocessor Systems (4). Prerequisites, CS 311, CS 325 and either CS 312 or EET 372. Microcomputer systems; peripheral interfacing; interrupt handling; I/O; programming techniques.

CS 420. Database Management Systems (4). Prerequisites, CS 302, CS 325 and MATH 330. Logical aspects of database processing; concepts of organizing data into integrated databases; hierarchical, network, and relational approaches.

CS 427. Algorithm Analysis (4). Prerequisites, CS 302, CS 325, and MATH 330 (minimum grade of C). Topics will include basic algorithmic analysis, algorithmic strategies, fundamental computing algorithms, basic computability, the complexity classes P and NP, and advanced algorithmic analysis.

CS 435. Simulation (4). Prerequisites, CS 302, CS 325, MATH 330 and MATH 311 (may be taken concurrently). Principles of computer simulation; applications of several simulation languages to continuous and discrete systems.

CS 440. Computer Graphics (4). Prerequisite, CS 302 and CS 325. Graphic I/O devices; 2-dimensional and 3-dimensional display techniques; display processors; clipping and windowing; hidden line removal; data structures for graphics.

CS 446. User Interface Design and Development (4). Prerequisites, CS 301, CS 325, and MATH 311 or BUS 221. The relationship of user interface design to human-computer interaction. Types of user interfaces, methods of evaluation, user centered design and task analysis, programming tools and environments, and hardware devices.

CS 450. Computer Network and Data Communications (4). Prerequisites, CS 301, CS 311, and CS 325. Device protocols; network configurations; encryption; data compression and security; satellite networks.

CS 455. Artificial Intelligence (4). Prerequisites, CS 302, CS 325, CS 362 and MATH 330. Introduction to the principles of artificial intelligence. Pattern matching, knowledge representation, natural language processing, expert systems.

CS 456. Data Mining (4). Prerequisites, CS 420 or permission of instructor and MATH 311 or BUS 221. Data mining methods for discovering hidden patterns in large databases and data warehouses with applications in business, science, and engineering.

CS 458. Artificial Intelligence Project (2). Prerequisite, CS 325 and CS 455. Implementation of a significant project relating to artificial intelligence.

CS 460. Optimization (4). Prerequisites, CS 325, CS 427, MATH 265 and MATH 311. Linear programming; game theory; PERT; network analysis; duality theory; and sensitivity analysis.


CS 470. Operating Systems (4). Prerequisites, CS 302, CS 312, and CS 325. Topics will include principles of operating systems, concurrency, scheduling and dispatch, memory management, processes and threads, device management, security and protection, and file systems.

CS 473. Parallel Computing (4). Prerequisites, CS 325 and CS 470. Major parallel architectures and languages. Parallel programming methodologies and applications.

CS 480. Software Engineering (4). Prerequisites, CS 325, CS 420 and senior standing. The software development process: user requirements, specifications, design, coding, testing, maintenance, documentation and management; students work in teams to develop large software projects.

CS 481. Software Engineering Project (4). Prerequisites, CS 325 and CS 480. Continuation of coding, testing, and implementation phases of project begun in CS 480.

CS 489. Senior Colloquium (1). Prerequisites, CS 325 and senior standing. Introduction to research in Computer Science through investigation of ethical and historical topics in the field. End of major assessment activities.

CS 490. Cooperative Education (1-12). 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.

CS 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 Chair, course may be designed for regular letter grade or S or U, depending upon course objectives and methods of instruction.

CS 492. Laboratory Experience in Teaching Computer Science (1-2). Prerequisites, CS 302, CS 392, and permission. Supervised progressive experience in developing procedures and technique in teaching computer science. May be repeated to a maximum total of 15 credits. Grade will be S or U.

CS 493. Practicum (1-5). Prerequisites, 15 credits in CS and permission. Supervised progressive experience in management, operation, programming or systems work in one of the university’s computing centers.

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

CS 498. Special Topics (1-6).

CS 499. Seminar (1-5).
**ECONOMICS**

**Faculty Chairs:**
Robert J. Carbaugh, summer and fall quarters
Shaw-Smyser 428

Koushik Ghosh, winter and spring quarters
Shaw-Smyser, 427

**Professors**
Robert J. Carbaugh
Koushik Ghosh
Richard S. Mack
Peter J. Saunders
Roy Savoian

**Associate Professors**
David W. Hedrick

**Assistant Professors**
Timothy P. Dittmer
Ronald Elkins
Charles S. Wassell, Jr.

**General Departmental Information**

Positions of responsibility in today’s world are usually held by individuals who have the capacity to analyze complex problems and make intelligent decisions. Learning economics will help students think logically and improve their ability to use economic concepts 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, Masters of Business Administration programs, and graduate programs in economics, agricultural economics, and natural resource management. The Economics Department offers a Bachelor of Science degree in Economics with specializations in Managerial Economics and General Economics. Economics minors are offered to complement Accounting, Business Administration, and other majors.

The Department of Economics requires that all University education requirements be fully met. In addition to these requirements, the B.S. Economics Major is comprised of the following components: 1) pre-admission courses providing necessary theoretical and quantitative skills to pursue studies in economics, 2) core courses in both micro and macro economic theory, and 3) a choice of supporting courses for each of the three economics major specializations.

**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 College of Business.

Upper division (300-400 level) courses may be transferred toward meeting the major requirements only with the approval of the Department Chair and the College Dean or designee.

Transfer students must earn a minimum of 45 quarter credits at CWU to be eligible for the B.S. Economics degree. Transfer students earning fewer than 45 quarter credits in their major at CWU must receive approval from the College Dean prior to graduation.

**Service to Other Majors**

Students majoring outside the College of Business who are required to take courses in this college 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-college majors wishing to enroll in courses.

**Bachelor of Science**

**Economics Major (2650) with Specialization**

Coursework counting toward 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.

The Economics faculty have determined the following objectives which apply to all B.S. Economics graduates:

- Students completing an economics degree will possess the tools which enable them to analyze and understand macro and micro economic problems and policies.
- Students will possess qualifications and knowledge which will help them to find employment in fields related to economics.
- Students will acquire and be able to use basic tools to enable them to carry out quantitatively oriented tasks in their employment or their field of graduate studies.
- Students completing the program should possess the communication and economic skills desirable in their future employment or graduate studies.

**Admission Requirements**

Students must apply and be admitted to the major prior to beginning 300-400 level courses in the College of Business. At the time of application all pre-admission requirements should be substantially completed. Application forms are available in the Department offices. The completed form must be accompanied by transcripts that reflect all prior college work.

Admission will be based on grades earned in the following pre-admission courses. ENG 101 and ENG 102 must also be completed before admission.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 201, Principles of Economics Micro</td>
<td>5</td>
</tr>
<tr>
<td>ECON 202, Principles of Economics Macro</td>
<td>5</td>
</tr>
<tr>
<td>BUS 221, Introductory Business Statistics</td>
<td>5</td>
</tr>
<tr>
<td>MATH 153, Pre-Calculus Mathematics I OR MATH 170, Intuitive Calculus OR</td>
<td>5</td>
</tr>
<tr>
<td>MATH 172, Calculus</td>
<td>5</td>
</tr>
</tbody>
</table>

**Pre-admission Total** 20

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 majoring outside the College of Business who are required to take courses in this college 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-college majors wishing to enroll in courses. Students who have met all the above requirements will be admitted unless the number of eligible applicants exceeds available spaces. 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 provisionally by permission of the College Dean or designee.

**General Economics Specialization (2651)**

This specialization is recommended for students desiring the traditional Economics major. Highly recommended courses: MATH 172, MATH 173, and FIN 370.

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-admission Requirements</td>
<td>20</td>
</tr>
<tr>
<td>ECON 201, Intermediate Microeconomic Analysis</td>
<td>5</td>
</tr>
<tr>
<td>ECON 302, Intermediate Macroeconomic Analysis</td>
<td>5</td>
</tr>
<tr>
<td>ECON 310, International Economics</td>
<td>5</td>
</tr>
<tr>
<td>ECON 324, Introduction to Econometrics</td>
<td>5</td>
</tr>
<tr>
<td>ECON 330, Money and Banking</td>
<td>5</td>
</tr>
<tr>
<td>ECON 332, Public Finance</td>
<td>5</td>
</tr>
<tr>
<td>ECON 426, Economic Research</td>
<td>5</td>
</tr>
<tr>
<td>MIS 386, Management Info. Systems</td>
<td>5</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>4-5</td>
</tr>
<tr>
<td>ADMG 385, Business Communications and Report Writing</td>
<td>5</td>
</tr>
<tr>
<td>COM 345, Business and Professional Speaking</td>
<td>4</td>
</tr>
<tr>
<td>ENG 310, Technical Writing</td>
<td>4</td>
</tr>
</tbody>
</table>

Department-approved electives selected from the following: 10
Any 300-400 level economics courses
One accounting course (5).

**Total** 74-75

**Managerial Economics Specialization (2654)**

This specialization is for students with an interest in both public and private sector employment and preparation for law school. Highly recommended supporting courses:
MATH 170 or MATH 172. The Managerial Economics specialization can be used as part of a double major. See your advisor for details.

**Required Courses**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-admission Requirements</td>
<td>20</td>
</tr>
<tr>
<td>ECON 301, Intermediate Microeconomic Analysis (5)</td>
<td></td>
</tr>
<tr>
<td>ECON 302, Intermediate Macroeconomic Analysis (5)</td>
<td></td>
</tr>
<tr>
<td>ECON 452, Managerial Economics (5)</td>
<td></td>
</tr>
<tr>
<td>ACCT 251, Accounting I (5)</td>
<td></td>
</tr>
<tr>
<td>ACCT 252 Accounting II OR</td>
<td></td>
</tr>
<tr>
<td>ACCT 302, Managerial Accounting</td>
<td></td>
</tr>
<tr>
<td>FIN 370, Introductory Financial Management (5)</td>
<td></td>
</tr>
<tr>
<td>ADMG 385, Business Communications and Report Writing (5)</td>
<td></td>
</tr>
<tr>
<td>COM 345, Business and Professional Speaking (4)</td>
<td></td>
</tr>
<tr>
<td>ENG 310, Technical Writing (4)</td>
<td></td>
</tr>
<tr>
<td>Other 300-400 level Economics courses with departmental approval</td>
<td>5</td>
</tr>
<tr>
<td>Total 74-75</td>
<td></td>
</tr>
</tbody>
</table>

**Economics Minor I (2650)**

This minor is designed to accompany the Business Administration and Accounting majors. Prior approval of electives by the Economics advisor is required.

**Required Courses**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 201, Principles of Economics Micro (5)</td>
<td></td>
</tr>
<tr>
<td>ECON 202, Principles of Economics Macro (5)</td>
<td></td>
</tr>
<tr>
<td>ECON 301, Intermediate Microeconomic Analysis (5)</td>
<td></td>
</tr>
<tr>
<td>ECON 302, Intermediate Macroeconomic Analysis (5)</td>
<td></td>
</tr>
<tr>
<td>ECON 310, International Economics (5)</td>
<td></td>
</tr>
<tr>
<td>ECON 330, Money and Banking (5)</td>
<td></td>
</tr>
<tr>
<td>ECON 332, Public Finance (5)</td>
<td></td>
</tr>
<tr>
<td>Other 300-400 level economics courses from above list</td>
<td>20</td>
</tr>
<tr>
<td>Total 20</td>
<td></td>
</tr>
</tbody>
</table>

**Economics 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 102. World Economic Issues (5).** An introduction to current international issues related to international trade and finance, economic development and comparative economic systems.

**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 or permission of instructor. 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 microeconomics theory and contemporary thought, practical problems and government policies.

**ECON 302. Intermediate Macroeconomic Analysis (5).** Prerequisite, ECON 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 BUS 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. The 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 economics in transition and the Pacific Rim.

**ECON 348. Economic History of the United States (5).** Economic factors in the development of the American nation, from the European background to the present. ECON 348 and HIST 348 are equivalent courses. Students 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 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. ECON 388 and HIST 388 are equivalent courses. Students 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 423. Mathematical Economics (5). Prerequisites, ECON 201 and MATH 170 or MATH 172 or by permission. The application of mathematics to the theoretical and practical aspects of economic analysis.

ECON 426. Economic Research (5). Prerequisites, ECON 202, BUS 221 and CS 110. Highly recommended, ECON 302. Designed to familiarize students with an understanding of econometric theory and testing procedures. The course uses time-series approach in econometric hypotheses testing. A completion of an economic research project is required.

ECON 452. Managerial Economics (5). Prerequisites, IT 101, ECON 202 and BUS 221. Application of microeconomic theories to managerial decisions and planning utilizing the case method.


ECON 462. Economics of Energy, Resources and Environment (5). Prerequisite, ECON 201 or by permission of the instructor. 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 (1-12). 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).

**Undergraduate Courses/Programs on Reserve**

The following courses are on reserve and may be offered subject to program needs: ECON 342. Evaluation of American Business Enterprise (5); ECON 434. State and Local Government Finance (5); ECON 436. Public Resource Management (4); ECON 464. Pacific Northwest Economics (5).

**EDUCATION**

(Professor of Education)

The Center for Teaching and Learning (CTL) is the unit for the Teacher Certification program at Central Washington University. Although it is the responsibility of the entire University to prepare our teachers, the CTL serves as the mechanism for a systematic curricular collaboration and communication among the departments that offer teacher education programs, as well as professional programs in school administration, school counseling and school psychology.

Constructivism serves as the philosophical foundation for our teacher preparation program, as we strive to prepare teachers who are facilitators of learning in a diverse world. Endorsement area departments within the CTL Unit are responsible for preparing teachers to be knowledge specialists while the Professional Education Program prepares candidates to master the art and science of teaching. Teacher certification requires completion of an endorsement specialist strand leading to a State primary endorsement and completion of the required Professional Education Program.

A description of offerings in two departments immediately follows. These are the Department of Curriculum and Supervision and the Department of Teacher Education Programs. The Department of Curriculum and Supervision offers the Professional Education Programs, applicable to all students seeking an initial teaching certificate. The Department of Teacher Education Programs administers programs leading to endorsements in Bilingual Education, Early Childhood Education, Elementary Education, Reading, Special Education and English as a Second Language. Following is a list of teaching endorsement programs offered by the university along with their administering departments. Unless otherwise indicated, they are offered at the undergraduate level. It is important that you seek information from the administering department and the Teacher Certification Office regarding details about teaching endorsements.

**Requirements for Secondary (Discipline-Specific) School Teaching**

Students preparing to teach at the secondary level (junior and senior high school) must complete a major in a subject area in which a full-time teaching

<table>
<thead>
<tr>
<th>Endorsement</th>
<th>Administering Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art (Visual Arts)</td>
<td>Art</td>
</tr>
<tr>
<td>Bilingual Education</td>
<td>Education: Teacher Education Programs</td>
</tr>
<tr>
<td>Biology</td>
<td>Biological Sciences</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Drama</td>
<td>Theatre Arts</td>
</tr>
<tr>
<td>Early Childhood Education</td>
<td>Education: Teacher Education Programs</td>
</tr>
<tr>
<td>Earth Science</td>
<td>Geological Sciences</td>
</tr>
<tr>
<td>Elementary Education</td>
<td>Education: Teacher Education Programs</td>
</tr>
<tr>
<td>English</td>
<td>English</td>
</tr>
<tr>
<td>English as a Second Language</td>
<td>English</td>
</tr>
<tr>
<td>English/Language Arts</td>
<td>Education: Teacher Education Programs</td>
</tr>
<tr>
<td>Family and Consumer Sciences</td>
<td>English</td>
</tr>
<tr>
<td>Foreign (World) Languages</td>
<td>Family and Consumer Sciences</td>
</tr>
<tr>
<td>Health/Fitness</td>
<td>Foreign Languages</td>
</tr>
<tr>
<td>Library Media</td>
<td>Physical Education, Health Education and Leisure Services</td>
</tr>
<tr>
<td>Marketing Education</td>
<td>Education: Curriculum and Supervision (only Graduate)</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Administrative Management and Business Education</td>
</tr>
<tr>
<td>Music: General, Choral and Instrumental</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Physics</td>
<td>Music</td>
</tr>
<tr>
<td>Reading</td>
<td>Physics</td>
</tr>
<tr>
<td>Science: Broad Area</td>
<td>Education: Teacher Education Programs</td>
</tr>
<tr>
<td>Social Studies</td>
<td>(also Graduate)</td>
</tr>
<tr>
<td>Special Education: K-12 and Birth-3</td>
<td>Science Education</td>
</tr>
<tr>
<td>Technology</td>
<td>Social Science</td>
</tr>
<tr>
<td></td>
<td>Education: Teacher Education Programs</td>
</tr>
<tr>
<td></td>
<td>Industrial and Engineering Technology</td>
</tr>
</tbody>
</table>
assignment normally can be expected (see list of appropriate majors in the Divisions of Instruction, College of Education and Professional Studies section of the catalog.) Majors of 60 or more credits do not require an accompanying minor.

Students preparing to teach on the secondary level must be advised in the appropriate academic departments. In addition to completing the required professional courses via Option I or Option II, students in secondary teaching majors must take EDCS 424, Reading in the Content Fields.

CURRICULUM AND SUPERVISION

The required foundation and professional courses for teacher preparation and licensure are administered by the Department of Curriculum and Supervision. These courses are designated by the course prefixes EDF and EDCS.

Faculty
Chair: Osman Alawiye, Ph.D., J.D.
Black 101-5

Professors
Osman Alawiye, Ph.D., J.D., Curriculum and Instruction, Law
Linda S. Beath, Ph.D., Curriculum and Instruction
Rebecca S. Bowers, Ed.D., Curriculum and Instruction
Steven A. Schmitz, Ed.D., Curriculum and Instruction
Henry Williams, Ed.D., Curriculum and Instruction

Associate Professors
Kim M. Jones, Ph.D., Curriculum and Instruction, Supervision
Dennis L. Martin, Ed.D., Curriculum and Instruction, Supervision
Barbara A. Phillips, Ph.D., Supervision
Don B. Woodcock, Ph.D., Curriculum and Instruction, Supervision

Assistant Professors
Marwin Britto, Ph.D., Instructional Technology
Ian Loverro, Ph.D., Curriculum and Instruction
Steve Nourse, Ed.D., Curriculum and Instruction, Supervision
Lee Fleurde, Ph.D., Curriculum and Instruction, Supervision, Administration

Lecturers
Janie Matheson
Kay Prather
Karen Roberts
Tamsin Swain
Cindy Vielbig

Foundation and professional courses in the Department of Curriculum and Supervision, in close cooperation with other departments, prepare students for the residency teaching certificate in elementary, middle/junior, or high schools. Students must be admitted to the Teacher Education program, as well as to the University, before enrolling in teacher education courses.

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 two following options:

OPTION I

(2820 - elementary)
(2825 - secondary discipline-specific teaching)

Option I is a campus-centered approach to teacher preparation. Students should begin Option I during the second or third quarter of the sophomore year.

Since EDCS 300 is offered only in August-September for Option I, students should enroll for EDCS 300 prior to their junior year. Student teaching is completed at one of the approved off-campus locations.

OPTION II

(2830 - elementary)
(2835 - secondary discipline-specific teaching)

Option II is a field-based approach to teacher preparation. The program requires students to be off-campus two quarters. Students can begin this program any quarter except summer. The first quarter off campus (9 credits) will be completed at a CWU designated field center. The 9-credit block consists of EDCS 300A and EDCS 392. Students usually take one or two evening classes to make up a full load of 15-16 credits.) The second quarter off-campus is the student teaching experience which may be done in any of the approved off-campus locations.

Check catalog for course descriptions, prerequisites, and requirements for completing courses. Some must be taken in sequence. See an advisor.

Courses

<table>
<thead>
<tr>
<th>Credits</th>
<th>Edc392, Practicum</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Edf 301, Teaching: An Orientation</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Edf 300A, Teaching: Introductory Field Experience</td>
<td>3</td>
</tr>
</tbody>
</table>

OPTIONS I AND II

EDF 301A, Introduction to Education (1)
(Only required of students with approved substitutions for EDF 301 or EDCS 300A above)

PSY 314, Human Development and the Learner | 4 |
EDF 302, Introduction to Students with Disabilities | 4 |
*PSY 315, Educational Psychology | 4 |
*EDCS/JSB 316, Educational Technology | 4 |
*EDCS 311, Teaching: Curriculum, Methods, and Materials | 5 |
*EDCS 444, Educational Issues and Law | 3 |
*EDCS 442, Student Teaching | 16 |
Select one Socio-Cultural course: 3-5 |
EDCS 431, Intercultural Education | (3) |
**ETS 101, Ethnic Awareness | (4) |
**ANTH 130, Introduction to Cultural Anthropology | (5) |
SOC 365, Minority Groups | (5) |

Students admitted into the Teacher Preparation Program as of Fall Quarter 2003 are required, before graduation, to present a complete electronic portfolio demonstrating their content pedagogical and professional knowledge, skills, and disposition as a partial fulfillment of their graduation requirements.

*These courses require completion of PSY 314 and EDF 301 or EDCS 300A or EDF 301A as prerequisites.

**These courses count toward breadth requirements.

Option I and II—Elementary

Total 49-53

Additional Requirement for Secondary Discipline-Specific Teaching Majors (Options I and II):
EDCS 424, Reading in the Content Fields . 3

Option I and II—Secondary Discipline-Specific Total 52-56

NOTE: EDF 302, EDCS 424, and EDCS 444 may be completed after student teaching.

Student Teaching

Students must complete a minimum of 16 quarter credits of student teaching on an all-day basis for one quarter. To qualify for certification to teach in more than one specialization, students must meet all requirements listed in the catalog for each specialization.

Applications for student teaching must be brought into the Curriculum and Supervision Office (Black Hall 101).

Student teaching assignments are made according to the following policies.
All prerequisites in the course description for student teaching must be completed.

One quarter in residence at CWU is required before a student may be assigned to student teaching, unless an exception is approved by the Chair of the Department of Curriculum and Supervision.

Students must be endorsed for student teaching by their major and minor departments. The endorsement requires completion of 75 percent of the major and minor areas. See major and minor departments for advising.

Most student teaching assignments will be made at centers outside Kittitas County.

Student requests for choice of student teaching centers and grade levels will be considered. Final responsibility for student teaching placement rests with the Chair of the Department of Curriculum and Supervision.

Student teachers wishing to enroll in additional coursework during their student teaching experience, must obtain the approval of the Curriculum and Supervision Department Chair.

A minimum GPA of 3.0 for the last 45 quarter credits or overall accumulative (using all college course work) is required prior to applying for student teaching.

Fingerprint clearance from both the Washington State Patrol and the FBI must be on file in the Office of the Associate Dean of the College of Education and Professional Studies prior to applying for student teaching.

Applications for certification must be on file in the Office of the Associate Dean of the College of Education and Professional Studies one quarter prior to student teaching.

General Departmental Information

Major and/or minor programs in the Department of Teacher Education Programs include Early Childhood Education, Bilingual/Teaching English as a Second Language, Elementary Education, Reading, and Special Education. The courses in these programs are designated by the course prefixes EDEC, EDBL, EDEL, EDRD, and EDSE respectively.

In addition to a major and/or minor, students must complete the Professional Education Program. Students completing a Special Education major or minor must complete EDCS 424 (or EDRD 308 for those also seeking an Elementary Major) as part of the Professional Education Program. All other Teacher Education Program majors or minors do not require the completion of this course. Also, at least 75 percent of the endorseable major or minor must be completed prior to EDCS 442 (Student Teaching).

Bachelor of Arts in Education Department Majors and Minors

Early Childhood Education Major (2550)

This major satisfies the endorsement for Early Childhood Education. This major is intended to prepare students to become Birth through grade 3 teaching specialists. Students who elect this major are strongly advised to simultaneously complete the Elementary Education Major (see a department advisor as to how this may be effectively accomplished). Also, EDCS 442 (Student Teaching) of the Education Program should be completed at the K-3 level. Students are advised to take EDEC 292, 331, and 332 as the initial portion of their studies. Successful completion of EDEC 493 is expected before student teaching. Exceptions may be granted by the department chair in unusual circumstances. EDEC 292 and EDEC 493 will be graded S or U.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDEC 292, Assisting in the Child-Centered Classroom</td>
<td>5</td>
</tr>
<tr>
<td>EDEC 331, Child Development</td>
<td>3</td>
</tr>
<tr>
<td>EDEC 332, Theories in Child Development</td>
<td>3</td>
</tr>
<tr>
<td>EDEC 333, ECE Curriculum: Pre-Kindergarten</td>
<td>3</td>
</tr>
<tr>
<td>EDEC 334, ECE Curriculum: Kindergarten-Primary</td>
<td>3</td>
</tr>
<tr>
<td>EDEC 448, Parent Involvement</td>
<td>3</td>
</tr>
<tr>
<td>EDEC 493, Practicum in Early Childhood Education</td>
<td>15</td>
</tr>
<tr>
<td>*Department-approved EDEC electives</td>
<td>10</td>
</tr>
<tr>
<td>**Total</td>
<td>45</td>
</tr>
</tbody>
</table>

Elementary Education Major (2870)

This major satisfies the endorsement for Elementary Education. Students who elect this major will be endorsed to teach in regular, self-contained elementary classrooms. EDRD 308, EDRD 309, EDRD 420 and EDEL 323 must be taken prior to EDCS 442 (Student Teaching).

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDRD 308, Reading I</td>
<td>3</td>
</tr>
<tr>
<td>*EDRD 309, Reading II</td>
<td>5</td>
</tr>
<tr>
<td>EDEL 323, Teaching Elementary School Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Math 164 or permission of instructor is a prerequisite for EDEL 323</td>
<td>4</td>
</tr>
<tr>
<td>EDRD 420, Teaching the Language Arts...4</td>
<td></td>
</tr>
<tr>
<td>**EDRD 421, Teaching Children’s Literature (3) or ENG 422, Literature for the Middle School (4)</td>
<td>3-4</td>
</tr>
<tr>
<td>ART 330, Art in the Elementary School...4</td>
<td></td>
</tr>
<tr>
<td>HED 446, Health Education Curriculum for Elementary Teachers</td>
<td>3</td>
</tr>
<tr>
<td>MUS 326, Music in the Classroom</td>
<td>3</td>
</tr>
<tr>
<td>PE 334, Physical Education Activities for the Elementary School</td>
<td>3</td>
</tr>
<tr>
<td>SCED 322, Science Education in the Elementary Classroom</td>
<td>3</td>
</tr>
<tr>
<td>EDRD 420, Methods and Materials in the Social Sciences - Elementary</td>
<td>3</td>
</tr>
<tr>
<td>Department-approved electives</td>
<td>9</td>
</tr>
<tr>
<td>**Total</td>
<td>45-46</td>
</tr>
</tbody>
</table>

*EDRD 308 is a prerequisite for EDRD 309. **Either EDRD 421 or ENG 422 may be taken depending upon the grade level the student is expecting to teach.
**Special Education Major**

The Special Education majors offered are specifically designed to prepare teachers for meeting the diverse tasks required in teaching individuals with disabilities. Students electing special education teaching must follow one of the plans outlined below. EDF 302 must be taken prior to or concurrently with EDSE 311.

**Special Education (P-12) (7815)**

This major satisfies the endorsement for Special Education. This major is for students planning to earn a teaching certificate with special education P-12 endorsement. This major requires a minor.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDSE 310, Introduction to Special Education</td>
<td></td>
</tr>
<tr>
<td>EDSE 311, Foundations of Special Education</td>
<td>3</td>
</tr>
<tr>
<td>EDSE 410, Behavior Management for Students with Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>EDSE 411, Assessment of Students with Disabilities</td>
<td>2</td>
</tr>
<tr>
<td>EDSE 422, Teaching Strategies, Curriculum, and Materials for Students with Disabilities OR EDEC 415, Child Language Acquisition</td>
<td>5</td>
</tr>
<tr>
<td>EDSE 431, Program Management for Students with Disabilities</td>
<td>4</td>
</tr>
<tr>
<td>EDSE 460, Collaboration with Parents, Paraprofessionals, and Community Agencies</td>
<td>4</td>
</tr>
<tr>
<td>EDSE 495, Practicum</td>
<td>16</td>
</tr>
</tbody>
</table>

**Total 54**

**Special Education (P-12) Broad Area (7801)**

This major satisfies the endorsement for Special Education. This major is for students planning to earn a teaching certificate with special education P-12 endorsement. This major does not require a minor.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDSE 310, Introduction to Special Education</td>
<td></td>
</tr>
<tr>
<td>EDSE 311, Foundations of Special Education</td>
<td>4</td>
</tr>
<tr>
<td>EDSE 410, Behavior Management for Students with Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>EDSE 411, Assessment of Students with Disabilities</td>
<td>4</td>
</tr>
<tr>
<td>EDSE 422, Teaching Strategies, Curriculum, and Materials for Students with Disabilities</td>
<td>5</td>
</tr>
<tr>
<td>EDSE 460, Collaboration with Parents, Paraprofessionals, and Community Agencies</td>
<td>3</td>
</tr>
<tr>
<td>EDSE 495, Practicum</td>
<td>16</td>
</tr>
</tbody>
</table>

**Total 54**

**Special Education (P-3) (7820)**

This major satisfies the endorsement for Early Childhood Special Education. This major is for students planning to earn a teaching certificate with early childhood special education P-3 endorsement. Requires authorization to use this major.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDEC 331, Child Development OR EDEC 332, Theories in Child Development</td>
<td>3</td>
</tr>
<tr>
<td>EDSE 310, Introduction to Special Education</td>
<td>4</td>
</tr>
<tr>
<td>EDSE 311, Foundations of Special Education</td>
<td>3</td>
</tr>
<tr>
<td>EDSE 410, Behavior Management for Students with Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>EDSE 411, Assessment of Students with Disabilities</td>
<td>2</td>
</tr>
<tr>
<td>EDSE 422, Teaching Strategies, Curriculum, and Materials for Students with Disabilities OR EDEC 415, Child Language Acquisition</td>
<td>5</td>
</tr>
<tr>
<td>EDSE 431, Program Management for Students with Disabilities</td>
<td>4</td>
</tr>
<tr>
<td>EDSE 448, Parent Involvement</td>
<td>2</td>
</tr>
<tr>
<td>*EDEL 323, Teaching Elementary School Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>EDRD 308, Reading I</td>
<td>3</td>
</tr>
<tr>
<td>EDRD 309, Reading II</td>
<td>5</td>
</tr>
<tr>
<td>EDRD 420, Teaching the Language Arts</td>
<td>4</td>
</tr>
<tr>
<td>Department Approved Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total 72**

**Bilingual Education / Teaching English as a Second Language Minor (1573)**

This minor satisfies the endorsements for Bilingual Education and English as a Second Language. This minor serves the goals and requirements of students wishing to teach in classrooms characterized by cultural and linguistic diversity. The Bilingual/ESL minor leads to K-12 endorsements in Bilingual Education and English as a Second Language. Note the foreign language requirement below.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDBL 312, Foundations in Bilingual Education</td>
<td>3</td>
</tr>
<tr>
<td>EDBL 318, Culture and Curriculum</td>
<td>5</td>
</tr>
<tr>
<td>EDBL 433, Educational Linguistics OR ANTH 381, Language in Culture</td>
<td>3-4</td>
</tr>
<tr>
<td>EDBL 435, Bilingual Education in the Content Area</td>
<td>3</td>
</tr>
<tr>
<td>EDBL 438, Teaching English as a Second Language</td>
<td>3</td>
</tr>
<tr>
<td>EDBL 439, Testing English as a Second Language</td>
<td>2</td>
</tr>
<tr>
<td>EDBL 440, Reading English as a Second Language</td>
<td>3</td>
</tr>
<tr>
<td>EDBL 492, Practicum</td>
<td>6</td>
</tr>
<tr>
<td>TESL minor advisor approved Foreign Language electives</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total 29-30**

**Early Childhood Education Minor (2550)**

This minor satisfies the endorsement for Early Childhood Education. 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.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDEC 292, Assisting in the Early Childhood Classroom</td>
<td>5</td>
</tr>
<tr>
<td>EDEC 331, Child Development OR EDEC 332, Theories in Child Development</td>
<td>3</td>
</tr>
<tr>
<td>EDEC 333, ECE Curriculum: Pre-Kindergarten OR EDEC 334, ECE Curriculum: Kindergarten</td>
<td>3</td>
</tr>
<tr>
<td>EDEC 448, Parent Involvement</td>
<td>3</td>
</tr>
<tr>
<td>Select from the following:</td>
<td>6</td>
</tr>
<tr>
<td>EDEC 310, Infant Education</td>
<td>3</td>
</tr>
<tr>
<td>EDBL 312, Foundations in Bilingual Education OR EDBL 318, Culture and Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>EDEC 354, Childhood Learning</td>
<td>3</td>
</tr>
<tr>
<td>EDEC 415, Child Language Acquisition</td>
<td>3</td>
</tr>
<tr>
<td>EDEC 421, Play in Childhood</td>
<td>3</td>
</tr>
<tr>
<td>EDEC 432, Child Development Research</td>
<td>4</td>
</tr>
<tr>
<td>Department-approved electives</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total 24**
### Reading Minor (6675)

This minor satisfies the endorsement for Reading. The Reading Minor, with campus and field experiences, is designed to prepare reading teachers and strengthen background preparation of elementary teachers. Because EDRD 308 is a prerequisite for five required courses (EDRD 410, EDRD 411, EDRD 412, EDRD 413 and EDRD 493) and EDRD 309 is a prerequisite for four required courses (EDRD 410, EDRD 412, EDRD 413 and EDRD 493), the minor should be commenced in the junior year. *EDRD 493 also requires permission of the department (designated as the instructor of EDRD 493). Permission will not be granted until four required courses in the Reading minor, excluding prerequisite courses, are completed or will be completed the quarter prior to enrollment.

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDRD 410, Teaching Word</td>
<td>3</td>
</tr>
<tr>
<td>EDRD 411, Methods and Materials for Reading Instruction</td>
<td>3</td>
</tr>
<tr>
<td>EDRD 412, Assessment of Reading Skills</td>
<td>3</td>
</tr>
<tr>
<td>EDCS 424, Teaching Reading in Content Fields</td>
<td>3</td>
</tr>
<tr>
<td>EDRD 493, Reading Practicum</td>
<td>5</td>
</tr>
<tr>
<td>*EDR 421, Teaching Children’s Literature</td>
<td>3 or 4</td>
</tr>
<tr>
<td>*ENG 422, Literature for the Middle School</td>
<td>3 or 4</td>
</tr>
<tr>
<td>EDCS 424, Teaching Reading in Content Fields</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total** 26-27

*Either EDRD 421 or ENG 422 may be taken depending upon the grade level the student is expecting to teach.

### Special Education Minor (7800)

The Special Education programs offered are specifically designed to prepare teachers for meeting the diverse tasks required in teaching individuals with disabilities. The minor may serve as a “pre-endorsement” plan for those wishing to add the special education endorsement at a later date. See a special education advisor for your individualized pre-endorsement plan.

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDSE 311, Foundations of Special Education</td>
<td>4</td>
</tr>
<tr>
<td>EDRD 410, Behavior Management for Students with Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>EDRD 411, Assessment of Students with Disabilities</td>
<td>4</td>
</tr>
<tr>
<td>EDRD 422, Teaching Strategies, Curriculum, and Materials for Students with Disabilities</td>
<td>5</td>
</tr>
<tr>
<td>EDRD 431, Program Management for Students with Disabilities</td>
<td>4</td>
</tr>
<tr>
<td>EDRD 432, Career Education for Students with Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>EDRD 433, Preschool for Children with Developmental Delay</td>
<td>3</td>
</tr>
<tr>
<td>EDRD 460, Collaboration with Parents, Paraprofessionals, and Community Agencies</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total** 33

### Endorsements for Special Education

Students who hold a current teaching certificate and are endorsed in other areas may earn endorsement in special education. See a Special Education Advisor for more information.

#### Teaching English as a Second Language (TESL) Minor (8400)

This minor satisfies the endorsement for English as a Second Language. This minor prepares students to teach in classrooms where second language students are enrolled. While the Bilingual/TESL minor leads to a Bilingual education endorsement, the TESL minor leads to an English as a second language endorsement. It also offers introductory preparation for persons intending to teach English in other countries.

#### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDBL 312, Foundations in Bilingual Education</td>
<td>3</td>
</tr>
<tr>
<td>EDBL 318, Culture and Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>EDBL 433, Educational Linguistics (3) OR ANTH 381, Language in Culture (4)</td>
<td>3 or 4</td>
</tr>
<tr>
<td>EDBL 438, Reading English as a Second Language</td>
<td>3 or 4</td>
</tr>
<tr>
<td>EDBL 440, Reading English as a Second Language</td>
<td>3</td>
</tr>
<tr>
<td>EDEC 415, Child Language Acquisition</td>
<td>3</td>
</tr>
<tr>
<td>EDBL 492, Practicum</td>
<td>3</td>
</tr>
<tr>
<td>TESL minor advisor approved electives</td>
<td>4</td>
</tr>
</tbody>
</table>

**Total** 27-28

### Bilingual Education Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDBL 296, Individual Study</td>
<td>1-6</td>
</tr>
</tbody>
</table>

*Prerequisite, permission of instructor. May be repeated. Formerly EDE 296.
EDBL 440. Reading English as a Second Language (3). Prerequisite, EDRD 309 or permission of instructor. Reading instruction for K-12 students who are speakers of a language other than English. Linguistic theory and information for developing and implementing strategies and techniques for literacy acquisition in English. Formerly ED 440. Students may not receive credit for both.

EDBL 441. Spanish Reading and Writing Methods—Elementary (3). Prerequisites, EDRD 308 and successful completion of third-year college level Spanish or permission of the instructor. Instructional approaches and methods in reading and writing in the Spanish language. The course is taught in English and Spanish.

EDBL 490. Cooperative Education (1-12). 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. Formerly ECE 490 OR SPED 490. Students may not receive credit for both.

EDBL 492. Practicum (1-15). Prerequisite, permission of the Teacher Education Programs department. This course will provide students with experience working in bilingual education and/or English as a second language setting. Grade will be S or U. Students may accumulate no more than 15 hours of practicum credit.

EDBL 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE, ED, OR SPED 496.

EDBL 498. Special Topics (1-6). Formerly ECE, ED, OR SPED 498.

EDBL 499. Seminar (1-5). May be repeated. Formerly ECE, ED, OR SPED 499.

Education Courses — Curriculum and Supervision

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

EDCS 298. Special Topics (1-6). Formerly ED/ECE 298.

EDCS 299. Seminar (1-5). May be repeated. Formerly ED/ECE 299.

EDCS 300. Pre-Autumn Field Experience (4). A laboratory experience course in the first phase of Option I in the teacher preparation 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 in off-campus centers for approximately four weeks prior to fall quarter. Grade will be S or U. Formerly ED 300. Students may not receive credit for both.

EDCS 300A. Teaching: Introductory Field Experience (4). A laboratory experience course in the first phase of Option II of the teacher preparation program. May be taken only by Option II students. Grade will be S or U. Formerly ED/EDCS 300.1. Students may not receive credit for both.

EDCS 309. Service Learning (2). Student will use program of study content knowledge to improve a community situation. EDCS 309 and UNIV 309 are equivalent courses. May be repeated for credit.

EDCS 311. Teaching: Curriculum, Methods and Materials (5). Prerequisites, EDF 301 or EDCS 300A, PSY 314, and admission to the Teacher Preparation Program. Basic principles of instruction, fundamental teaching procedures, curriculum content, and classroom control of primary, middle, and secondary levels. Formerly EDCS 311. Students may not receive credit for both.


EDCS 316. Educational Technology (3). Prerequisite, EDF 301 or EDCS 300A, PSY 314, demonstration of computer competence or IT 101 or CS 101 or equivalent, and admission to the Teacher Preparation Program. Contemporary classroom media and microcomputer technology including hypertext, classroom management, and discipline-specific software. EDCS 316 and BSED 316 are equivalent courses. Formerly ED 316. Students may not receive credit for more than one.

EDCS 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. Formerly ED 392. Students may not receive credit for both.

EDCS 396. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE 396.

EDCS 398. Special Topics (1-6). Formerly ED/ECE 398.

EDCS 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. Formerly ED 424. Students may not receive credit for both.

EDCS 431. Intercultural Education (3). Race, nationality, minority groups, income groups, urban and rural groups, and methods of teaching and measuring intergroup relations. Formerly ED 431. Students may not receive credit for both.

EDCS 442. Student Teaching (5-16). Prerequisites, admission to the Teacher Preparation Program, 3.0 cumulative GPA the last 45 credits and successful completion of professional sequence, and at least 75 percent of major and minor completed. 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 university supervisor. All assignments for student teaching are made through the office of student teaching. In order to qualify for certification to teach in a specialized area, students must meet all requirements as listed in the undergraduate catalog for each specialization. Students must demonstrate competence by student teaching a full quarter for each specialization for which they wish to be endorsed. Grade will be S or U. Formerly ED 442. Students may not receive credit for both.

EDCS 444. Education Issues and Law (3). Prerequisite, EDF 301 or EDCS 300A, PSY 314, and admission to the Teacher Preparation Program. Major legal and ethical issues confronting educators, including implications for identifying and reporting child abuse. Formerly ED 444. Students may not receive credit for both.

EDCS 450. Media Development (3). Introduction to design and production of various instructional materials from manual to more complex computer techniques.

EDCS 482. Instruction and Assessment for the Middle Level: Grades 5th - 8th (3). Prerequisites, EDF 301, PSY 314, EDCS 311, and admission to Teacher Certification program. This course provides the future middle level educator with comprehensive skills in instructional methods, curriculum alignment, lesson development, and assessment methodology within the middle school environment.

EDCS 490. Cooperative Education (1-12). 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. Formerly ECE 490 OR SPED 490. Students may not receive credit for both.

EDCS 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. Formerly ED 491.
EDCS 492. Practicum (1-15). Prerequisite, permission of the Chair of the Department of Curriculum and Supervision. Experience working in educational settings. Grade will be S or U. Students may accumulate no more than 15 hours of practicum credit. Formerly ED 492.

EDCS 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE/ED/SPED 496.

EDCS 498. Special Topics (1-6). Formerly ECE/ED/SPED 498.

EDCS 499. Seminar (1-5). May be repeated. Formerly ECE, ED, OR SPED 499.

**Early Childhood Education Courses**

EDEC 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. Formerly ECE 292. Students may not receive credit for both.

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

EDEC 298. Special Topics (1-6). Formerly ED/ECE 298.

EDEC 299. Seminar (1-5). May be repeated. Formerly ECE 299.

EDEC 310. Infant Education (3). Needs and characteristics of infants and toddlers. Enrichment opportunities and effects on development. Implications for persons in care giving roles. Formerly ECE 310. Students may not receive credit for both.

EDEC 331. Child Development (3). Developmental characteristics of children from conception to eight years. Includes observation techniques. EDEC 331 and FCSF 331 are equivalent courses. Formerly ECE 331. Students may not receive credit for more than one.

EDEC 332. Theories in Child Development (3). Comparison of major theories. EDEC 332 and FCSF 332 are equivalent courses. Formerly ECE 332. Students may not receive credit for more than one.

EDEC 333. ECE Curriculum: Pre-Kindergarten (3). Prerequisites, EDEC 292 and EDEC 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. Formerly ECE 333. Students may not receive credit for both.

EDEC 334. ECE Curriculum: Kindergarten-Primary (3). Prerequisite, EDEC 331 or 332 or PSY 314. Historical influences and knowledge of child development/psychological theories/contemporary models as basis for curriculum development and implementation in kindergarten through primary settings. Formerly ECE 334 OR ED 334. Students may not receive credit for both.

EDEC 346. Programs and Approaches in ECE (3). Comparative study of the influences of traditional programs and contemporary models in program development for young children. Formerly ECE 346. Students may not receive credit for both.

EDEC 347. History and Philosophies of Early Childhood Education (3). Prerequisite, one psychology course. Focuses on select historical events and figures that have shaped the pedagogical and philosophical development of the field of early childhood education. Formerly ECE 347. Students may not receive credit for both.

EDEC 354. Childhood Learning (3). Prerequisite, EDEC 331 or 332. Origins and applications of learning/developmental theory emphasizing personalized, child-centered education. Formerly ECE 354. Students may not receive credit for both.

EDEC 396. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE 396.

EDEC 398. Special Topics (1-6). Formerly ED or ECE 398.

EDEC 415. Child Language Acquisition (3). Prerequisite, a course in child or human development (e.g., EDEC/FCSF 331, or EDEC/FCSF 332, or PSY 314) 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. Formerly ECE 415. Students may not receive credit for both.

EDEC 421. Play in Childhood (3). Prerequisite, either EDEC 331 or 332 or permission of instructor. Definitions, developmental aspects, and curricular implications of play. Formerly ECE 421. Students may not receive credit for both.

EDEC 423. Materials and Manipulatives in ECE (3). Strategies are investigated for developing games and learning opportunities through the use of classic ECE manipulatives. The potential for fostering mathematical teaching knowledge and skills is emphasized.

EDEC 430. Principles and Practices of Caregiving (3). Prerequisite, EDEC 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 quality and practice. On-site evaluation of programs. EDEC 430 and FCSF 430 are equivalent courses. Formerly ECE 430. Students may not receive credit for more than one.

EDEC 432. Child Development Research (3). Prerequisite, FCSF/EDCS 331 or permission. The influence of family patterns and interaction on infant and child development; current research. EDEC 432 and FCSF 432 are equivalent courses. Formerly ECE/HOFS 432. Students may not receive credit for more than one.

EDEC 443. Lab Experience/Teaching ECE (3). Prerequisite, permission of the director. Assist ECE professors in teaching those courses which involve outside observation or participation. Formerly ECE 443. Students may not receive credit for both.

EDEC 444. Classroom Management in an ECE Classroom (3). This course provides students the opportunity to explore, apply, synthesize and evaluate techniques and strategies for creating positive classroom climates through organization and management techniques.

EDEC 447. Curriculum Exploration (3). Prerequisite, EDEC 493 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. Formerly ECE 447. Students may not receive credit for both.

EDEC 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. Formerly ECE/ED 448 or ECE 445. Students may not receive credit for both.

EDEC 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. Formerly ECE 465. Students may not receive credit for both.

EDEC 489. Issues in Early Childhood Education (3). Formerly ECE 489 and 499.1. Students may not receive credit for both.

EDEC 490. Cooperative Education (1-12). 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. Formerly ECE 490 OR SPED 490. Students may not receive credit for both.
EDEC 493. Practicum and Issues in ECE (6-15). Prerequisites, EDEC 333 and 334 or permission. Students may not receive credit for both.

EDEC 494. Advanced Practicum (3-10). Prerequisite, EDEC 493 or permission of the Chair of the Department of Curriculum and Supervision. A course designed to meet special needs as determined by the student, his/her advisor and the director. Grade will be S or U. Formerly ECE, EDCS, EDEC 493.1. Students may not receive credit for both.

EDEC 495. Teaching in the Early Childhood Classroom (5). Prerequisites, EDEC 493 and permission. Students prepare and investigate a child-centered classroom. Course includes both laboratory and seminar components. Formerly ECE 495. Students may not receive credit for both.

EDEC 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE, ED, OR SPED 496.

EDEC 498. Special Topics (1-6). Formerly ECE, ED, OR SPED 498.

EDEC 499. Seminar (1-5). May be repeated. Formerly ECE, ED, OR SPED 499.

Elementary Education Courses

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

EDEL 298. Special Topics (1-6). Formerly ED/ECE 298.

EDEL 299. Seminar (1-5). May be repeated. Formerly ECE, ED, OR SPED 499.

EDEL 323. Teaching Elementary School Mathematics (3). Prerequisite, Math 164 or permission of instructor. Methods and materials for helping children learn mathematics with emphasis on the use of manipulatives, problem solving, cooperative learning, and communication. Formerly ED 323. Students may not receive credit for both.

EDEL 396. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE 396.


EDEL 427. Primary Arithmetic Program (3). Prerequisite, EDEL 323 or equivalent. Methods of teaching mathematical concepts. Construction and use of manipulative aids and games. Formerly ED 427. Students may not receive credit for both.

EDEL 428. Intermediate and Upper Grade Arithmetic Program (3). Prerequisite, EDEL 323 or equivalent. Methods of teaching mathematical concepts. Construction and use of manipulative aids and games. Formerly ED 428. Students may not receive credit for both.

EDEL 466. Teaching Problem Solving Techniques for Upper Elementary and Middle School Mathematics (3). Prerequisites: EDEL 323, EDF 301, EDCS 311, and admission to Teacher Education. Methods and materials for helping the upper elementary/middle school (5th – 8th grade) student learn mathematics with emphasis on appropriate manipulatives, teaming, problem solving, and communication strategies.

EDEL 477. Middle School Students and Their Environment (3). Prerequisites: EDG 301, PSY 314, and admission to Teacher Certification. An in depth exploration of the development learning needs of 5th – 8th grade students and the physical, social, and management systems utilized by middle level education programs. The major focus of this course is to create developmentally appropriate classroom practices that merge educational developmental needs.

EDEL 490. Cooperative Education (1-12). 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. Formerly ECE 490 OR SPED 490. Students may not receive credit for both.

EDEL 492. Practicum (1-15). Prerequisite, permission of the Teacher Education Programs 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.

EDEL 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE, ED, OR SPED 496.

EDEL 498. Special Topics (1-6). Formerly ECE, ED, OR SPED 498.

EDEL 499. Seminar (1-5). May be repeated. Formerly ECE, ED, OR SPED 499.

Education Foundation Courses

EDF 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. Formerly ED 100.


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

EDF 298. Special Topics (1-6). Formerly ED/ECE 298.

EDF 299. Seminar (1-5). May be repeated. Formerly ED/ECE 299.

EDF 301. Teaching: An Orientation (3). Teaching as a career and essential features of preparation. 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. Formerly ED 301. Students may not receive credit for both.

EDF 301A. Introduction to Teacher Education (1). Provides an overview of state regulations/requirements regarding teachers and K-12 students and CWU’s framework for addressing these and other accrediting standards. Course required of teacher preparation students otherwise exempt from completing CWU’s EDF 301.

EDF 302. Introduction to Students with Disabilities (4). Designed to introduce effective teaching strategies and strategies for adapting standard instruction to meet the needs of a range of students found in the typical classroom. This course provides information about students considered disabled as well as gifted and students with multicultural heritages. Formerly SPED 301. Students may not receive credit for both.

EDF 396. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE 396.

EDF 398. Special Topics (1-6). Formerly ED OR ECE 398.

EDF 490. Cooperative Education (1-12). 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. Formerly ECE 490 OR SPED 490. Students may not receive credit for both.

EDF 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE, ED, OR SPED 496.

EDF 498. Special Topics (1-6). Formerly ECE, ED, OR SPED 498.

EDF 499. Seminar (1-5). May be repeated. Formerly ECE, ED, OR SPED 499.
Reading Education Courses

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

EDRD 298. Special Topics (1-6). Formerly ED/ECE 298.

EDRD 299. Seminar (1-5). May be repeated. Formerly ED/ECE 299.

EDRD 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. Formerly ED 308. Students may not receive credit for both.

EDRD 309. Reading II (3). Prerequisite, EDRD 308. Content and methodology of readiness, vocabulary development, phonic and structural analysis, comprehension and study skills. Formerly ED 309. Students may not receive credit for both.

EDRD 396. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE 396.

EDRD 398. Special Topics (1-6). Formerly ED OR ECE 398.

EDRD 410. Teaching Word Recognition Skills (3). Prerequisite, EDRD 308. 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. Formerly ED 410. Students may not receive credit for both.

EDRD 411. Teaching Comprehension (3). Prerequisite, EDRD 308 or permission. Comprehension strategies and techniques; techniques for vocabulary development. Formerly ED 411. Students may not receive credit for both.

EDRD 412. Assessment of Reading Skills (3). Prerequisite, EDRD 308 or permission. Assessment instruments, procedures and interpretive skills for determining student reading levels and needs. Emphasizes the selection, administration and interpretation of tests. Formerly ED 412. Students may not receive credit for both.

EDRD 413. Methods and Materials for Reading Instruction (3). Prerequisites, EDRD 308 and 309. Strategies for classroom management, implementation of learning theories. Formerly ED 413. Students may not receive credit for both.

EDRD 414. Teaching Reading in a Multi-Cultural Setting (3). Prerequisite, EDRD 308 or permission. Strategies for teaching reading and developing language skills in a multi-cultural setting. Formerly ED 414. Students may not receive credit for both.

EDRD 415. Reading for the Gifted (3). Prerequisite, EDRD 308 or permission. Techniques for identifying and challenging the superior reader. Formerly ED 415. Students may not receive credit for both.

EDRD 416. Strategies, Techniques and Materials for Teaching Reluctant Readers (3). Prerequisite, EDRD 308 or permission. Motivational techniques and unconventional materials for teaching reluctant readers. Formerly ED 416. Students may not receive credit for both.

EDRD 417. Reading Readiness and Beginning Reading (3). Prerequisite, EDRD 308 or permission. Language development and discrimination skills for beginning readers. Formerly ED 417. Students may not receive credit for both.

EDRD 418. Reading and Linguistics (3). Prerequisite, 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. Formerly ED 418. Students may not receive credit for both.

EDRD 419. Storytelling Techniques (3). Storytelling in the integrated curriculum. Students become familiar with a variety of stories and demonstrate the ability to tell stories. Formerly ED 419. Students may not receive credit for both.


EDRD 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 folktales to present day books for children. Students may not receive credit for EDRD 421 and ENG 432. Formerly ED 421. Students may not receive credit for both.

EDRD 422. Teaching Children's Literature (3). The types of literature suited to children in grades 1-6; includes reading and evaluation of material from early folktales to present day books for children. Students may not receive credit for both.

EDRD 493. Reading Practicum (3-5). Prerequisites, EDRD 308 and 309 and permission of Teacher Education Programs Department. Practical experience working with children in classroom settings. Grade will be S or U. Formerly ED/ECE 435. Students may not receive credit for both.

EDRD 493. Reading Practicum (3-5). Prerequisites, EDRD 308 and 309 and permission of Teacher Education Programs Department. Practical experience working with children in classroom settings. Grade will be S or U. Formerly ED/ECE 435. Students may not receive credit for both.

EDRD 494. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE, ED, OR SPED 496.

EDRD 498. Special Topics (1-6). Formerly ECE, ED, OR SPED 498.

EDRD 499. Seminar (1-5). May be repeated. Formerly ECE, ED, OR SPED 499.

Special Education Courses

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

EDSE 310. Introduction to Special Education (4). Designed to introduce prospective teachers to the legal requirements of special education including eligibility, programming, and instruction. Skills necessary for collaborative relationships in the interdisciplinary team process will also be emphasized.

EDSE 396. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE 396.

EDSE 398. Special Topics (1-6). Formerly ED/ECE 398. Students may not receive credit for both.

EDSE 410. Behavior Management for Students with Disabilities (3). Fundamentals of behavior change related to the education of students with disabilities. Monitoring individual student progress and utilizing data collected for program instructional change. Formerly SPED 410. Students may not receive credit for both.

EDSE 411. Assessment of Students with Disabilities (4). Selecting, administering, scoring, and interpreting formal assessment tools. Designing and using informal testing techniques. Formerly SPED 411. Students may not receive credit for both.

EDSE 422. Teaching Strategies, Curriculum, and Materials for Students with Disabilities (5). Prerequisites, EDSE 310, 311, EDSE 410, and EDSE 411 or permission of instructor. Individual, small group and large group teaching strategies essential to individualized education programs, and selection, evaluation, and adaptation of commercially available materials, including computer applications.

EDSE 425. Deaf Culture (3). History and culture of the deaf. Social, educational, economic and psychological environments within the deaf community. Formerly SPED 425. Students may not receive credit for both.

EDSE 426. The Child with Language Disabilities (3). Prerequisite, a course in child or human development or permission of instructor. An exploration of the child with language disabilities (age birth-6) from
the perspective of normal language development, assessment strategies, and remedial techniques. Recommended for teachers of children with mild and severe disabilities. Formerly SPED 426. Students may not receive credit for both.

EDSE 427. American Sign Language I (3). Introduces educational use of ASL including conversational use of signs, fingerspelling, numbers, grammatical principles and features of American Sign Language. Not accepted as general education credit. Formerly SPED 427. Students may not receive credit for both.

EDSE 428. American Sign Language II (3). Prerequisite, EDSE 427 or permission of instructor. Educational use of ASL structure emphasized as well as both expressive and receptive skills in fingerspelling and sign emphasized. Not accepted as general education credit. Formerly SPED 428. Students may not receive credit for both.

EDSE 429. American Sign Language III (3). Prerequisite, EDSE 428 or permission of instructor. Educational use of ASL including basic signing and grammar skills with emphasis on conversations with deaf individuals, video stories and class activities. Not accepted as general education credit. Formerly SPED 429. Students may not receive credit for both.

EDSE 431. Program Management for Students with Disabilities (4). Prerequisites, EDSE 410, 411, and 422 or permission of instructor. Designed to introduce prospective teachers to the legal requirements of special education including eligibility, programming, and instruction. Also emphasizing skills necessary for collaborative relationships in the team process. Formerly SPED 431. Students may not receive credit for both.

EDSE 432. Career Education for Students with Disabilities (3). Prerequisites, EDSE 410, 411 and 422 or permission of instructor. Career awareness, prevocational, and vocational education. Formerly SPED 432. Students may not receive credit for both.

EDSE 433. Pre-school for Students with Developmental Delays (3). An overview of services for children with disabilities, aged birth-6, including legislation, risk factors, educational development, alternative delivery systems and intervention approaches and environments. Formerly ECE 302 OR SPED 302 or EDSE 302. Students may not receive credit for more than one.

EDSE 460. Collaboration with Parents, Paraprofessionals, and Community Agencies (4). Designed to introduce prospective teachers to the legal requirements of special education including eligibility, programming and instruction. Also emphasizing skills necessary for collaborative relationships in the team process. Formerly SPED 460. Students may not receive credit for both.

EDSE 481. Child Abuse and Neglect: Implications for School Personnel (1). Prerequisite, Admission to Teacher Education Program. Survey of research with emphasis on characteristics, legal issues, identification, procedures, and reporting systems. Formerly SPED 481. Students may not receive credit for both.

EDSE 483. Promoting Phonological Awareness in Resource Rooms (1). Prerequisite, junior standing or permission of instructor. Philosophy and practice of resource room strategies to promote literacy among students with reading difficulties will be presented. Students will evaluate/adapt literacy instructional programs.

EDSE 489. Research and Inquiry (2). Prerequisites EDSE 410, 411, EDSE 410, EDSE 422. Capstone course involving extensive research into a category of disability and related issues, includes synthesis and oral presentation of research findings.

EDSE 490. Cooperative Education (1-12). 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. Formerly ECE 490 OR SPED 490. Students may not receive credit for both.

EDSE 491. Workshop (1-6). Formerly SPED 491.0 to 491.9.

EDSE 495. Practicum (5-16). Prerequisites, all core classes and full admission to the Teacher Education Program. Practical experience with children having learning, behavioral or physical disabilities; using behavioral management techniques in an effort to bring the child up to maximum potential as determined by his/her flexibility, social and academic skills. Grade will be S or U. Formerly SPED, EDCS 495. Students may not receive credit for both.

EDSE 496. Individual Study (1-6). Prerequisite, permission of instructor. May be repeated. Formerly ECE, ED, OR SPED 496.

EDSE 498. Special Topics (1-6). Formerly ECE, ED, OR SPED 498.

EDSE 499. Seminar (1-5). May be repeated. Prerequisite, EDSE 303, Formerly ECE, ED, OR SPED 499.

Undergraduate Courses/Programs on Reserve

The following program is on reserve: Elementary Education Minor. The following courses are on reserve and may be offered subject to program needs: EDCS 319, Cursive and Manuscript Writing; EDCS 423, Reading in the Secondary School; EDSE 423. Implementing the Career Education Concept; EDCS 446. Directed Observation; EDCS 485. Paraprofessional Training/Supervision; EDCS 487, Group Processes and Leadership; EDCS 488, Group Dynamics and the Individual; EDF 401, Contemporary Movements; EDSE 402, Identification of the Gifted Child; EDSE 403, Creativity for the Gifted; EDSE 405, Methods and Materials for the Gifted; EDSE 412, Teaching strategies for Students with Disabilities; EDSE 421, Mainstreaming; EDSE 430, Curriculum and Materials for Students with Disabilities; EDSE 437, The Gifted Student; EDSE 482, Due Process of Law and Special Education; EDSE 485, Teaching Children With Behavior Problems; EDSE 486, Utilization of Direct Instruction Materials.

ENERGY STUDIES

Director: James L. Huckabay
Department of Geography and Land Studies
Lind 117A

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 (2885)

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.

Required Courses Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IET 210, Energy Sources and Power</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 343, Energy Resource Alternatives</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 443, Energy Policy</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 111, 111LAB, Introductory Physics, and Lab</td>
<td>5</td>
</tr>
<tr>
<td>Select from the following:</td>
<td>5</td>
</tr>
<tr>
<td>ECON 462, Economics of Energy, Resources and Environment</td>
<td>5</td>
</tr>
<tr>
<td>MET 412, Alternate Energy Systems</td>
<td>5</td>
</tr>
</tbody>
</table>

Total 21
ENGLISH

Faculty
Chair: Patsy Callaghan
Language and Literature 423
Professors
Lialna Armstrong, American Literature, Popular Culture, Film
Patsy Callaghan, Rhetoric, World Literature, English Education
Toni Culjak, American, World and Multicultural Literature
Bobbi Cummings, Rhetoric, Teacher Education, Writing on Computers
Philip B. Garrison, Non-fiction Prose, Poetry Writing, World Literature, Mythology, American Literature
Loretta Gray, TESL/TEFL, Linguistics, TESOL, Linguistic Approaches to Literature
Terry Martin, English Education, Women’s Literature
Steven Olson, American Literature, Film
Joseph Powell, Creative Writing, Modern Poetry
Gerald J. Stacy, English Renaissance Literature
Christine A. Sutphin, Victorian Literature, English Novel, Women’s Literature

Associate Professors
Lialna Armstrong, English Medieval and Renaissance Literature
George Drake, British Literature, English Novel
Paulus Pimomo, British Literature, Post-Colonial Studies

Assistant Professors
Karen Gookin, Composition
Judith Klock, Composition
Virginia Mack, Composition

Emeritus Professors
Robert M. Benton, American Literature
Mark W. Halperin, Poetry Writing, Folk Literature, Modern Poetry
John L. Vifian, Eighteenth-century Literature, English Novel

General Departmental Information
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.

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, 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.

Bachelor of Arts
English Major (3050)
Students in this major are expected to complete English 302, Poetry and Poetics and ENG 303, Principles of English Studies prior to enrolling in other upper division major requirements.

Required Courses
ENG 302, Poetry and Poetics .................. 4
ENG 303, Principles of English Studies . . . . . . 4
ENG 304, English Linguistics .................. 4
ENG 320, English Grammar .................. 4
Select two English Studies courses: ............. 8
ENG 383, Literary and Critical Theory
ENG 340, The Short Story
ENG 448, 449, World Novel I, II
ENG 451, 452, English Novel I, II
ENG 475, Modern Poetry
ENG 478, 479, American Novel I, II

Select four Period courses: ..................... 16
ENG 308, 309, American Literature I, II
Select one Shakespeare course: ................. 4
ENG 361, Shakespeare, The Early Plays OR
ENG 362, Shakespeare, The Later Plays
Select one Major Literary Figures course . . . 4
ENG 410, Studies in Major British Writers
ENG 411, Studies in Major American Writers
ENG 414, Studies in Major World Writers
Select two Comparative/Cultural courses: 8
ENG 328, World Literature I
ENG 329, World Literature II
ENG 330, African American Literature
ENG 331, Chicano Literature
ENG 332, Native American Literature
ENG 333, Asian American Literature
ENG 335, Studies in Women’s Literature
ENG 344, Studies in Film
ENG 345, Popular Culture

Select one Writing course: ...................... 4
ENG 212, Fiction Writing
ENG 213, Poetry Writing
ENG 314, Advanced Nonfiction Prose
ENG 489, Senior Colloquium .................. 2
Elective Credits in English ..................... 8
Elective credits may be taken from any of the 300-level courses above and/or from the following:
ENG 235, Studies in Folklore
ENG 247, Multicultural Literature
ENG 241, The Bible
ENG 242, Literature and Myth

Total 70

English: Teaching Major (3053)
This major satisfies the endorsement for English/Language Arts.
Students taking this major are required to complete the professional education program requirements offered through the Curriculum and Supervision Department. Students in this program are expected to complete English 302, Poetry and Poetics and ENG 303, Principles of English Studies prior to enrolling in other upper division major requirements. English 422, 430, and 492 are required prior to student teaching. English 430 and 492 must be taken concurrently. All other major requirements must be completed before or be completed concurrently with enrollment in ENG 489. Enrollment in English 489 is by permission.

Required Courses
Credits
English Studies:
ENG 302, Poetry and Poetics .................. 4
ENG 303, Principles of English Studies . . . . . . 4
ENG 304 English Linguistics .................. 4
ENG 320 English Grammar .................. 4
ENG 340, The Short Story
ENG 448, 449, World Novel I, II
ENG 451, 452, English Novel I, II
ENG 475 Modern Poetry
ENG 478, 479, American Novel I, II
Select one Shakespeare course: ................. 4
ENG 361, Shakespeare, The Early Plays OR
ENG 362, Shakespeare, The Later Plays
Select one Major Literary Figures course . . . 4
ENG 410, Studies in Major British Writers
ENG 411, Studies in Major American Writers
ENG 414, Studies in Major World Writers
Select two Comparative/Cultural courses: 8
ENG 328, World Literature I
ENG 329, World Literature II
ENG 330, African American Literature
ENG 331, Chicano Literature
ENG 332, Native American Literature
ENG 333, Asian American Literature
ENG 335, Studies in Women’s Literature
ENG 344, Studies in Film
ENG 345, Popular Culture

Select one Writing course: ...................... 4
ENG 212, Fiction Writing
ENG 213, Poetry Writing
ENG 314, Advanced Nonfiction Prose
ENG 489, Senior Colloquium .................. 2
Elective Credits in English ..................... 8
Elective credits may be taken from any of the 300-level courses above and/or from the following:
ENG 235, Studies in Folklore
ENG 247, Multicultural Literature
ENG 241, The Bible
ENG 242, Literature and Myth

Total 70
Select three Period courses, with at least one from each category: 12
ENG 308, 309, American Literature I, II
Select one Shakespeare course: 4
ENG 361, Shakespeare, The Early Plays
OR ENG 362, Shakespeare, The Later Plays
Select one Major Literary Figures course: 4
ENG 410, Studies in Major British Writers
ENG 411, Studies in Major American Writers
ENG 414, Studies in Major World Writers
Select two Comparative/Cultural Studies courses, one from each category: 8
Category A: World Literature
ENG 328, 329, World Literature I, II
Category B: Multicultural Literature
ENG 247, Multicultural Literature
ENG 330, African American Literature
ENG 331, Chicano Literature
ENG 332, Native American Literature
ENG 333, Asian American Literature
Select one Writing course: 4
ENG 212, Fiction Writing
ENG 213, Poetry Writing
ENG 310, Technical Writing
ENG 312, Advanced Fiction Writing
ENG 313, Advanced Poetry Writing
ENG 314, Advanced Nonfiction Prose
*ENG 422, Teaching Young Adult Literature 4
**ENG 430, Teaching English in the Secondary School 4
***ENG 492, Practicum 2
ENG 489, Senior Colloquium 2

*Prerequisite, admission to Teacher Education and 15 credits of professional sequence.
**Prerequisite, EDCS 311 and 28 credits in English.
***Requires concurrent enrollment in ENG 430.

Language Arts Major (4450)

This major satisfies the endorsement for English/Language Arts.

Students in this major must complete the Professional Education Program requirements for secondary certification available through the Department of Curriculum and Supervision. Students working toward a 4-12 certification who are preparing to teach at the junior high or middle school level might consider combining this major with a Teaching Social Science major or with a Teaching History minor since many middle level schools block their language arts and social studies classes.

Students in this program are expected to complete ENG 302, Poetry and Poetics and ENG 303, Principles of English Studies prior to enrolling in other upper division major requirements. English 422, 430, and 492 are required prior to student teaching. English 430 and 492 must be taken concurrently. All other major requirements must be completed before or be completed concurrently with enrollment in ENG 489. Enrollment in English 489 is by permission.

Required Courses Credits

English Studies
ENG 302, Poetry and Poetics 4
ENG 303, Principles of English Studies 4
Select one Period course from each group: 8
ENG 308, 309 American Literature I, II
ENG 314, Advanced Nonfiction Prose, OR ENG 310, Technical Writing 4
ENG 320, English Grammar 4
ENG 304, English Linguistics 4
ENG 328, World Literature I OR ENG 329, World Literature II 4
Select one of the following: 4
ENG 247, Multicultural Literature
ENG 330, African American Literature
ENG 331, Chicano Literature
ENG 332, Native American Literature
ENG 333, Asian American Literature
ENG 361, Shakespeare, The Early Plays OR ENG 362, Shakespeare, The Later Plays 4
*ENG 422, Teaching Young Adult Literature 4
**ENG 430, Teaching English in the Secondary School 4
***ENG 492, Practicum 2
ENG 489, Senior Colloquium 2
TH 312, Creative Dramatics in School and Leisure 3
COM 201, Introduction to Mass Media 4
COM 208, Writing Across the Media 4

Total 64

*Prerequisite, admission to Teacher Education Program and 15 credits of professional sequence.
**Prerequisite, EDCS 311 and 45 credits in English.
***Requires concurrent enrollment in ENG 430.

English: Teaching Minor (3053)

Students must complete the requirements for a major endorsement in another field. They are also required to complete the professional education program requirements through the Department of Curriculum and Supervision.

English 430 is required prior to student teaching.

Required Courses Credits
ENG 247, Multicultural Literature 4
ENG 303, Principles of English Studies 4
ENG 320, English Grammar 4
Select one English Literature Course: 4
ENG 308, 309, American Literature I, II
ENG 361, Shakespeare: The Early Plays OR ENG 362, Shakespeare: The Later Plays 4
ENG 328, World Literature I
ENG 329, World Literature II
Select one creative writing course 4
ENG 212, Fiction Writing
ENG 213, Poetry Writing
ENG 314, Advanced Nonfiction Prose

Total 32

English Minor (3050)

Required Courses Credits
ENG 302, Poetry and Poetics 4
ENG 303, Principles of English Studies 4
Select two Period courses: 8
ENG 308, 309, American Literature I, II

Total 32

*Prerequisite, admission to Teacher Education Program and 15 credits of professional sequence.
**Prerequisite, EDCS 311 and 45 credits in English.
***Requires concurrent enrollment in ENG 430.
**Creative Writing Minor (2180)**

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 302, Poetry and Poetics</td>
<td>4</td>
</tr>
<tr>
<td>ENG 303, Principles of English Studies</td>
<td>4</td>
</tr>
<tr>
<td>Select three Writing courses:</td>
<td>12</td>
</tr>
<tr>
<td>ENG 212, Fiction writing</td>
<td>4</td>
</tr>
<tr>
<td>ENG 213, Poetry Writing</td>
<td>4</td>
</tr>
<tr>
<td>ENG 312, Advanced Fiction Writing</td>
<td>4</td>
</tr>
<tr>
<td>ENG 313, Advanced Poetry Writing</td>
<td>4</td>
</tr>
<tr>
<td>ENG 314, Advanced Nonfiction Prose</td>
<td>4</td>
</tr>
<tr>
<td>ENG 412, Advanced Writing Seminar</td>
<td>4</td>
</tr>
<tr>
<td>Elective credits in English</td>
<td></td>
</tr>
<tr>
<td>(ENG 304 and above)</td>
<td>8</td>
</tr>
</tbody>
</table>

**Total** 28

**English Courses**

**ENG 100D. Developmental English (1-4).** Course may be repeated. A study of basic English grammar and conventional usage to improve sentence-level writing skills, with a reading component to improve comprehension as a foundation for academic writing. Credits will not be allowed toward meeting Bachelor's degree requirements. Grade will be S or U. Formerly English 100U.

**ENG 100E. English as a Second Language (2-8).** Course may be repeated. 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.

**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. Grade will be S or U.

**ENG 100T. Transitional English (4).** Course may be repeated. A study of academic written English with review of sentence and paragraph-level skills, such as word usage, sentence structure, organization, grammar, and mechanics with a reading component to improve comprehension of academic English; students will learn to write unified, coherent paragraphs and short compositions. Credits will not be allowed toward meeting Bachelor's degree requirements. Grade will be S or U. Formerly English 100G.

**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 100T. Credits will not be allowed toward meeting Bachelor's degree requirements. Grade will be S or U.

**ENG 101. English Composition (4).** Prerequisite, adequate ACT, COMPASS, or SAT scores. Develops writing skill in expository prose. Required of all students except those who have passed an exemption examination.

**ENG 102. English Composition (4).** Prerequisite, a minimum grade of C- or above in ENG 101 or exemption from 101. Develops skills in expression, inquiry, reasoning and research through composing academic essays.

**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, prerequisite, Grade of C- or above in ENG 101; must be taken for grade.

**ENG 180. Introduction to Linguistics (5).** Backgrounds, developments, and relation to other fields of study. ENG 180 and ANTH 180 are equivalent courses. Students may not receive credit for both.

**ENG 212. Fiction Writing (4).**

**ENG 213. Poetry Writing (4).**

**ENG 235. Studies in Folklore (4).** Analysis of literature of oral folk traditions as recorded in tales, songs, fables, anecdotes, toasts and ballads.

**ENG 241. The Bible (4).** A literary study of the canonical and non-canonical prose and poetry of the ancient Israelites in various translations; New Testament selections illustrate the continuity of ancient literary tradition. Previous critical study of literature is recommended. Formerly ENG 341.

**ENG 242. Literature and Myth (4).** Concepts and forms of myth in representative Western and non-Western literature. Formerly ENG 342.

**ENG 247. Multicultural Literature (4).** Prerequisite, grade of C- or above in ENG 101. Literary themes examined through the comparison of works from various cultures.

**ENG 296. Individual Study (1-6).**

**ENG 298. Special Topics (1-6).**

**ENG 299. Seminar (1-5).**

**ENG 301. English Composition (4).** Prerequisites, English 102. Upper division work in expository prose with emphasis on style and logic.

**ENG 302. Poetry and Poetics (4).** Offers practice in the interpretive reading of poetry, focusing on the elements of poetry and poetic theory.

**ENG 303. Principles of English Studies (4).** Provides critical reading and writing strategies necessary to studies in English; introduces the expectations and requirements of the major.

**ENG 304. English Linguistics (4).** Students learn to perform linguistic analysis of aspects of English and to use linguistic concepts to examine literary texts.

**ENG 305. English Literature I (4).** Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. Historical and critical studies in English literature from Beowulf through Milton.

**ENG 306. English Literature II (4).** Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. Historical and critical studies in English literature from 1832 to present.

**ENG 308. American Literature I (4).** Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. Historical and critical studies in American literature from 1600-1832.

**ENG 309. American Literature II (4).** Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. Historical and critical studies in American literature from the beginning to 1865.

**ENG 310. Technical Writing (4).** Prerequisite, ENG 102 and junior standing. Practice in writing and editing technical reports.

**ENG 312. Advanced Fiction Writing (4).** Prerequisite, ENG 212 or instructor's permission.

**ENG 313. Advanced Poetry Writing (4).** Prerequisite, ENG 213 or instructor's permission.

**ENG 314. Advanced Nonfiction Writing (4).** Prerequisite, ENG 102 or equivalent. A creative writing course in which students will write and read essays.
ENG 320. English Grammar (4). A review of the concepts, terminology, and historical development of traditional grammar, the parts of speech and their functions in sentences, the elements of the sentence and its various patterns.

ENG 321. Grammar in the Classroom (4). This course offers students the opportunity to learn concepts and theories of English grammar and to explore ways to integrate grammar into their teaching.

ENG 328. World Literature I (4). Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. Poetry and prose of both Western and non-Western civilization to 1500. Formerly ENG 248. Students may not receive credit for both.

ENG 329. World Literature II (4). Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. Poetry and prose of both Western and non-Western civilization from 1500 to the present. Formerly ENG 249. Students may not receive credit for both.


ENG 340. The Short Story (4). Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. Extensive reading and analysis of short stories, including both older and modern writers.

ENG 344. Studies in Film (4). Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. The study of film as an art form, a technological system, an industry, and a social force.


ENG 381. British Drama (4). Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. Origins to the present. Selections to be determined by the instructor. ENGL 381 and TH 381 are equivalent courses. Students may not receive credit for both.


ENG 391. Workshop (1-5).

ENG 398. Special Topics (1-6).

ENG 410. Studies in Major British Writers (4). Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. Intensive study of one or two writers. May be repeated for credit under a different subtitle.

ENG 411. Studies in Major American Writers (4). Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. 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 312, 313, 314. May be repeated for a maximum of twelve 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,” “Phonology, Semantics and Spelling,” and “Advanced Syntax.” May be repeated for credit under a different subtitle.

ENG 414. Studies in Major World Writers (4). Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. An intensive study of one to three writers. May be repeated for credit under a different subtitle.

ENG 422. Teaching Young Adult Literature (4). Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. A study of literature written for middle level and early high school students. Prerequisite, admission to Teacher Education Program and completion of at least 15 credits of professional sequence. Prerequisite to EDCS 442, Student Teaching.

ENG 423. History of the Language (4). In this course, students examine the systematic, evolutionary nature of language by focusing on the development of the English language. Formerly ENG 322.

ENG 430. Teaching English in the Secondary School (4). Prerequisite, EDCS 311 and 28 credits in English or permission of instructor. This class is required prior to student teaching. Must enroll concurrently in ENG 492.


ENG 452. The English Novel II (4). Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. Intensive study of representative English novels of the later 19th and 20th centuries. Formerly ENG 352. Students may not receive credit for both.

ENG 475. Modern Poetry (4). Prerequisites for English Majors, English Teaching Majors and Language Arts Majors only: English 302 and 303. Study of the major poets and the major developments in the poetry of the modern world, particularly in England and the United States. Formerly ENG 375. Students may not receive credit for both.

ENG 478. American Novel I (4). Prerequisites for English Majors, English
Teaching Majors and Language Arts Majors only: English 302 and 303. Intensive study of representative American novels from the beginning of American literature to 1939. Formerly ENG 379. Students may not receive credit for both.


ENG 480. Survey of Linguistics (4). Linguistic concepts and the relation between linguistics and other fields of study. Open to seniors and graduate students only. ENG 480 and ANTH 480 are equivalent courses. Students may not receive credit for both.

ENG 489. Senior Colloquium (2). Prerequisites, all other major requirements completed or to be completed concurrently with enrollment in this course; admission by permission. Students prepare an end-of-major portfolio which illustrates their competence in interpreting, composing, and for teaching majors, instructional planning.

ENG 490. Cooperative education (1-12). An individualized contracted field experience with business, industry, government, or social service agencies. Requires a student learning plan, cooperating employer supervision, and faculty coordination. Prior approval required. May be repeated for a total of 12 credits. Grade will be S or U.

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). Prerequisites, ENG 311 and 28 credits in English or permission of instructor. Practice planning instruction, teaching, and assessing learning. Must enroll concurrently in ENG 430. 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).

### Environmental Studies Courses

**ENST 298. Special Topics (1-6).**

**ENST 301. Earth as an Ecosystem (5).** 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. Ecosystems, Resources, Population, and Culture (5).** The physical and cultural dimensions of environmental problems with particular emphasis given to the interaction between ecosystems, basic resources, population dynamics, and culture.

**ENST 303. Environmental Management (5).** Development of attitudes and perceptions of our environment. Examination of the economic, political and legal mechanisms and philosophical perspectives useful in managing the environment.

**ENST 398. Special Topics (1-6).**

**ENST 444. Environmental Policy Formulation (4) 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 455. Environmental Literature (3).** Survey of literary works that thematically explore human relationships with place and environment. Sampling of various themes and genres, with a focus on Pacific Northwest.

**ENST 491. Cooperative Education (1-12).** 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 496. Individual Study (1-6).** Prerequisite, permission of instructor.

**ENST 498. Special Topics (1-6).**

**ENST 499. Seminar (1-5).**

### Undergraduate Courses/Programs on Reserve

The following course is on reserve and may be offered subject to program needs: ENST 448, Energy Use Patterns (5).

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**ENGLISH — ENVIRONMENTAL STUDIES**

### Environmental Studies

**Director:** Christopher Kent

**Lind Hall 118A**

**Environmental Studies Minor (3175)**

The Environmental Studies minor is designed primarily to serve undergraduate education and environmental literacy. 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 specialized work which can be pursued by means of undergraduate majors and graduate programs. Other objectives include the provision of public education programs on environmental issues and the simulation of interdisciplinary research on environmental problems.

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENST 301, Earth as an Ecosystem</td>
<td>5</td>
</tr>
<tr>
<td>ENST 302, Ecosystems, Resources, Population, and Culture</td>
<td>5</td>
</tr>
<tr>
<td>ENST 303, Environmental Management</td>
<td>5</td>
</tr>
<tr>
<td>ENST 444, Environmental Policy Formulation</td>
<td>4</td>
</tr>
<tr>
<td>Approved Elective</td>
<td>3-5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22-24</strong></td>
</tr>
</tbody>
</table>

Students choosing an Environmental Studies minor will propose an upper division elective course in consultation with, and subject to, the pre-approval of the ENST Director. This elective course must be taken for a grade and be in a department outside the student’s major. The following courses, however, will automatically be accepted without pre-approval provided they meet the other elective requirements: ANTH/GEOG 440, BIOL 360, ECON 462, ENST 455, GEOG 445, or HIST 354/454.

The minor requires that students finish with a minimum 2.0 GPA for each 22-24 program credits, and students must also earn at least a C- on each of the five courses that comprise their ENST program.
ETHNIC STUDIES

Program Director Delores Cleary, Sociology
Farrell Hall 442

Ethnic Studies Minor (3250)

Ethnic Studies is a discipline that incorporates the Social Sciences and the Humanities to explore the comparative approaches to the study of minority groups in the United States. The central mission of an Ethnic Studies program is to increase the understanding of racial and cultural diversity of American society and the dynamics of interethnic relationships. At Central Washington University the Ethnic Studies program is interdisciplinary, offering courses from other disciplines with a core in Ethnic Studies. In addition to the minor program, it provides important services to teacher preparation and general education requirements.

Required Courses Credits
ETS 101, Ethnic Awareness. ................. 4
ETS 354, Minority Experiences OR
SOC 365, Minority Groups .............. 5
SOC 386, Seminar on Racism ............ 5

SubTotal 14

A. Choose two courses from the following. ..................... 7-10
Each course must come from a different category.

General
ENG 247, Multicultural Literature (4)
TH 382, Ethnic Drama (4)
PHIL 357, Race, Class, and Gender in American Philosophy (5)

African American
ENG 330, African American Literature (4)

Hispanic American
ENG 331, Chicano Literature (4)
SPAN 301, Introduction to Hispanic Literature (3)
SPAN 310, Hispanic Civilization and Culture (3)
SPAN 444, Chicano Literature (3)
SPAN 446, Hispanic Cinema (3)

Native American
ANTH 347, Native American Cultures of North America (4)
ANTH 349, Contemporary Native American Cultures (4)
ENG 332, Native American Literature (4)

Asian American
ENG 333, Asian American Literature (4)

*Special topics courses, seminars, and co-operative education credits as approved by ETS.

B. Choose two courses from below. ........ 6-10
Each course must come from a different category.

General
ANTH/COM 302, Intercultural Communication (4)
ANTH 356, Gender Roles in Cross-Cultural Perspective (4)
ETS 403, American Ethnic Literature (5)
ANTH 355, Culture and Personality (4)
SOC 205, American Society (5)
SOC 354, Minority Experience (5)
SOC 356, Sex Roles in Society (5)
SOC 445, Social Inequality (5)

African American
HIST 342, History of Black America to 1865 (5)
HIST 343, History of Black America since 1865 (5-5)
ETS 321, Survey of African American Studies (4)

Hispanic American
ANTH 342, Hispanic Cultures of the Western U.S. (4)
ETS 350, Survey of Chicano Studies (4)
ETS 351, Contemporary Chicano Issues (5)
ETS 352, Chicano Social and Psychological Perspectives (4)

Native American
ANTH 341, Native American Cultures of the Pacific Northwest (4)
ETS 371, Survey of American Indian Studies (5)
ETS 373, American Indian Authors and Publications (3)
ETS 471, Issues in American Indian Education (5)
ETS 472, American Indian Profiles (3)

Asian American
ETS 311, The Asian American (3)
ETS 312, Asian American Identity and Personality (5)

*Special topics courses, seminars, and co-operative education credits as approved by ETS.

SubTotal 27-34

Ethnic Studies Courses

Ethnic Studies courses emphasize the economic and political conflict from the subordinate group perspective.

ETS 101, Ethnic Awareness (4)
Understanding 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.

ETS 296, Individual Study (1-6)
ETS 298, Special Topics (1-6)
ETS 299, Seminar (1-5)
ETS 311, The Asian American (3)

Prerequisite, ETS 101. An overview of demographics, history, cultures, and experiences of Asian Americans in the U.S. society. Formerly ETS 111. Students may not receive credit for both.

ETS 312, Asian American Identity and Personality (5)
Exploring the complexity and meanings of Asian American identity; examining the responses of America to the presence of Asians and how Asian Americans themselves have taken upon various roles and identities.

ETS 321, Survey of African American Studies (4)
Prerequisite, ETS 101. Contemporary socio-economic problems and issues; the Black experience; status; community, and leadership. Formerly ETS 121. Students may not receive credit for both.

ETS 350, Survey of Chicano Studies (4)
Prerequisite, ETS 101. A historical and cultural survey of Chicanos from 1540 to the present with a regional emphasis in the Southwest. Formerly ETS 151. Students may not receive credit for both.

ETS 351, Contemporary Chicano Issues (5)
Prerequisite, ETS 101 or permission of the instructor. An examination of current education, social, and political issues concerning Chicanos in American society. Formerly ETS 252. Students may not receive credit for both.

ETS 352, Chicano Social and Psychological Perspectives (4)
Prerequisite, SOC 107 or PSY 101 or permission. An examination of social and psychological perspectives put forth by Chicano and non-Chicano interethnic relations, sex roles, and family and religion.

ETS 354, Minority Experiences (5)
Explanations will be identified for institutional racism common to the history and character of American minorities. ETS 354 and SOC 354 are equivalent courses. Students may not receive credit for both. Formerly ETS 355.

ETS 371, Survey of American Indian Studies (5)
Prerequisite, ETS 101. Emphasis on historical and contemporary cultural and institutional patterns: marriage and the family; religion; education; economic and political systems; relationships to society. Formerly ETS 171. Students may not receive credit for both.

ETS 373, American Indian Authors and Publications (3)
A study of American Indian authors and publications, past and present. Emphasis on publications and literature written by and/or produced by “informed” or recorded oral literature.

ETS 398, Special Topics (1-6)

ETS 403, American Ethnic Literature (5)
An introductory study of recent developments in American ethnic literature, including writing by prominent and contemporary Asian Americans, Black, Chicano, and American Indian authors.
ETS 471, Issues in American Indian Education (5). A course to give students a broad understanding of the process for educating American Indians in traditional American Indian societies and in modern society, with emphasis on the present status of American Indian education and its potential development through specialized programs.

ETS 472, American Indian Profiles (3). An intensive study of leaders within the American Indian community.

ETS 490, Contracted Field Experience (1-12)
ETS 491, Workshop (1-6)
ETS 496, Individual Study (1-6). Prerequisite, permission of instructor.
ETS 498, Special Topics (1-6)
ETS 499, Seminar (1-5).

Related courses regularly offered in other departments include: ANTH 347 Native American Cultures of North America, ANTH 341 Native American Cultures of the Pacific Northwest, ENG 330 African American Literature, HIST 343 History of Black America since 1865, SOC 365 Minority Groups.